SOCIO-ECONOMIC IMPACT ANALYSIS

OF ELECTRIC RATE INCREASES

IN RURAL WEST CENTRAL ILLINOIS

ROGER BATZ

P26 8M H001 L/1 Add: NSIC B. Siegel LB#2 Ltr Encl

Elsah
Illinois 62028

Table of Contents

ABSTRACT

Upon completion of the Clinton Nuclear Power Plant, Western Illinois Power Cooperative (WIPCO) officials state that rate payers in west central Illinois rural electric cooperatives will face a doubling of rates--from the present .08/KHW to at least .15/KWH. WIPCO's 44,000 customer/owners own 9.5% of the Clinton plant; they have invested about $300 million in the plant and expect to spend a total of about $421 million--$9600 per customer/owner. The other two plant owners, Illinois Power Company and Soyland (another generation and transmission coop) are also facing economic problems because of Clinton's costs; it is one of the most expensive nuclear power plants under construction in the U.S.A.--$3 to $4 billion or $3,000/KWH.Yet no thorough independent economic feasibility study of the plant has been conducted. REA has encouraged further research on the impact of Clinton--including this project which involved interviewing a random sample of 1019 WIPCO customers to determine the impact of such large electric rate increases on use of electricity and energy alternatives.

The results indicate that there is an excess of electricity throughout the Midwest area, the population is declining in the WIPCO region (because of poor economic conditions and farm foreclosures), and WIPCO is selling less electricity than it did two years ago. Furthermore, individual customers have gradually used less electricity over the past few years as rates have gradually risen. If rates double or more, 80% of the customers will use less electricity and/or switch to combinations of available energy sources, usually because they are cheaper (wood or gas) or will be cheaper (wind or solar) than the projected coop electricity cost.

Rural farmers and non-farmers were very aware of energy costs and were determined to select the most cost effective energy sources; many already relied on two or more energy sources on the farm and/or in the home. Many people felt alienated from community and organizational power structures and were angry that decisions were made without their advice or consent. More people would like to see Clinton cancelled than wanted it completed--mainly because of its cost.

Since the population is declining in the WIPCO area, electricity usage is decreasing among WIPCO customers, and since people say that higher electric rates will further cut their electricity use, it is unclear if WIPCO will be able to sell enough electricity to cover their Clinton debts. One of the largest (if not the largest) WIPCO electric rate hike occurred two weeks ago on May 1, 1984; in an unprecedented move, REA allowed an immediate .0121/KWH "CWIP" (about 15% rate increase) for all WIPCO customers in order to recover in the next three years $38 million in interest related to Clinton costs. Rate shock, price elasticity and eventual WIPCO insolvency are still future possibilities--which would have serious repercussions on Soyland and Illinois Power Co. In order to determine the degree of validity of the findings in this study, further research is needed to evaluate the impact of future large and gradual rate increases on WIPCO customers' energy use. In addition, research on the economic feasibility of Clinton and the impact of Clinton costs on Soyland and Illinois Power customers would be useful to energy planning in Illinois.

Map of Illinois

Showing present counties and county seats

ACKNOWLEDGEMENTS

This research project is the result of the encouragement and support (financially and otherwise) of many individuals whom I wish to thank, especially the following:

- The students in the Global, Social, Political and Environmental Change class at Principia College who helped design and carry out the pilot study.
- The college students who gathered the data for the WIPCO study. Principia College students: Terri Briesacher, Brett Brown, Melanie Clark, Jon Daugherty, Clint Erb, Brad Hendrix, Debbie Hendrix, Merrilyn Holzberlein, Steve Riffert, Kate Simons, Jonathan Richardson.
- Drs. Lars Hoffman of Lewis and Clark College and George Arnold of SIUE and their students.
- Various sociologists helped with different stages of the research project. Drs. Vernon Pohlmann and Del Ervin of the Community Research Services at Illinois State University, Dr. Ed Gondolf of the Sociology Department at Indiana University (Indiana, PA) and Mr. Steve Wells, independent social and environmental impact consultant from Seattle, Washington were invaluable to the development and success of the project. Charles Kofron and Judy Tyers from the Center for Urban and Environmental Research and Services (CUERS) at SIUE provided us with data necessary to the determination of the sampling frame.
- The many individuals, business and organizations who contributed to the project enabled it to continue through the 1000 interviews that were planned. Various families provided free lodging to the students who were interviewing in areas away from their homes or colleges; in addition, motel owners provided our students with reduced rates while conducting the survey. Supporting comments from people in the community at large who were aware that students were interviewing in their neighborhood encouraged us all in our work.
- Principia College provided the use of its resources and services, including its HP 3000 computer. The Principia College students who entered the data into the computer were: Susan Bullwinkle, Ryan Day, Navaz Muhuvawalla, Deanna Valeo and Casper Zublin. Steve Talcott coordinated these computer data entering efforts. Blanche Darnell and Lynn Conner recorded the data on coding sheets. Richard Booth spent hours organizing the data on the computer and running the statistical tests.
- Marie-Beth Ackerman, Joy Hardman, Gretchen Henning, Janet Johnson, Pauline Knight, Suzie Lord, Lorna Paine, Shari Summerlin and Dixie Walker provided secretarial help.
- Jeanne Teel and Paula Todd coordinated the typing services at the Principia College Support Center.
- David Cotten and Suzanne Hagenlocher, of the Principia College grants office, coordinated the administrative and fund raising efforts.
- Principia College faculty members, Holly Alder and Dr. Mary Lu Fennell, Dean of the Faculty, provided helpful critiques of the paper.
- In addition, the encouragement and support of the college administration was greatly appreciated by all involved in the project.
- Finally, my wife Gretchen is to be thanked for her loving support through the many months of work.

Electric Cooperatives of Illinois

Good for ALL Illinois

INTRODUCTION

For the past ten years, I have been teaching sociology at Principia College, a small liberal arts college on the Mississippi River in Elsah, Illinois--just north of Alton, Illinois and about thirty miles northeast of St. Louis, Missouri. In the spring of 1983, my wife Gretchen and I were selected to the advisory board of our coop, MJM, one of the seven distribution coops in WIPCO (Western Illinois Power Cooperative). Through discussions with coop members and officials, I became aware of the fiscal crisis WIPCO, Soyland, and Illinois Power were in because of the costs of the Clinton Nuclear Power Plant. Throughout the summer of 1983, I researched both the general economic dimensions of nuclear plants in the USA and the specific situation surrounding the Clinton plant. I read books, articles, ICC documents, etc. and talked with people throughout the USA--including REA officials in Washington, ICC (Illinois Commerce Commission) officials in Illinois, local coop officials and members, and educators; in addition, I visited TVA headquarters in Chattanooga, Tennessee and attended an ICC hearing in Springfield, Illinois on Clinton. This information and these experiences led me to develop a pilot study of the social and economic impact of Clinton and its costs on local MJM customers in Jersey County; the study became a part of a class I was teaching at Principia College in the fall of 1983. That pilot study eventually led to the study of WIPCO customers which is presented here.

BACKGROUND AND STATEMENT OF PURPOSE

WIPCO (Western Illinois Power Cooperative) is a generation and transmission coop (comprised of seven distribution coops serving 44,257 customers) which owns a 9.5% share of the Clinton Nuclear Power Plant in Clinton, Illinois;[1] as of March 1984 it has spent about $300,000,000 in principal and interest on the plant.[2] REA (Rural Electrification Administration) policy disallows customer payment of construction costs until the plant comes on line--recently rescheduled by Illinois Power (the investor-owned utility which is constructing and owns 80% of the Clinton Plant) for November 1986.[3] Upon completion of the Clinton Nuclear Power Plant, WIPCO officials state that their rural electric cooperative rate payers will face a doubling or tripling of rates.[4]

Clinton's Economic Problems

The economic difficulties associated with the Clinton plant were highlighted in the recent Cambridge Energy Research Associates Inc. report completed by I.C. Bupp from Harvard University. They cite the 950 Megawatt Clinton Nuclear Power Plant as one of the most expensive nuclear power plants that are presently under construction--costing about $3,000/KWH.[5] They mention that electricity from the plant will cost .14-.18/KWH, which makes its generating costs equivalent to oil costing $60-$90/barrel.[6] In addition, E.F. Hutton stated in a January 12, 1984, Electric Utilities Equity Research "Action Report" on Illinois Power Company that:

> The comparatively depressed stock price and higher than average yield reflect investor concern over the company's 80% ownership of the 950-megawatt Clinton nuclear unit, scheduled for completion in 1986. Although Clinton is not considered 'in trouble,' investors have seen other nuclear projects that were thought to be safe falter as they neared completion, e.g., Palo Verde and Shoreham. In our opinion, Clinton does represent an inordinate level of risk.... We expect the shares to remain under pressure near term as controversies continue to surround all nuclear projects, and we consider the shares swap candidates.[7]

REA/WIPCO and Clinton

In the next few months, REA will be making major decisions regarding the continued involvement of WIPCO in the Clinton plant.[8] In order to assess the full impact on the cooperatives and their customers, the REA has required that additional information be gathered.[9] For this reason, WIPCO has contracted with a company for a load forecasting study (expected future electrical demand study) to be done. Principia College had indicated

an interest and has been encouraged by the REA to conduct another study to determine the social and economic impacts of the Clinton Plant on the rural coop user.[10] In cooperation with Principia College, the School of Engineering of Washington University is conducting an economic feasibility study of the Clinton plant by gathering cost information and forecasts on alternative energy technologies; Dr. E.B. Shultz is coordinating the study, which will provide WIPCO and its users with needed information regarding conservation and the investing and installing of alternative energy sources.

Purpose

Most coop rate payers are farmers, many of whom are already at the margin of failure.[11] Double or triple electric rates will increase the severity of their economic conditions. It is not known how many rate payers will start investing more heavily in conservation measures, shift to wood or gas as fuels, and/or install alternatives such as solar cells or wind machines to generate residential electricity. Costs of solar and wind alternatives are decreasing and are expected to cross below the costs of nuclear electricity in a few years.[12] One purpose of studying the energy use behavior of Western Illinois rural electrical rate payers is to assess the impact of these expected rate increases on them and to forecast the size of the coming market for conservation techniques and alternative energy methods. The total project is designed to give needed information to REA, WIPCO, and its customers.

Clinton Costs For Illinois Power and WIPCO

Illinois Power now estimates that the Clinton plant will cost $2.858 billion when completed. This cost includes $428 million in construction costs for the two generation and transmission coops (G&T's), WIPCO and Soyland--which owns 10.5% of the plant--but not their financing costs; these financing costs could bring the total costs for Clinton to $3.3 billion--a dollar figure that an REA spokesperson was cited as saying was reasonable.[13] Nevertheless, other sources cite different final costs; one Illinois Commerce Commission member mentioned to this author a possible final cost of $4 billion.[14] Since no independent extensive economic feasibility study of the Clinton plant has been done, it is difficult to estimate the final costs of Clinton, and therefore, the final costs to the two G & T's which own 20% of the plant.

Clinton was originally estimated to cost $429 million and to be completed in 1980. Changing economic conditions and high interest rates, construction problems, and Nuclear Regulatory Commission stop-work orders are some of the factors that have contributed to the large cost increases.[15] For example, as of September 1983, WIPCO had spent $276.3 million on Clinton, of which only $149.3 million were direct costs--$126.6 million was for interest alone; WIPCO manager, Donald Bringman, estimated (at that time) that the final Clinton costs for WIPCO would be from $380 to $460 million.[16] Mr. Bringman stated in a letter to Dr.

E.B. Shultz, "Our forecasts indicate that wholesale rates to our member cooperatives, not the ultimate consumer will increase by 2 or 2 1/2 or 3 times."[17] This would raise wholesale costs to .11-.15/KWH to distribution coops.[18] Charles Witt, Manager of MJM (one of the seven distribution coops that comprise WIPCO), estimated that .045 distribution cost add-on would be a reasonable estimate for late 1986.[19] If these official projections prevail, WIPCO electricity will cost coop customers from .155-.195/KWH in late 1986, up from the present WIPCO average retail rate now of .08/KWH.[20] The projected final Clinton costs for WIPCO and the wholesale consumer costs, according to WIPCO Manager, Donald Bringman, "...are based on an interest cost of 11% per annum."[21]

WIPCO's Needs and Clinton

According to Mr. Bringman, WIPCO had expected to need 180 megawatts when Clinton came on line. He now estimates that WIPCO will need 140 megawatts plus a 15% reserve, which equals 171 megawatts;[22] WIPCO now generates 61 megawatts from its own sources--much of it for peak load use.[23] WIPCO's 9.5% share of the 950 megawatt Clinton Nuclear Power Plant will provide it with 90.25 megawatts of power. According to Mr. Bringman, WIPCO does not think that it will need all of that power.[24] He noted, "We will have to cut back on plant use because we don't need it; this will cost us additional money."[25] According to various official sources, WIPCO has tried to sell its Clinton share--to a Missouri coop for example--but has been unable to find a buyer.[26] There is excess power available throughout the midwest, including at TVA, which has made a major investment in conservation. These conservation efforts have enabled TVA to save the equivalent of 1000 megawatts.[27]

Impact Of Future Population Trends In WIPCO Region on Electricity Demand

In addition to an excess of electricity available in the general midwestern area and specifically in WIPCO's immediate area, the demand for electricity in the WIPCO territory has declined in the past few years. Specifically, six of the seven distribution coops in WIPCO sold fewer megawatts of power in 1982 than in 1980--one of them (Spoon River) experienced a 6% decline in these two years.[28] Furthermore, five of the seven WIPCO coops served fewer customers in 1982 than they did in 1980--the other two grew by only 1%.[29] In addition, the customers in all of the seven WIPCO coops used fewer KHW/month on the average in 1982 than they did in 1980.[30] All of these statistics indicate that there has been a slight decline in coop electricity demand on both an aggregate and an individual level--there are fewer coop customers in most of the coops, and they are consuming less electricity than they did before.

While it is difficult to project exactly what the electricity demands for WIPCO customers will be in the future, another indicator of such demands is the general demographic trend in the twenty-five-county region serviced by WIPCO. A comparison of the

1970 and 1980 population figures for townships serviced by WIPCO in these twenty five counties indicate only a composite 5.8% gain in the total area; much of this increase occurred in villages, towns, and cities--all of which are serviced by investor-owned utilities--or on main roads between villages or on the fringes of villages--many of which are also on the investor-owned grid.[31]

Rural areas outside of towns and villages did gain 8.5% from 1970 to 1980; however, many townships and even total counties--particularly those without population centers and those farthest from large population centers--declined in population over the ten year period.[32] Our observations and interviews in some of these townships and counties corroborate such declines; we found many abandoned homes, tenant farmers, rented homes, large corporate farms, mobile non-farm residents, etc.[33]

Other counties registered relatively large population increases--mainly in surburban areas or rural areas near villages or cities. However, the rural areas farthest from population centers also declined in population in these counties.[34]

Therefore, in counties which both increased and decreased in population between 1970-1980, the rural farming areas--and the number of farmers--decreased. The population gains were mainly non-farmers who migrated to rural areas; non-farmers now comprise 30% of the WIPCO customers.[35] This increase in rural non-farmers between 1970-1980 was reflected in the increase in coop membership and total electrical consumption during the time period in all seven WIPCO coops.[36] In addition, the average KWH consumed by residential customers increased from 1970-1980--which could be a reflection of larger farms, changed consumption patterns of permanent residents, and/or the consumption patterns of new migrants to rural areas.[37]

Although the coops were experiencing increases in electricity sold during this time period, their clientele was changing, and there were signigicant population shifts. Some large population declines were occurring in very rural areas which were more than compensated for by larger population increases on the rural fringes of larger communities. However, during the past few years at least, there seem to have been fewer non-farmers migrating to rural areas serviced by WIPCO than there have been farmers and others moving out of WIPCO territory; therefore, all seven WIPCO coops are experiencing a net decline in at least one of the two important indicators--total MGW sales and customers served. In addition, the residents remaining in all of the seven coops are using, on the average, fewer KWH/month now than they did in 1980. It is also significant that the rural out-migration trends have been in place for at least ten years if not more in many areas--people have been accustomed to people moving out. When such a pattern starts, it is sometimes difficult to stop. New businesses are reluctant to move to such areas, the schools decrease in size and some rural schoolhouses close as both number of children and the tax base declines, etc.[38]

Furthermore, the total population in the state of Illinois increased at a rate even less than the west-central Illinois area serviced by WIPCO between 1970 and 1980--only an increase of 2.8%.[39] This population increase was lower than the national average and was, therefore, reflected in Illinois's lose of two House of Representatives seats in 1980--one less in the area outside of the northeastern Illinois Chicago area.[40]

Another indication of future demographic trends in Illinois is the US Bureau of the Census population projections for the year 2000 for each of the 50 states; the Illinois delegation is projected to shrink from its present 22 to 18--a loss of 4 seats.[41] Again it is reasonable to expect that this shrinkage will occur at least equally in rural and in urban areas--if not more in rural areas.

Finally, my observations of demographic shifts in Western and Central Illinois during the past fifteen years have corroborated the statistical trends--farmsteads increase in size through consolidation as older residents move off the farmstead or die, abandoned buildings appear, and larger combines and tractors dot the landscape.[42] The dramatic increase in farm foreclosures in the past few years accelerates this trend towards larger farms and more absentee owners--and fewer people.[43]

It could be concluded from this brief demographic analysis that both the rural population and the coop electricity demand in the area serviced by WIPCO will remain the same if not continue to decline in the coming years--even if electric rates stabilize at prevailing inflation rates. There seem to be no signs that there will be a population increase in the WIPCO area (which would result in more WIPCO customers) or an increase in individual customer KWH usage--both of which would increase coop electricity demand. This general projection sets the stage for our broader analysis of the future energy use patterns of the rural residents who will remain in the WIPCO area. The focus is shifted to an actual end-use survey of the projected coop electricity usage of WIPCO customers in the near future--given an anticipated doubling or tripling of electrical rates.

RESEARCH DIRECTION AND QUESTIONS

Questions to Pursue

Many economists claim that demand for an item declines in the same proportion as the cost of the item increases.[44] However, if electricity rates double or triple, we can't expect electricity demand to totally disappear--all customers will not get off the coop grid. One of the major questions to pursue in this study will be, "What will the electricity demand be under different size rate increases and why?" In order to seek answers to this question, other questions need to be considered, such as the following:

1. How much electricity do customers think they need to use regardless of cost? Where is the so-called "threshold level"? Does it vary for different types of customers--those in different occupations?

2. How many WIPCO customers are at this "threshold level" now?

3. How many customers have insulated or weatherized their homes so much that they don't think they can add any more?

4. How many customers have conserved or "cut back" on electricity use so much that they don't think they can conserve or cut back any more--regardless of cost?

5. How many customers have already switched to other ways of generating electricity or producing energy for the home and farm--to the point where they can't switch any more?

6. Why did people insulate, conserve electricity, and/or switch to alternatives in the past? When did they do so? If data in this study indicates that most people acted because electricity rates were too high, is it reasonable to expect that these individuals and others will do the same if electricity rates continue to rise? It will be useful to determine to what extent people acted in these ways for mere convenience--to get what they thought was a better life style--and to what extent they acted for economic reasons--electricity and other energy sources cost too much. In addition, it will be helpful to see if there are any trends or patterns in people's behavior over the past few years that might give us clues about future energy-use behavior.

7. What is the relation between cutting back or using the same electricity in the future and the degree of willingness to consider a new way of generating electricity or a new alternative energy source? Can and will people opt for a new or alternative energy source without changing or "lessening" or "reducing" their consumption habits significantly? What kinds of people and how many of them will provide some or most of their own energy and/or electricity and why?

8. To what extent do people associate the use of electricity with "a better life style" than use of other energy sources such as gas or wood? What are people's attitudes and thoughts about use of wood, gas, and other more "unconventional" energy sources such as wind, solar, or biomass? To what extent do people see these energy sources as playing a role in their future on the farm and in the home? What role do they play now?

9. How does the cost of electricity now compare with the cost of the various alternatives? What are the projected future cost comparisons? When will wind and solar power cost the same as electric power? Will people shift from coop grid electricity when other alternatives are less costly? How much will they shift and why or why not? Will people shift to such alternatives before they are cheaper--why or why not?

10. For what specific household and farm uses do people use electricity and other energy sources(gas, wood, etc.), and what are their projections of future use--given rising electricity costs?

11. What are the attitudes and thoughts of the people towards the construction of the Clinton plant--which is related to future electricity rates and coop energy use?

12. Are there certain characteristics or traits or types of people that seem willing to cut back, switch to certain alternatives, insulate, etc.?

13. How many people have experienced large electric rate increases in a short period of time in the past, and how did they respond to such rate increases?

In general, by knowing exactly when, why, to, and from what energy sources people have shifted in the past, we will be better able to anticipate future electricity and energy use. If people have done something in the past for certain reasons and say they will take a somewhat similar or exactly similar action in the future for the same reasons, it is logical to assume that they might actually do so when the time arises. Certainly times and conditions do change, but people tend to be remarkably consistent in their behavior over time--local traditions and customs contribute to that regularity. If times or conditions do result in changes, everyone in the community is affected; people watch their friends and neighbors respond to changes and are influenced by their adaptations. In the area of energy us --which takes up such a large percentage of the expenses of rural people(most of whom are farmers), adapting successfully to changing energy conditions and prices is necessary to one's livelihood.

Traditional Load-Forecasting Procedures Not Sufficient

In order to understand actual energy trends one can't just project the future behavior of WIPCO customers and others in their communities from what other REA or investor-owned utility customers have done under "somewhat similar" conditions. Such "extrapolations" have many possible pitfalls. People do not think, and, therefore, act the same everywhere. Climactic and ecological differences and historical patterns of energy use vary in every locality or region. For example, the historical pattern of wind mill usage in parts of the WIPCO region might predispose people to rely more heavily on such an energy source,

or the ready availability of wood in other WIPCO areas and a past history of wood usage may be likely to trigger a return to such patterns. In addition, in order to "calculate," "project," or "predict" the future coop electricity usage, one must determine how long coop electricity usage has been a part of the lives of these rural customers. How imbedded in the behavior patterns of the people is it?

General Research Procedure

In order to try to learn more about the thoughts and actions of WIPCO customers, 1019 WIPCO customers were randomly selected and interviewed. Various statistical tests were used to analyze answers people gave to the questions we asked. The tests aided us in our interpretations of people's feelings and thoughts. In addition, the comments of people that arose during discussions with our interviewers were compared as we searched for answers to the various questions we posed.

SAMPLING PROCEDURE AND SAMPLING TECHNIQUES

Our population is the 44,257 rural electrical customers who are member/owners of the seven distribution coops that are organized for the purpose of pooling the purchase of electrical power into a generating and transmission coop called WIPCO (Western Illinois Power Cooperative).[45] The seven coops service parts or all of twenty-five counties in the western and central part of Illinois--from Alton in the south, bordering the Mississippi River, up to Nauvoo, roughly due east to Peoria, southeast to Lincoln, southwest to the southeastern corner of Montgomery County, then due west to Alton and the Mississippi River.[46] The area is mainly relatively fertile farmland with the major crops being corn and soybeans; there are quite a few hog farms and some cattle--dairy and beef--farms in the rural areas in these counties.

The coops service all of the areas not serviced by the investor-owned utilities. The investor-owned utilities (mostly Illinois Power and CIPS) service all of the villages, towns, and cities--all of which are designated as "places" by the USA census. In addition, the investor-owned lines spread out into rural areas--particularly servicing along the main roads between "places." Furthermore, frequently the investor-owned lines service areas next to communities (places) and venture off the main roads to pick up customers on secondary roads.[47]

We did not have maps which indicated where the areas serviced by the coops and investor-owned utilities were located. In addition, we did not have names of rural electric customers. Therefore, we decided to include in our sample all of the enumeration districts (EDs--areas determined for census-taking purposes) with a population of 200 or more in each coop and to randomly select a certain number of enumeration districts in each coop to sample.[48]

We determined that if we selected the people in this way, a sample of about 1000 was large enough to draw conclusions about all 44,257 WIPCO customers. We distributed the 1019 people among the coops according to the relative size of each coop. Then we selected at least 120 people from each coop so that we could generalize the results from the people sampled in each distribution coop to that coop's total membership. Therefore, it was decided to sample the following number of individuals in each coop: Western Illinois Electric, Spoon River and Rural Electric Convenience--120 apiece, MJM and Adams--150 apiece, Menard--165 and Illinois Rural Electric--180. Later we expanded the sample in both Adams and MJM to 157.[49] Then we arranged the EDs selected in the random order in which they were chosen and decided to interview 15 people in each ED.

Most of the ED boundary lines were the same as the township boundary lines in the counties involved. The township lines were established years ago and usually were of relatively equal size--36 square miles--and contained 36 sections of equal size.[50] All of the 36 sections in each ED were ranked after reference to a table of random numbers. The first 15 fell within the sample and were sampled by the interviewers in any order. The remaining sections became the substitute sections from which respondents were selected if there was no successful interview in one of the sections in the sample.[51]

Each section was divided into quadrants and the interviewer selected in some random fashion one of the four quadrants to begin interviewing in each day. Then the interviewer would select the first household that s/he saw in the quadrant of the section s/he decided to begin interviewing (in the ED selected) for that day. If s/he saw two households at the same time, s/he would select the household whose driveway s/he came to first. The interviewers were told to proceed clockwise around the section until a successful interview was achieved or the potential respondents in the section were exhausted; if the former occurred, then the interviewer would interview people in the first substitute section.

The interviewer was told to proceed clockwise until two respondents were found to be not-at-home; then s/he was told to return to these two households at another time that day or on another day. If no one was at home at the second visit to each home, the home was eliminated from the sample and the interviewer proceeded in a clockwise direction to the next home. Refusals or abandoned homes were signals to continue clockwise around the section until a successful interview was achieved, two "not-at-homes" were found, or no potential households left.[52]

This sampling procedure was very time consuming and costly in terms of both money and the patience of the interviewers. In many cases the roads did not follow the section lines and much back-tracking and many extra miles were necessary to get to the next quadrant in a clockwise direction from where one had begun in that section.[53] Nevertheless, interviewers were told to be

very careful to find all potential coop customers in each section before substituting sections. In some EDs, the investor-owned utility lines frequently crossed rural lines and serviced people even in remote areas accessed by dirt roads. In a few cases interviewers spent all day in an ED and achieved one or two successful interviews. On a good day, one could interview people in 15 households; the average was about 10 interviews a day.[54]

The severe winter weather conditions slowed down the sampling and eventually forced all interviewers home in the face of the sub-zero December cold. Depending on weather conditions, interviewers worked alone or as a team. Each person received $4/hour and was reimbursed for mileage at .15-.20/mile if they used their own cars--a token amount considering the wear and tear on the cars on the rough country roads. Initially, Principia College students were hired and trained as the interviewers, and, together with one former Principia College student, they gathered about 800 of the 1019 interviews. In January, when Principia College students returned to school, my wife and I and volunteers and paid interviewers who were students at Lewis and Clark College and Southern Illinois University at Edwardsville did the rest of the interviews.[55]

In most cases, at least two interviewers gathered data from each of the coops--reducing interviewer bias in the sampling. Everyone was instructed to record all responses on the questionnaire, which was used as an interview guide, and to note the interviews completed and "not-at-homes" on the sample selection form.[56] The interviewers were told not to engage in discussions where their own personal biases or opinions were revealed; they were asked to listen to the respondents and leave as cordially and as soon it as was courteous to do so. They were particularly told to avoid discussions concerning nuclear power and the Clinton plant. We tried to be polite and respectful of the people who were gracious enough to invite us into their homes and provide us with some very personal information--all strictly confidential--like their household income. In some cases, people invited interviewers to remain after the interview was completed; occasionally interviewers shared some of their thoughts then. We were very pleased with the friendliness and cooperation of the coop members we interviewed; students frequently commented about how much they learned about themselves and people in general by working on this project.[57]

DATA GATHERING TECHNIQUE

1019 WIPCO customers were interviewed in their households sometime between late November 1983 and mid-March 1984 by 26 different interviewers, who used a questionnaire as an interview guide. They read the questions to the people and recorded the answers; the respondents were not given a copy of the questionnaire/interview guide. The questionnaire was designed by two independent consultants and myself after it had been tested on a sample of 155 in a pilot study of MJM customers in nearby Jersey County.[58] The pilot study was conducted by students in a class

in Global, Social, Political, and Environmental Change that I was teaching during the fall quarter of 1983 at Principia College. Ten students designed the pilot study questionnaire together with me after studying the issues surrounding the cost-increases associated with a central electricity generating facility--the Clinton Nuclear Power Plant. The students site-tested the questionnaire with MJM customers and made many suggestions for improving it; these improvements were incorporated into a new questionnaire, which was sent to three consultants for their evaluation. As a result of the extensive comments of two consultants, the questionnaire was again extensively revised and emerged in its final form.

Throughout the pilot study, the students and I became aware of the need to develop as bias-free a questionnaire and interviewing procedure as possible. This was particularly important for our WIPCO study because I had received some press coverage advocating the temporary halting of the construction of Clinton pending the outcome of an independent economic feasibility study. In order to ensure the integrity and preserve the validity of the WIPCO study, we had to divorce the study and its results from any of our personal views; we knew we had to keep our biases from intruding into the study at all stages.

Therefore, I relied heavily on three sociologists to develop the WIPCO questionnaire and the elaborate random sampling procedure.[59] In addition I told each interviewer that I did not want to know his/her views on nuclear power or the Clinton situation. I tried to develop a professional rapport in which accurately recording the thoughts and attitudes of WIPCO customers became our mutual goal; anything that I could do to further the achievement of that objective for the interviewer, I tried to do.

Accordingly, extensive guidelines were developed for interviewers to use. They were told to ensure the people of the confidentiality of any information they gave and were told to present the questions in as similar a manner as possible--reading each one as worded on the questionnaire whenever possible. For example, interviewers were explicitly instructed not to probe or ask follow-up questions in asking question #35 concerning additional actions people might take in response to the electric rate increases.[60]

The interviews took from 10-20 minutes--unless the WIPCO customer wished to spend a longer time because of special circumstances. Usually the nature of the project became immediately clear to the residents; they invited the interviewers in and cooperated with them. Sometimes it was necessary to spend a few minutes at the door explaining to people that we were not selling anything and actually just wished to ask a few questions about home energy use. However, interviewers were instructed to be careful not to inconvenience people and to graciously thank them if they did not wish to be interviewed.

There was enough space on the questionnaire to record all of the comments, and the data was relatively easy to code for entry into the computer. The relatively blank first page was easy for interviewers to use to write down any impressions or thoughts about the interview while they were fresh in mind.

Step-wise forward multiple regressions were used to aid us in determining the relation between cutting back, switching to alternatives, attitudes towards the Clinton plant and, such factors as home and water heating sources, knowledge of insulation in ceiling, occupation, income, acres owned and tilled.[61] In addition, some cross-tabulations were made to notice the relations between such factors as cutting back electricity use and switching to alternative sources of energy.[62] The general frequencies or actual percentages of people who thought or felt certain ways on various questions were tabulated.[63] The actual comments that everyone gave to certain questions, such as why they would cut back or not, why they felt certain ways about Clinton, and if they felt that their thoughts would have any impact on Clinton were compiled and included in the appendices to this report so the reader would gain some appreciation for the actual feelings and thoughts of WIPCO customers.[64]

Many hours were spent in coding the data, entering it into the computer and doing the statistical tests. Principia College students, staff, and family members volunteered their time or were paid for this work--which was,again, much appreciated.

GENERAL RESPONSE TO INTERVIEWS

Almost all of the respondents were very cordial and quite honest with our interviewers. We were very pleased to experience only a 13% rejection rate--and in most cases this was because of inconvenience to the respondent or just lack of interest in being interviewed in general.[65] Just a few seemed skeptical about allowing a surveyer into their homes (many of them elderly) or were irritated at being bothered. In only a few cases did the resident refuse because he stated that he did not want to talk about energy use. Three-fourths of the people volunteered their income when assured of strict confidentiality. Most of the responses were honest and direct--if not terse and blunt at times, as can be observed by reading Appendices A-F.

ANALYSIS OF DATA

Using the Same Amount of Electricity or Cutting Back Electricity Usage In Relation to Switching to Alternatives

Almost all of the respondents, understandably, did not like the idea of paying double or triple electricity rates. In response to this rate increase 58% stated that they would use less electricity, 39% stated that they would use the same amount of electricity, 2% did not know and .4% (5 people) stated they would use more. When asked why they felt that way, the comments ranged widely among the people who would use both less and the same.[66] In addition, 60% of the people stated that they would

switch to alternative energy sources: 18% said "definitely," 13% would "strongly consider" switching, and 29% said "maybe." 7% did not know at this time if they would switch or not, and 33% said they would not switch to alternative sources of energy or ways of generating electricity.[67] Basically, there were four types of people: 1) Those who would use the same and not switch to other sources(18.6%), 2) Those who would use the same and would switch to other sources(17.6%), 3) Those who would use less and would not switch to other sources(12.8%) and 4) Those who would use less and would switch to other sources(41.6%).[68]

An analysis of the comments of people concerning why they would cut back or use the same amount of electricity, which are presented in Appendix A, reveals that most people, regardless of their opinion, agreed that such a rate increase would hurt them economically. Most people indicated that they had already been conserving electricity--many stated that they did not know where they would or could cut back in usage. Particularly, those people who were retired and living on fixed incomes (social security, etc.) were concerned about the projected rate increase.

The main reason people gave who stated that they would use the same amount of electricity was that they had to in order to retain their basic standard of living--which was usually governed by minimal electricity consumption now. Many indicated that they were already cutting back on electricity usage because of present cost.

Even though a clear majority of 58% stated that they would use less electricity, most of them stated they could not cut back much. When asked which areas they would cut back on, the most popular choices were--as one would expect--the high energy consumption electric resistance heating devices like hot water heaters, grain or clothes dryers, and cooking stoves, in addition to air conditioners.[69] They hoped to save on the average about 20% of coop electricity by cutting back on usage.[70]

Further analysis of the respondent's comments revealed that many of those who stated that they would use the same were farmers who indicated that they could not get by on the farm with less energy. Many of these farmers stated that they needed to switch to less expensive alternatives to continue their present level of farming activities. They cited such alternatives as drying the grain more in the fields or using gas instead of electric dryers; most already have gas dryers but use electric blowers -- which consume much electricity. On the other hand, 7% of the farmers stated that they would cut back on farming activities such as heating some farrowing pens; 1% would quit farming totally. Others would use their own gas generators (5%) or just endure the electricity cost out of necessity.[71]

Various energy alternatives to electricity were mentioned by the 60% of the people who stated they would switch--which comprised people who would use the same or less electricity. Some farmers and non-farmers (15%) indicated that wind would be a source they would switch to for from 10-100% of their electricity and/or

energy. 14% volunteered solar, 13% cited some form of gas or propane, 10% cited wood, and less than 1% cited biomass. Many respondents mentioned more than one of these alternatives in various combinations as they searched for the best energy mix for their particular situation.[72] A few people indicated that they already had their own generator. The average percentage coop electricity saved by the 60% of the people who anticipated some degree of switching to alternatives was 40%; a full 15% (90/1019 people) claimed that they would provide 100% of their energy needs and 10%(60/1019) cited that their use of alternatives would mean a 50% reduction in their use of coop electricity.[73]

People from all socio-economic backgrounds (all income levels, occupations, and amounts of education) indicated a receptivity to switching to the various alternatives. For example, in the case of wind, many people had used wind in the past for their wells and realized that it worked very well. Quite a few of these respondents were aware that new wind machines were more powerful than ones they previously used and that they could provide at least some of their energy for the future. They usually did not have unrealistic expectations from wind and in some cases were aware of the relatively large initial capital investment ($4000-$5000). However, such alternatives--even with the initial capital outlay--appeared as potential economically-feasible alternatives in people's minds as they contemplated a doubling or tripling of rates; in fact, many indicated that they were already looking into wind. A few indicated that they had talked to salesmen or knew of friends or neighbors who had a wind mill.[74]

It is important to realize that most of the people who indicated that they would switch to other sources needed to do so to keep the farming operation going (farmers) or desired to do so to retain a comfortable home life style (non-farmers and farmers alike.) Many farmers with large electric bills of $500/month and more told us they would have to use alternatives to earn a reasonable profit in a very volatile market where they can (as one farmer with a relatively large number of acres stated) lose $110,000 in one year and earn $50,000 in the next year. Such farmers with many acres mentioned to us that they cannot sustain too many of these large "losing" years like ones that have occurred recently. Many farmers with small or medium-sized farms, who operate on much smaller margins of profit, told our interviewers that they, too, had to cut back on electricity use wherever possible or switch to alternatives; even though their electric bills were lower, electricity was a large part of their energy and total bill on the farm.[75]

Both farmers and non-farmers were aware of the economic feasibility of alternatives and their shorter pay-back period as electricity rates become increasingly larger. The only difference between the farmers and the non-farmers was perhaps in the degree of necessity to switch; the farmer would have to switch to survive and/or retain his business at present levels (depending on the size of his farm), whereas middle income non-

farmers with children would switch so that more of their discretionary income could be spent on other household or family items.[76] The people with small incomes, who were usually renting old farmhouses (some un-insulated) or living in trailors, were usually very angry at the prospects of large electrical rate increases. They told us that they could not afford any rate increases or the initial capital investment for alternatives--except for wood or gas--which many of these people indicated that they would switch to (if they had not already done so). Many of these people were very mobile and had not lived in the homes or area very long; many indicated that they would move into an investor-owned utility area where rates were cheaper. If they do so, they will contribute to the anticipated decline in future WIPCO members and decline in future WIPCO electricity demand.[77]

Coop and Regional Differences in Future Energy Use

There was not a strong difference in the percentages of people in each coop who indicated that they would switch to alternatives (ie. from 50% in IRE coop to 66% in Spoon River coop). However, there were some more noticeable differences in the degree of intensity of the desire to switch in each coop (ie. 46% in MJM and 37% in REC said "definitely" or "strongly consider," whereas only 24% in IRE, 26% in Adams and Menard, and 27% in WIEC said "definitely" or "strongly consider."[78] In addition, there were some distinct differences in the percentage of people in each coop who indicated that they would cut back or use the same amount of electricity. For example, 72% in Adams and 65% in REC stated they would use less, whereas only 43% in WIEC and 49% in IRE indicated that they would use less electricity.[79] In spite of the relatively similar tendency to switch among people in all the coops, the alternative sources of energy people would switch to varied in certain regions.

Some of the regional differences are partially explained by the variation in the contour of the land and the amount of forest. As one might expect, we found that woody areas were inhabited by those who stated that they relied now on wood and would to a greater extent in the future, whereas farmers on the flat and relatively "woodless" plains were more prone to mention wind. Others on rolling hillsides away from large rivers did not discuss many alternatives with our interviewers; yet they had a sense of perseverance. They seemed used to hard times and stated they would grit their teeth and work through this one as they had others. Many of these people did not seem prone to change their ways--in spite of the fact that some were hog farmers with large monthly electric bills of from $250-$350/month.[80]

Further analysis of the correlations between ecological and sociological factors (such as prevailing customs and traditions and land use) is needed to explain these regional differences among farmers with similar socio-economic characteristics. It could be that the different activities and policies of local and county agricultural extension agencies or farm bureaus explain

some of these differences. In addition some of the differences could be explained by the fact that most of these farmers who indicated a "no cut back" and/or "no switch to alternative" behavior were located farther away from the Clinton plant and knew very little about it--if they were aware of it at all. A full 41% of the respondents in Adams coop, 34% in WIEC, 39% in Illinois Rural Electric coop, and 36% in Spoon River coop were not even aware of the Clinton plant--nonetheless the rate increases that would accompany it. On the contrary, fewer of the people interviewed in the three coops closest to the plant--REC (8%), MJM (15%), and Menard (5%) coops--were unaware of Clinton.[81]

Many of the people closer to the plant were very much aware of and concerned/irritated about the rate increases that would accompany the completion of the Clinton plant. Most of the people in the coops nearest the plant had known about the plant for years. Many of them knew people who worked there; some had relatives working there or had worked there themselves. In addition, many of those aware of the plant were in areas serviced by the Springfield media--the newspapers, TV, and radio. The level of awareness of the Clinton plant was influenced by how close people were to the plant (the closer, the more aware), their access to Springfield media (the more access, the more aware), and their social class (the higher the social class, the more aware).[82]

It could be that many farmers in isolated rural enclaves on the western part of the state were skeptical of someone coming into their homes and telling them that they were part-owner of a large nuclear power plant that would result in their electrical rates doubling or tripling--particularly if they had never heard of the plant. Many of these people were not contemplating changing their present energy use patterns; perhaps it never seemed necessary to them before to consider seriously the idea.

However, there were also some farmers with large electric bills who had heard of Clinton and the anticipated rate increases who told us that they would use the same electricity and did not know of or would not switch to alternatives. But, they were in the minority in their "non-switching" inclinations. Most of the farmers with large electric bills (whether they had heard of Clinton or not) indicated that they would cut back on some electricity usage and/or switch to other ways of generating electricity and energy and, thereby, reduce their coop electricity consumption.[83] Further research on similarities and differences in energy use between coops is needed to clarify reasons for underlying trends.[84]

Relation Between Past WIPCO Electric Rate Increases and Electricity Use

In a very few cases were large electric rate increases the catalysts for changes in WIPCO electricity use--people switched away from electricity or used less because of the gradual escalation of electricity costs. In 29% of the cases people said that they had actually experienced electricity "rate shock," ie. responded

"yes" to question #28: "In the past, has your electric rate ever increased a lot in a short period of time?"[85] However, most of these "yes" respondents indicated that it was a usage increase and not a rate increase that caused their bill to increase. In most of the other cases, the "large" increase was 20-30% and even that was spread out over a couple of years. Only 3% indicated that their rates had doubled, but when they discussed the circumstances surrounding the rate hike, it was clear that it was usually over ten years or more--certainly not a short period of time.[86]

Lifelong residents in all of the WIPCO region had never experienced a "large" electric rate increase (50% or more) in a short period of time (one or two years). The rates in this area have gone up--in some cases even 10-15%/year according to the memory of the residents--but never very dramatically all at once. In essence, people have switched away from electricity for heating their homes (and for other purposes, as we will demonstrate) gradually in response to gradual but substantial enough rate increases--to the point where alternatives began to become cost-effective.[87]

A large rate shock was not needed to influence people to use less electricity and/or switch to using alternative ways of providing household and farm energy and/or generating electricity. As we have previously shown, electricity demand in WIPCO and the number of WIPCO members served has stabilized or declined from 1980-1982; this has occurred without large electric rate increases. How much of this trend is caused by people moving out of WIPCO territory, cutting back on electricity use or switching to alternatives to electricity is difficult to determine. However, our data has indicated that all three factors are present and are influencing coop electricity use.

WIPCO Customer Awareness of Electricity Cost

Regardless of specific future actions that WIPCO customers might take in response to electric rate increases, it seems very likely that almost everyone will be aware of them if they occur. We discovered that very few people now did not know what their electricity bills were during each season. Most WIPCO customers in the rural areas knew what they paid for energy and electricity, and in most cases, it was a significant portion of their regular household expenses--and particularly of the farm expenses; the bills averaged (for farmers and non-farmers) about $110/month.[88] In addition to this high degree of awareness of electricity cost, there was the large variation in the monthly costs--particularly for farmers. Most hog, grain, and dairy/beef farmers experienced large peak demands during certain seasons--farrowing hogs in the fall and/or winter, heating water and barns in the winter for cattle and drying grain in the fall; 27% had peak demands costing over $250/month and 11% over $350/month. The highest monthly electric bill was $1750/month during the fall for one grain/hog/sheep farmer.[89] Farmers are constantly looking for ways to cut operating costs for their business. Unlike city dwellers, farmers' livelihood depends on

balancing large capital outlays and energy expenses with an income which itself is volatile, dependent upon the whims of a widely fluctuating market and the weather. They learn to cope with natural and man-made systems in order to survive.

Electricity For Home Heating: How Much/Little and Why?

Although electricity is consumed in large amounts for farm purposes and some household purposes, it is used by few WIPCO customers for one household purpose--heating the home. Our study indicated that only 9% heat their homes mainly with electricity; an additional 7% use electricity as a supplementary source--in conjunction with wood, fuel oil, propane, or natural gas (and, in a few cases, coal).[90] Almost all of those who used electricity as a supplementary heating source indicated that they would cut back on electricity for heating, and most of the small percent who heated exclusively with electricity indicated that they would also switch from electricity for economic reasons.[91] Many interviewees had already switched from electricity for heating or installed supplementary heating sources--because of electricity's high cost. Such shifts have occurred quite recently--usually within the past five years and almost always in the past ten years.[92] It is reasonable to expect such people to continue to switch away from electricity--if electricity costs increase--since they already have experience in doing so.

65% of the people had two home heating sources--almost always the second one has been added during the past 10 years and for economic reasons. 25% heated their home mainly by wood and another 9% had wood as a backup (for up to 50% of their home heating).[93] Many of these people said they would definitely shift to a greater reliance on wood as the electricity costs and/or propane costs gradually increase. Only 13% relied on fuel oil as a main home heating source;[94] fuel oil and electricity are becoming less popular as they become more expensive than readily available alternatives that can be relatively easily and inexpensively installed, such as wood and gas (propane). This is demonstrated by the fact that in our sample, fuel oil was "the most recent source of heating the home" in 10% of the cases and electricity in 3.6% of the cases.[95] Many of the people shifted to fuel oil after the old coal and wood stoves wore out; fuel oil seemed cheaper and more convenient 30-40 years ago. Most of these people (a full 50% almost) have shifted again to gas or electricity or directly "back" to wood; many have come full circle in 40 years. Cost seems to govern home heating choices more than convenience (ie. 56% of the reasons for shifting heating sources over the years have been "economic");[96] furthermore, about two-thirds of WIPCO's customers (65%) have the option of relying to different degrees on their two home heating sources. The evidence gathered in this study indicates that the customers' choice between the two sources will be largely based on the relative costs of the two options.[97]

Most rural farmsteads--with farmhouses averaging 75 years in age--never used electricity to heat their homes.[98] Electricity is a relatively new phenomena in the lives of 21% of the WIPCO

residents, who are 60 years old and older.[99] If they have lived in this area all of their lives--and most of the people of this age have, they can remember when they got electricity--some not until the 1940's or 1950's.

We did not explore why many people never installed electric heat; one reason could have been that many of the homes were too poorly insulated to meet utility standards for electric heat. Some of the interviewers were told that the utility companies insulated people's homes so that they could qualify for electric heat; however, these events happened a long time ago and "might" have involved the customer having to pay for at least part of the insulation--which could have been a deterrent to getting electric heat. Some supporting evidence for this assumption may be found in the fact that even now some of the farmhouses have no insulation in the walls or the ceiling.

When the people were asked if they knew how much insulation was in their walls and ceiling, some realized that there was none, commenting that it was too costly to insulate. The walls seemed to be much more costly to insulate that the ceiling--therefore more walls than ceilings lacked insulation in many old houses. It appears that many of the old walls can't hold insulation that has to be blown in; the alternative is to put new siding on the house or somehow put new walls on the interior--both of which are very expensive.[100]

Other Electricity Uses By WIPCO Customers

Since electricity is a relatively new phenomena on the rural Illinois farm and only 9% heat their homes with electricity, it should be determined what the main uses of electricity are for the rural user. A full 56% heat their water with electricity, and 58% cook with electricity.[101] In addition, many people have electric washers and dryers--albeit, some people volunteered that they hung their clothes out to dry more frequently than they did in the past.[102] In addition, 32% have central air conditioning, 27% have one room air conditioning units, and 9% have two or more room units.[103] These electric resistance heating/cooling devices consume the most electricity on the farm with the exception of the farm-related activites that we have already discussed like heating barns, pens, and water for cattle and hogs, or drying grain.

It is not surprising that, as we have already pointed out, many of the items that used a lot of electricity were the ones that people said they will cut back on first in the home and on the farm or totally switch from.[104] Many people realized that it does not take a large capital investment to switch from heating water with electricity to heating it with another energy source such as gas or even solar, or to cooking with gas/propane instead of electricity. When the perceived pay-back period is quite short and the initial capital investment in quite low, farmers and non-farmers alike in rural areas have been switching and state they will continue to switch to alternative energy sources; in most past cases, it has been to propane or wood, but

now WIPCO customers are clearly thinking of other alternatives like solar and wind in addition to propane (gas) and wood.

Social Class of WIPCO Customers

As one would expect, there was a great mix of occupations and income levels among the rural WIPCO customers. Incomes ranged from below zero (for about 10% of the farmers surveyed) to $150,000; however, it should be noted that only 2% of those who volunteered their income earned more than $50,000. Most incomes were distributed relatively equally from $5,000 to $30,000/year; 50% earned in that range.[105]

The occupations likewise ranged widely and were relatively evenly distributed in terms of so-called occupational prestige scales--except for somewhat fewer people in upper management white collar professions and, of course, the large concentration of farmers and elderly people on small fixed incomes (mostly former farmers.)[106]

Responses Of Low Income Residents To Electricity Rate Increases

Although there were no clear patterns in energy use in relation to the social class (as measured by income, occupation, and education) of the WIPCO customers, some groups of people usually responded in certain ways. Elderly retired farmers on small fixed incomes and non-farmers with small incomes generally had some comments similar to others in their respective group.

The WIPCO population seems to have a greater percentage of older people and people of modest and small incomes than the national average. 23% of the people interviewed had incomes of under $15,000/year, 13% under $10,000/year, and 4% under $5,000/year--in addition to the 10% of the farmers who lost money last year.[107] 30% of the WIPCO customers were over 60 years old; 21% were over 65 years of age and 13% were over 70 years old.[108]

Most of the older people with low incomes were retired farmers living on fixed incomes (Social Security, etc.). Most told us they already had cut their electricity consumption down to save money, yet would try to conserve or cut back some more to preserve some measure of comfort as time went by. Some did not see wood as an option because of the physical labor involved or the inconvenience, whereas others still enjoyed cutting wood for their new/old wood stove. Most told us they would do what they could to remain on the old farmstead as long as they could. Any electric rate increase would impact on them--but they would adapt and survive as they always had.[109]

The non-farmers of low-income tended to be renters or live in trailers; in most cases, because their dwellings were poorly insulated, their energy bills for propane or electricity were the same as those of people who earned more money than they did.

As is the case with farmers with low incomes, a greater proportion of their income went for essentials like food and home energy--utility bills. Most, if not all, of these people will be very hard-hit by the electricity rate increase.[110]

Many of these people indicated to us that they would move to escape the large electricity rates, and it would be relatively easy for most of them to move their trailers down the road onto a lot serviced by the investor-owned utility--which everyone told us had much cheaper rates than WIPCO distribution coops. Another easily available option would be to move into one of the newly abandoned homes in the rural areas or into the villages and towns that are likewise on the investor-owned utility grid.

A full 10% of the people sampled indicated that they would move in response to the electric rate increase; although we did not systematically measure the intensity or strength of such beliefs, we do have many comments that indicate that when it was mentioned, it was usually not just an off-hand comment; there was a degree of seriousness in most of the people's minds when they said it.[111] These "movers" are the most potentially volatile of the WIPCO customers--and many of them were very mobile, without a history of attachment to the community or the land.

Depressed Economic Conditions Among Farmers In And Near WIPCO Region

Many of the farmers, even those with large amounts of land and stock have been facing hard economic times in this part of Western and Central Illinois for the past few years. As previously noted, 10% of farmers in our sample who reported their income lost money last year. WIPCO Farmers experienced a 36% net loss in soybeans and a 50% loss in corn in 1983 because of the drought, and many sustained similar losses during the past few years for various reasons.[112] Erratic farm policies, such as the grain embargo and the PIK program, have sometimes hurt farmers more than they helped them. Furthermore, because of the very high interest rates and the rapidly accelerating costs for items like fertilizer and tractors that have driven up capital costs for farmers in the past few years, many have simply been driven out of business; as always--or almost always--the prices for farm goods don't keep up with the costs of production, and the farmer is caught in the squeeze.

He falls behind in his payments, his debtors cannot extend any more credit, and the mortgage on the farm is foreclosed. As has been widely reported, the increase in farm debt, foreclosures and bankruptcies have been the greatest in the past few years since the Depression.[113] Farms that have been in the family for generations are sold to neighboring farmers, who need to own more land to produce more crops to pay the interest on their large tractors, etc. Many lives are disrupted as people have to adapt to dramatically new conditions; some become tenants on their own land. Others fade away, taking with them a heritage and lifestyle that is fast disappearing.

Consolidation Of Farms

We are left with increasingly larger farms run by increasingly fewer people. Many farms are run by absentee owners who rent or lease the land to local farmers, who till the land along with their own acreage. One indication of the prevalence of this trend in the WIPCO area is the fact that 2% of the people sampled owned over 1,000 acres or more; yet a full 5% tilled 1,000 acres or more.[114] When you eliminate from the sample the 30% of the people who were not farmers, the percentages for farmers appear to be 3% (own 1,000 acres or more) and 8% (till 1,000 acres or more). Our observations in the 25 counties involved supported these statistics. There is an increase in corporate farms and farmers renting or leasing lands--both from retired farmers who live on the old farmstead and from absentee owners who leave the farmhouse vacant.[115]

Abandonment Of Farms And Homes

Our interviewers discovered a remarkable number of abandoned homes, particularly in certain townships and counties; when we checked the US Census data for 1970 and 1980, we realized these places and others experienced a net loss of people during this time.[116] Even in other rural areas where there were many deserted homes, the counties increased in population, but the increases occurred in the towns and villages or on the fringes of them--all of which were serviced by the investor-owned utilities--as was indicated previously. In many cases, we would simply not find the dwellings that were designated on up-to-date official plat maps. All of the interviewers had the somewhat eerie feeling of knocking on a door of a home that appeared to have been just recently deserted--everything remained but the people.

However, the most disconcerting feeling was to see nothing on the land where the plat map showed there was a house. Old houses were torn down without a trace remaining; in some cases, the 640 acre sections were planted from road to road with not a dwelling remaining on the land.[117] In one particular township in Rural Electric Convenience Coop where I interviewed, fully half of the existent farmhouses were abandoned, and most of the others were occupied by tenant farmers--one of them cited that 2000 to 3000 acre farmsteads were not uncommon in that area. An examination of the plat map indicated that most of the land was held in trust by some bank or savings and loan, owned outright by them or owned by a few individuals or corporations. However, this situation was the extreme; it was not fully representative of the total WIPCO region; most of the farmsteads were still owned and operated by family farmers--but many of them rent additional acreage--which we frequently saw surrounding a recently abandoned dwelling.[118]

New Migrants To WIPCO Region

Rural Illinois--at least the 25 counties in which we surveyed--is losing people, as rural America is everywhere. Yet there are

still some new people moving into the abandoned farmhouses, etc. The new migrants to rural areas who we found were lower to middle class exurbanites or exsuburbanites who followed jobs to the coal mines, set up a trailer on a cheap lot, or wanted to escape from the cities or villages and "experience" rural living. They were a diverse group of people--some of whom desired to be self-sufficient; others who were just surviving on essentials. Some of them had moved just far enough out of the fringes of the villages or urban areas or off the main roads between villages to get placed on the coop grid. Some had built new houses or had settled in old farmsteads which they had renovated or were in the process of renovating; others were obviously just temporarily living in old homes or trailors until a better job or situation came their way.119

Some of these new migrants had designed and were living in new houses that were more energy-efficient and, therefore, less electrically-consumptive than the older farmhouses they were replacing. In addition, many had the economic resources for and most had the awareness of possible energy alternatives that they had brought from their former urban and urbane existences.

Regardless of the social class of these new migrants, they had the same energy use tendencies as their rural farmer neighbors. They told us that they would switch to such alternatives as solar or wind in addition to wood or gas--and in many cases they had already switched to wood, in about the same proportion as their farmer-neighbors who had lived in the area all or most of their lives.120 As we previously stated, our statistical tests supported these impressions, i.e. occupation was not at all related to the tendency to cut back or conserve electricity in the face of the large anticipated rate increase.121

Insulation and Weatherization of WIPCO Housing Stock: Implications For Future Electricity and Energy Use

The housing stock in the WIPCO region is mainly large old farmhouses (from 50 to 100 years old) plus a mixture of small to medium size, mainly wood siding dwellings, constructed 30 to 40 years ago. There are a few newer homes along the main roads or on the site of the old farmhouse which was torn down; in addition there are some trailors (5% of the dwellings.)122

52% of all respondents indicated that they would insulate or weatherize their homes more if the rates increased; many indicated that they were planning on doing so anyway. 53% of the people had already made concerted efforts to insulate their homes, 57% had put in storm windows if they weren't already there, and 37% had added caulking. Many thought that their homes were insulated and weatherized to the fullest extent possible. Most of those who said they would add more insulation said they would add it to the ceiling where data shows it has the most impact.123

Both future insulators and non-insulators indicated that they would do other things, like close off more rooms in the house to

conserve energy. These anticipated future behaviors are another indication that the rural residents were very much aware of energy and costs associated with it on the farmstead and in rural areas in general. These additional conservation efforts will cut their energy use and in many cases their electricity consumption. Since it is very difficult to estimate exact percentage electricity savings because of insulation or weatherization, we did not try to do so.[124]

The sensitivity to the cost of energy and electricity that the rate increase will bring about will probably result in even more tightly-insulated and weatherized homes--and most likely the leveling or complete renovation of the remaining old farmsteads with no insulation. One farmer told me that their newly married daughter and family had to move out of an old farmhouse because of $500/month propane bills in the winter--mainly for heating the home.[125] To heat the same dwelling with electricity would be perhaps 50% more in cost; in fact, switching over would not be allowed by the electric utilities without sufficient insulation. In order to have electric heat installed, all homes must meet certain insulation standards.

However, adding electric heat is pure speculation, because no one talked about it to us and no one in our survey has switched to electric heat in the last five years; on the contrary, they have either switched from it or anticipate switching from it in the future because of the high costs. In essence, more heavily insulated homes, fewer rooms used in the homes, and fewer old farmhouses will further reduce WIPCO electricity demand.[126]

The Homes: Age and Condition

76% of the WIPCO dwellings were occupied by the owner and 24% by renters. Many of the renters are occupying farmhouses that range from 50-100 years old. It is difficult to estimate the age of the housing stock, but frequently the homes were at least 75 years old. Quite a few were 100 years old. Many of these homes over 50 years old had been partially or completely refurbished; however, some of them had the original siding, walls, ceiling, etc. As we noted previously, many of the homes were either abandoned or had simply been torn down.[127]

Home Insulation: Customer Attitudes and Actions

It was very difficult to determine how many of the existing old homes had insulation in the ceiling. A full 34% of the residents did not know how much insulation was in the ceiling; in most cases they were aware of whether or not there was any, but this data was too difficult to validate accurately. It is sufficient to state that many of the older homes still have very little insulation; a few have none at all. Most people had insulated their homes since they have lived in them--in some cases there had been none. They had added the insulation at various times during the past 50 years. However, most of the insulation had been added during the past 5-10 years as energy costs had gradually risen. When asked why people added the insulation--which seemed like a foolish question to many people--most people

commented that it was because of the gradually increasing costs of heating the home.[128]

As another indication of the amount of knowledge that residents had about their insulation, each person was asked if s/he knew the amount of insulation in the walls of her/his home. 38% did not know how much insulation was in the walls of their homes; 59% did know. We did not ask them for an "R factor"--simply how much was in the walls. Again it was difficult to determine accurately how many of the homes did have insulation in the walls--because of the somewhat incomplete knowledge that many of the respondents had about their wall insulation. Nevertheless, we know that 53% of the people had added insulation to their homes--usually to both the walls and ceiling and in a few cases under the floor or around the crawl space.[129]

In very few cases had the "renters" added any insulation to their homes since they had been in them; sometimes they commented that the owner had "fixed" up the home and "they think" put some insulation in the ceiling before they had moved in. However, 1/4 of the homes are occupied by renters--who usually paid the utility bill; therefore, the owners of these homes have little incentive to fully insulate and/or refurbish the homes--particularly since many of them are so old. Certainly the renters are not fixing them up--at least few of them told us they had or indicated that they would.[130]

Home Owners and Renters: Implications For Household Energy Use

94% of the dwellings in our sample were single-family homes; only 5% were mobile homes. Most of the mobile homes were owned by the resident; many of them had lived somewhere else in the area or state before they moved into the mobile home. Fewer of these people had lived in Illinois all their lives--which was almost universally the case with the people in the single-family homes. In fact many of these residents had lived in the township all their lives and in quite a few cases had spent their lives on the same farmstead--either in the same home in another home that they had built adjacent to the old home, or on another site on the family land. Some of the people shared with interviewers family traditions and histories about how the land had been settled by their grandparents in the mid-1800's. There was a quiet pride and deep sense of rootedness in the land--this land--in the hearts of many of the people. Particularly the elderly people had a keen appreciation for the lifestyle they enjoyed on the farm--and they wished to enjoy its fruits as long as they could.[131]

Many of the renters likewise were fond of rural living--but they had less defined ties to that specific piece of land. Both they and the mobile-home dwellers had been and were potentially very mobile. One of the more interesting pieces of information that has been discovered in this study is that a full 10% of the people indicated somewhere during the interview that they would move down the road, into town, or "to the sunbelt" to escape the

anticipated large electric rate increase. Initially I was suprised with the frequency with which this response was volunteered unsolicited by so many respondents. However, when the pattern persisted, the interviewers and I began to realize that it was simply symptomatic of the actual trend that was already operating in many, if not most, of the rural areas in the WIPCO region--people have been leaving the rural areas for various reasons in large numbers during the past 10 years or so. Most people are aware that this is a national trend; however, we were surprised to see how all-pervasive it was in our backyards--in the twenty-five counties surrounding us. As we previously noted, census data supports our observations of decline in the population in many WIPCO areas.[132]

Some Common Feelings of Alienation and Expressions of Rugged Individualism

As can be seen from the variety of responses in Appendices A-F, there were many different opinions, attitudes, and feelings expressed by the people interviewed. The farmers varied from quiet almost fatalisitic individuals to angry change-oriented citizens. Many of the farmers and non-farmers interested in changing energy use and switching off the central electric coop grid were mild-mannered people doing it just to survive; others were switching or cutting back because they refused to pay for what they believed were others' economic mistakes. Some felt like pawns in a game being played by others and did not like it. They spoke from the heart--particularly when irritated at the electric rates, the coop or REA (mostly the organization--not the people involved), or the Clinton plant. In fact, many were angry and frustrated and determined that they would switch off the coop and/or fight paying the new rates.[133]

Many individuals' anger was fueled by a deep-seated sense of alienation and disenfranchisement--they didn't think that anyone cared what they thought or felt, nor would any of their ideas be taken into consideration in policy decisions. They felt ignored and increasingly exploited by large businesses and political entities that cared nothing for them. This sense of despair, alienation and frustration was discovered by all of our interviewers in all of the regions sampled throughout the twenty-five county WIPCO region--even those interviewers who spent only a few days working. In fact, the student interviewers were initially surprised by this sense of hopelessness or fatalism that many people had adopted to survive in the midst of feeling or actually being trampled upon. However, these feelings of being isolated, ignored, and abused were frequently accompanied by a rugged and outspoken individualism--some people felt crushed but would not let things rest there; they would fight back.[134]

This sense of alienation is reflected by the fact that 81% of the people felt that their thoughts and actions would have no impact on the cancellation or completion of the Clinton plant--whether they were in favor of it or against it.[135] People of all income levels frequently stated that they were not consulted initially on whether or not to build Clinton and that their

thoughts and opinions meant little if nothing now. Many of these people were farmers (even those with 500 acres or more) who felt helpless in a marketplace dominated by large businesses. They daily experience others setting prices for their farm goods and equipment, just as others decide when and where to build their coop's power plants.[136]

Many of the smaller farmers and factory workers had images of themselves as just "poor folks" or "old people" or "small fry" to whom no one paid attention. However, some people did add that if a lot of people felt similarly, perhaps their voices would be heard and heeded. They retained the democratic belief that if enough people shared some views, the collective voice might be respected. But, even among these slightly more optimistic people, there was little sentiment that they could impact upon decision makers in any easy way. Most of the people who thought that they could have some impact alone on decisions were in some position of power now in various organizations (usually white collar jobs) and had experienced situations in which their opinions influenced changes. Many of these people were recent migrants from villages and cities.[137]

In essence, most of the rural people (particularly the long-time residents who were mostly farmers) voiced opinions that they were pawns in a game that they had no control over--but a strong vocal minority were going to opt out of the game and/or fight, anyway. In spite of the widespread sense of individual and collective near-helplessness, they told us that they would and had to change their energy use behavior in order to survive <u>or</u> to maintain their life style <u>or</u> simply to doggedly persevere <u>or</u> to show others that they were independent and would determine their own destinies regardless of others' persistent and consistent efforts to crush them.

All of the farmers--the mild-mannered, the fatalistic, and the outspoken individualists--realized that their ingenuity and capacity to adapt to changing conditions out of necessity would enable them to survive this additional obstacle; they communicated this sense of determination and perseverance to our interviewers in various ways--by what they said or did not say; some were terse and private while others were blunt and outspoken.[138]

<u>Awareness of and Opinions About The Clinton Nuclear Power Plant; Implications For Future Energy Use</u>

25% percent of WIPCO customers/owners were not aware that a nuclear power plant was under construction in Clinton, Illinois.[139] As has already been mentioned, the closer people were to the plant, the more aware they were of it. When the 75% who were aware of Clinton were asked if they had any opinion about the plant, 17% indicated that they wanted it completed, 20% wanted it cancelled, 12% were undecided, and 24% had no opinion. Almost all of those who were previously unaware of the plant also voiced no opinion about it--although a few of these people wanted it cancelled or completed.[140]

A majority of people who voiced an opinion about Clinton in five of the seven distribution coops wanted Clinton cancelled rather than completed. Obviously the percentages for cancellation or completion were larger in coops where more people were aware of the plant. However, the general feeling towards cancellation or completion was not influenced by how close to the plant the people were. As can be seen from Table 5, people in the coop farthest from the plant, WIEC, who had an opinion about Clinton were 19% for cancellation, which is similar to 20% for cancellation in the Menard coop, which is much closer to the plant. In addition, those aware of the plant in all coops were equally inclined to express an opinion about Clinton.[141]

When statistical tests were used to try to discover significant reasons for the differences in opinion, no obvious patterns emerged. People's opinion about Clinton was found to be unrelated to their tendency to switch to alternative energy sources or use the same or cut back on electricity consumption. In addition, none of the many factors or "variables" that we measured, such as occupation, income, amount of education, degree of awareness of insulation, or how they heated their homes, water, or what they cooked with were significantly related to people's opinion about the Clinton plant. The variety of unique reasons why people held certain opinions can be seen by examining the comments of the people in Appendix B.[142]

Those who favored completion of Clinton almost always said so reluctantly; there were only 10 or so avid "pro-nuclear" respondents in the 1019 people sampled. The "complete Clinton" position was very soft; most of the people who wanted to see the plant completed realized that it was costly and perhaps an initially bad investment but perceived that it was cheaper to complete than to cancel. Or in a few cass, they simply said, "what you start you finish." Very few ideologically pro-high-technology/nuclear views were voiced; very few people commented as did <u>one</u> person that "nuclear power is safe and will be economical in the long run." We found that almost all people in the WIPCO area just do not think this way. Even some of the people who were openly pro-nuclear or at least neutral wanted Clinton cancelled for economic reasons.[143]

As can be seen from the comments in Appendix B, there were many more outspoken anti-nuclear than pro-nuclear respondents[144]--reflecting the national trend, i.e. a Business Week-Harris Poll in 1983 "showed that 51% of the public opposed the construction of more nuclear plants, while 37% were in favor".[145] These WIPCO respondents, like others around the USA, had questions about the safety of the nuclear power plant as well as questions about its cost.

However, a large majority of the people who were against the Clinton Nuclear Power Plant felt that way for economic reasons; Clinton was simply too expensive and was more costly for them and others to complete than to scrap. As already stated, most of those who wanted the plant completed were also irritated at the cost--but felt or "hoped" that somehow by completing it,

they would be better off economically. Some of these people argued that at least they would get some power from the plant.146

It should be noted that very few people expressed a concern for other nuclear issues, such as nuclear waste disposal problems, operation and maintenance problems and costs, or the decommissioning costs of nuclear power plants after their 20-30 year lifetime. The main anti-nuclear concern that was addressed was safety, and as one would expect, the closer to the plant the people were, the more concerned or afraid they were; one person wanted to know how far the first kill zone extended. He stated that if anything happened, he wanted to go quickly. He did not want to be, "walking around like a zombie."147 A few others with young children voiced a concern about safety.

In many cases interviewers were aware that the respondents had an opinion about Clinton, but just did not wish to share it with the interviewer. In other cases, people simply said they did not know enough about the situation to express an opinion either way; it was impossible to determine exactly how those with "no opinion" thought or felt about the plant. However, it is reasonable to assume they divided into roughly the same proportions for or against completion of the plant as people who actually expressed their opinions, i.e. 20% for cancellation and 17% for completion. The 12% who were undecided were generally aware of the pros and cons of the plant but could not make a decision either way then.148

Summary

Farmers are immersed in a natural world and a market system that hurts them sometimes and rewards them at others; they learn to adapt to survive. Risks are commonplace; the weather can make or break them any one year or permanently. Their crops and animals and the tenor and flow of their lives are in tune with the land. They learn to cope with both natural and man-made systems in order to survive.

Increasingly, over the past few years, many have seen their friends and neighbors and even themselves forced out of business or have taken extra jobs to keep their 100-200 acre farms. Many are embittered by the impersonal market which forces them to change a lifestyle and livelihood that served their ancestors well. Others adopt a corporate farmer mentality to remain in business and learn the competitive ways of the system--buying up their neighbors' lands in order to make the payments on their machinery. The farmers who talked to us were a diverse group--some reflected an independent spirit; others willingly gave in to what seemed to them to be the trend--either because they didn't want to share opinions that they knew "differed from the norm" or because they genuinely felt that way.

In fact, our interviewers discovered many hard-working folk who knew that by working and adapting, they would somehow get through. Farmers told us that they knew they couldn't rely on

others to cushion any economic decisions they made. They were at the end of the line--and ironically, at the beginning of the food line. They bore the brunt of their decision, and they knew it. Many resented having to bail out the utilities for a poor business decision. Most importantly, they also knew that they had some latitude in their choices in relation to energy use; they would, quietly or noisily, cut back or shift their energy base from electricity to alternatives, because of the cost of electricity, a desire to be independent of others, an unwillingness to pay for the economic mistakes of others and/or general anti-nuclear reasons.

In short, the coop electric sales in rural areas served by WIPCO will decrease regardless of whether there is an immediate rate shock or a gradual rate increase associated with Clinton expenses. Farmers and non-farmers will cut back and/or switch in direct response to the amount of electric rate increase. To gradually increase electric rates in order to pay for Clinton construction and/or interest costs will only magnify the problem--particularly given the distrust and alienation towards REA and others felt already by WIPCO customers.

In addition, many of the 75% who are aware of Clinton and the large impending double or triple rate increase will not be inclined to accept an increase--under any circumstances. They will cut back electricity use or switch to alternative sources no matter what their opinion about Clinton is; economic necessity will govern their energy use behavior. Such feelings of economic necessity will be fueled by the attitudes of 20% of the WIPCO customer/owners who want the Clinton plant cancelled now.[149]

PROJECTED PERCENTAGE DECLINE IN WIPCO ELECTRICITY DEMAND

Percentage Decrease In WIPCO Electricity Demand Caused By Switching To Alternatives

Now that it has been demonstrated that cutting back on electricity consumption or switching to alternatives would occur, it needs to be determined how much less central grid electricity will be used when the rates double or triple. Most respondents who indicated that they would cut back and/or switch were not quickly able to tell how much less coop electricity they would use--in terms of percentages. However, the estimation of electricity saved by switching was usually larger than the estimation of that saved by cutting back. When large new alternative energy systems were contemplated, it was easy for respondents to project savings of 50-75 or 100%. 9% (90/1019) of the people hoped to save 100%.

For example, if a respondent anticipated buying a generator and a wind mill and shifting all major household appliances to gas or wood, he could accurately gauge a savings of 100%--and quite a few indicated that steps similar to these would be ones they would take in the face of large electric rate increases.[150] It was more difficult to gauge how much less electricity would be

consumed by customers who stated that they would put in a gas hot water heater and switch totally to wood for heating--again rather common responses. However, many people indicated that they would try at least to cut back by 20-40% by shifting household energy sources from electricity to others.[151] Those who indicated either that they would just conserve a bit more by closing off a few rooms, for instance, now that the children had left the large farmhouse and they did not need to heat or cool the upstairs, or that they would insulate or weatherize more, could reasonably expect and did expect to save 5-10% in KWH consumed.[152]

It is useful to point out again that fully 60% of the people stated that they would at least consider switching to another energy source for part of all of their energy or electricity. This predisposition to switch is very strong in 31% of the respondents, who indicated that they definitely would or would "strongly consider" switching. Herein is the main potential source for rather dramatic decreases in electrical consumption. If these 31% follow through on their expectations according to the average percent indicated (40%), the coop will experience a full 12% decrease in electrical consumption from the switching behavior of these people alone. If all of the people who stated that they "might" switch (29%), did switch (at the average 40% rate), the coop would lose a full 24% of its usage. Coupled with the generally pervasive "switching" mentality which people would adopt, the coop could experience a 30% decrease in electricity demand--from switching alone; some of it would be peak load demand by large consumers who are farmers and who have switched to combinations of wood/gas/generators/wind/solar/biomass. The rest would be the result of many individual decisions by WIPCO customers of all backgrounds who decide to install or rely more on already-installed alternatives for their farm and/or home energy.[153]

However, a more realistic, conservative expectation might be as follows: Let us estimate that only 1/4 of those who said "maybe," 1/2 of those who said "strongly consider" and 3/4 of those who said "yes" actually switch and everyone did so for only 1/2 of the average anticipated percentage of electricity savings that was indicated. If that became the case, coop electricity demand would decrease at least 5.5% because of people switching to alternatives.[154] However, one must consider the possibility that there might be a "snowball" effect, caused by the market behavior of companies selling such alternative systems and their demonstrated effectiveness "on site." Indeed, many of the respondents stated that their friends and neighbors had already installed generators and had switched to wood and/or gas and were seriously thinking about the new wind machines or solar products. Some plan on selling their excess electricity to the central coop grid, thereby, further reducing the amount of electricity that is needed to be produced by the coop's generating facilities.[155]

It is reasonable to expect that the oil companies--who own most of the companies selling active solar components--would market

vigorously and competitively for the business of rural farms and households.

In fact, solar companies have told us that they will be in a competitive economic posture by the late 1980s, when Clinton is expected to come on line, accompanied by large rate increases. The major solar companies that Dr. Shultz contacted in conjunction with this study indicated that they were projecting a .20 KWH cost for rural dwellings in this area in the late 1980s. The present officially projected KWH costs for WIPCO when Clinton comes on line are .155-.195 KWH. Given these prices, the oil companies will be in a position to aggressively compete and keep profit margins slim to attract a large market.[156]

Companies with large centrally-generated electricity facilities, such as WIPCO, will have a difficult time responding economically to such aggressive marketing, since they cannot decrease their rates to retain or attract markets; they need the capital to pay construction debts on their large generation facilities. Likewise, natural gas companies--which are highly regulated--will not be able to vary their prices to retain or capture markets. However, it is very important to note that most rural people are not serviced by natural gas pipelines; they are on propane. Propane is distributed locally by people who can structure prices--to some extent. In addition, companies selling wind and biomass energy sources may find it economically-feasible to structure their prices to attract part of the new market.

In essence, it seems reasonable to project that the "snowball" effect and the aggressive marketing will initially result in alternatives capturing at least 5% of the centrally-generated electricity grid market--in addition to 5.5% of the people who switch because of economic conditions alone. Therefore, the results of all our evidence leads us to a conclusion that WIPCO electricity demand will decrease at least 10% soon after coop electric rates double their present rate, because of people switching to alternatives.

Percentage Decrease In WIPCO Electricity Demand Caused By Cutting Back Usage

If electrical consumption is cut back at least 10% by such switching behavior, how much will it be cut back by those who "conserve"? It is reasonable to expect that more of the "cutbackers" than switchers will actually follow through in their projections--given their clear economic necessity to do so, particularly if, for some reason, they do not invest in and, therefore, rely upon some alternative sources of electricity/energy. A full 58% stated that they would cut back an average of 20%.[157] It is reasonable to expect they would do so because of economic necessity--at least 10-15% (taking into account changes in conditions, opinions, etc.) This cutting back results in another 6-9% decrease in electric demand in addition to the 10% decrease caused by people switching to alternatives.

As was stated before, many of the large switchers indicated that they had to use the same electricity to run their farms or wanted to use the same--so the "switchers" are in many cases not the same people who would cut back. The exact interactions between these two types of people are plotted on Table 4.[158] Only 18.6% of our sample stated that they would not either cut back or switch. About one half of the people who stated that they would use the same amount of electricity stated that they "might," would "strongly consider," or would "definitely" switch to alternative forms of energy or ways of generating electricity. In addition, 41% of the people who stated that they would not switch at all did state that they would cut back in electrical consumption.[159] Therefore, 14% (about 80% of the total of the switching percentage [10%] and cutting back percentage [7.5%]),is the total estimated minimal decrease in WIPCO demand caused by people cutting back or switching to alternatives.

Percentage Decrease In WIPCO Electricity Demand Caused By Demographic Changes

In addition to the minimal projection of 14% WIPCO electrical reduction from cutting back and switching, it must be determined how much percentage would be lost if prevailing demographic trends continue and projected ones materialize. If both present and future trends prevail, there will be a reduction in WIPCO electricity demand caused by such trends, but how much is difficult for us to accurately determine in this study, since we have not analyzed all of the demographic data available. Nevertheless, as we previously stated, we think that our observations in the field have supported basic demographic trends in the areas serviced by WIPCO.

Given this population stabilization or decline in WIPCO areas and electricity demand stabilization or decline, we estimate that WIPCO electricity demand will at least remain the same if not decline 5% or more in the next few years. There is no indication that it will increase; people are just not settling in areas serviced by WIPCO and from our extensive on-site examinations and interviews it did not seem they will do so in large numbers in the future. There are no economic incentives to do so, and it seems that few social incentives exist. In fact, all indications from both aggregate statistical data and our observations are that people are moving away from these areas much more than they are to them--and the people moving to them have few fixed social or economic ties to the area; they could very easily move again.

Finally, the additional impact on WIPCO future electricity demand of people moving out of the WIPCO territory because of the large electricity rate increase needs to be determined as accurately as possible. As we have stated, 10% of the WIPCO customer/owners that we interviewed volunteered--without being prodded with suggestions in any way--that they would move or consider moving in response to the large electric rate increases. Some of these people are potentially mobile, since

they are either renting homes, are non-farmers, and/or are relatively new residents in the area; most have few if any strongly established community ties. A closer study of the responses of these people reveals that about 75% of them are quite serious in their intentions to move. Therefore, we will estimate that 7% of the WIPCO population are real potential movers.160

It is difficult for us to tell how many of these people would move under ordinary circumstances--and, therefore, could be counted as part of the normal demographic attrition trend. However, an examination of the various responses of these "movers" to our questions indicates that at least half of them probably would stay in their homes unless they were prodded into moving by exceptionally high electricity rates. Therefore, we feel comfortable in projecting at least a 4% decline in WIPCO population because of people moving out of the area in direct response to the higher electric rates. It could be more, though, if a "snowball" effect occurs, creating new "moving" mentalities and/or building on existing ones in areas where there are already significant numbers of people moving away.

This decline in members served will probably translate into a rough equivalent in the percentage of the electricity demand decline--maybe somewhat less since the people moving out will probably not include many farmers with large peak-load demands. However, it is estimated that the potential "snowball" effect increases the potential percentage decline in about the same proportion that the "average" demand usage of the "movers" decreases it. Therefore, it seems appropriate to conservatively estimate a 3-5% decrease in WIPCO electricity demand that will be caused by people moving out of WIPCO territory because of the large electric rate increase; this is beyond the electricity grid loss of 0-5% attributed to normal WIPCO attrition.

SUMMARY OF DECREASE IN WIPCO ELECTRICITY DEMAND

Given the four main sources of reduction of WIPCO electricity demand because of the pending large electricity rate increases, we project a 17-24% decline in WIPCO electricity demand--gradually if electric rates ease into doubling or tripling or within a short period of time if the rate increase is introduced all at once. This projection is reached by adding the 14% reduction caused by people cutting back electricity consumption or switching to alternatives, the 0-5% reduction caused by normal demographic trends, and to the 3-5% reduction caused by people prodded into moving by the rate increase. A percentage point or two might be added to this estimate to account for insulation, but since this factor is very difficult to translate into quantitative terms, we did not try to do so.

If this decrease in WIPCO's electricity demand does occur, the coops may have to respond by increasing KWH costs to cover existing capital debts associated with Clinton, thus further driving down electricity demand and moving WIPCO closer to insolvency--a situation many coop officials are seeking to avoid.161

What are some possible coop responses through which the coop and its members could avoid a distasteful finale to this projection? It seems that energy alternatives will become more cost-effective as technological breakthroughs in solar and wind designs and materials drive down the costs of these energy sources; the coops can't stop that. Solar facilities are now being sold in the WIPCO area to farmers and non-farmers--including some to hog farmers for farrowing and supplementary household purposes.

One way for coops to retain their economic viability in the future could be to get in on the ground floor--actually invest in energy alternatives, become the distributors for them, and phase out existing large, coal-fired plants. They could market or coordinate the marketing of wood, biomass, wind, and solar facilities and invest heavily in cogeneration, insulation, and recycling. They could develop and implement educational programs through existing extension services and farm bureaus. They could implement a pricing system that offers substantial rewards for off-peak usage of the central electric grid. They could encourage the building of passive solar, berm, and underground homes, which need very little heating and cooling--and are beginning to appear on the rural landscape in the WIPCO territory.

The coops will then become the energy brokers for rural areas--marketing conservation, insulation, and many decentralized alternative energy sources and relying on cogeneration and self-sufficiency to meet rural energy needs. The concept of "mutual independence" basic to the term "coop" will continue to be manifest.

The goal would be the same as it always has been for the rural coop--self sufficiency and independence--but it would come through the people's own initiative and entreprenuerial spirit and action--without the support of or reliance upon any state or federal government intervention. However, some state and federal tax breaks for installation of alternatives might help accelerate existing trends in that direction--until they are no longer needed, as the alternatives become competitive in the open market.

A likely future scenario is a rural landscape dotted with cogeneration facilities owned by individuals or small groups; windmills; active solar facilities; well-insulated south-facing homes; underground or "berm" homes; biogas, wind, and gas generators; and small centrally-generated (yet relatively decentralized) facilities run efficiently on coal. These central facilities will meet the needs of the public that are not entirely met by the electricity that is sold to the central electric grid by the generation facilities of their rural neighbors.

This scenario seems to be clear, practical, pragmatic, economically feasible, and possible, and one that a full 60% of the WIPCO residents say they are in the process of thinking about and acting upon--to different degrees. And thinking can be fruitful; thoughts do lead to actions in a similar vein.Attitudes, speculations, and projections are not mere whims--particularly when they are intertwined and dependent upon hard economic realities. Ideas get acted upon when one NEEDS TO DO SO.

ADDENDUM AND IMPLICATIONS FOR FUTURE RESEARCH

After most of this paper went to press, some decisions about the Clinton plant were made by WIPCO, Soyland, Illinois Power, and REA. WIPCO officials stated that they were in the position of having to borrow money to pay the interest on borrowed money for Clinton costs. As previously discussed, WIPCO seemed to be facing imminent default if nothing was done--with the fear that perhaps Soyland and Illinois Power would follow them into insolvency. At the April 30, 1984 MJM advisory board meeting, a WIPCO board member mentioned that they had done a study which indicated that if WIPCO defaulted on Clinton now, its power costs would be .15 KWH--within the range of the officially-estimated WIPCO power costs before these new decisions were made. Nevertheless, a decision in favor of continuing WIPCO and Soyland's involvement in Clinton seemed more favorable in the eyes of WIPCO, Soyland, IP, and REA officials than the option of WIPCO defaulting now on its Clinton involvement. Therefore, the following actions were taken: 1) The coops' direct Clinton costs will be capped at $450 million, 2) The coops will still own 20% of Clinton, 3) IP will share more power and some of their transmission facilities with the coops, 4) WIPCO will start paying CWIP--a .0121 KWH surcharge to pay interest on Clinton debts.[162]

As was previously discussed, REA never has allowed coop customers to pay for construction costs for plants which are not on line (See note #3). The fact that this unprecedented decision was made illustrates the gravity of WIPCO's fiscal plight. Public pressure against CWIP (Construction Work In Progress) is strong. The US House of Representatives recently overwhelmingly passed (288-113) a bill outlawing CWIP; the US Senate still has to consider the bill. Furthermore, over one-half of the states outlaw CWIP. As this paper goes to press, the Public Service Company of New Hampshire is facing bankrupcy because of its inability to continue to finance its share of the Seabrook Nuclear Power Plant. New Hampshire law forbids CWIP; the utilities have to finance the construction costs of electricity-generating facilities on the open market until they come on line. The Illinois Commerce Commision (ICC) has been allowed by the Illinois legislature to charge some CWIP for Clinton. Presently there is $625 million in IP's rate base for Clinton construction costs, and IP says it will need more.

Although the details of this Clinton agreement are still being worked out, it will effect the final costs of Clinton for everyone involved. Illinois Power and its 530,000 customers will take on more costs--particularly since IP is now selling more relatively cheap power to the coops. In addition, if the capital costs rise above $2.25 billion, IP will have to absorb all (not just 80%) of such costs.

The final Clinton costs for the two coops will probably be in the $880-900 million range--if present interest rates hold; one WIPCO official estimated at the April 1984 MJM advisory board meeting that they would be about $880 million. He also stated that WIPCO had spent $269 million as of now and was asking for approximately an additional $114 million, which together with WIPCO's surcharge of $38 million brings WIPCO's Clinton costs to about $421 million. Since Soyland owns 53% of the coops' share of Clinton and pays the same interest as WIPCO, Soyland's total share of Clinton will be about $475 million--which together with WIPCO's $421 million brings the two coops Clinton investment to $896 million. This amount is almost exactly the same as $894 million, which is the total of all previously guaranteed and presently requested loans of the two coops for Clinton. The coops have spent about $572 million on Clinton and need to invest about an additional $324 million--about $154 million in capital costs, $132 million in interest and $38 million in WIPCO's "CWIP". If these cost estimates hold, each of WIPCO's 44,000 customer/owners will spend $9600 on Clinton, each of

Soyland's 100,00 customer/owners will spend $4770 on Clinton and each of Illinois Power's 530,000 customers will spend $4700 on Clinton (based on a $2.5 billion IP investment).

As a result of this new agreement, coop officials now estimate that wholesale power costs for WIPCO customers will be held to .10-.105 KWH--two and one half times the present cost of .04 KWH--in contrast to the previous official estimate of .11-.15 KWH when Clinton comes on line. Retail costs will vary slightly depending on the different add-on costs of the distribution coops. For example, MJM customers' retail electric rates will be about .15 KWH (with .045 KWH distribution coop add-on as estimated by MJM manager, Charles Witt)--double the present retail rate of about .07 KWH; the previous officially-estimated retail rate was .155-.195 KWH. Starting to pay interest costs now through the CWIP surcharge contributes to this new lower rate when Clinton comes on line. WIPCO customers experienced a 15% electric rate increase as of May 1, 1984. Furthermore, many distribution coops will face annual cost increases to cover distribution costs; MJM customers will pay 3.4% more on June 1, 1984. The total rate increase for MJM customers will be 18.4%. According to our WIPCO study, a 15-18.4% electric rate increase is the most rates have ever increased for long-time WIPCO customers. Additional research will be needed to evaluate how accurate the projections of this report are--particularly since an unprecedented rate increase related to Clinton costs is occurring now--two and one half years before most people expected significant electric rate increases.

It should be noted that there are still many questions about exactly what the future power needs of WIPCO will be--whether they will need all of their Clinton power plus their share of the additional 400,000 KWH from IP. In addition, these officially estimated KWH costs don't include unexpected operation and maintenance costs for Clinton during its 20-30 year lifetime. Other GE boiling water nuclear power plants have had problems with cracking pipes which have resulted in costly shutdowns; perhaps, new NRC regulations will lessen such difficulties, but nuclear technology is very complex and still developing. In addition the nuclear industry is now in the midst of its most severe crisis with four utilities discussing bankruptcy because of cost overuns on nuclear power plants; other plants such as the Zimmer plant, the River Bend plant and the Marble Hill plant have recently been cancelled. Coops associated with some of these nuclear power plants face fiscal crises similar to WIPCO's and Soyland's.163

Implications For Future Research

Many of the results of this study can probably be generalized to Soyland customers since they are also mostly farmers and live in roughly similar geographical areas in the same state; they also have a share of Clinton. As such, Soyland customers will also experience rate shock because of Clinton costs--even though they can spread out their investment over twice as many members than WIPCO can. However, more research needs to be done to determine the degree of similarity of socio-economic, ecological and energy-use factors in the two coops before WIPCO results can be fully extrapolated to Soyland. Furthermore, many of these WIPCO results can reasonably be applied to Illinois Power customers who live in rural areas; although their rate structure is different because they have a larger share of CWIP in their rate base, they will experience gradual, yet significant, rate hikes over the next few years because of Clinton construction costs. These rate hikes could very well trigger a gradual decrease in their electricity consumption--particularly as they see their coop neighbors switching to alternative energy sources.

NOTES

1. Map of Illinois, Electric Cooperatives Of Illinois Map, and Table #1.

2. MJM Board of Directors President, Wayne Harms, cited WIPCO's costs from Clinton as of March 1, 1984 to be about $300 million in direct capital costs and interest. This statement was part of his address to the MJM annual meeting which was held in the Litchfield High School in Litchfield, Illinois on April 6, 1984.

3. Various WIPCO officials and others aware of the Clinton situation have mentioned to me on different occasions during the past few months that REA has a policy of not letting coop customers pay construction costs of generation facilities until a plant comes on line. Sometime during the past few years, WIPCO officials asked REA to pass on Clinton construction costs to WIPCO customers, but REA refused to do so. However, REA is not bound by law not to pass on construction costs (usually refered to as CWIP--construction work in progress). REA officials stated to Tony Serzo, a Principia College student who was doing a research project on the history of the Clinton Nuclear Power Plant in Nov.--Dec. 1983, that REA might pass on CWIP if an extraordinary situation existed. However, Tony was left with the impression that REA had never done so since it started guaranteeing loans for electric coops many years ago.

4. Appendicies H:3-H:6 and I:6. In addition, MJM Manager, Charles Witt, has been telling MJM members for the past two years at the MJM annual meetings and in the MJM newsletter that MJM retail rates will double or triple because of WIPCO's costs for its share of the Clinton Nuclear Power Plant.

5. Appendix I:8.

6. Appendix I:8.

7. Appendix I:9. Also Appendices I:1 and I:2 which discuss Illinois Power Company's reduced bond ratings over the past few years because of its Clinton investments.

8. Appendices H:1 and H:2. In addition, several times during the past year, I have discussed WIPCO's involvement in the Clinton Plant with various REA officials, including Jack Van Mark, the Deputy Administrator, Frank W. Bennett, the Director of the North Central Area Office and Jack S. Douvlos, the Chief of the Power Engineering Branch of the North Central Area.

9. Appendices H:1 and H:2. This idea was also mentioned during the various discussions that I had with REA officials during the past year.

10. Appendix H:1. There have also been various discussions between REA officials and me about this research project at different stages in the development of the project.

11. Appendices J:1--J:8. In Appendix J:8, the FHA data concerning farm foreclosures is cited. FHA states that "15,756 of its farmer debtors--about 5.6%--went out of business in the fiscal years 1982 and 1983."

12. Dr. E.B. Shultz, professor of engineering at Washington University, has researched the relative costs of wind and solar and has indicated to me that major solar manufactors are anticipating that solar will cost about .20 KWH in the late 1980's near the time that Clinton is expected to come on line--with officially-stated .155-.195 KWH WIPCO customer costs.

13. Appendices I:3--I:6, I:15, I:16, and I:19.

14. Appendices I:3, I:7, I:15 and I:16. Since estimates of the final costs of Clinton vary, evaluations of the economic feasibility of Clinton vary also. One study by the State of Illinois Governor's Office of Consumer Service concluded that "$260 million would be saved if the Clinton plant is canceled this year and replaced by a coal-fired plant in the mid-1990s, when Illinois Power load forecast indicates it will be needed." Therefore, the Office Of Consumer Services recommended cancelation of the Clinton plant. (Appendix 27). Illinois Power's own internal study of the Clinton plant concluded that "The completion of Clinton Unit No. 1 will save Illinois Power electric customers $9 billion over the life of the plant as compared to the cost of halting construction and building replacement fossil fueled electric generating facilities." (Appendix 25). Ebasco Services Inc. was hired by Illinois Power "to independently review the reasonableness of the Company's cost and schedule estimate for the completion of Clinton Unit No. 1." The Ebasco report confirmed Illinois Power's cost estimates and construction schedules--with the exception that an additional $150 to $200 million beyond the $2.858 billion may need to be spent. (Appendix 26). Dr. E.B. Shultz is studying the economic feasibility of the Clinton plant in conjunction with his examination of the costs of energy alternatives like wind and solar. (See note #12 above.) The results will be published soon.

15. Appendices I:7, I:10, I:15 and I:16.

16. A special MJM Advisory Board meeting was held on Sept. 15, 1983 at which time a film concerning the Illinois coops' involvement with the Clinton Plant was shown, and Mr. Bringman discussed various details of this issue with the MJM board and the MJM advisory board members. For example, he mentioned that REA had recently turned down WIPCO's request that REA renegotiate WIPCO's loans at a lower interest rate (5% or so). In addition, during a discussion of a comparison of electric rates, Mr. Bringman stated that Illinois Power (IP) had indicated to him that they would ask for a 20% rate increase for each of the next five years--which would double IP's electricity costs for IP consumers in five years. Furthermore, he mentioned that IP had been telling WIPCO up to April 1983 that nuclear was cheaper than coal for generating electricity; as of the time of this meeting, IP had not responded to WIPCO's request--made three weeks ago--for the present cost comparison between nuclear and coal as electricity generating fuels.

17. Appendices H:3 and H:4.

18. Appendices H:3 and H:4. Wholesale costs from WIPCO to member distribution coops are about .04 KWH at present. An additional "wholesale purchase adjustment charge" varies monthly--adding from .005-.01KWH to the wholesale power cost.

19. Mr. Witt mentioned to me on two occasions during the past year that .045 distribution cost add-on would be reasonable for 1986 when Clinton is scheduled to come on line; another WIPCO board member was present during the most recent discussion--he commented that they would be "at least that much". MJM distribution cost add-on is now about .03 KWH.

20. Appendices H:3 and H:4. In addition various WIPCO officials have projected WIPCO distribution coop retail costs in this range when Clinton comes on line. Mr. Witt wrote in the August 1983 M.J.M. News, "For months we have been alerting our members to the certainty of much higher wholesale power costs when the Illinois Power Company's nuclear Clinton Power Station is put into commercial service (now projected to be late 1986.) Our power supplier estimates our wholesale power cost will triple in cents per kilowatt-hour. This increase alone would double our present retail cost to you members. If we could keep all other costs at the present level (and this is unlikely), our retail cost per KWH would average nearly three times the present average cost per KWH... We will need all the cooperative help we can get from every M.J.M. member. Unless we have more and more inflation, we question whether you will be able to afford electric power at 19 or 20 cents per KWH." (p. 5) MJM present retail cost of electricity to its member/owners is about .07/KWH; the retail cost per KWH for some of the other seven distribution coops is slightly higher than this amount. Therefore, the average retail cost is about .08 KWH, as mentioned by Mr. Bringman in his Sept. 8, 1983 letter to Dr. Shultz.

21. Appendix H:4. MJM officials mentioned at a later date (April 6, 1984) at the MJM annual meeting that interest rates for WIPCO for its Clinton costs were averaging 12%.

22. These projections were made by Mr. Bringman at the special MJM advisory board meeting held on Sept. 15, 1983 (See Note #16 above). During this meeting, it was also stated that during the recent very hot 1983 summer, WIPCO had a peak demand of 140 MWH. The film shown at the meeting documented the reasons why the estimations of electricity demands in the 1980's that were made by many utility companies in the early 1970's turned out to be much higher than actual demands were. Various unexpected events like the oil embargo and the "energy crisis" in the 1970's, which accompanied the rapid acceleration of the costs of oil and gasoline, were discussed. Many utility companies were able to modify their electricity demand expectations without incurring excessive additional costs. However, some companies like Illinois Power, with its partners, WIPCO and Soyland, were involved in large generation construction projects in anticipation of such increasing electricity demands--demands that did not materialize. In addition, the costs of these projects--many similar to Clinton--have soared unexpectedly because of high interest rates and unanticipated construction problems and delays. In essence, many utility companies throughout the USA find themselves in the middle of constructing large generating facilities--in the midst of a leveling

or actual decrease in demand and very high borrowing costs for money.Furthermore, many of these plants are nuclear power plants--which faced additional problems after the Three Mile Island incident. (Appendices I:11--I:14)

Mr. Witt expressed how these changing times have impacted on electricity usage in areas serviced by MJM in the August, 1983 MJM News:

> Electric utilities forecast and plan based on past experience. Prior to the so-called energy crisis in the 1970's, electric utilities were experiencing a 7% annual load growth and were expected to double every 10 years. Utilities had to plan for the 1980's, assuming this growth would continue. So far in the 1980's a number of these new plants have come on line during a time when weather conditions have been neither extremely cold nor hot and peak loads have decreased. The economy has been depressed with large industrial plants operating at 60% of capacity and some major industries shut down completely.
>
> Laclede Steel at Alton has been at reduced capacity, while Duncan Foundry closed its doors for good. Illinois' major industry, Caterpillar at Peoria and Decatur, was down eight or nine months due to a labor strike. Apparently business is picking up and with this prolonged summer heat wave, a different light may be shed on "excess" capacity. (pp. 5-7)

In addition, WIPCO's power needs were discussed in a Springfield State Journal-Register article on August 7, 1983 as follows:

> WIPCO's need for power from Clinton also is quite different from what the coop predicted when it joined the project in 1976.
>
> At the time, WIPCO assumed that fairly rapid growth in electric demand would require it to have about 220 megawatts of generating capacity by 1985. Although that prediction already had been scaled back from a 1972 estimate--which said the coop would need about 250 megawatts by 1985--it still has fallen short of reality. WIPCO customers now use about 150 megawatts. Co-op officials now expect to need only 160 megawatts by 1985.
>
> The cost of the plant has changed significantly. IP estimated Clinton would weigh in at about $430 million. That meant WIPCO's cost of power would have been a cheap 3 cents a kilowatt. Now WIPCO hopes the cost will be held to 10 to 15 cents a kilowatt. (p.5)

It is very difficult for anyone to project future electricity demand in the midst of such changing economic and social conditions.

23. The coal-fired and gas turbine plants at Pearl River, the Pittsfield Diesel Plant and the Winchester Diesel Plant together can provide about 61 megawatts of power--about 22 MWH from the coal-fired plant. The plants that use gas or oil are used for only peak demand times because of the expense of the fuel.

24. Comments by Mr. Bringman at the special MJM advisry board meeting on Sept. 15, 1983. Another WIPCO official confided in me that he thought "WIPCO could get along without Clinton." He thought that

WIPCO's future electricity demands could be met by constructing a small coal-fired plant at Pearl River, where transmission facilities already exist. In fact, he stated that if WIPCO could get its peak load demand down sufficiently, they might not need <u>any</u> future generation facilities.

25. Stated by Mr. Bringman at the special MJM advisory board meeting on Sept. 15, 1983.

26. Appendix I:6. Mr. Bringman is cited in this newspaper article as having stated that he talked with a Missouri cooperative representative about the possibility of buying WIPCO's share in the Clinton plant. In addition at the special MJM advisory board meeting, during a discussion after the film about Clinton was shown, he stated that WIPCO thought that it had made a good investment in Clinton, but that "now it backfired on us and we are looking for a way out."

27. I visited in August 1983 with Mr. James W. Ward Jr., the Assistant Director of the Division of Energy Conservation and Rates Division of TVA, in Chattanooga, Tennessee. At that time he shared with me many of the innovative ways of saving energy that TVA has implemented and is experimenting with now.

    In addition, CIPS, an investor-owned utility that services many people in the WIPCO area, recently completed its Newton II coal-fired plant with 40% more capacity than they presently need. The Attorney General of the State of Illinois has sued the ICC for allowing CIPS to pass on costs for this 40% excess capacity to its present customers; the case is still in court.

    It should be noted that WIPCO presently buys 55% of its electricity from CIPS, 15% from Illinois Power and generates 30% from its own plants. Another interesting research question is: What will be the future of CIPS electricity demand if WIPCO gets most, if not all, of its power from the Clinton plant as presently anticipated?

28. Table 2.

29. Table 1.

30. Table 3.

31. Tables 7a--7c. In addition, the observations of our interviewers in the WIPCO region corroborated such population growth trends. Frequently, they found small suburbs, adjacent to small villages and towns, that were serviced by the same investor-owned utility that serviced the village or town. In addition, they noted that many of the main roads between villages were serviced by the investor-owned utilities--since these lines usually followed these roads from village to village. Much of the growth in rural areas is precisely on or near such main roads--which provide convenient access to other areas.

32. Tables 7a--7c. A close examination of the location of the townships with population increases and declines indicated that this trend existed throughout the WIPCO area.

33. All of our interviewers commented about the number of homes that were abandoned--particularly in certain townships. When the census figures for these townships were checked, it was discovered that they had experienced population declines from 1970 to 1980. One interviewer was so disturbed by decline in population in some areas--and the fact that most of the people who remained were elderly--that he commented to me, "Who is going to buy electricity when all these old people are gone?"

34. The townships which experienced population declines were located farthest from major population centers in counties that experienced the largest population growth from 1970-1980. For example, townships farthest away from Springfield in Sangamon County grew less than townships close to Springfield.

35. Table 55.

36. Tables 1 and 2.

37. Table 3.

38. Tables 1-3. In addition, the observations of our interviwers and their discussions with the 1019 respondents indicated that these trends were and are prevalent. I spent three days in two townships that were experiencing population declines. Various people in one of these townships that was somewhat hilly and had quite a few bad roads told me that the schoolbuses no longer went on these back roads because no children of school age were left here. A few younger couples stated to me that they would like to remain in the area, but would probably move because of the bad roads, the poor access to schools for their children and the anticipated large electric rate increases. Even in counties in the WIPCO area that are experiencing population growth, such as Jersey, schools in small towns--like Kane--are being closed down, as the number of school children and population in general in nearby areas decline. The closing of the schools could contribute further to the population decline as people move out, in order to be closer to other schools.

39. 1980 Census of Population and Housing. Washington, D.C.: Bureau of the Census of the Department of Commerce, March 1981. P. 4.

40. Illinois Blue Book. Springfield, Illinois: State of Illinois, 1974. P. 45.
Handbook of Illinois Government. Springfield, Illinois: State of Illinois, 1983. P. 110.

41. Wall Street Journal was cited as source for the projections in Sierra Club National News Report. San Francisco, California: Sierra Club, 1984.

42. For the past fifteen years I have lived and traveled extensively in the WIPCO area. My wife's parents are farmers in Hancock county; I taught at Western Illinois University for three years. For the past ten years, I have been teaching at Principia College in Elsah, Illinois.

43. Appendix J:8.

44. Taylor, L.D. "The Demand for Electricity: A Survey", The Bell Journal of Economics. Spring, 1975, pp. 74-110.

45. Map of Illinois, Electrical Cooperatives of Illinois Map, and Table 1.

46. Map of Illinois and Electrical Cooperatives of Illinois Map.

47. Note #31 above. Occasionally, our interviewers spent most of the day discovering people serviced by investor-owned utilities in the most remote areas in some townships; although few interviews were gathered during such days, much information was learned about the variety of ways different areas are serviced by the coops and the investor-owned utilities. Sometimes the investor-owned utility serviced a home along the main road that the power line followed between towns that they serviced; however, sometimes homes that were set back from the road less than those serviced by the investor-owned utility were on REA lines. The two lines frequently crossed each other; our interviewers tried to discover the utility service pattern for each area, in order to make the most efficient use of their time. However, hundreds of homes were randomly selected as ones to be sampled--and found to be on the investor-owned grid; in these cases, our interviewers cordially stated that they were only interviewing rural coop members and proceeded to the next randomly selected home.

48. Accordingly, the Southern Illinois University Urban and Environmental Center (CUERS) provided us with a listing of all the enumeration districts (EDs)with their populations--based on the 1980 census. The enumeration district maps were created for each county by obtaining xeroxed copies of the microfiche copies of the EDs and taping them together to form a county map on posterboard for each of the 25 counties involved. The samples for the first three coops were drawn by assigning numbers arbitrarily to the EDs in each coop. A careful examination of the boundary lines of each coop--obtained from a WIPCO map--was made in order to determine which coops the EDs belonged in. A decision was made to include the ED in the coop if one half or more of the ED fell in that coop. If an ED seemed to be exactly half in two coops, a random procedure was used to designate the coop that it would fall into. In some cases, two coops fell half in two respective coops; then one randomly was assigned to each coop. After all the EDs were listed and numbers assigned, a table of random numbers was used to draw the EDs for each respective coop.

49. The confidence limits based on sampling error were determined by Dr. Vernon Pohlmann from the Community Research Services at Illinois State University in Bloomington-Normal, Illinois. The following confidence limits (expressed in +/- format) are to be considered approximate guides based on 90% confidence in the results:

Distributive Cooperative	Population of Coop	Sample	If response is 5%-95%	If response is 15%-85%	If response is 15%-85%
West. Ill. Elec.	3,400	120	± 3.5%	± 5.0%	± 7%
poon River Elec.	4,200	120	± 3.5%	± 5.0%	± 7%
ural Elect. Conv.	4,700	120	± 3.5%	± 5.0%	± 7%
M.J.M.& Adams Elec.	7,100	150	± 3.0%	± 5.0%	± 7%
enard Elect.	8,100	165	± 3.0%	± 4.5	± 6.8%
ll. Rural Elect.	9,700	180	± 2.7%	± 4.3%	± 6.6%
WIPCO	44,000	1,000	± 1.2%	± 1.8%	± 2.8%

As Dr. Pohlmann stated in a letter to me on March 22, 1984.

"The above are very approximate. For example, if the population is 3,400 and you got a sample of 120, then if 15% said yes and 85% said no to a question, you could be 90% confident that the result from interviewing all 3,400 persons would be within five percentage points either way, or that between 10% and 20% would say yes and 80% to 90% would say no."

These sample sizes were expanded because of a sampling error when seven of the respondents randomly interviewed in an ED in the southern section of Western Illinois Electrical Cooperative (WIEC) were found to be members of Adams coop. The next randomly generated ED in WIEC was sampled for seven replacement respondents--after all of the other interviews in Adams and WIEC were completed; it was decided after professional consultation to keep the extra seven respondents in Adams. It seemed reasonable to do so and in addition seemed appropriate given the proportional population distributions within the seven coops.

When the EDs were drawn for the first three coops (WIEC, Adams and Spoon River), in some cases the EDs were not on the ED maps which had been reproduced from the microfiche. After careful examination, it was discovered that they were adjacent to or directly in various "places" or towns or communities. After consultation with a board member of one of the distribution coops involved and additional investigation, it was determined that all of the "places" in that coop were serviced by the investor-owned utility. This determination was not made until after the EDs that had been randomly drawn which were within place boundaries in smaller communities were actually sampled--only to find them totally serviced by investor-owned utilities. This knowledge and experience led to a slightly modified sampling selection procedure for the remaining four coops. In those cases all of the EDs (with 200 population or more) that appeared on the ED maps were included in the sampling frame. They had numbers arbitrarily assigned and were randomly selected with reference to the same table of random numbers used previously. Since it had been determined and was born out in 100% of the actual experiences of sampling that all of the EDs that fell within the borders of "places" were serviced by investor-owned utilities, it was deemed unnecessary to include such EDs in our sampling frame. The resultant EDs that were selected did provide our sample with a variety of respondents, i.e. large farm, small farm, exurbanites, rural non-farm people from various socio-economic strata--all of which seem to accurately reflect the actual proportions of such people resident in the respective areas.

50. When the US census decided to determine the enumeration districts for census-taking purposes, in most cases in this part of Illinois, they relied upon already existent geographical units that were relatively equal in acreage and population. Therefore, our sampling procedure was simplified; we usually found an 8 1/2" x 11" map of each enumeration district in our sample in the county plat-map books. In a few cases (i.e. Menard County), some enumeration district and township lines were not coterminous; careful piecing together of maps enabled us to designate the exact enumeration district lines in those cases.

51. The substitute list was selected in the order the sections were ranked, i.e., if no one was found in section 3, section 15 was automatically placed in the sample frame; someone from that section could be interviewed by the interviewer at any time in her/his interviewing in that ED. Appendix G:5.

52. Efforts were made to interview during all times of the day and days of the week in the various coops in order to maximize the probability of proportionally representing in the sample all the population characteristics.

53. Experienced interviewers who became good map readers were able to negotiate such difficulties, but still became frustrated when people were not at home or especially if the households were serviced by investor-owned utilities. In some cases interviewers were able to follow the respective electric pole lines and through systematic sampling of local residents were able to determine the exact locations of the investor-owned utility households and eliminate some sections in these territories.

54. The severe weather made some of the roads virtually impassable,but interviewers proceeded on them anyway--unless conditions became so severe that they had to return home. However, in no case was the sampling procedure violated knowingly; in a few cases, interviewers found themselves in the wrong section and obtained interviews in a section next to the appropriate section. This was noted and allowed to remain in the sampling frame in the four cases in which it occurred. In most cases, interviewers could determine what section they were in by reference to the roads and the mailboxes with names on them; plat maps had names of home-owners on them if a person owned more than 10 acres or so.

However, it was very difficult to get one's bearings in some places where there were no road signs--just numbers and sometimes not even that--and where there were no names on mailboxes. In addition, although the most up-to-date plat maps were obtained from the Rockford Map Company which compiles the official plat maps for each county in the state, many of the houses on the plat maps were simply no longer there or abandoned and/or other people owned the land and lived in the houses designated on the plat maps. Sampling in the Spoon River Coop was especially expensive because of the poor roads, concentration of investor-owned utilities and the fact that it was sampled during the worst part of the winter.

55. The three coops that were sampled first were Adams, WIEC and Spoon River because they were the farthest north; it was decided that because of the gradually increasing severity of winter conditions, we would start in the northern part of the WIPCO region and work south--with the hope that when the heavy winter weather of late Dec. and early Jan. would arrive, we would be farther south and miss the brunt of it. As we all know now, Illinois experienced one of the most severe winters in a long time; as a result, our interviewers frequently worked in sub-zero weather (-20 to -30 at times with the chill factor) and in poor driving conditions. Nevertheless, we were very grateful for the perseverence and dedication of the Principia College students who carefully and systematically gathered the interviews in spite of severe weather.

We are grateful that in over 12,000 miles of traveling over dirt, gravel and paved roads there were no major mishaps. On a few occasions when interviewers slipped into ditches, they were able to find helpful farmers to pull them out so they could resume the interviewing. In a few cases, tow trucks had to be called. A few cars did not start readily in the sub-zero weather; there was one flat tire and no other vehicle problems.

56. Appendices G:1 and G:2.

57. Some of the interviewers were very pleased when they discovered that respondents randomly selected on previous days stated that friends or neighbors had been interviewed and that they were glad that they had been selected to participate. We were particularly grateful that the student interviewers were publicly praised for their courtesy during the interviews by a WIPCO board member at a distribution coop advisory board meeting; the generally cordial way we were received is a tribute to the friendliness of the coop customers and contributed much to the resultant validity of the data gathered for the study.

58. 155 respondents in Jersey County were interviewed in the pilot study; each township was sampled. The interviews were conducted during the months of October and November of 1983. The student interviewers shared their experiences and insights about the interviewing procedure with the rest of the class as we developed procedures to use in the WIPCO study. The data from the pilot study has not been evaluated yet; Jersey County was included in the total WIPCO study--in order to ensure that the opinions of people in the county would be adequately represented in the WIPCO study.

59. Dr. Vernon Pohlmann is associated with the Community Research Services at Illinois State University in Bloomington-Normal, Illinois. He has conducted many studies of communities in Illinois and provided invaluable assistance in the development of the sampling frame and sampling procedure for this WIPCO study. Mr. Stephen Wells is an independent environmental consultant who lives in the Seattle, Washington area. He has coordinated social and environmental impact assessments in rural communities; he carefully critiqued sample copies of the questionnaire and helped shape the final document. Dr. Edward Gondolf is a sociologist at Indiana University in Indiana, Pennsylvania. He has done a social impact assessment in a rural area and has lived and worked as a community planner/sociologist in a small town. His insight helped us very much in the development of our interviewing procedure and the framing of the questionnaire.

60. Appendices G:3--G:5. Also Appendix G:1 p. 5.

61. Principia College purchased a statistical package "Stat Pac" for the social science department et al. and for us to use in analyzing this data with the aid of mini-computers connected to our HP 3000 series 64 computer. The portable printers helped us easily obtain instant readouts of the data. Computer Center director, Richard Booth, and Illinois State University sociologist, Dr. Del Ervin, were of invaluable help in this stage of the research process. Between the two of them, they set up the data (converting nominal data into binomials,

etc.) and ran the tests. We ran some multiple regressions on the first 100 respondents to get any bugs out of the program.

There was a lull in the data gathering in mid-February after 802 of the interviews had been completed; we had no more money to pay interviewers. Therefore, we decided to run the regressions on the data that we had in order to see if any patterns or trends appeared. We ran regressions on respondents in the first six coops--cloning the 60 of the 120 interviews compiled in the sixth coop Rural Electric Convenience Co-op (REC) to reach 862 respondents. We lost degrees of freedom by doing this, but our data size was large enough to retain significance in the results. We ran eight regressions--two each on cutting back, switching to alternatives, attitude towards Clinton and one on income and cutting back, and one on income and switching. We were searching for any variables that would significantly explain or account for any of the variance in these respective dependent variables. In essence, we were trying to see if there were any traits or characteristics of people that were related in any way to their tendencies to cut back on electricity, switch to alternatives, or their attitude towards the Clinton plant.

Finally, we received additional funds so that we could gather the rest of the data; some students were hired and my wife, Gretchen, and I volunteered to help gather some of the remaining interviews. It was very important for me to gain an appreciation for all aspects of this research project and particularly for the actual interviewing experience. The 100 or so interviews that I gathered greatly enhanced my understanding of the data other interviewers had gathered, their comments about the interviewing process, and most of all--the people themselves without whose gracious support the study would not have existed.

62. Table 4.

63. Tables 8-65.

64. Appendices A-F.

65. Each interviewer noted any rejections in the space provided on the Sample Selection Form which is located in Appendix G:2. A total of 155 people declined to be interviewed; these 155 are added to the total number sampled, 1019, in order to calculate the percentage rejection, ie. 155 + 1019 = 1174; then 155 is divided by 1174 which equals 13%.

66. Table 8 and Appendix A.

67. Table 15.

68. Table 4. "Don't Know" response in each category (9.4%) combined with other categories comprise the remainder of the people.

69. Tables 11-14.

70. Tables 9 and 10.

71. Tables 11-14 and Appendices A and E.

72. Table 16 and Appendix E.

73. Table 17.

74. Appendix E. No significant variance in "degree of willingness to switch to alternatives" was accounted for by any of the variables--including occupation--that were included in the step-wise forward multiple regression model that we ran with "degree of switching" as the dependent variable. In essence, the degree of future willingness to switch to alternative sources of energy or ways of generating electricity was found to be unrelated to how people heat their homes or their water, what they cook with, the coop they belong to, their attitudes toward the Clinton plant, their knowledge of insulation in the ceiling, their age, their education, their income, the amount of acres they till, or their average monthly electric bill. A total of only 14% of the variance in switching behavior was accounted for by all of these variables in the model; we had to run two regressions on switching with half of the independent variables entered each time. Our software did not have sufficient memory to handle all the variables in the model at one time. Age accounted for a negligible 5% of the variance; all of the others accounted for 3% or less of the variance in the dependent variable, switching. The tendency to switch to alternative energy sources or alternative ways of generating electricity was widespread in the WIPCO area among all types and kinds of people who have many different kinds of energy-use behavior now.

75. Appendices A and E. In addition there was no significant variance in "tendency to cut back or use the same electricity" accounted for by the same 13 independent variables that were tested against "switching" (as stated in note #74). Two stepwise forward multiple regressions were run with "tendency to cut back or use the same amount of electricity" as the dependent variable and 6 and 7 of the 13 independent variables, respectively, in each of the two models. Only a total of 12% of the variance in "tendency to cut back or use the same electricity" was accounted for by all of the variables in the models; none of the variables accounted for more than 3% of the variance.

In essence, the tendency to cut back on electricity use or use the same amount of electricity was unrelated to people's present energy-use behavior, the coop they belong to, their attitudes toward the Clinton plant, their knowledge of insulation in the ceiling, their age, their education, their occupation, their income, the amount of acres they till or their average monthly electric bill. The tendency to cut back in electricity usage was widespread in the WIPCO area among all types and kinds of people who have many different kinds of energy-use behavior now. Many people will cut back (58%) and/or switch to alternatives (60%) for a variety of reasons that fit into no noticeable pattern.

76. A close analysis of the data indicated that among both farmers and non-farmers there was a wide divergence of opinion with respect to energy use now and anticipated energy use in the future. Tables 15-17 and Appendix E.

77. Tables 15-17 and a close examiniation of the original 1019 questionnaires. In addition, it should be mentioned that this sense of "anger" or "frustration" or "irritation" which is evident in the comments of the people in Appendices A-F not only came from people with small incomes; it was present in people from all social classes. Our interviewers told us that it appeared at different times during the interviews, but usually was related to the anticipated doubling or tripling of electricity rates--and was reflected in the harsh rhetoric directed against organizations and people that is evident in the comments in Appendices A-F.

78. Table 4.

79. Table 4.

80. Tables 40-42. Extensive study of the responses of people in various townships indicated that some regional differences in anticipated energy use could be partially traced to ecological factors such as topography of the land and the amount of foliage or trees.

81. Table 5.

82. Appendices A-C. Written and oral comments from the interviewers, plus my own observations during interviewing, led me to these impressions about WIPCO peoples' degree of awareness of the Clinton plant.

83. The relations between social class, farmer or non-famer occupation, amount of electric bill, and switching tendencies were discovered after a close examination of the original questionnaires, in conjunction with observations and comments of interviewers.

84. Much additional research could be done concerning specific energy use behavior and trends in each coop; many more cross-tabulations could be done among the variables that we have measured. Statistics tests and a close examination of the original questionnaires and frequency distribution might uncover additional trends in energy use behavior in relation to switching and explain further some of the trends that have been presented in this report.

85. Table 35.

86. Appendix G:1, and Tables 35 and 36. In addition the comments of the respondents to questions 28 and 28A that were recorded by the interviewers indicated that very little actual "rate shock" had occurred among WIPCO customers.

87. Tables 22, 28 and 32. These tables indicate that people switched home heating, water heating, and cooking sources mainly for economic reasons; when the data from these tables is analyzed in relation to the data on the other tables related to home heating (Tables 18-24), water heating (Tables 25-27) and cooking (Tables 29-31), it becomes clear that people have in the past switched energy sources mainly because of gradually shifting prices of the various alternatives available to them. They switch to the most economical source, in most cases.

88. Tables 40-42.

89. Tables 37-39 and Appendix G:1. In addition, the comments of the people to question 21--concerning what makes their bill high during certain seasons--were analyzed.

Average Monthly Electric Bill and Highest Monthly Electric Bill

The majority of REA customers have an average monthly electric bill that is under $150/month (68%). 11% have average bills ranging from $150-$200/ month and another 10% more than $200/month. This 21% of the population would be especially hard-hit by the anticipated doubling or tripling of electricity rates--the 4% with bills over $300/month on the average usually told our interviewers that they would be forced to switch part or all of their coop electrical consumption to other sources of energy or ways of generating electricity. Many of the customers with bills between $200-$300/month also stated their intentions to switch--likewise out of necessity.

Many of these customers had the money and sufficient amount of land to be able to afford the initial capital outlays for expensive large wind or solar systems; in addition, their total income and expenditures would result in a short payback period for these energy investments. Private generators were also a popular option voiced by many of these respondents--most of whom were large farmers. In addition, many respondents of all income levels and monthly electric bills were aware of and contemplating using wood and/or gas to provide part of their energy "mix" on the farm or in the home.

It is important to note that the intention or desire to switch to alternatives such as wind and solar was not related either to the income level or the size of the average monthly electric bill. Even farmers and nonfarmers with modest incomes perceived of these options as within their financial range; some of these respondents were farmers with particularly high monthly bills during certain seasons of the year: grain drying season for farmers with much grain (usually the fall) and farrowing season for hogs--to heat the bins if they farrow in the fall and winter.

Farmers particularly were very much aware of both their high and average monthly electric bills during <u>all</u> seasons of the year--especially during seasons of high consumption. 173/1019 or 17% of the respondents had electric bills that reached a high of over $300/month during some time in the year; 95/1019 or 9% had bills higher than $400 during one season or another--49/1019 or 4% had $600 plus bills during a season.

The hog/grain--and also cattle farmers--frequently indicated a need to further diversify their energy base given the anticipated large electric rate increase; some who were unaware of the existence of the Clinton plant (25% of the respondents) and oblivious to the official reports of the impending large electric rate increases did not know how they would cope with the increase or what they would switch to--if anything at all--but they almost always indicated that the electric rate increase would impact them greatly at a time of economic hardship for many Illinois farmers. Generally speaking, most of the farmers with very large farm operations, big high monthly bills, and big average monthly bills were sensitive to the need to use other energy resources to preserve and enhance their investments and would probably use the most cost effective energy sources for their farms and homes in the future.

90. Tables 18, 19, 23 and 24.

91. Tables 11-24 and Appendices E and G:1. In addition, the statements of the interviewers revealed a definite pattern away from electricity use for home heating in most of the homes where it existed now; these shifts had been made and were anticipated to be made mainly because of the gradually accelerating cost of electricity.

92. Appendix G:1. An analysis of the responses of people to question 13A--concerning when and why people changed home heating sources--revealed that shifts away from electricity for home heating have usually occurred during these time frames.

93. Tables 18-24.

94. Mainly Tables 16-18. Also Tables 11-14.

95. Table 21.

96. Table 22 and Appendix G:1. The comments of the respondents to question 13--concerning when and why they shifted from various heating sources in the past were analyzed and these general patterns were discovered.

97. Tables 19-24.

98. Appendix G:1. The respondents' indications of the age and condition of their homes were analyzed; the average age of the homes seems to be about 75 years. The comments of people to the questions concerning home heating led to the discovery that most people in the WIPCO area had never heated their homes with electricity.

99. Frequently people would tell the interviewers the year they first got electricity; the interviewers usually recorded this data on the questionnaires. Table 59 lists the frequency distributions of the age of the respondents.

100. Tables 43-48. In addition, the answers that the respondents gave to questions 24-27 and 34 in relation to insulation and weatherization of their homes in the past and future were analyzed and evaluated.The following additional points can be made about home heating based upon the evidence gathered in this study:

A. The same proportion of people use propane in MJM and REC as in the other five coops. We ran frequency distributions on the first 802 interviews which included only one-half of REC and no-one from MJM; the percentage of propane use for heating in this frequency run (42.5) was almost identical to the final frequency run for the 1019 interviews.

B. Wood is used more as a primary and secondary home heating source in MJM and REC than in many of the other coops. These coop areas have many hills and trees.

C. People had shifted away from both propane and electricity to wood for mainly, and almost exclusively, economic reasons--and have been doing it predominately in the last 4-8 years.

D. The shifts from coal, wood, or wood & coal occurred usually 30-40 years ago when electricity became available or people just shifted to propane. These shifts were usually made for reasons of convenience.

E. The shifts from fuel oil usually occurred from 5-20 years ago when fuel oil costs became more expensive than other sources; propane particularly was cheaper than fuel oil then and still is now. The shift from fuel oil was usually to propane, but in a few cases it was to electricity.

F. The shifts from utility gas were usually from recent migrants to rural areas from more urbanized areas; most rural areas are not serviced by the utility gas lines.

G. The shifts from propane were usually to wood but in a few cases were to electricity. The shifts to wood were almost exclusively for economic reasons; wood is available and very inexpensive. The shifts to electricity from propane were for convenience and in a few cases for cost when electricity might have been cheaper than propane years ago.

H. The shifts from electricity were either to propane (in some cases back to propane) and were almost always for economic reasons; it is cheaper to use propane than electricity--some people say 1/2 as much--or to wood (also for economic reasons).

I. Only 7% used electricity as a "backup" source; frequently it used to be the main source and had been superseded by wood. Propane is the backup or supplementary heating source in 9% of the cases and fuel oil in 8% of the cases. Most of the people who use wood as the main source of heat have a backup because it was there before they installed their wood furnace or stove. It appears that the 25% of the people who use wood rely equally on propane, electricity, and fuel oil as a backup (ie. 9% + 7% + 8% = 26%). A few (1%) may have utility gas as a backup. A full 51% heat their home mainly by gas (8% by Utility Gas--mainly near villages and cities--and 43% by LP or Propane). It seems that wood is drawing more from former electricity and fuel oil users--proportionally than propane users. (ie. Electricity: 9% main and 7% backup, Fuel Oil 13% main and 8% backup, and Propane/Utility Gas 51% main but only 9% backup.) If these proportions in decreased usage of these fuels continue as wood and other alternatives increase in usage, one could project a gradual decrease in fuel oil and electricity as home heating sources--especially in the large part of the market in both cases where they are only used as a supplemental source.

J. Our data showed that the average supplemental source of heat provided about 25% of the home heating needs. Since about 1/2 of the home heating market for electricity is "supplemental", one could estimate that from 1/3-1/2 of the electricity heating market is "vulnerable" to other sources. It could be as much as 100%, and our interviews with respondents clearly indicate that it is at least somewhere between 50% and 80% vulnerable. One should also realize that all homes that are heated with electricity as the "main source" are not "100%" electric; this designation "main home heating source" only means more than 50%. An examination of the data reveals that a full 9% of the respondents indicated that their "main home heating" provided from 50-65% of their heating needs. That means that from 35-

50% of the heating needs were provided by a supplemental source.

K. If propane costs skyrocket along with electricity, one can anticipate a great increase in the use of wood--along with more insulation (a full 52% indicate that given the potential electric rate increase, they will insulate or weatherize their homes more)--and new/old sources like wind and solar and biomass; each source will be used to the extent that it is cost effective.

L. One person cited a distribution coop official who had installed individually-thermostatically controlled electrical heating units in various rooms in his home and was encouraging use of such a heating source. The coop official stated that central electric heat will soon be obsolete simply because it will be too expensive.

M. Sometimes our interviewers would sit around the old/new wood stove as people shared their ideas with us and told us of the nuances and subtleties of the old farmhouse and farmstead.

101. Water Heating Tables 25 and 29.

Almost an identical percentage of people in MJM and REC heat their water with electricity as do people in the other co-ops--56%. The remainder heat their water with propane (35%) or utility gas (6%). 3% use other sources such as wood, coal or fuel oil; a few have no hot water and just heat water on their cook stoves.

Very few people (only 13%) have ever heated their water with a different energy source. Many of these have shifted from electricity (5%) and have done it for economic reasons--they are aware of the expense of heating water with electricity. One couple stated that they had gotten rid of a one-year-old electric hot water heater and installed a propane one; they claimed that their bill had been cut in half. It was relatively inexpensive for them to switch to heating their water with gas. Some of the people who stated that they had shifted from gas to electricity stated that they liked electricity better; however, it should be noted that most of these shifts occurred over 10 years ago--when electricity was a bit cheaper or about the same cost as gas (LP or Utility Gas). In no case were people thinking of shifting to electricity; many stated that they would shift to gas from electricity to heat their water in response to the anticipated increased electricity cost.

Cooking

The energy use pattern for cooking is very similar to that for heating water. Almost the same proportion of people cook with electricity (58%) as heat their water with electricity (56%). A few more people (20%) have used another cooking source than have used another hot water heating source (13%). The most recent cooking source that people have shifted from was usually a type of gas (Utility Gas[6.5%] plus LP/Propane[4.2%] =11%); they usually shifted to cooking with electricity and that was usually because of convenience or personal preference. 3% shifted from coal or wood to propane or electricity. 3% shifted from electricity--usually to gas and usually for convenience or personal preference.

However, some people did state that they would shift from electricity to gas as electric rates gradually increased. In some cases, the shift in

cooking source occurred when people moved and the new house had a different type of cooking stove. About 1/4 of the people who had shifted cooking sources had done so for economic reasons; about 1/3 of the people who had shifted water heating sources had done so for economic reasons. Convenience seems to have been more important than costs in these previous shifts; however, as electricity becomes increasingly more expensive than gas, people state they will shift away from cooking and heating their water with electricity, also.

102. Although this question was not specifically asked, many people indicated that their electric clothes dryer would be one of the first items they would cut back in the use of--to some extent or totally--when electricity rates increased. Tables 11-14.

103. Tables 33 and 34.

104. Tables 11-14 and 16.

105. Table 57. 257(25%) people did not volunteer their income; 762 people(75%) did volunteer their income.

106. Table 55 and Appendix G:1. The specific occupations of the respondents, which were cited in answers to question 39, were analyzed in relation to the occupational prestige scale developed by Robert W. Hodge et al. It was published in American Journal of Sociology in 1964, in an article entitled "Occupational Prestige in the United States: 1925-1963", pp. 290-292. The occupations of the WIPCO people in this study were compared with their incomes in order to note relations between the two variables.

107. Table 57.

108. Table 59.

109. The specific comments of the people who were in various age brackets from 60 to 90 years of age were analyzed and evaluated.

110. The specific comments of non-farmers with low incomes were analyzed and evaluated.

111. Table 6.

112. Appendix J:1.

113. Appendices J:1-J:8. 5.6% of the farmer debtors of FHA (Farmers Home Administration) went out of business in 1982 and 1983, according to data cited in the article in Appendix J:8. Many others are having difficulty paying their loans (Appendix J:8). The comments of people to various questions which are listed in Appendices A-F illustrate the economic plight that many farmers in the WIPCO area are in now--and in many cases, the depth of their feelings concerning their economic condition and that of other farmers.

114. Tables 60-63.

115. Tables 55 and 60-63. The comments of our interviewers indicated that these trends were pervasive throughout the WIPCO area.

116. Tables 7a-7c.

117. One misty day I drove around a township which had many vacant homes; frequently interviewers told me of similar experiences that they had throughout the WIPCO region.

118. The written comments of an interviewer, who conducted many interviews, expresses very well some of the aspects of life on a family farm in the WIPCO area:

> The family farm still exists, but now there are a lot of bank-owned farms and tenant farming, as well. Family farming is best explained by the answers to the land-owned question. Some common answers were, 'Well, that's hard to say. You see I farm with my dad and brother...' It's not hard to understand why that works either when you see a plat map. It seems like farmland is scattered in ownership. East of town a man might own 150 acres, and then the next closest plot marked with his name might be a couple of miles away. The family working the land could easily do it without getting in each other's way. There were young farmers out there, but most were tenants, not owners, or part owners.
>
> You really have to want to be a farmer to farm. One man said when I asked him about income that it could be anywhere from $15,000-$40,000, and he had a big operation! Another woman, when I asked that question, said, 'You don't want me to go into my story of griefs do you? Let's put it this way, we've taken out a loan so that we can pay the taxes on our land.'
>
> I ran into some very wealthy farmers though, too--ones who had two or three car garages and paved driveways. I always wondered what made them 'make it' and the other people not. I still don't know. One man who was in his 70's or 80's was from originally. He'd been a _____. Well, he and his wife had moved out to the country, and when I asked him what he did for his living, he said something to the effect, 'Well, we don't interact much with the people around us. They don't bother us and we don't bother them. But this place has been good to us. We live off the income from the farm.' When I asked for their income, he replied, 'Like I said, this place has been good to us, we make about $100,000.' Wow! But how lonely. I wouldn't want to be in his shoes.

119. Many of these new migrants were non-farmers; they were from a variety of backgrounds and had many different occupations. The comments of the interviewers and the actual questionnaires were very helpful in discovering the diversity among these people.

120. In addition to the responses of the migrants to the questions related to energy use on the questionnaire, the frequency distribution tables (Tables 8-65) were useful in searching for similarities and differences between new migrants and more long-term residents.

121. Notes #74 and #75 above.

122. Tables 50 and Note #98 above.

123. Appendix G:1 and tables 43-45 and 48. In addition, the comments of the people to question 34A were analyzed and evaluated.

124. Appendix G:1 and tables 43-48. The comments of the people to questions 24-27 and 34 were analyzed and evaluated. Also the comments of people cited in Appendices A-F indicate the high degree of awareness that WIPCO residents have of the costs of energy.

125. Appendix F: Respondent #838.

126. Tables 18-24.

127. Appendix G:1 and Table 49. Many of the people shared with our interviewers the history of their old homes; on a few occasions, the homes dated to the Civil War in the 1860's. The comments of the people to questions 7, 8, 26 and 42 were very helpful in understanding the age and condition of the housing stock in the WIPCO area.

128. Tables 43-47 and Appendix G:1. The respondents' comments to questions 24-27 were analyzed and evaluated.

129. Tables 43 and 47.

130. The comments of the renters to the questions related to insulation, caulking and weatherization were studied in order to discover that few renters fixed up the homes (most of them quite old); in addition the landlords had usually not done major refurbishing of the homes.

131. Table 50 and Appendix G:1. Some of the more poignant moments for all of our interviewers, including me, were spent listening to people weave the pattern of their lifelong partnership with the land for us. In some cases, their grandparents had settled the land in the mid 1800's. Now, in most cases, their children and grandchildren and great-grandchildren had gone off; whatever land that was left was rented out to an adjacent farmer and only the memories of a former lifestyle remained. One wonders what will happen to the farmsteads and the land when this generation passes from the scene.

There are still many family farms out in this part of Illinois with from 200-400 acres farmed by people in their 40' and 50's--but a large part is owned by people in their upper 60's and in their 70's and 80's. It seems reasonable to project that the present trends of a gradual loss of population in these rural areas will continue as older folks pass on and their land is taken over by adjacent farmers or is farmed "in trust" by tenants for their living relatives. Such continued consolidation will drive down demand for the centrally-generated electricity and result in many larger entreprenuers and corporation farms that can, and will probably, invest more heavily in their own energy generation facilities--perhaps engaging in cogeneration or selling the excess electricity back to the co-op.

132. Tables 6 and 7a-7c.

133. Appendices A-F.

134. Appendices A-F.

135. Table 65.

136. Appendices A-F--particularly Appendices B and D.

137. The comments of the people in Appendices A-F were studied in conjunction with the original 1019 questionnaires in order to determine these patterns of feelings and behavior.

138. Appendices A-F--particularly Appendices C, D and F.

139. Table 5.

140. Table 5.

141. Table 5.

142. Notes #74 and #75 above and Appendix B.

143. Appendices B and D.

144. Appendices B and D.

145. Business Week-Harris Poll, 1983.

146. Appendices B and D.

147. Appendices B and D--specifically Appendix B, respondent #993.

148. My observations during the interviews that I conducted were compared with the impressions of the other interviewers in order to arrive at these general statements.

149. Appendix B--especially the comments of those in favor of cancelling Clinton.

150. Tables 15 and 16 and Appendix E.

151. Table 11-17 and Appendices A, E and G:1. The comments of people to questions 33, 33A and 33B were analyzed and evaluated.

152. Tables 8-14 and Appendix G:1. The comments of people to questions 32A-32C were studied.

153. 31% x 40%=12%. 29% x 40%=12%. 12% + 12%=24%. 24% + 6% (for "switching" mentality)=30%.

154. Maybe=1/4 x 29%= 7% x 20%= 1.4%. Strongly Consider=1/2 x 13%= 7% x 20%=1.4%. Yes= 3/4 x 18%=13.5% x 20%=2.7%. 1.4% + 1.4% + 2.7%=5.5%.

155. Appendix E.

156. I have had many discussions with Dr. E.B. Shultz about the projected costs of alternative fuels in this area in the late 1980's; the results of his research will be published and distributed to the public.

157. Tables 8-10.

158. Table 4.

159. Table 4.

160. Table 6.

161. Various REA and Coop officials have mentioned that default was one of the options being considered for WIPCO, if not also for Soyland. However, most of these officials indicated that this option did not seem too favorable to them mainly because they would probably still have to pay their debts and have no electric power to show for that money. Furthermore, there is no precedent for a major coop default; no-one knows exactly what would happen. REA has experienced only one minor default in its long history of guaranteeing loans--that was for $40,000 when a North Carolina town was leveled by a hurricane. REA Deputy Administrator, Jack Van Mark, stated that if a coop (in this case, Wabash Valley) could not pay it's bills, "I shudder to think of it....But if the coops can't raise the cash, we'd have to move in, take over and raise the rates ourselves." (Appendix I15). REA Director of the North Central Branch, Frank Bennett, told Principia College student, Tony Serzo, (See note #3) that a WIPCO default would result in two major options for REA: 1)REA would foreclose on WIPCO's property, run it for a few years and sell it on the open market or 2)REA would reorganize the debt and allow the coops to retain ownership while offering the government complete, if delayed, payback.

Another option is declaring bankruptcy and arguing for section 11 bankruptcy in the courts--hoping that the judge would absolve part or all of the coops' debts. Soyland manager, Ed Williams, stated that if it came to bankruptcy, he would argue vigorously for section 11 relief. However, Mr. Williams and other officials dislike this option because it puts the fiscal future of the coops in the hands of a judge; the coops could end up dissolved and bankrupt--with legal debts beyond existing debts. Indeed, the crisis seems so severe that some Southwestern coop board members, among others, openly stated that if WIPCO goes, so does Soyland and Illinois Power. Meanwhile, coop officials are telling the public that serious negotiations are going on (Appendices I17-I20).

162. 1) Previously, the coops' share of Clinton direct costs was estimated to be $428 million. 2) If Clinton costs increase, the coops' share of power will decrease proportionately to their $450 capital investment--$450 million is 20% of $2.25 billion, which is REA's estimate of final direct Clinton costs. 3) The coops will receive more of IP's relatively inexpensive coal-generated electricity--now and in the future; the coops will obtain the use of 400,000 KWH of power beyond the 190,000 KWH they have from Clinton. In exchange, the coops will take over maintenance of some of IP's transmission lines and subtransmission systems. Since the coops will have immediate access to relatively cheap coal-fired electricity, they will be able to "mix" this with the more expensive nuclear-generated electricity from Clinton--when it comes on line. 4) The amount of the surcharge will vary over the next three years; it will be reevaluated yearly in order to guarantee that $38 million will be paid in three years. If WIPCO electricity consumption goes down, WIPCO may need to increase the surcharge to ensure payment of the $38 million. Appendices I21-I24.

163. Coops associated with these nuclear plants and others are facing fiscal crises: Cajun coop in Louisiana, Black Fox in Oklahoma, Wabash Valley in Indiana, and WPSS coop members in Washington State. In addition, coop membership is decreasing throughout the Midwest--in the Dakotas, Iowa and Wisconsin, according to REA official, Frank Bennett. Officials openly admit that they don't know what lies in the future for the coops; some coop officials speculate that a federal takeover of the coops is a real, however undesirable, possibility in the future.

Bibliography

Ahmed, Safir. "Rift Growing In Electric Co-op Over Clinton Power Plant." St.Louis Post-Dispatch, 23 April 1984.

Allen, Robert W. "Illinois Agency Urges Nuclear Power Cancellation." St.Louis Post-Dispatch, 29 May 1983, p. 11 E.

Batz, Roger. Interviews, Meetings and Correspondence re. The Clinton Nuclear Power Plant and Illinois Coops' Involvement With It. Unpublished Transcripts, 1984.

Belsie, Laurent. "Is There A Future For Nuclear Power? Illinois Not So Sure Now." The Christian Science Monitor, 1 Feb. 1984, p. 3.

Bennett, Frank W. Letter to V. Dale Cummings. 9 Sept. 1983.

Bringman, D.B. Letter to E.B.Shultz. 8 Sept. 1983.

Business Week-Harris Poll, 1983.

Cahalan, Steve. "Clinton Costs Catch Co-ops Short." Decatur Herald and Review, 15 Oct. 1983.

----------. "Official Says Clinton Plant Cost May Rise." Decatur Herald and Review, 10 Feb. 1984.

----------. "Utility, Co-ops Near Agreement." Decatur Herald and Review, 16 March 1984.

Clinton Construction Review. Decatur, Illinois: Illinois Power Company, 9 Feb. 1984.

Copley News Service,. "Clinton Nuclear Plant Listed Among Costliest." St.Louis Globe-Democrat, 27 Dec. 1983, p. 10A.

Doyle, Jack. Lines Across The Land. Washington D.C.: Environmental Policy Institute, 1979.

"Farm and Garden '84." Alton Telegraph, 20 March 1984, pp. C2-C39.

"$466 Million Lawsuit Is Filed In Indiana Over Nuclear Plant." St.Louis Post-Dispatch,12 Feb.1984.

Field, Mike. "Rural Users Want Review Of Possible Electricity Hikes." St.Louis Globe Democrat, 21 Feb. 1984.

Goode, Roy. "Surcharge Means Lower Costs In Long Run." Rural Hilights, March 1984, p. 2.

Hahn, Steve. "Clinton Nuclear Plant Worries WIPCO." The State Journal-Register, 7 Aug. 1983, p.5.

----------. "Feasibility Of IP Plant Under Study." The State Journal-Register, 24 Aug. 1983, p.1.

----------. "ICC:No Public Study Of Clinton Plant." The State Journal-Register, 19 Oct. 1983.

----------. "Bare Clinton Plant Study Data, ICC Urged." The State Journal-Register, 20 Jan. 1984.

----------. "IP Affirms Its Committment To Clinton Plant." The State Journal-Register, 10 Feb. 1984.

----------. "Co-ops, IP Quietly Discuss Move For Clinton Plant Cost-Sharing." The State Journal-Register, 18 March 1984, p. 5.

Hodge, Robert W. "Occupational Prestige in the US:1925-1963." American Journal of Sociology, (1964), pp. 290-292.

Illinois Enumeration District Maps. Edwardsville, Illinois: Southern Illinois University at Edwardsville Center for Urban and Environmental Research and Services, 1983.

"Illinois Power, 2 Coops Strike Deal On Clinton." News-Gazette, 29 March 1984, p. A-2.

Illinois State. Handbook Of Illinois Government. Springfield, Illinois: Secretary of State, 1983.

Illinois State. Illinois Blue Book 1973-1974. Springfield, Illinois: Secretary of State, 1974.

Ingram, Ron. "Moody's Lowers Illinois Power's Bond Rating." Decatur Herald and Review,10 Aug.1983.

Kacich, Tom. "ICC Showing Concern Over IP's Clinton Plant." News-Gazette, 28 Aug. 1983.

----------. "Study Defends IP Plant Estimate." News-Gazette, 30 March 1984.

Land Atlas And Plat Book:Adams County et.al. In WIPCO Region. Rockford, Illinois: Rockford Map Publishers, Inc., 1979-1983.

Model Electric Power And Conservation Plan For The Pacific Northwest. Seattle, Washington: Northwest Conservation Act Coalition, 5 May 1982.

Moore, Raymond E. and Louisa T. Burgio. "Illinois Power Co." E.F.Hutton Electric Utilities Equity Research Action Report, 12 Jan. 1984.

1983 Directory Of The Electric Cooperatives Of Illinois. Springfield, Illinois: Association Of Illinois Electric Cooperatives, 1983.

1983 Illinois Roster.Springfield, Illinois:Association Of Illinois Electric Cooperatives, 1983.

Radin, Alex. "Public Power Innovation." American Public Power Association, 41, No.6 (1983).

Richards, Bill. "U.S.Rural-Energy Agency Finds Itself Tangled In Nuclear Problems." The Wall Street Journal, 9 Feb. 1984.

Scott, David Clark. "Trying To Sort Out What Happens If a Public Utility Goes Bankrupt." The Christian Science Monitor, 18 April 1984, p. 6.

Sevener, Don. "Costs Could Kill Clinton Plant." Decatur Herald and Review, 25 Aug. 1983.

_____ "Study Backs Clinton." Decatur Herald and Review, 10 Feb. 1984.

Sbultz, E.B. Letter to D.B. Bringman. 1 Sept. 1983.

Sierra Club National News Report. San Francisco, California: Sierra Club, 1984.

Soderstrom, Edward Jonathan. Social Impact Assessment:Experimental Methods And Approaches. New York: Praeger Publishers, 1981.

Swanson, Louis E. and Richard C. Maurer, "Farmers' Attitudes Toward The Energy Situation." Rural Sociology, 48, No.4 (1983), pp. 647-660.

Snyder, Jack. Letter to Charles Witt. 15 Sept. 1983.

Taylor, L.D. "The Demand For Electricity:A Survey." The Bell Journal Of Economics, 6, No.1 (1975).

Tennessee Valley Authority. Program Summary. Chattanooga, Tenn.: Office Of Power:Division Of Energy Conservation And Rates, Oct. 1982.

U.S. Department of Agriculture. Annual Statistical Report: Rural Electric Borrowers. Washington, D.C.:Rural Electrification Administration, 1970,1975,1980 and 1982.

U.S. Department of Commerce. 1980 Census Of Population And Housing. Washington D.C.: Bureau of the Census, March 1981.

Van Mark, Jack. Letter to Roger Batz and E.B. Shultz. 9 Sept. 1983.

Vespereny, Cynthia. "Co-op Fears Doubling Or Tripling Of Electric Rates." Alton Telegraph, 23 Feb. 1984, p. 1.

Walicke, Barbara A. "Illinois Power Co." Standard and Poor's Credit Week, 28 Feb. 1983.

Witt, Charles. "From The Desk Of The Manager." M.J.M. News, Aug. 1983, p. 5.

----------. "From The Desk Of The Manager:Future Power Supply." M.J.M. News, April 1984, p. 3.

----------. Letter to Jack Synder. 23 Sept. 1983.

Yancey, Matt. "House Deals Blow To Utilities." The Washington Post, 10 Feb. 1984.

Table 1

CHANGES IN NUMBER OF CUSTOMERS SERVED BY DISTRIBUTION COOPS
IN WIPCO (WESTERN ILLINOIS POWER COOPERATIVE) FROM 1966-1982

YEAR AND PERCENTAGE (NUMBER) CHANGE

DISTRIBUTION COOPERATIVE	1966	%(#) Change	1968	%(#) Change	1970	%(#) Change	1975	%(#) Change	1980	%(#) Change	1982
ADAMS ELECTRICAL COOPERATIVE	5378	1(72)	5450	5(270)	5720	13(729)	6449	8(546)	6995	1(95)	7090
ILLINOIS RURAL ELECTRIC CO.	8383	2(177)	8560	2(183)	8743	8(698)	9441	4(369)	9810	-1(-136)	9674
M.J.M. ELECTRIC COOPERATIVE	5460	2(90)	5550	3(177)	5727	16(912)	6639	6(425)	7064	1(48)	7112
MENARD ELECTRIC COOPERATIVE	5787	2(99)	5886	4(251)	6137	19(1188)	7325	11(810)	8135	-.5(-40)	8095
RURAL ELECTRIC CONVENIENCE COOPERATIVE CO.	3380	2(61)	3441	2(68)	3509	18(633)	4142	15(608)	4750	-.4(-21)	4729
SPOON RIVER ELECTRIC COOPERATIVE	3281	2(75)	3356	3(103)	3459	12(402)	3861	9(370)	4231	-1(-53)	4178
WESTERN ILLINOIS ELECTRICAL COOPERATIVE	2890	3(74)	2964	.3(10)	2974	6(179)	3153	8(255)	3408	-1(-29)	3379
TOTAL WIPCO CUSTOMERS SERVED	34,559	1.9(648)	35,207	3(1062)	36,269	13.1(4741)	41,010	8.2(3383)	44,393	-.3(-136)	44,257

Sources: 1970 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1975 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1980 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1982 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.

Table 2

CHANGES IN TOTAL MEGAWATTS SALES IN DISTRIBUTION COOPS
IN WIPCO (WESTERN ILLINOIS POWER COOPERATIVE) FROM 1970-1982

YEAR AND PERCENTAGE (NUMBER) CHANGE

DISTRIBUTION COOPERATIVE	1970	%(#) Change	1975	%(#) Change	1980	%(#) Change	1982
ADAMS ELECTRICAL COOPERATIVE	51,881	42(21,814)	73,695	12(9015)	82,710	-3(-2731)	79,979
ILLINOIS RURAL ELECTRIC CO.	65,431	41(26,529)	91,960	9(8338)	100,298	-2(-1833)	98,465
M.J.M. ELECTRIC COOPERATIVE	50,708	45(22,722)	73,430	16(11,732)	85,162	-1(-573)	84,589
MENARD ELECTRIC COOPERATIVE	54,290	48(26,100)	80,390	18(14,330)	94,720	4(3795)	98,515
RURAL ELECTRIC CONVENIENCE COOPERATIVE CO.	39,342	47(18,550)	57,892	26(14,787)	72,679	-2(-1550)	71,129
SPOON RIVER ELECTRIC COOPERATIVE	30,832	37(11,560)	42,392	11(4829)	47,221	-6(-2680)	44,541
WESTERN ILLINOIS ELECTRICAL COOPERATIVE	29,179	31(9020)	38,199	2(755)	38,954	-1(-482)	38,472
TOTAL MEGAWATT SALES AND CHANGES:	321,663	42(136,295)	457,958	14(63,786)	521,744	-1(6054)	515,690

Sources: 1970 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1975 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1980 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1982 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.

Table 3

CHANGES IN AVERAGE RESIDENTIAL CONSUMER MONTHLY KWH USAGE IN DISTRIBUTION COOPS IN WIPCO (WESTERN ILLINOIS POWER COOPERATIVE) FROM 1966-1982

YEAR AND PERCENTAGE (NUMBER) CHANGE BETWEEN ADJACENT YEARS

DISTRIBUTION COOPERATIVE	1966	%(#) Change	1968	%(#) Change	1970	%(#) Change	1975	%(#) Change	1980	%(#) Change	1982
ADAMS ELECTRICAL COOPERATIVE	564	17(96)	660	11(75)	735	24(173)	908	2(18)	926	-4(-39)	887
ILLINOIS RURAL ELECTRIC CO.	411	19(79)	490	12(60)	550	35(191)	741	3(24)	765	-3(-19)	746
M.J.M. ELECTRIC COOPERATIVE	516	17(86)	602	15(87)	689	26(177)	866	5(41)	907	-5(-44)	863
MENARD ELECTRIC COOPERATIVE	539	17(94)	633	11(71)	704	23(164)	868	-3(-23)	845	-3(-21)	824
RURAL ELECTRIC CONVENIENCE COOPERATIVE CO.	683	15(102)	785	11(85)	870	23(197)	1,067	8(88)	1,155	-2(-18)	1,137
SPOON RIVER ELECTRIC COOPERATIVE	574	13(77)	651	8(54)	705	24(172)	877	-1(-11)	866	-5(-43)	823
WESTERN ILLINOIS ELECTRICAL COOPERATIVE	628	12(76)	704	11(80)	784	23(179)	963	-4(-42)	921	-1(-12)	909

Sources: 1970 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1975 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1980 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.
1982 Annual Statistical Report: Rural Electric Borrowers. US Dept. of Agriculture. REA.

Table 4

ANTICIPATED FUTURE SWITCH TO ENERGY ALTERNATIVES AND AMOUNT OF ELECTRICITY USE

IF ELECTRICITY RATES DOUBLE OR TRIPLE: BY DISTRIBUTION COOPS WITHIN WIPCO

WESTERN ILLINOIS POWER COOPERATIVE (WIPCO) DISTRIBUTION COOPERATIVES

DEGREE OF FUTURE SWITCHING TO ENERGY ALTERNATIVES		Adams Electrical Cooperative				Illinois Rural Electric Co.				M.J.M. Electric Coop.				Menard Electric. Cooperative				Rural Electric Convenience Coop.				Spoon River Electric Coop.				Western Illinois Electrical Coop.				WIPCO TOTALS
		AMOUNT OF ELECTRICITY USE																												
		Less	Same	More	Don't Know	Less	Same	More	Don't Know	Less	Same	More	Don't Know	Less	Same	More	Don't Know	Less	Same	More	Don't Know	Less	Same	More	Don't Know	Less	Same	More	Don't Know	
YES	Percentage	8	1	1	--	11	5	--	--	26	10	--	--	12	2	--	--	22	3	--	--	9	3	--	1	8	5	--	1	17.8%
	Number	(12)	(1)	(1)	--	(19)	(9)			(41)	(15)	--	--	(19)	(4)	--	--	(26)	(4)	--	--	(11)	(3)	--	(1)	(9)	(6)	--	(1)	(182)
STRONGLY CONSIDER	Percentage	16	2	--	--	3	5	--	--	8	3	--	--	9	4	--	1	10	2	--	--	16	2	--	1	7	8	--	--	13.3%
	Number	(25)	(3)	--	--	(6)	(9)	--	--	(13)	(4)	--	--	(14)	(7)	--	(1)	(12)	(2)	--	--	(19)	(2)	--	(1)	(8)	(10)	--	--	(136)
MAYBE	Percentage	29	7	--	--	14	14	1	1	9	7	--	--	15	9	--	--	19	9	--	1	24	13	--	--	17	15	--	1	28.7%
	Number	[illegible]	(11)	--	--	(26)	(25)	(1)	(2)	(14)	(11)	--	--	(25)	(14)	--	--	(23)	(11)	--	(1)	(29)	(15)	--	--	(20)	(18)	--	(1)	(293)
NO	Percentage	17	15	--	1	14	20	--	2	14	15	--	--	17	20	1	1	8	14	--	2	13	19	--	1	8	25	--	--	32.5%
	Number	(27)	(24)	--	(1)	(25)	(36)	--	(3)	(21)	(23)	--	--	(28)	(33)	(2)	(2)	(10)	(17)	--	(2)	(15)	(23)	--	(1)	(9)	(30)	--	--	(332)
DON'T KNOW	Percentage	3	1	--	--	7	3	--	1	5	5	--	--	6	4	--	1	6	3	1	--	--	--	--	--	3	3	--	--	7.4%
	Number	(5)	(1)	--	--	(12)	(6)	--	(1)	(8)	(7)	--	--	(9)	(6)	--	(1)	(7)	(4)	(1)	--	--	--	--	--	(4)	(4)	--	--	(76)
TOTALS	Percentage	72	26	1	1	49	47	1	4	62	40	--	--	59	39	1	2	65	31	1	3	62	37	--	2	43	56	--	2	100%
	Number	(115)	(40)	(1)	(1)	(88)	(85)	(1)	(6)	(97)	(60)	--	--	(95)	(64)	(2)	(4)	(78)	(38)	(1)	(3)	(74)	[illegible]	--	(3)	(50)	(68)	--	(2)	(1019)
Total Coop Number		157				180				157				165				120				120				120				

Table 5

AWARENESS OF THE CLINTON NUCLEAR POWER PLANT AND OPINION CONCERNING ITS COMPLETION OR CANCELLATION AMONG DISTRIBUTION COOP CUSTOMERS IN WIPCO

DISTRIBUTION COOPERATIVES	AWARE OF CLINTON: 75%(761)					NOT AWARE OF CLINTON: 25%(258)				
	OPINION CONCERNING COMPLETION OR CANCELLATION					OPINION CONCERNING COMPLETION OR CANCELLATION				
	Percentage (Number)					Percentage (Number)				
	Complete	Undecided	Cancel	No Opinion	Missing Data	Complete	Undecided	Cancel	No Opinion	Not Applic
ADAMS ELECT. COOPERATIVE	11(17)	11(17)	14(21)	19(29)	6(9)	1(1)	----	7(11)	----	33(52)
ILLINOIS RURAL ELECT. CO.	15(27)	8(14)	9(17)	27(48)	2(4)	----	----	----	----	39(70)
M.J.M. ELECT. COOPERATIVE	20(31)	17(27)	27(42)	22(34)	----	----	----	----	----	15(23)
MENARD ELECT. COOPERATIVE	25(41)	10(16)	20(33)	41(67)	1(1)	----	----	----	----	4(7)
RURAL ELECT. CONVENIENCE COOPERATIVE	23(27)	17(20)	31(37)	22(26)	----	----	----	----	----	8(10)
SPOON RIVER ELECT. COOP.	18(21)	10(12)	19(22)	14(17)	4(5)	----	----	1(1)	----	35(42)
WEST. ILLINOIS ELECT. COOP.	11(13)	13(16)	19(23)	22(26)	1(1)	----	----	----	----	34(41)
TOTAL WIPCO OPINION	17(177)	12(122)	19(195)	24(247)	2(20)	0(1)	----	1(12)	----	24(245)

Table 6

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent#	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
Adams Electrical Cooperative							
	139	Farm/Cemetary Work	$ 3,000	72	Own	Single Fam.	"Might go to old folks home"
Total	168	Farming	$15,000	45	Own	Single Fam.	"Will have to move if I kept using the same; I'm having a tough time now."
Percent (#)							
12% (19/157)	200	Ret.Bricklayer	$ 7,000	78	Own	Single Fam.	"Might Move"
	201	Farming	broke even	71	Own	Single Fam.	"Move! For sure"
	203	Bookeeper	$19,000	31	Own	Single Fam.	"Probably move to CIPS. Many peopl in neighborhood would."
	208	Farming	lost $	42	Rent	Single Fam.	Move--quite sure.
	211	Farming	$12,000	36	Own	Single Fam.	"Don't know; might move to city."
	214	Farming	$25,000	59	Own	Single Fam.	"Might move out."
	230	Farming	$ 9,500	72	Own	Single Fam.	"Might move to Golden."
	231	Farming	$12,000	23	Own	Single Fam.	"If the cost of living keeps going like this, everybody's gonna move out west where there are jobs--a lot of my friends already have."
	235	Factory Worker	$12,000	32	Own	Single Fam.	Consider moving to town.
	236	Farming	even or lost $	56	Own	Single Fam.	"Might have to move out."
	241	Unemployed	varies 0-$40,000	32	Own	Single Fam.	"We will move for sure."
	252	Sales clerk/ Auctioneer	$12,500	50	Own	Single Fam.	Might move to CIPS.
	254	Truck driver	$20,000	37	Own	Single Fam.	Considering moving anyway.
	255	Farming	$14,000	82	Own	Single Fam.	Don't know; might move.
	260	Engineer/ Book keeper	$35,000	49	Own	Single Fam.	"Might move south."
	261	Farming	-----	69	Own	Single Fam.	"Quit farming."
	2[illegible]	[illegible]min[illegible]	---[illegible]	64	Ow[illegible]	[illegible] Mob[illegible] Home	"I'd [illegible] in [illegible]town."

Tat[illegible] (co[illegible])

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent #	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
ILLINOIS RURAL ELECTRIC CO.	402	Retired Farmer	$15,000	67	Own	Single Fam.	Leave
	414	Farming and Teaching	$120,000	31	Rent	Single Fam.	Move to place where it's cheaper to live. Not build electric home.
Total	434	Truck driver	-------	21	Own	Mobile Home	Buy new home; trailor too expensive to weatherize.
Percent (#)	452	Farming	-------	50	Own	Single Fam.	Leave--move to town.
11%(19/180)	459	Disabled	$15,000	39	Own	Single Fam.	Selling place and get a place with CIPS; IRE unreliable.
	464	Cement Co./ Saw Mill	$35,000	40	Own	Single Fam.	See what it costs to pull CIPS one mile to house.
	480	Farming	$35,000	63	Own	Single Fam.	Might go south--seriously.
	488	Elec./Steel Worker	-------	40	Own	Single Fam.	Switch to CIPS.
	490	Salesman	-------	53	Own	Single Fam.	See if I could get CIPS to hook me up.
	498	Unemployed Welder	$ 6,000	42	Rent	Single Fam.	"It'd make me move; It gets to where I can't pay and I'll move."
	511	Farming and Teaching	$50,000	50	Own	Single Fam.	"I'd just move."
	516	Farming and School Cook	$35,000	53	Rent	Single Fam.	Move
	526	Social Security	$5,400	76	Own	Single Fam.	Would make me consider more strongly going to efficiency apartment.
	549	Farming and Real Estate	even or lost $	52	Own	Single Fam.	Might move to Florida. Truly consider
	553	Unemployed Cook's Helper	less than $10,000	41	Rent	Single Fam.	Don't know, unless move out of state.
	556	Farming	$10,000	49	Own	Single Fam.	Move to Florida.
	560	Social Security/ Rents farm out.	$1,500	88	Own	Single Fam.	Might have to go to gas or move out.
	564	Farming	$ 5,000+	46	Own	Single Fam.	Don't want to live here too long, but built new home--really insulate.
	570	Farming/Boiler Inspector	$31,000	39	Rent	Single Fam.	Don't plan on being here then, plan on being south. Move on boat as already planned.

Table 6 (cont.)

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent #	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
M.J.M. ELECTRIC COOPERATIVE	876	Farming	-----	60	Rent	Single Fam.	"I'd have no choice but to move--get off the MJM line."
Total	879	Farming	$7,000	26	Rent	Single Fam.	"Could move."
Percent (#)	892	Farming	-----	63	Own	Single Fam.	"I'd move to the sun belt!"
6%(9/157)	924	Social Sec. Ret. Teacher/ Rents out land.	$10,000	87	Own	Single Fam.	"Possibly move."
	981	Postal Service	$20,000	40	Own	Single Fam.	"Nothing short of moving."
	1006	Olin Corp.	$30,000	41	Own	Single Fam.	"Selling and moving; I surely couldn't afford to double or triple the rates."
	1007	Security/ Waitress	$25,000	37	Own	Single Fam.	"I don't think I'm going to build here after all. That makes a difference as to whether we move; we were going to break ground in couple of months, but now I don't know. Would consider moving to an area outside of their region."
	1011	Olin Corp.	$16,000	55	Own	Mobile Home	"Guess if we had to, we'd move; go to some other area."
	1015	Social Sec.	$10,000	69	Own	Mobile Home	"I'd move to town; get the hell away from them."
RURAL ELECTRIC CONVENIENCE COOPERATIVE CO.	746	Sell livestock Equipment.	-----	61	Own	Single Fam.	"Probably move to town."
Total	751	Farming	$20,000	50	Own	Single Fam.	"Might move to town."
Percent (#) 8%(10/120)	776	Nurse's Aide/ Unemployed	$7,000	32	Rent	Single Fam.	"Probably have to move out, if it went up like that." Was quite serious.
	782	Retired farmer	$25,000	76	Own	Single Fam.	"Consider moving to town."
	821	Coal Miner	-----	37	Own	Single Fam.	"Just be looking to move..... I would strongly look into moving into town again.
	824	Retired farmer	$70,000	65	Own	Single Fam.	"I'd go south."
	825	Farming/ Secretary	$15,000	33	Rent	Single Fam.	"Move out of the area"
	833	Trains horses.	-----	36	Own	Single Fam.	"I'd probably move; very likely."
	845	Farm hand	$7,000	41	Own	Single Fam.	"Sell house and move into smaller house." Many kids are away from home now.
	854	Farming	$30,000	71	Own	Single Fam.	Might move to Arizona. "Unless you move to Arizona and get off of REA."

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent #	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
MENARD ELECTRIC COOPERATIVE	579	Farming	$4,600	40	Own	Single Fam.	Fed up with weather and bills; Arizo looks good.
Total	582	Farm&Road Dist./ Factory	$25,000	53	Rent	Single Fam.	Strongly consider moving to town on CILCO rate.
Percent (#) 8.5%(14/165)	616	Farming/ Secretary	$15,000	21	Rent	Mobile Home	"Might move to house under different elect.co.(3 around us) or move to ho where walls thicker, so insulate."
	629	Retired Farmer (rents out farm)	$10-12,000	73	Own	Single Fam.	"Move to California--really."
	658	Farming	$12-14,000	64	Rent	Single Fam.	"I'll move out."
	659	Farming/ Book-keeper	$20,000	31	Own	Single Fam.	"Not sure--possibly move to smaller house."
	661	Electrician/ Secretary	"poverty"	44	Own	Modular Home	"Thinking about moving."
	665	Electrician with utility.	$2,600	35	Rent	Single Fam.	Maybe move; don't know. Personally, I'm afraid of waste.
	679	Livestock and savings.	------	59	Rent	Single Fam.	"Possibly move...Might move to town-seriously."
	680	Farming/ Nursing Home	$25,000	75	Rent	Single Fam.	"Move to town anyway."
	695	Ret. military/ Teacher	-----	45	Own	Single Fam.	"Move--seriously."
	699	Tax consultant/ Soc. Security	$8,000	66	Rent	Single Fam.	Move out; don't know how to cut down.
	709	Farming	-----	87	Rent	Single Fam.	"Unless I move."
	733	Unemployed	$20,000	38	Rent	Mobile Home	"Move to Florida where warmer."

Table 6 (cont.)

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent #	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
SPOON RIVER ELECTRIC COOPERATIVE	278	---------	-----	67	Own	Single Fam.	"Move into apartment."
	283	Farming	$10,000	44	Own	Single Fam.	Move to town.
Total	284	Farming	-----	56	Rent	Single Fam.	He'd try to switch to CIPS; it' right across street from him.
Percent (#) 14%(17/120)	310	Ret. Farmer	$15,000	62	Own	Single Fam.	Maybe sell this house and buy a little more economical house.
	346	Farming	-----	66	Own	Single Fam.	Might build underground house, if it gets bad enough.
	351	Farming/ Disposal Route	-----	65	Own	Single Fam.	"Couldn't pay $600; might move-consider it."
	354	Ret. Telegraph Operator	$5,000	79	Own	Single Fam.	Might move to a cheaper place.
	355	Insurance Sales	even	38	Rent	Single Fam.	Might build new home.
	359	Ret. Farmer	$19,000	71	Own	Mobile Home	"I'd move for sure."
	360	Unemployed Welder	$4,200	22	Rent	Single Fam.	Might move out.
	363	Clerk/ Carpenter	$30,000	51	Own	Single Fam.	Getting old--move to smaller house.
	367	Real Estate/ Farming	$8,000	47	Own	Single Fam.	Be seriously tempted to move.
	369	Admiral Co.	$12,000	58	Own	Single Fam.	"We'd move to Illinois Power."
	377	Farming/ Admiral Co.	lost $	54	Own	Single Fam.	"We'd move if it got up to $45
	379	Factory/ Home Health Co.	$25,000	37	Rent	Single Fam.	Might move to another utility.
	382	Ret. Farmer	lost $	75	Own	Single Fam.	"Everybody's gonna move out of here if they do that; might consider moving south."
	384	Ret. Farmer	lost $	66	Own	Single Fam.	Might move to town, but alread thinking of that.

Table 6 (cont.)

PEOPLE CONSIDERING MOVING OUT OF WIPCO AREA IN RESPONSE TO ELECTRIC RATE INCREASE

DISTRIBUTION COOPERATIVE	Individual Respondent #	Occupation	Income	Age	Own/Rent Home	Single Fam./ Mobile Home	Comments
WESTERN ILLINOIS ELECTRICAL COOPERATIVE	16	Mechanic	$7,000	21	Rent	Single Fam.	"Would probably move out of area."
	26	Bower Roller Bearing Co.	$20,000	36	Own	Single Fam.	"Possibly move into town."
Total	27	Ret. Teacher	$6,000	75	Own	Single Fam.	"Don't know; live someplace else? Will have to work that out."
Percent (#)							
12.5%(15/120)	29	Self-employed	-----	40	Rent	Single Fam.	"If we had to double our rates, there isn't any way we'd live here ....., Like I said, we'd move back to town."
	31	Retired	-----	70	Own	Single Fam.	"Try to cut back on electricity or just move out... Might be cheaper to move."
	32	Farming	-----	57	Own	Single Fam.	"Move away (laugh) no; I don't know."
	34	Ret. Farmer (rents out land)	-----	70+	Own	Single Fam.	"Might move regardless of cost; can't cut back."
	40	GE Co./ Schaeffer Pen Co.	$15,000	28	Rent	Single Fam.	"Move--get a different power company."
	47	Corn Whit Milling Co.	$18,000	36	Own	Single Fam.	"If it (rate) goes too high, we'll move out."
	52	Real estate/ used cars/farm/ contracting	-----	44	Own	Single Fam.	"If bill doubles, I'll be gone; I'll sell my house and leave the area. This area is known for being high."
	53	Office manager	$25,000	32	Own	Single Fam.	"Would move--$300 bill into $900 bill--I'd move."
	54	Ret. Farmer	$18,000	63	Own	Single Fam.	"If the rates go up, we may move."
	104	Ret. Farmer	$15,000	74	Own	Single Fam.	"I would like to have a smaller home."
	116	Farming	net loss	37	Own	Single Fam.	Might build more efficient home.
	118	Farming	$15,000	44	Own	Single Fam.	Maybe build new home.

Totals: Adams Coop. 12%(19/157) M.J.M Coop. 6%(9/157) Menard Coop. 8.5%(14/165) WIEC 12.5%(15/120)
Illinois Rural Coop. 11%(19/180) REC 8%(10/120) Spoon River Coop. 14%(17/120)

WIPCO TOTAL: 10%(103/1019)

Table 7a

POPULATION CHANGES IN COUNTIES IN WIPCO AREA 1970-1980

ENTIRE COUNTIES IN WIPCO AREA	1970	1980	PERCENTAGE CHANGE(NUMBER)
Adams	70861	71622	+1.1
Brown	5586	5411	-3.1
Calhoun	5675	5867	+3.4
Cass	14219	15084	+6.1
Fulton	41900	43687	+4.3
Greene	17014	16661	-2.1
Hancock	23664	23877	+0.9
Jersey	18492	20538	+11.1
Macoupin	44557	49384	+10.8
Mason	16180	19492	+20.5
Menard	9685	11700	+20.8
Morgan	36174	37502	+3.7
Pike	19185	18896	-1.5
Sangamon	161335	176089	+9.1
Scott	6096	6142	+.8
Totals	490623	521952	+6.4(31329)

COUNTIES PARTIALLY IN WIPCO AREA	ESTIMATED PERCENT OF COUNTY IN WIPCO AREA	1970	1980	PERCENTAGE CHANGE(NUMBER)
Christian	25	35948	36446	+1.4
DeWitt	8	16975	18108	+6.7
Henderson	33	8451	9114	+7.8
Knox	40	60939	61607	+1.1
Logan	80	33538	31802	-5.2
Macon	18	125010	131375	+5.1
Montgomery	83	30260	31686	+4.7
Peoria	20	195318	200466	+2.6
Schuyler	90	8135	8365	+2.8
Tazewell	20	118649	132078	+11.3
Totals		633223	661047	+4.4(27824)

ESTIMATED TOTAL POPULATION INCREASE IN COUNTIES TOTALLY OR PARTIALLY IN WIPCO REGION +5.8%

ILLINOIS STATE POPULATION INCREASE

1970	1980	PERCENTAGE CHANGE(NUMBER)
11,110,285	11,418,461	+2.8% (308,176)

Table 7b

POPULATION CHANGES IN RURAL AREAS IN TOWNSHIPS IN COUNTIES THAT ARE IN EACH DISTRIBUTION COOP IN THE WIPCO AREA: 1970-1980.

DISTRIBUTION COOPERATIVE

ADAMS ELECTRICAL COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Adams County			
Beverly	380	390	2.6(10)
Burton	842	959	13.9(117)
Camp Point	469	538	14.7(69)
Clayton	428	326	-23.8(-102)
Columbus	360	465	29.2(105)
Concord	274	294	7.3(20)
Ellington	2848	3233	13.5(385)
Fall Creek	544	701	28.9(157)
Gilmer	746	979	31.2(233)
Honey Creek	573	550	-4.0(-23)
Houston	371	288	-22.4(-83)
Keene	380	390	2.6(10)
Liberty	583	674	15.6(91)
Lima	498	511	2.6(13)
McKee	274	235	-12.8(-35)
Melrose	4907	6616	34.8(1709)
Mendon	436	618	41.7(182)
Northeast	379	309	-19.5(-74)
Payson	554	557	-0.5(-3)
Quincy	0	0	
Richfield	513	471	-8.2(-42)
Riverside	2679	2517	-6.0(-168)
Ursa	640	546	-14.7(-94)
Totals	19678	22167	12.7%(2489)
Total County	70862	71622	1.1%(760)
Brown County			
Buckhorn	137	120	-12.4(-17)
Copperstown	412	376	-8.7(-36)
Elkhorn	308	371	20.5(63)
Lee	312	286	-8.3(-26)
Missouri	261	204	-21.8(-57)
Mount Sterling	606	492	-18.8(-114)
Pea Ridge	252	184	-27.0(-68)
Ripley	39	32	-18.0(-7)
Versailles	286	323	12.9(37)
Totals	2613	2388	-8.6%(-225)
Total County	5586	5411	-3.1%(-175)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

ADAMS ELECTRICAL COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Schuyler County			
Bainbridge	442	633	43.2(191)
Birmingham	268	210	-21.6(-58)
Brooklyn	309	272	-12.0(-37)
Buena Vista	384	379	-1.3(-5)
Camden	243	225	-7.4(-18)
Fredrick	237	248	4.6(11)
Huntsville	312	274	-12.2(-38)
Littleton	265	286	7.9(21)
Oakland	227	240	5.7(13)
Rushville	556	626	12.6(70)
Woodstock	364	430	18.1(66)
Totals	3607	3823	6.0%(216)
Total County	8135	8365	2.8%(230)

ILLINOIS RURAL ELECTRIC CO.

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Greene County			
Athensville	388	445	14.7(57)
Bluffdale	465	456	-1.9(-9)
Carrollton	528	559	5.9(31)
Kane	695	679	-2.3(-16)
Linder	395	339	-14.2(-56)
Patterson	442	406	-12.7(-36)
Rockbridge	426	485	13.9(59)
Roodhouse	537	463	-13.8(-74)
Rubicon	422	414	-1.9(-8)
Walkerville	332	285	-14.2(-47)
White Hall	536	490	-8.6(-46)
Woodville	619	522	-15.7(-97)
Wrights	405	411	1.5(6)
Totals	6190	5954	-3.8%(-236)
Total County	17014	16661	-2.1%(-353)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

ILLINOIS RURAL ELECTRIC CO.

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Pike County			
Atlas	803	733	-8.7(-70)
Barry	447	444	-0.7(-3)
Chambersburg	228	195	-14.5(-33)
Cincinatti	122	85	-30.3(-37)
Derry	239	209	-12.6(-30)
Detroit	218	226	3.7(8)
Fairmount	300	279	-7.0(-21)
Flint	98	69	-29.6(-29)
Griggsville	298	302	1.3(4)
Hadley	329	304	-7.6(-25)
Hardin	249	247	-0.8(-2)
Kinderhook	325	296	-8.9(-29)
Levee	222	181	-18.5(-41)
Martinsburg	421	397	-5.7(-24)
Montezuma	279	269	-3.6(-10)
Newburg	467	530	13.5(63)
New Salem	295	318	7.8(23)
Pearl	189	156	-17.5(-33)
Perry	309	319	3.2(10)
Pittsfield	383	482	25.9(99)
Pleasant Hill	399	355	-11.0(-44)
Pleasant Vale	326	278	-14.7(-48)
Ross	143	119	-16.8(-24)
Spring Creek	334	322	-3.6(-12)
Totals	7423	7115	-4.2%(-308)
Total County	19185	18896	-289%(-1.5)
Calhoun County			
Belleville	449	452	0.7(3)
Carlin	196	221	12.8(25)
Crater	288	234	-18.8(-54)
Gilead	299	336	12.4(37)
Hamburg	481	503	4.6(22)
Hardin	411	337	-18.0(-74)
Point	970	1023	5.5(53)
Richwood	537	643	19.7(106)
Totals	3631	3749	3.3%(118)
Total County	5675	5867	192%(3.4)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

ILLINOIS RURAL ELECTRIC CO.

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Scott County			
Alsey	141	395	180.1(254)
Bloomfield	158	355	124.7(197)
Exeter-Bluffs	318	321	-1.0(-3)
Glasgow	174	271	55.8(97)
Manchester	232	353	52.2(121)
Merritt	228	236	3.5(8)
Naples-Bluffs	121	121	-----
Winchester #1	146	146	-----
Winchester #2	237	237	-----
Winchester #3	93	93	-----
Totals	1848	2528	37.8%(680)
Total County	6096	6142	0.8%(146)
Morgan County			
Alexander	667	566	-15.1(-107)
Chapin	283	300	6.0(17)
Concord	316	283	-10.4(-33)
Franklin	518	583	12.6(65)
Jacksonville	1603	1948	21.5(345)
Lynnville	309	369	-19.4(-60)
Markham	255	482	89.0(227)
Meredosia	511	526	-2.9(-15)
Murrayville	410	432	-5.4(-22)
Nortonville	346	332	-4.0(-14)
Pisgah	299	223	-25.4(-76)
Sinclair	267	239	-10.5(-28)
Woodson	472	490	3.8(18)
Totals	6256	6773	8.3%(517)
Total County	36,178	37,502	3.7%(1234)
Cass County			
Beardstown	701	894	27.5(193)
Hagener	396	456	15.2(60)
Totals	1097	1350	23.1%(253)
Total County	14,219	15,084	6.1%(865)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

ILLINOIS RURAL ELECTRIC CO.

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Jersey County			
English	532	461	-13.3(-71)
Totals	532	461	-13.3%(-71)
Total County	18,492	20,538	11.1%(2046)

MJM ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Montgomery County			
Butler Grove	451	535	18.6(84)
East Fork	808	800	-1.0(-8)
Fillmore	378	428	13.2(50)
Grisham	320	376	17.5(56)
Hillsboro	765	972	27.1(207)
Irving	441	467	5.9(26)
South Fillmore	270	286	5.9(16)
South Litchfield	553	595	7.6(42)
Walshville	385	306	20.5(-79)
Witt	359	353	-1.7(-6)
Totals	4730	5118	8.2%(388)
Total County	30,260	31,686	4.7%(1426)
Macoupin County			
Barr	348	323	-7.2(-25)
Bird	347	363	4.6(16)
Brighton	1111	1825	64.3(714)
Brushy Mound	478	544	13.8(66)
Bunker Hill	1182	1414	19.6(232)
Cahokia	559	960	71.7(401)
Carlinville	1049	1275	21.5(266)
Chesterfield	418	439	5.0(21)
Dorchester	547	865	58.1(318)
Gillespie	548	566	3.3(18)
Hillyard	653	622	-4.8(-31)
Honey Point	308	308	0
Mount Olive	562	609	8.4(47)
Nilwood	373	396	6.2(23)
Polk	327	441	34.9(114)
Scottsville	277	276	-0.4(-1)

Table 7b(cont.)

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Macoupin County(cont.)			
Shaws Point	486	497	2.3(11)
Shipman	732	700	-4.4(-32)
South Otter	475	501	5.5(26)
South Palmyra	378	327	-13.5(-51)
Staunton	640	479	-25.2(-161)
West Mound	281	287	2.1(6)
Totals	12079	14017	16.0%(1938)
Total County	44,557	49,384	10.8%(4827)
Jersey County			
Elsah	1036	1580	52.5(544)
Fidelity	501	502	0.2(1)
Jersey	1006	1329	32.1(323)
Mississippi	1323	1609	21.6(286)
Otter Creek	525	582	10.9(57)
Piasa	1704	2378	39.6(1674)
Quarry	401	403	0.5(2)
Richwood	364	412	13.2(48)
Rosedale	549	510	-7.1(-39)
Ruyle	322	350	8.7(28)
Totals	7731	9655	24.9%(1924)
Total County	18,492	20,538	11.1%(2046)

MENARD ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Sangamon County			
Buffalo Hart	227	231	1.8(4)
Cartwright	867	726	-16.3(-141)
Clearlake	2055	4140	101.5(2085)
Fancy Creek	1051	1303	24.0(252)
Gardener	1747	3037	73.8(1290)
Illiopolis	556	511	-8.1(-45)
Lanesville	304	280	-7.9(-24)
Mechanicsburg	477	551	15.5(74)
Salisbury	392	591	50.8(199)
Springfield	10800	8294	-23.2(-2506)
Williams	878	1183	34.7(305)
Totals	19354	20847	7.7%(1493)
Total County	161335	176089	9.1%(14754)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

MENARD ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Menard County			
Athens	541	1014	87.4(473)
Atterberry	278	253	-9.0(-25)
Fancy Prairie	251	214	-14.7(-37)
Greenview	202	243	-8.3(-37)
Indian Creek	258	286	10.9(28)
Irish Grove	267	243	-9.0(-24)
Oakford	138	173	25.4(35)
Petersburg	1264	2197	73.8(933)
Rock Creek	275	609	121.5(334)
Sandridge	206	193	-6.3(-13)
Sugar Grove	313	335	7.0(22)
Tallula	247	281	13.8(34)
Totals	4240	6041	42.5%(1801)
Total County	9685	11700	20.8%(2015)
Logan County			
Aetna	624	579	-7.2(-45)
Broadwell	1876	1176	-37.3(-700)
Chester	590	773	31.0(183)
Corwin	325	244	-24.9(-81)
Elkhart	539	414	-23.2(-125)
Hurlbut	242	185	-23.6(-57)
Laenna	379	306	-19.3(-73)
Lake Fork	202	187	-7.4(-15)
Mount Pulaski	699	621	-11.2(-78)
Prairie Creek	444	373	-16.0(-71)
Sheridan	385	297	-22.9(-88)
Totals	6305	5155	-18.2%(-1150)
Total County	33538	31802	-5.2%(-1736)
Cass County			
Arenzville	431	525	21.8(94)
Bluff Springs	607	720	18.6(113)
Newmansville	143	123	-14.0(-20)
Philadelphia	372	296	-20.4(-76)
Sangamon Valley	361	380	5.3(19)
Virginia	354	338	-4.5(-16)

* No data for Virginia City; township assessed in entirety.

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

MENARD ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1970 POPULATION	PERCENTAGE CHANGE (NUMBER)
Cass County(cont.)			
Panther Creek	225	178	-20.9(-47)
Ashland	134	128	-4.5(-6)
Chandlerville	166	195	17.5(29)
Totals	2793	2883	3.2%(90)
Total County	14219	15084	6.1%(865)
Mason County			
Allen Grove	319	343	7.5(24)
Bath	525	601	14.5(76)
Crane Creek	230	219	-4.8(-11)
Forest City	301	530	76.1(229)
Havana	1254	3978	217.2(2724)
Kilbourne	292	350	19.9(58)
Lynchburg	285	378	32.6(93)
Manito	612	1230	101.0(618)
Mason City	388	284	-26.8(-104)
Pennsylvania	306	322	5.2(16)
Quiver	531	1202	126.4(671)
Salt Creek	373	281	-24.7(-92)
Sherman	313	301	-3.8(-12)
Totals	5729	10019	74.9%(4290)
Total County	16180	19492	20.5%(3312)
Morgan County			
Arcadia	266	305	14.7(39)
Litterberry	288	309	7.3(21)
Prentice	302	263	-12.9(-39)
Totals	856	877	2.5%(21)
Total County	36174	37502	3.7%(1328)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

MENARD ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Macon County			
Harristown	956	753	-21.2(-203)
Niantic	283	258	-8.8(-25)
Totals	1239	1011	-18.4%(-228)
Total County	125010	131375	5.1%(6365)
Tazewell County			
Delavan	521	435	-16.5(-86)
Malone	348	294	-15.5(-54)
Sand Prairie	540	828	53.3(288)
Spring Lake	1182	1968	66.5(786)
Totals	2591	3525	36.1%(934)
Total County	118649	132078	11.3%(13429)

RURAL ELECTRIC CONVENIENCE COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Sangamon County			
Auburn	617	693	12.3(76)
Ball	1325	1925	45.3(600)
Chatham	458	497	8.5(39)
Cooper	547	748	36.8(201)
Cotton Hill	602	939	56.0(337)
Curran	1223	1537	25.7(314)
Divernon	293	289	-1.4(-4)
Island Grove	367	355	-3.3(-12)
Loami	261	325	24.5(64)
Maxwell	251	224	-10.8(-27)
New Berlin	291	235	-19.2(-56)
Pawnee	305	301	-1.3(-4)
Rochester	1245	1613	30.0(368)
Talkington	316	319	1.0(3)
Woodside	15744	12041	-23.5(-3703)
Totals	23854	22041	-7.6%(-1804)
Total County	161335	176089	9.1%(14754)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

RURAL ELECTRIC CONVENIENCE COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Montgomery County			
Bois D'Arc	487	362	-25.7(-125)
Harvel	160	134	-16.3(-26)
North Litchfield	899	1115	24.0(216)
Pitman	380	375	-1.3(-5)
Raymond	343	338	-1.5(-5)
Rountree	415	370	-10.8(-45)
Zanesville	540	542	0.4(2)
Totals	3224	3236	0.4%(12)
Total County	30,260	31,686	4.7%(1426)
Morgan County			
Centerville	148	144	-2.7(-4)
Waverly	363	361	-.6(-2)
Totals	511	505	-1.2%(-6)
Total County	36,174	37,502	3.7%(1328)
Christian County			
Bear Creek	435	397	-8.7(-38)
King	284	247	-13.0(-37)
South Fork	538	483	-10.2(-55)
Taylorville	1697	1751	3.2(54)
Totals	2954	2878	-2.6%(-76)
Total County	35,948	36,446	1.4%(498)
Macoupin County			
Girard	325	311	-4.3(-14)
North Otter	493	852	72.8(359)
North Palmyra	378	418	10.6(40)
Virden	240	340	41.7(100)
Totals	1436	1921	33.8%(485)
Total County	44,557	49,384	10.8%(4827)

Table 7b(cont.)

DISTRIBUTION
COOPERATIVE

SPOON RIVER ELECTRIC
COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Fulton County			
Astoria	457	474	3.7(17)
Banner	459	356	-22.4(-103)
Bernadette	383	409	6.8(26)
Buckheart	356	392	10.1(36)
Canton	1435	1374	-4.3(-61)
Cass	501	523	4.4(22)
Deerfield	424	448	5.7(24)
Ellisville	93	141	51.6(48)
Fairview	322	270	-16.1(-52)
Farmers	168	175	4.2(7)
Farmington	825	916	11.0(91)
Harris	351	353	0.6(2)
Isabel	300	299	-0.3(-1)
Joshua	641	601	-6.2(-40)
Kerton	178	176	-1.1(-2)
Lee	404	393	-2.7(-11)
Lewistown	546	789	44.5(243)
Liverpool	626	681	8.8(55)
Orion	898	1313	46.2(415)
Pleasant	410	377	-8.1(-33)
Putman	534	831	55.6(297)
Union	374	313	-16.3(-61)
Vermont	313	247	-21.1(-66)
Waterford	238	316	32.8(78)
Woodland	596	603	1.2(7)
Young Hickory	284	305	7.4(21)
Totals	12116	13075	7.9%(959)
Total County	41900	43687	4.3%(1787)
Knox County			
Cedar	1240	1390	12.1(150)
Chestnut	451	420	-6.9(-31)
Galesburg	1240	666	-46.3(-574)
Haw Creek	666	608	-8.7(-58)
Indian Point	523	498	-4.8(-25)
Knox	1046	1582	51.2(536)
Maquon	406	355	-12.6(-51)
Orange	596	702	17.8(106)
Persifer	600	822	37.0(222)
Totals	6768	7043	4.1%(275)
Total County	60939	61607	1.1%(648)

Table 7b(cont.)

DISTRIBUTION COOPERATIVE

SPOON RIVER ELECTRIC COOPERATIVE (cont.)

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Schuyler County			
Browning	395	436	10.4(41)
Hickory	228	224	-1.8(-4)
Totals	623	660	5.9%(37)
Total County	8135	8365	2.8%(230)
Peoria County			
Logan	1353	2028	49.9(675)
Timber	1063	1190	12.0(127)
Trivoli	969	1170	20.7(201)
Totals	3385	4388	29.6%(1003)
Total County	195318	200466	2.6%(5148)

WESTERN ILLINOIS ELECTRIC COOPERATIVE

County and Township	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
Hancock County			
Augusta	288	233	-19.1(-55)
Appanoose	734	730	-0.5(-4)
Bear Creek	323	299	-7.4(-24)
Carthage	540	517	-4.3(-23)
Chili	290	248	-14.5(-42)
Dallas City	291	288	-1.0(-3)
Durham	453	420	-7.3(-33)
Fountain Green	444	414	-6.8(-30)
Hancock	303	302	-0.3(-1)
Harmony	482	436	-9.5(-46)
La Harpe	461	350	-24.1(-111)
Montebello	599	622	3.8(23)
Nauvoo	18	159	783.3(141)
Pilot Grove	468	397	-15.2(-71)
Pontoosuc	202	295	46.0(93)
Prairie	360	315	-12.5(-45)
Rock Creek	410	323	-21.2(-87)
Rocky Run	260	241	-7.3(-19)
St. Albans	338	352	4.1(14)
St. Mary	310	253	-18.4(-57)

Table 7b(cont.)

DISTRIBUTION
COOPERATIVE

WESTERN ILLINOIS ELECTRIC
COOPERATIVE(cont.)

County and Township	1970 POPULATION	1970 POPULATION	PERCENTAGE CHANGE (NUMBER)
Hancock County(cont.)			
Sonora	547	594	8.6(47)
Walker	565	481	-14.9(-84)
Warsaw	0	0	
Wilcox	201	195	-3.0(-6)
Wythe	371	314	-15.4(-57)
Totals	9258	8778	-5.2%(-580)
Total County	23664	23877	.9%(213)
Henderson County			
Media	292	255	-12.7(-37)
Carman	305	472	54.8(167)
Lomax	256	240	-6.3(-16)
Stronghurst	414	405	-2.2(-9)
Terra Haute	447	373	-16.6(-74)
Totals	1714	1745	1.8%(31)
Total County	8451	9114	7.8%(663)

Table 7c

POPULATION CHANGES IN RURAL AREAS IN TOWNSHIPS IN COUNTIES THAT ARE IN EACH DISTRIBUTION COOP IN THE WIPCO AREA: 1970-1980.

DISTRIBUTION COOPERATIVE	COUNTY	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGES (NUMBER)
ADAMS ELECTRICAL COOPERATIVE				
	Adams	19678	22167	12.7 (2489)
	Brown	2613	2388	-8.6 (-225)
	Schuyler	3607	3823	6.0 (216)
TOTAL:		25448	28378	11.5 (2480)
ILLINOIS RURAL ELECTRIC CO.				
	Pike	7423	7115	-4.2 (-308)
	Greene	6190	5954	-3.8 (-236)
	Calhoun	3631	3749	3.3 (118)
	Scott	1848	2528	37.8 (680)
	Morgan	6256	6773	8.3 (517)
	Cass	1097	1350	23.1 (253)
	Jersey	532	461	-13.3 (-71)
TOTAL:		26977	27930	3.5 (953)
M.J.M. ELECTRIC COOPERATIVE				
	Jersey	7731	9655	24.9 (1924)
	Macoupin	12079	14017	16.0 (1938)
	Montgomery	4730	5118	8.2 (388)
TOTAL:		24540	28790	17.5 (4250)
MENARD ELECTRIC COOPERATIVE				
	Menard	4240	6041	42.5 (1801)
	Sangamon	19354	20847	7.7 (1493)
	Logan	6305	5155	-18.2 (-1150)
	Cass	2793	2883	3.2 (90)
	Morgan	856	877	2.5 (21)
	Macon	1239	1011	-18.4 (-228)
	Tazewell	2591	3525	36.1 (934)
	Mason	5729	10019	74.9 (4290)
TOTAL:		43107	50358	16.8 (7251)
RURAL ELECTRIC CONVENIENCE COOPERATIVE CO.				
	Sangamon	23845	22041	-7.6 (-1804)
	Morgan	511	505	-1.2 (-6)
	Montgomery	3224	3236	0.4 (12)
	Macoupin	1436	1921	33.8 (485)
	Christian	2954	2878	-2.6 (-76)
TOTAL:		31970	30581	-4.4 (-1389)

Table 7c(cont.)

DISTRIBUTION COOPERATIVE	COUNTY	1970 POPULATION	1980 POPULATION	PERCENTAGE CHANGE (NUMBER)
SPOON RIVER ELECTRIC COOPERATIVE				
	Fulton	12116	13075	7.9 (959)
	Knox	6768	7043	4.1 (275)
	Schuyler	623	660	5.9 (37)
	Peoria	3385	4388	29.6 (1003)
TOTAL:		22892	25166	9.9 (2274)
WESTERN ILLINOIS ELECTRICAL COOPERATIVE				
	Hancock	9258	8778	-5.2 (-580)
	Henderson	1714	1745	1.8 (31)
TOTAL:		10972	10523	-4.1 (-549)
TOTAL: WIPCO SAMPLE AREA:		185906	201726	8.5%(15820)

Table 8

---> FREHIST (rhtfreq): Use Less/Same/More Electricity:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 M.D./Don'tKnow	1	19	1.8	19	1.8
1 Use Same Elect	2	399	39.1	418	41
2 Use Less Elect	3	596	58.4	1014	99.5
3 Use More Elect	4	5	.4	1019	100

MEAN: 2.076055 S-SQUARED: .2913203 S: .539741 SKEWNESS:-.5667308
S.D. OF MEAN: 1.690824E-02

Low Outliers = 0
High Outliers = 0

Table 9

---> FREHIST (rhtfreq): % Cut Back Electricity Use:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	5	367	50.5	367	50.5	*MEDIAN*
5	10	43	5.9	410	56.4	
10	15	94	12.9	504	69.4	
15	20	30	4.1	534	73.5	
20	25	43	5.9	577	79.4	
25	30	43	5.9	620	85.3	
30	35	28	3.8	648	89.2	
35	40	8	1.1	656	90.3	
40	45	17	2.3	673	92.6	
45	50	1	.1	674	92.8	
50	55	25	3.4	699	96.2	
55	60	0	0	699	96.2	
60	65	4	.5	703	96.8	
65	70	1	.1	704	96.9	
70	75	0	0	704	96.9	
75	80	1	.1	705	97.1	
80	85	3	.4	708	97.5	
85	90	0	0	708	97.5	
90	95	0	0	708	97.5	
95	100	1	.1	709	97.6	
100	105	17	2.3	726	100	

MEAN: 14.96557 S-SQUARED: 410.0367 S: 20.24936 SKEWNESS: 2.494162
S.D. OF MEAN: .6343431

Low Outliers = 0
High Outliers = 293=999=Missing Data:No % Listed.

Note: 364 Indicated Zero(0)% Cut Back.One Indicated 1%. One Indicated 2%.One Indicated 4%. Some of 25/399 who indicated that they would use the same electricity and/or some of the 19 who indicated that they did not know to the question concerning electricity use cited a "% cut back" in electricity use. Only 362 people volunteered a %;whereas 596 people stated that they would use less electricity.

Table 10

---> FREHIST (rhtfreq): % Cut Back Electricity Use:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	1	364	51.3	364	51.3	*MEDIAN*
1	2	1	.1	365	51.4	
2	3	1	.1	366	51.6	
3	4	0	0	366	51.6	
4	5	1	.1	367	51.7	
5	6	23	3.2	390	55	
6	7	1	.1	391	55.1	
7	8	6	.8	397	55.9	
8	9	13	1.8	410	57.8	
9	10	0	0	410	57.8	
10	11	81	11.4	491	69.2	
11	12	0	0	491	69.2	
12	13	3	.4	494	69.6	
13	14	10	1.4	504	71	
14	15	0	0	504	71	
15	16	26	3.6	530	74.7	
16	17	0	0	530	74.7	
17	18	1	.1	531	74.8	
18	19	3	.4	534	75.3	
19	20	0	0	534	75.3	
20	21	42	5.9	576	81.2	
21	22	0	0	576	81.2	
22	23	0	0	576	81.2	
23	24	1	.1	577	81.3	
24	25	0	0	577	81.3	
25	26	42	5.9	619	87.3	
26	27	0	0	619	87.3	
27	28	1	.1	620	87.4	
28	29	0	0	620	87.4	
29	30	0	0	620	87.4	
30	31	17	2.3	637	89.8	
31	32	0	0	637	89.8	
32	33	0	0	637	89.8	
33	34	9	1.2	646	91.1	
34	35	2	.2	648	91.3	
35	36	7	.9	655	92.3	
36	37	0	0	655	92.3	
37	38	0	0	655	92.3	
38	39	1	.1	656	92.5	
39	40	0	0	656	92.5	
40	41	16	2.2	672	94.7	
41	42	1	.1	673	94.9	
42	43	0	0	673	94.9	
43	44	0	0	673	94.9	
44	45	0	0	673	94.9	
45	46	1	.1	674	95	
46	47	0	0	674	95	
47	48	0	0	674	95	
48	49	0	0	674	95	
49	50	0	0	674	95	
50	51	25	3.5	699	98.5	
51	52	0	0	699	98.5	
52	53	0	0	699	98.5	

Table 10(cont.)

---> FREHIST (rhtfreq): % Cut Back Electricity Use:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
53	54	0	0	699	98.5
54	55	0	0	699	98.5
55	56	0	0	699	98.5
56	57	0	0	699	98.5
57	58	0	0	699	98.5
58	59	0	0	699	98.5
59	60	0	0	699	98.5
60	61	4	.5	703	99.1
61	62	0	0	703	99.1
62	63	0	0	703	99.1
63	64	0	0	703	99.1
64	65	0	0	703	99.1
65	66	0	0	703	99.1
66	67	1	.1	704	99.2
67	68	0	0	704	99.2
68	69	0	0	704	99.2
69	70	0	0	704	99.2
70	71	0	0	704	99.2
71	72	0	0	704	99.2
72	73	0	0	704	99.2
73	74	0	0	704	99.2
74	75	0	0	704	99.2
75	76	1	.1	705	99.4
76	77	0	0	705	99.4
77	78	0	0	705	99.4
78	79	0	0	705	99.4
79	80	0	0	705	99.4
80	81	3	.4	708	99.8
81	82	0	0	708	99.8
82	83	0	0	708	99.8
83	84	0	0	708	99.8
84	85	0	0	708	99.8
85	86	0	0	708	99.8
86	87	0	0	708	99.8
87	88	0	0	708	99.8
88	89	0	0	708	99.8
89	90	0	0	708	99.8
90	91	0	0	708	99.8
91	92	0	0	708	99.8
92	93	0	0	708	99.8
93	94	0	0	708	99.8
94	95	0	0	708	99.8
95	96	1	.1	709	100
96	97	0	0	709	100
97	98	0	0	709	100
98	99	0	0	709	100
99	100	0	0	709	100
100%		17	2.3	726	-----

MEAN: 11.07969 S-SQUARED: 233.97 S: 15.29608 SKEWNESS: 1.829247
S.D. OF MEAN: .4791738

Note:293 people did not cite a %.

Low Outliers = 0
High Outliers = 310

Table 11

---> FREHIST (rhtfreq): Cut Back Priority #1:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0NotAppli./M.D.	1	492	48.2	492	48.2
1Lights	2	117	11.4	609	59.7
2Heat	3	111	10.8	720	70.6
3Water	4	54	5.2	774	75.9
4Cook/FreezeFood	5	27	2.6	801	78.6
5Air Condition.	6	105	10.3	906	88.9
6Wash/Dry/Dishw.	7	42	4.1	948	93
7Recreat&Miscel	8	24	2.3	972	95.3
8FarmingActivity	9	36	3.5	1008	98.9
9Large Change	10	11	1	1019	100

MEAN: 2.404809 S-SQUARED: 6.17249 S: 2.48445 SKEWNESS: 1.157389
S.D. OF MEAN: .0778293

Low Outliers = 0
High Outliers = 0

Table 12

---> FREHIST (rhtfreq): Cut Back Priority #2:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0NotAppli./M.D.	1	672	65.9	672	65.9
1Lights	2	69	6.7	741	72.7
2Heat	3	57	5.5	798	78.3
3Water	4	40	3.9	838	82.2
4Cook/Freez Food	5	28	2.7	866	84.9
5Air Condition.	6	47	4.6	913	89.5
6Wash/Dry/Dishw.	7	32	3.1	945	92.7
7Recreat&Miscel	8	46	4.5	991	97.2
8FarmingActivity	9	26	2.5	1017	99.3
9Large Change	10	2	.1	1019	100

MEAN: 1.864083 S-SQUARED: 5.511212 S: 2.347597 SKEWNESS: 1.605276
S.D. OF MEAN: 7.354218E-02

Low Outliers = 0
High Outliers = 0

Table 13

---> FREHIST (rhtfreq): Cut Back Priority #3:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0NotAppl/M.D.	1	854	83.8	854	83.8
1Lights	2	34	3.3	888	87.1
2Heat	3	18	1.7	906	88.9
3Water	4	27	2.6	933	91.5
4Cook/FreezeFood	5	18	1.7	951	93.3
5AirCondition.	6	16	1.5	967	94.8
6Wash/Dry/Dish.	7	33	3.2	1000	98.1
7Recreat&Miscel	8	12	1.1	1012	99.3
8FarmingActivity	9	7	.6	1019	100

MEAN: 1.129048 S-SQUARED: 2.804495 S: 1.674663 SKEWNESS: 2.766574
S.D. OF MEAN: 5.246144E-02

Low Outliers = 0
High Outliers = 0

Table 14

---> FREHIST (rhtfreq): Cut Back Priority #4:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 NotAppl/M.D.	1	982	96.3	982	96.3
1 Lights	2	7	.6	989	97
2 Heat	3	6	.5	995	97.6
3 Water	4	4	.3	999	98
4 Cook/FreezeFood	5	3	.2	1002	98.3
5 AirCondition.	6	4	.3	1006	98.7
6 Wash/Dry/Dish	7	2	.1	1008	98.9
7 Recreat&Miscel	8	9	.8	1017	99.8
8 FarmingActivity	9	2	.1	1019	100

MEAN: .6511285 S-SQUARED: .8171995 S: .9039908 SKEWNESS: 6.664575
S.D. OF MEAN: 2.831894E-02

Low Outliers = 0
High Outliers = 0

Table 15

---> FREHIST (rhtfreq): Switch To Other Energy Sources or Ways Generating Elect
1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0Don't Know	1	76	7.4	76	7.4	
1Yes	2	182	17.8	258	25.3	
2StronglyConsider	3	136	13.3	394	38.6	
3Maybe	4	293	28.7	687	67.4	*MEDIAN*
4No	5	332	32.5	1019	100	

MEAN: 3.111384 S-SQUARED: 1.693924 S: 1.301508 SKEWNESS:-.5518748
S.D. OF MEAN: .0407718

Low Outliers = 0
High Outliers = 0

Table 16

---> FREHIST (rhtfreq): NewSourcesEnergy/WaysGenerateElectricity:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0M.D./NotApplic	1	439	43	439	43
1Propane/Gas	2	76	7.4	515	50.5
2KeroseneLamps	3	7	.6	522	51.2
3Generator-Gas	4	52	5.1	574	56.3
4Biomass	5	4	.3	578	56.7
5Solar	6	71	6.9	649	63.6
6Wood	7	49	4.8	698	68.4
7Wind	8	91	8.899999	789	77.4
8OneNotAbove	9	4	.3	793	77.8
9Wood+Solar	10	17	1.6	810	79.4
10Wood+Wind	11	7	.6	817	80.1
11Wind+Solar	12	37	3.6	854	83.8
12Biomass+Solar	13	0	0	854	83.8
13Biomass+Wind	14	1	0	855	83.9
14Biomass+Wood	15	1	0	856	84
153of:Bio,S,W,W	16	3	.2	859	84.2
16AnyGasSource	17	7	.6	866	84.9
17AnyGas+Wood	18	20	1.9	886	86.9
18AnyGas+Wind	19	20	1.9	906	88.9
19AnyGas+Solar	20	14	1.3	920	90.2
20AnyGas+Biomass	21	0	0	920	90.2
21WillStudyNew	22	53	5.2	973	95.4
22Other:Combine	23	46	4.5	1019	100

Above &/or Others Not Listed Above.
MEAN: 5.882728 S-SQUARED: 50.7387 S: 7.123111 SKEWNESS: 1.261609
S.D. OF MEAN: .2231427

Low Outliers = 0
High Outliers = 0

Table 17

---> FREHIST (rhtfreq): %Switch New Energy/Ways Generate Electricity:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	5	335	54.3	335	54.3	*MEDIAN*
5	10	4	.6	339	55	Note:332/335 cited
10	15	21	3.4	360	58.4	
15	20	3	.4	363	58.9	
20	25	10	1.6	373	60.5	
25	30	15	2.4	388	62.9	
30	35	15	2.4	403	65.4	
35	40	8	1.2	411	66.7	
40	45	6	.9	417	67.6	
45	50	0	0	417	67.6	
50	55	60	9.7	477	77.4	
55	60	2	.3	479	77.7	
60	65	9	1.4	488	79.2	
65	70	3	.4	491	79.7	
70	75	5	.8	496	80.5	
75	80	11	1.7	507	82.3	
80	85	7	1.1	514	83.4	
85	90	1	.1	515	83.6	
90	95	7	1.1	522	84.7	
95	100	4	.6	526	85.3	
100	105	90	14.6	616	100	

MEAN: 30.90098 S-SQUARED: 1436.039 S: 37.8951 SKEWNESS: .9451296
S.D. OF MEAN: 1.187124

Low Outliers = 0
High Outliers = 403= 999=Missing Data: No % Listed.

Note: 332 indicated zero(0) % switch. None of the 76/1019 who indicated that they "didn't know" if they would switch to other sources cited a percentage. Only 284 people volunteered a percentage; whereas 613 people stated (with different degrees of commitment) that they would switch to other energy sources and/or ways of generating electricity.

Table 18

---> FREHIST (LFTFREQ): Main Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
1 Utility Gas	2	83	8.100001	83	8.100001
2 LP,Propane	3	434	42.5	517	50.7
3 Electricity	4	93	9.100001	610	59.8
4 Fuel Oil,Kero	5	136	13.3	746	73.2
5 Coal	6	21	2	767	75.2
6 Wood	7	250	24.5	1017	99.8
7 Active Solar	8	0	0	1017	99.8
8 Passive Solar	9	0	0	1017	99.8
9 Other	10	2	.1	1019	100

MEAN: 3.83366 S-SQUARED: 3.134992 S: 1.770591 SKEWNESS: .5573396
S.D. OF MEAN: 5.546655E-02

Low Outliers = 0
High Outliers = 0

Table 19

---> FREHIST (lftfreq): % Main Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
50	55	61	6	61	6	
55	60	6	.5	67	6.6	
60	65	25	2.4	92	9	
65	70	16	1.5	108	10.6	
70	75	17	1.6	125	12.3	
75	80	43	4.2	168	16.5	
80	85	31	3	199	19.6	
85	90	14	1.3	213	20.9	
90	95	66	6.5	279	27.4	
95	100	78	7.6	357	35.1	
100	105	658	64.8	1015	100	*MEDIAN*

MEAN: 94.27832 S-SQUARED: 218.6348 S: 14.7863 SKEWNESS:-1.804744
S.D. OF MEAN: .4632043

Low Outliers = 3
High Outliers = 1

Note:Two Missing Data. Two coding errors: 1 "199" and 1 between"10-15".

Table 20

---> FREHIST (lftfreq): Heat Home Different:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	3	.2	3	.2	
1 Yes	2	434	42.5	437	42.8	
2 No	3	582	57.1	1019	100	*MEDIAN*

MEAN: 2.068204 S-SQUARED: .251236 S: .5012344 SKEWNESS:-.3454727
S.D. OF MEAN: 1.570196E-02

Low Outliers = 0
High Outliers = 0

Table 21

---> FREHIST (lftfreq): Recent Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 M.D./Not.App.	1	589	57.8	589	57.8
1 Utility Gas	2	44	4.3	633	62.1
2 LP,Propane	3	87	8.5	720	70.6
3 Electricity	4	37	3.6	757	74.2
4 Fuel Oil,Kero.	5	105	10.3	862	84.5
5 Coal	6	99	9.7	961	94.3
6 Wood	7	24	2.3	985	96.6
7 Active Solar	8	0	0	985	96.6
8 Passive Solar	9	0	0	985	96.6
9 Other	10	34	3.3	1019	100

MEAN: 2.162414 S-SQUARED: 5.575928 S: 2.36134 SKEWNESS: 1.325616
S.D. OF MEAN: .0739727

Low Outliers = 0
High Outliers = 0

Table 22

---> FREHIST (lftfreq): Econ/Non-Econ. Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 M.D./Not App.	1	598	58.7	598	58.7
1 Economic	2	235	23	833	81.8
2 Non-Economic	3	185	18.1	1018	100

MEAN: 1.094303 S-SQUARED: .6045648 S: .7775376 SKEWNESS: .8443134
S.D. OF MEAN: 2.435759E-02

Low Outliers = 0
High Outliers = 1

Note:One coding error: 1 "9".

Table 23

---> FREHIST (lftfreq): Secondary Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 None	1	658	64.5	658	64.5
1 Utility Gas	2	15	1.4	673	66
2 LP,Propane	3	93	9.100001	766	75.1
3 Electricity	4	73	7.1	839	82.3
4 Fuel Oil,Kero.	5	78	7.6	917	89.9
5 Coal	6	4	.3	921	90.3
6 Wood	7	94	9.2	1015	99.6
7 Active Solar	8	2	.1	1017	99.8
8 Passive Solar	9	0	0	1017	99.8
9 Other	10	2	.1	1019	100

MEAN: 1.822866 S-SQUARED: 4.173481 S: 2.04291 SKEWNESS: 1.316002
S.D. OF MEAN: 6.399738E-02

Low Outliers = 0
High Outliers = 0

Table 24

---> FREHIST (lftfreq): % Secondary Home Heating:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	5	683	67	683	67	*MEDIAN*
5	10	61	5.9	744	73	
10	15	66	6.4	810	79.4	
15	20	13	1.2	823	80.7	
20	25	29	2.8	852	83.6	
25	30	43	4.2	895	87.8	
30	35	30	2.9	925	90.7	
35	40	6	.5	931	91.3	
40	45	25	2.4	956	93.8	
45	50	5	.4	961	94.3	
50	55	58	5.6	1019	100	

MEAN: 10.3999 S-SQUARED: 211.3894 S: 14.53924 SKEWNESS: 1.847737
S.D. OF MEAN: .4554645

Low Outliers = 0
High Outliers = 0

Note:661/683 in the "0-5"% category above had no secondary home heating source.The % for the other follows: 1%=10 people
2%=12 people
3%&4%=none
The 58 people in the "50-55"% category above all derive 50% of their heat from this secondary source.

Table 25

---> FREHIST (lftfreq): Water Heating Source:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 None/M.D.	1	4	.3	4	.3
1 Utility Gas	2	60	5.8	64	6.2
2 LP,Propane	3	355	34.8	419	41.1
3 Electricity	4	571	56	990	97.1
4 Fuel Oil,Kero.	5	5	.4	995	97.6
5 Solar	6	0	0	995	97.6
6 Wood	7	7	.6	1002	98.3
7 Wood and Solar	8	1	0	1003	98.4
8 1&3 or 2&3	9	5	.4	1008	98.9
9 Other:Includes on cook stove.	10	11	1	1019	100

MEAN: 3.140824 S-SQUARED: 1.083946 S: 1.041127 SKEWNESS: 3.089996
S.D. OF MEAN: 3.261496E-02

Low Outliers = 0
High Outliers = 0

Table 26

---> FREHIST (lftfreq): Heat Water Different:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 M.D./Not.App.	1	4	.3	4	.3	
1 Yes	2	158	15.5	162	15.8	
2 No	3	857	84.1	1019	100	*MEDIAN*

MEAN: 2.337095 S-SQUARED: .1442175 S: .3797598 SKEWNESS:-2.038642
S.D. OF MEAN: 1.189657E-02

Low Outliers = 0
High Outliers = 0

Table 27

---> FREHIST (lftfreq): Recent Water Heating Source:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 M.D./Not App.	1	872	85.5	872	85.5
1 Utility Gas	2	26	2.5	898	88.1
2 LP,Propane	3	20	1.9	918	90
3 Electricity	4	58	5.6	976	95.7
4 Fuel Oil	5	10	.9	986	96.7
5 Solar	6	0	0	986	96.7
6 Wood	7	9	.8	995	97.6
7 Wood and Solar	8	0	0	995	97.6
8 1&3 or 2&3	9	0	0	995	97.6
9 Other:Includes	10	24	2.3	1019	100

on cook stove and coal or wood&coal.

MEAN: 1.039745 S-SQUARED: 2.707694 S: 1.645507 SKEWNESS: 3.78929
S.D. OF MEAN: 5.154811E-02

Table 28

---> FREHIST (lftfreq): Econ/Non-Econ Water Heat Shift:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 M.D./Not App.	1	873	85.6	873	85.6	*MEDIAN*
1 Economic	2	51	5	924	90.6	
2 Non-Economic	3	95	9.3	1019	100	

MEAN: .7365064 S-SQUARED: .3670284 S: .6058287 SKEWNESS: 2.348642
S.D. OF MEAN: 1.897854E-02

Low Outliers = 0
High Outliers = 0

Table 29

---> FREHIST (lftfreq): Cooking Energy Source:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
1Utility Gas	2	70	6.8	70	6.8
2Propane/LP	3	320	31.4	390	38.2
3Electricity	4	595	58.3	985	96.6
4Coal	5	1	0	986	96.7
51+3or2+3 above	6	25	2.4	1011	99.2
6Wood	7	3	.2	1014	99.5
7Wood+Electric	8	0	0	1014	99.5
8Wood+Coal	9	0	0	1014	99.5
90ther	10	5	.4	1019	100

MEAN: 3.136899 S-SQUARED: .7592268 S: .8713362 SKEWNESS: 2.037531
S.D. OF MEAN: 2.729598E-02

Low Outliers = 0
High Outliers = 0

Table 30

---> FREHIST (lftfreq): Cook Different:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 Missing Data	1	5	.4	5	.4
1 Yes	2	208	20.4	213	20.9
2 No	3	805	79	1018	100

MEDIAN

MEAN: 2.285855 S-SQUARED: .1781106 S: .4220315 SKEWNESS:-1.588056
S.D. OF MEAN: .0132208

Low Outliers = 0
High Outliers = 1 Note:Coding Error.

Table 31

---> FREHIST (lftfreq): Recent Cooking Source

FROM	TO BELOW	FREQ	%	CUMUL.	%
0M.D./NotApplic	1	814	79.8	814	79.8
1Utility Gas	2	67	6.5	881	86.4
2Propane/LP	3	43	4.2	924	90.6
3Electricity	4	30	2.9	954	93.6
4Coal	5	15	1.4	969	95
51+3or2+3 above	6	0	0	969	95
6Wood	7	19	1.8	988	96.9
7Wood+Electric	8	1	0	989	97
8Wood+Coal	9	9	.8	998	97.9
9Other	10	21	2	1019	100

MEAN: 1.172228 S-SQUARED: 3.237021 S: 1.799172 SKEWNESS: 3.299857
S.D. OF MEAN: 5.636191E-02

Note:805/814 "0-1" Above Never Cooked Different;9/814=MissingData
Note:"Gas" or "Natural Gas" coded as "Utility Gas"

Low Outliers = 0
High Outliers = 0

Table 32

---> FREHIST (lftfreq): Econ/Non-Econ Cooking Shift:1019

FROM	TO BELOW	FREQ	%	CUMUL.	%	
0M.D./NotApplic	1	825	80.9	825	80.9	*MEDIAN*
1Economic	2	43	4.2	868	85.1	
2Non-Economic	3	151	14.8	1019	100	

MEAN: .8385672 S-SQUARED: .5203086 S: .7213241 SKEWNESS: 1.759572
S.D. OF MEAN: 2.259662E-02

Low Outliers = 0
High Outliers = 0

Note:805 Respondents Indicated That They Never Cooked With Another Energy Source.Therefore, 805/825 Who Were Recorded As "0-1" Above Are "Not Applicable";The Remaining 20/825 Are "Missing Data".

Table 33

---> FREHIST (lftfreq): Air Condition Home:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
1 Yes	2	689	67.6	689	67.6	*MEDIAN*
2 No	3	330	32.3	1019	100	

MEAN: 1.823847 S-SQUARED: .2189701 S: .4679424 SKEWNESS: .7528663
S.D. OF MEAN: 1.465903E-02

Low Outliers = 0
High Outliers = 0

Table 34

---> FREHIST (lftfreq): Air Conditioner Type:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 None	1	330	32.4	330	32.4	
1 Central--Elect	2	327	32.1	657	64.5	*MEDIAN*
2 One room unit	3	271	26.6	928	91.1	
3 Two plus units	4	90	8.8	1018	100	

MEAN: 1.618861 S-SQUARED: .9298801 S: .9643029 SKEWNESS: .3524714
S.D. OF MEAN: 3.020831E-02

Low Outliers = 0
High Outliers = 1 Note:Coding Error.

Table 35

---> FREHIST (rhtfreq): Electric Rate Increase Alot In Short Time:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Don'tKnow/M.D.	1	55	5.3	55	5.3	
1 Yes	2	292	28.6	347	34	
2 No	3	672	65.9	1019	100	*MEDIAN*

MEAN: 2.105496 S-SQUARED: .3468189 S: .5889133 SKEWNESS:-1.206802
S.D. OF MEAN: 1.844864E-02

Low Outliers = 0
High Outliers = 0

Table 36

---> FREHIST (rhtfreq): %ElectricRateIncreaseAlotInShortTime:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	1	704	69	704	69	*MEDIAN*
1	2	0	0	704	69	
2	3	1	0	705	69.1	
3	4	1	0	706	69.2	
4	5	0	0	706	69.2	
5	6	6	.5	712	69.8	
6	7	1	0	713	69.9	
7	8	1	0	714	70	
8	9	2	.1	716	70.2	
9	10	0	0	716	70.2	
10	11	4	.3	720	70.6	
11	12	0	0	720	70.6	
12	13	2	.1	722	70.8	
13	14	2	.1	724	71	
14	15	0	0	724	71	
15	16	1	0	725	71.1	
16	17	2	.1	727	71.3	
17	18	3	.2	730	71.6	
18	19	0	0	730	71.6	
19	20	1	0	731	71.7	
20	21	5	.4	736	72.2	
21	22	0	0	736	72.2	
22	23	0	0	736	72.2	
23	24	1	0	737	72.3	
24	25	1	0	738	72.4	
25	26	6	.5	744	73	
26	27	0	0	744	73	
27	28	1	0	745	73.1	
28	29	0	0	745	73.1	
29	30	1	0	746	73.2	
30	31	1	0	747	73.3	
31	32	0	0	747	73.3	
32	33	0	0	747	73.3	
33	34	4	.3	751	73.6	
34	35	3	.2	754	73.7	
35	36	0	0	754	73.9	
36	37	1	0	755	74	
37	38	0	0	755	74	
38	39	0	0	755	74	
39	40	0	0	755	74	
40	41	6	.5	761	74.6	
41	42	0	0	761	74.6	
42	43	0	0	761	74.6	
43	44	0	0	761	74.6	
44	45	0	0	761	74.6	
45	46	3	.2	764	74.9	
46	47	0	0	764	74.9	
47	48	1	0	765	75	
48	49	0	0	765	75	
49	50	0	0	765	75	
50	51	7	.6	772	75.7	
51	52	0	0	772	75.7	
52	53	0	0	772	75.7	

Table 36(cont.)

---> FREHIST (rhtfreq): %ElectricRateIncreaseAlotInShortTime:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
53	54	0	0	772	75.7
54	55	0	0	772	75.7
55	56	0	0	772	75.7
56	57	0	0	772	75.7
57	58	0	0	772	75.7
58	59	0	0	772	75.7
59	60	0	0	772	75.7
60	61	2	.1	774	75.9
61	62	0	0	774	75.9
62	63	0	0	774	75.9
63	64	0	0	774	75.9
64	65	0	0	774	75.9
65	66	0	0	774	75.9
66	67	0	0	774	75.9
67	68	0	0	774	75.9
68	69	1	0	775	76
69	70	0	0	775	76
70	71	1	0	776	76.1
71	72	0	0	776	76.1
72	73	0	0	776	76.1
73	74	0	0	776	76.1
74	75	0	0	776	76.1
75	76	0	0	776	76.1
76	77	0	0	776	76.1
77	78	0	0	776	76.1
78	79	0	0	776	76.1
79	80	0	0	776	76.1
80	81	1	0	777	76.2
81	82	0	0	777	76.2
82	83	0	0	777	76.2
83	84	0	0	777	76.2
84	85	0	0	777	76.2
85	86	0	0	777	76.2
86	87	0	0	777	76.2
87	88	0	0	777	76.2
88	89	0	0	777	76.2
89	90	0	0	777	76.2
90	91	0	0	777	76.2
91	92	0	0	777	76.2
92	93	0	0	777	76.2
93	94	1	0	778	76.3
94	95	0	0	778	76.3
95	96	0	0	778	76.3
96	97	1	0	779	76.4
97	98	0	0	779	76.4
98	99	206	20.2	985	96.6
99	100	34	3.3	1019	100

MEAN: 25.79637 S-SQUARED: 1725.003 S: 41.53316 SKEWNESS: 1.130013
S.D. OF MEAN: 1.301092

Low Outliers = 0
High Outliers = 0

Note:672 people did not experience a large electric rate increase in a short time period;55 did not know if they had. They comprise all of the 704 "0-1" responses above.23 of the "don't knows" cited a small percentage in response to this question.

Table 37

---> FREHIST (lftfreq): Highest Monthly Electric Bill:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	50	100	9.8	100	9.8
50	100	220	21.6	320	31.4
100	150	234	22.9	554	54.4
150	200	143	14	697	68.4
200	250	106	10.4	803	78.8
250	300	43	4.2	846	83.1
300	350	57	5.5	903	88.7
350	400	21	2	924	90.7
400	450	23	2.2	947	93
450	500	7	.6	954	93.7
500	550	21	2	975	95.7
550	600	2	.1	977	95.9
600	650	15	1.4	992	97.4
650	700	2	.1	994	97.6
700	750	9	.8	1003	98.5
750	800	1	0	1004	98.6
800	850	4	.3	1008	99
850	900	2	.1	1010	99.2
900	950	3	.2	1013	99.5
950	1000	5	.4	1018	100
1000	1050	0	0	1018	100

MEAN: 187.9666 S-SQUARED: 26344.64 S: 162.3103 SKEWNESS: 2.136823
S.D. OF MEAN: 5.084626

Note:53/100 people in the"0-$50" category did not indicate a high monthly electric bill;therefore, 47 people had monthly electric bills with a high in the "0-$50" range.

Low Outliers = 0
High Outliers = 1 Note:This is coding error

Table 38

---> FREHIST (lftfreq): Season:Highest Monthly Electric Bill:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 Missing Data	1	43	4.2	43	4.2
1 Fall	2	174	17.1	217	21.3
2 Winter	3	293	28.8	510	50.1
3 Spring	4	3	.2	513	50.4
4 Summer	5	266	26.1	779	76.5
5 Winter&Summer	6	44	4.3	823	80.9
6 Fall&Winter	7	29	2.8	852	83.7
7 Fall&Spring	8	4	.3	856	84.1
8 Fall&Summer	9	10	.9	866	85.1
9 Spring&Summer	10	4	.3	870	85.5
10 Spring&Winter	11	1	0	871	85.6
11 Spri,Sum&Fall	12	2	.1	873	85.8
12 Spri,Sum&Wint	13	3	.2	876	86.1
13 Spri,Fall&Win	14	4	.3	880	86.5
14 Sum,Fall&Wint	15	6	.5	886	87.1
15 All Equal	16	131	12.8	1017	100

MEAN: 4.96411 S-SQUARED: 20.4198 S: 4.518828 SKEWNESS: 1.581654
S.D. OF MEAN: .1415594

Note:Two coding errors--to 1019.

---> FREHIST (lftfreq): Highest Monthly Electric Bill: 0-$50 Range Only

FROM	TO BELOW	FREQ	%	CUMUL	%
0	1	53	43	53	43 = Did not indicate a mon
1	2	0	0	53	43 high
2	3	0	0	53	43
3	4	0	0	53	43
4	5	0	0	53	43
5	6	0	0	53	43
6	7	0	0	53	43
7	8	0	0	53	43
8	9	0	0	53	43
9	10	0	0	53	43
10	11	1	.8	54	43.9
11	12	0	0	54	43.9
12	13	0	0	54	43.9
13	14	1	.8	55	44.7
14	15	0	0	55	44.7
15	16	1	.8	56	45.5
16	17	0	0	56	45.5
17	18	1	.8	57	46.3
18	19	1	.8	58	47.1
19	20	0	0	58	47.1
20	21	1	.8	59	47.9
21	22	0	0	59	47.9
22	23	0	0	59	47.9
23	24	0	0	59	47.9
24	25	0	0	59	47.9
25	26	2	1.6	61	49.5
26	27	0	0	61	49.5
27	28	1	.8	62	50.4
28	29	0	0	62	50.4
29	30	0	0	62	50.4
30	31	5	4	67	54.4
31	32	0	0	67	54.4
32	33	0	0	67	54.4
33	34	1	.8	68	55.2
34	35	0	0	68	55.2
35	36	6	4.8	74	60.1
36	37	0	0	74	60.1
37	38	0	0	74	60.1
38	39	0	0	74	60.1
39	40	0	0	74	60.1
40	41	10	8.100001	84	68.2
41	42	0	0	84	68.2
42	43	1	.8	85	69.1
43	44	1	.8	86	69.9
44	45	0	0	86	69.9
45	46	10	8.100001	96	78
46	47	2	1.6	98	79.6
47	48	1	.8	99	80.4
48	49	1	.8	100	81.3
49	50	0	0	100	81.3
50	51	23	18.6	123	100

Table 40

---> FREHIST (lftfreq): Average Monthly Electric Bill:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	50	159	15.6	159	15.6
50	100	363	35.6	522	51.2
100	150	243	23.8	765	75
150	200	116	11.3	881	86.4
200	250	60	5.8	941	92.3
250	300	32	3.1	973	95.4
300	350	13	1.2	986	96.7
350	400	9	.8	995	97.6
400	450	11	1	1006	98.7
450	500	5	.4	1011	99.2
500	550	4	.3	1015	99.6
550	600	1	0	1016	99.7
600	650	1	0	1017	99.8
650	700	0	0	1017	99.8
700	750	1	0	1018	99.9
750	800	0	0	1018	99.9
800	850	0	0	1018	99.9
850	900	0	0	1018	99.9
900	950	0	0	1018	99.9
950	1000	1	0	1019	100

Note:67 of these were coded as 0=missin data.

MEAN: 121.5162 S-SQUARED: 8788.155 S: 93.74516 SKEWNESS: 2.53724
S.D. OF MEAN: 2.936715

Low Outliers = 0
High Outliers = 0

Table 41

---> FREHIST (lftfreq): Average Monthly Electric Bill:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	25	75	7.3	75	7.3
25	50	84	8.2	159	15.6
50	75	161	15.7	320	31.4
75	100	202	19.8	522	51.2
100	125	160	15.7	682	66.9
125	150	83	8.100001	765	75
150	175	68	6.6	833	81.7
175	200	48	4.7	881	86.4
200	225	38	3.7	919	90.1
225	250	22	2.1	941	92.3
250	275	13	1.2	954	93.6
275	300	19	1.8	973	95.4
300	325	9	.8	982	96.3
325	350	4	.3	986	96.7
350	375	6	.5	992	97.3
375	400	3	.2	995	97.6
400	425	7	.6	1002	98.3
425	450	4	.3	1006	98.7
450	475	3	.2	1009	99
475	500	2	.1	1011	99.2
500	525	3	.2	1014	99.5
525	550	1	0	1015	99.6
550	575	0	0	1015	99.6
575	600	1	0	1016	99.7
600	625	1	0	1017	99.8
625	650	0	0	1017	99.8
650	675	0	0	1017	99.8
675	700	0	0	1017	99.8
700	725	1	0	1018	99.9
725	750	0	0	1018	99.9
750	775	0	0	1018	99.9
775	800	0	0	1018	99.9
800	825	0	0	1018	99.9
825	850	0	0	1018	99.9
850	875	0	0	1018	99.9
875	900	0	0	1018	99.9
900	925	0	0	1018	99.9
925	950	0	0	1018	99.9
950	975	1	0	1019	100

Note:67 of these were coded as 0=missin data.

MEAN: 120.6207 S-SQUARED: 8693.251 S: 93.2376 SKEWNESS: 2.508441
S.D. OF MEAN: 2.920815

Low Outliers = 0
High Outliers = 0

Table 42

---> FREHIST (lftfreq): Average Monthly Electric Bill:1019 : 0-$50 Range Only

FROM	TO BELOW	FREQ	%	CUMUL	%
0	1	67	38.9	67	38.9
1	2	0	0	67	38.9
2	3	0	0	67	38.9
3	4	0	0	67	38.9
4	5	0	0	67	38.9
5	6	0	0	67	38.9
6	7	0	0	67	38.9
7	8	0	0	67	38.9
8	9	1	.5	68	39.5
9	10	0	0	68	39.5
10	11	1	.5	69	40.1
11	12	0	0	69	40.1
12	13	0	0	69	40.1
13	14	1	.5	70	40.6
14	15	0	0	70	40.6
15	16	0	0	70	40.6
16	17	0	0	70	40.6
17	18	1	.5	71	41.2
18	19	1	.5	72	41.8
19	20	0	0	72	41.8
20	21	3	1.7	75	43.6
21	22	0	0	75	43.6
22	23	0	0	75	43.6
23	24	0	0	75	43.6
24	25	0	0	75	43.6
25	26	5	2.9	80	46.5
26	27	1	.5	81	47
27	28	1	.5	82	47.6
28	29	2	1.1	84	48.8
29	30	1	.5	85	49.4
30	31	3	1.7	88	51.1
31	32	1	.5	89	51.7
32	33	2	1.1	91	52.9
33	34	3	1.7	94	54.6
34	35	1	.5	95	55.2
35	36	6	3.4	101	58.7
36	37	4	2.3	105	61
37	38	0	0	105	61
38	39	4	2.3	109	63.3
39	40	3	1.7	112	65.1
40	41	8	4.6	120	69.7
41	42	6	3.4	126	73.2
42	43	3	1.7	129	75
43	44	5	2.9	134	77.9
44	45	2	1.1	136	79
45	46	9	5.2	145	84.3
46	47	4	2.3	149	86.6
47	48	3	1.7	152	88.3
48	49	5	2.9	157	91.2
49	50	2	1.1	159	92.4
50	51	13	7.5	172	100

*Did not indicate a monthly average.

Table 43

---> FREHIST (lftfreq): Added Insulation Since In Home:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	24	2.3	24	2.3	
1 Yes	2	545	53.4	569	55.8	*MEDIAN*
2 No	3	450	44.1	1019	100	

MEAN: 1.918057 S-SQUARED: .2903903 S: .5388787 SKEWNESS:-.1227279
S.D. OF MEAN: 1.688122E-02

Low Outliers = 0
High Outliers = 0

Table 44

---> FREHIST (lftfreq): Added Caulking Since In Home:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	5	.4	5	.4	
1 Yes	2	382	37.4	387	37.9	
2 No	3	632	62	1019	100	*MEDIAN*

MEAN: 2.115309 S-SQUARED: .2465172 S: .496505 SKEWNESS:-.5940041
S.D. OF MEAN: .0155538

Low Outliers = 0
High Outliers = 0

Table 45

---> FREHIST (lftfreq): Added Storm Windows Since In Home:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	5	.4	5	.4	
1 Yes	2	577	56.6	582	57.1	*MEDIAN*
2 No	3	436	42.8	1018	100	

MEAN: 1.923379 S-SQUARED: .2539523 S: .5039368 SKEWNESS: .1948322
S.D. OF MEAN: 1.579437E-02

Low Outliers = 0
High Outliers = 0

Table 46

---> FREHIST (lftfreq): Know.Amt.Ceiling Insulation:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	17	1.6	17	1.6	
1 Yes	2	652	63.9	669	65.6	*MEDIAN*
2 No	3	350	34.3	1019	100	

MEAN: 1.826791 S-SQUARED: .2533648 S: .5033536 SKEWNESS: .3411053
S.D. OF MEAN: 1.576834E-02

Low Outliers = 0
High Outliers = 0

Table 47

---> FREHIST (lftfreq): Know.Amt.Wall Insulation:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	26	2.5	26	2.5	
1 Yes	2	601	58.9	627	61.5	*MEDIAN*
2 No	3	392	38.4	1019	100	

MEAN: 1.859176 S-SQUARED: .281199 S: .530282 SKEWNESS: 6.598953E-02
S.D. OF MEAN: 1.661192E-02

Table 48

---> FREHIST (rhtfreq): Insulate or Weatherize Home More:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 M.D./Don'tKnow	1	44	4.3	44	4.3	
1 Yes	2	527	51.7	571	56	*MEDIAN*
2 No	3	448	43.9	1019	100	

MEAN: 1.896467 S-SQUARED: .3256402 S: .570649 SKEWNESS:-.2861184
S.D. OF MEAN: 1.787648E-02

Low Outliers = 0
High Outliers = 0

Table 49

---> FREHIST (lftfreq): Owner or Renter Occupied:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	2	.1	2	.1	
1 Owner-Occupy	2	775	76	777	76.2	*MEDIAN*
2 Renter-Occupy	3	242	23.7	1019	100	

MEAN: 1.735525 S-SQUARED: .1839786 S: .4289272 SKEWNESS: 1.17172
S.D. OF MEAN: 1.343682E-02

Table 50

---> FREHIST (lftfreq): Type of Dwelling:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	4	.3	4	.3	
1 Single-family	2	958	94.1	962	94.4	*MEDIAN*
2 Mobile home	3	52	5.1	1014	99.6	
3 Other	4	4	.3	1018	100	

MEAN: 1.55501 S-SQUARED: 6.770086E-02 S: .2601939 SKEWNESS: 3.817491
S.D. OF MEAN: 8.150984E-03

Low Outliers = 0
High Outliers = 1 Note: This is coding error.

Table 51

---> FREHIST (rhtfreq): Home Construction Materials;

FROM	TO BELOW	FREQ	%	CUMUL	%
0 Missing Data	1	17	1.6	17	1.6
1 Wood	2	305	29.9	322	31.5
2 Aluminum	3	259	25.4	581	57
3 Cinderbrick	4	15	1.4	596	58.4
4 Brick	5	94	9.2	690	67.7
5 Vinyl	6	84	8.2	774	75.9
6 Masonite	7	42	4.1	816	80
7 Asbestos	8	46	4.5	862	84.5
8 1+4 above	9	15	1.4	877	86
9 1+3 above	10	0	0	877	86
10 1+2 above	11	8	.7	885	86.8
11 2+4 above	12	7	.6	892	87.5
12 3+4 above	13	0	0	892	87.5
13 2+3 above	14	0	0	892	87.5
14 4+5 above	15	7	.6	899	88.2
15 Wood+Tiles	16	1	0	900	88.3
16 Slate	17	22	2.1	922	90.4
17 Wood+Stone	18	3	.2	925	90.7
18 Any 3 material	19	4	.3	929	91.1
19 Rock	20	6	.5	935	91.7
20 Asphalt	21	9	.8	944	92.6
21 6+7 above	22	1	0	945	92.7
22 Any 2 material	23	48	4.7	993	97.4
23 Any combination materials.	24	26	2.5	1019	100

MEAN: 5.477429 S-SQUARED: 38.06917 S: 6.170022 SKEWNESS: 1.94213
S.D. OF MEAN: .1932857

Table 52

---> FREHIST (lftfreq): # of Bedrooms in Home:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	2	.1	2	.1	
1 One	2	34	3.3	36	3.5	
2 Two	3	211	20.7	247	24.2	
3 Three	4	513	50.3	760	74.5	*MEDIAN*
4 Four	5	194	19	954	93.6	
5 Five	6	53	5.2	1007	98.8	
6 Six	7	10	.9	1017	99.8	
7 Seven	8	2	.1	1019	100	

MEAN: 3.552012 S-SQUARED: .8736448 S: .9346897 SKEWNESS: .4085333
S.D. OF MEAN: 2.928063E-02

Low Outliers = 0
High Outliers = 0

Table 53

---> FREHIST (lftfreq): # of Bathrooms in Home

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 None or M.D.	1	19	1.8	19	1.8	
1 One	2	674	66.1	693	68	*MEDIAN*
2 One and Half	3	93	9.100001	786	77.1	
3 Two	4	202	19.8	988	96.9	
4 Two and Half	5	8	.7	996	97.7	
5 Three plus	6	23	2.2	1019	100	

MEAN: 2.082924 S-SQUARED: .9948411 S: .9974172 SKEWNESS: 1.387914
S.D. OF MEAN: 3.124567E-02

Low Outliers = 0
High Outliers = 0

Table 54

---> FREHIST (lftfreq): Total Household Size:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
1 One	2	83	8.100001	83	8.100001	
2 Two	3	371	36.4	454	44.5	
3 Three	4	193	18.9	647	63.4	*MEDIAN*
4 Four	5	219	21.4	866	84.9	
5 Five	6	92	9	958	94	
6 Six	7	36	3.5	994	97.5	
7 Seven	8	15	1.4	1009	99	
8 Eight	9	5	.4	1014	99.5	
9 Nine	10	5	.4	1019	100	

MEAN: 3.587341 S-SQUARED: 2.111115 S: 1.452968 SKEWNESS: .957446
S.D. OF MEAN: .0455165

Table 55

---> FREHIST (rhtfreq): Occupation:Farmer or Non-Farmer:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	11	1	11	1	
1 Non-Farmer	2	304	29.8	315	30.9	
2 Farmer	3	704	69	1019	100	*MEDIAN*

MEAN: 2.180079 S-SQUARED: .2391615 S: .4890414 SKEWNESS:-1.046597
S.D. OF MEAN: 1.531999E-02

Low Outliers = 0
High Outliers = 0

Table 56

---> FREHIST (rhtfreq): Education:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	1	4	.3	4	.3	
1 1-8 Years	2	129	12.6	133	13	
2 9-11 Years	3	119	11.7	252	24.7	
3 12 Years:HSGrad	4	467	45.9	719	70.6	*MEDIAN*
4 13-15 Years	5	191	18.7	910	89.4	
5 16 Years	6	82	8	992	97.5	
6 17 + Years	7	25	2.4	1017	100	

MEAN: 3.540315 S-SQUARED: 1.389722 S: 1.178865 SKEWNESS: 5.521704E-02
S.D. OF MEAN: 3.692979E-02

Low Outliers = 0
High Outliers = 2 Note:Two Coding Errors.

Table 57

---> FREHIST (htfreq): Income:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	5000	344	33.7	344	33.7
5000	10000	101	9.899999	445	43.7
10000	15000	109	10.7	554	54.4
15000	20000	118	11.5	672	66
20000	25000	117	11.4	789	77.5
25000	30000	84	8.2	873	85.7
30000	35000	60	5.8	933	91.6
35000	40000	28	2.7	961	94.4
40000	45000	19	1.8	980	96.2
45000	50000	6	.5	986	96.8
50000	55000	14	1.3	1000	98.2
55000	60000	0	0	1000	98.2
60000	65000	3	.2	1003	98.5
65000	70000	2	.1	1005	98.7
70000	75000	2	.1	1007	98.9
75000	80000	1	0	1008	99
80000	85000	2	.1	1010	99.2
85000	90000	0	0	1010	99.2
90000	95000	0	0	1010	99.2
95000	100000	1	0	1011	99.3
100000	105000	3	.2	1014	99.6
105000	110000	0	0	1014	99.6
110000	115000	0	0	1014	99.6
115000	120000	0	0	1014	99.6
120000	125000	1	0	1015	99.7
125000	130000	0	0	1015	99.7
130000	135000	0	0	1015	99.7
135000	140000	0	0	1015	99.7
140000	145000	0	0	1015	99.7
145000	150000	0	0	1015	99.7
150000	155000	3	.2	1018	100

MEAN: 16218.07 S-SQUARED: 2.769667E+08 S: 16642.32 SKEWNESS: 2.964321
S.D. OF MEAN: 521.3468

Low Outliers = 0
High Outliers = 1 Note:Coding Error.
Note:257/344 in the "0-$5000" range above did not indicate their income;they were coded as "0" for "Missing Data".55/344 in this category had no net income last year or lost money.These people were farmers in every case.

Table 58

---> FREHIST (lftfreq): Gender Of Respondent(s)

FROM	TO BELOW	FREQ	%	CUMUL	%
0 Husband&Wife	1	69	6.7	69	6.7
1 Male	2	464	45.5	533	52.3
2 Female	3	485	47.5	1018	99.9
3 Husband&Wife (miscoded)	4	1	0	1019	100

MEAN: 1.910206 S-SQUARED: .3793268 S: .6158951 SKEWNESS:-.5125276
S.D. OF MEAN: 1.929389E-02

Low Outliers = 0
High Outliers = 0

Table 59

---> FREHIST (rhtfreq): Age:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Missing Data	5	4	.3	4	.3	
5	10	0	0	4	.3	
10	15	0	0	4	.3	
15	20	6	.5	10	.9	
20	25	48	4.7	58	5.6	
25	30	76	7.4	134	13.1	
30	35	105	10.3	239	23.4	
35	40	99	9.7	338	33.2	
40	45	98	9.600001	436	42.8	
45	50	81	7.9	517	50.7	*MEDIAN*
50	55	83	8.100001	600	58.9	
55	60	108	10.6	708	69.5	
60	65	96	9.399999	804	78.9	
65	70	87	8.5	891	87.5	
70	75	55	5.4	946	92.9	
75	80	46	4.5	992	97.4	
80	85	17	1.6	1009	99.1	
85	90	6	.5	1015	99.7	
90	95	3	.2	1018	100	
95	100	0	0	1018	100	

MEAN: 49.72496 S-SQUARED: 281.3215 S: 16.77264 SKEWNESS: 7.350713E-02
S.D. OF MEAN: .5254295

Low Outliers = 0
High Outliers = 1 Note:Coding Error

Table 60

---> FREHIST (rhtfreq): Acres Owned:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	25	426	41.8	426	41.8
25	50	36	3.5	462	45.3
50	75	30	2.9	492	48.2
75	100	51	5	543	53.2
100	125	52	5.1	595	58.3
125	150	19	1.8	614	60.2
150	175	76	7.4	690	67.7
175	200	18	1.7	708	69.4
200	225	52	5.1	760	74.5
225	250	21	2	781	76.6
250	275	17	1.6	798	78.3
275	300	16	1.5	814	79.8
300	325	36	3.5	850	83.4
325	350	13	1.2	863	84.6
350	375	20	1.9	883	86.6
375	400	3	.2	886	86.9
400	425	35	3.4	921	90.3
425	450	4	.3	925	90.7
450	475	11	1	936	91.8
475	500	7	.6	943	92.5
500	525	8	.7	951	93.3
525	550	0	0	951	93.3
550	575	7	.6	958	94
575	600	1	0	959	94.1
600	625	16	1.5	975	95.6
625	650	2	.1	977	95.8
650	675	4	.3	981	96.2
675	700	2	.1	983	96.4
700	725	2	.1	985	96.6
725	750	0	0	985	96.6
750	775	2	.1	987	96.8
775	800	1	0	988	96.9
800	825	5	.4	993	97.4
825	850	0	0	993	97.4
850	875	2	.1	995	97.6
875	900	1	0	996	97.7
900	925	2	.1	998	97.9
925	950	0	0	998	97.9
950	975	1	0	999	98
975	1000	20	1.9	1019	100

MEAN: 164.5854 S-SQUARED: 45304.16 S: 212.8477 SKEWNESS: 1.946456
S.D. OF MEAN: 6.667791

Low Outliers = 0
High Outliers = 0

Note:360/426 in the "0-25" acres category above own no acres or did not indicate the number of acres owned. There were 304 non-farmers in the sample, most of whom owned little or no acres;there were 704 farmers and 11 people with no designation.

Table 61

---> FREHIST (rhtfreq): Acres Owned:1019 : 100 Acres Or Less

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	1	360	64.2	360	64.2	= Owned no acres or did not indicate # of acres owned.
1	2	7	1.2	367	65.5	
2	3	8	1.4	375	66.9	
3	4	14	2.5	389	69.4	
4	5	4	.7	393	70.1	
5	6	3	.5	396	70.7	
6	7	1	.1	397	70.8	
7	8	3	.5	400	71.4	
8	9	1	.1	401	71.6	
9	10	0	0	401	71.6	
10	11	12	2.1	413	73.7	
11	12	0	0	413	73.7	
12	13	0	0	413	73.7	
13	14	0	0	413	73.7	
14	15	0	0	413	73.7	
15	16	1	.1	414	73.9	
16	17	0	0	414	73.9	
17	18	0	0	414	73.9	
18	19	2	.3	416	74.2	
19	20	1	.1	417	74.4	
20	21	7	1.2	424	75.7	
21	22	1	.1	425	75.8	
22	23	0	0	425	75.8	
23	24	0	0	425	75.8	
24	25	1	.1	426	76	
25	26	1	.1	427	76.2	
26	27	0	0	427	76.2	
27	28	1	.1	428	76.4	
28	29	0	0	428	76.4	
29	30	0	0	428	76.4	
30	31	3	.5	431	76.9	
31	32	0	0	431	76.9	
32	33	0	0	431	76.9	
33	34	0	0	431	76.9	
34	35	0	0	431	76.9	
35	36	4	.7	435	77.6	
36	37	0	0	435	77.6	
37	38	0	0	435	77.6	
38	39	1	.1	436	77.8	
39	40	0	0	436	77.8	
40	41	20	3.5	456	81.4	
41	42	0	0	456	81.4	
42	43	0	0	456	81.4	
43	44	1	.1	457	81.6	
44	45	2	.3	459	81.9	
45	46	1	.1	460	82.1	
46	47	1	.1	461	82.3	
47	48	1	.1	462	82.5	
48	49	0	0	462	82.5	
49	50	0	0	462	82.5	
50	51	5	.8	467	83.3	
51	52	0	0	467	83.3	
52	53	2	.3	469	83.7	

Table 61(cont.)

----> FREHIST (rhtfreq): Acres Owned:1019 : 100 Acres Or Less

FROM	TO BELOW	FREQ	%	CUMUL	%
53	54	1	.1	470	83.9
54	55	1	.1	471	84.1
55	56	2	.3	473	84.4
56	57	1	.1	474	84.6
57	58	0	0	474	84.6
58	59	0	0	474	84.6
59	60	0	0	474	84.6
60	61	10	1.7	484	86.4
61	62	0	0	484	86.4
62	63	1	.1	485	86.6
63	64	0	0	485	86.6
64	65	0	0	485	86.6
65	66	1	.1	486	86.7
66	67	0	0	486	86.7
67	68	0	0	486	86.7
68	69	1	.1	487	86.9
69	70	1	.1	488	87.1
70	71	3	.5	491	87.6
71	72	0	0	491	87.6
72	73	0	0	491	87.6
73	74	0	0	491	87.6
74	75	1	.1	492	87.8
75	76	2	.3	494	88.2
76	77	1	.1	495	88.3
77	78	0	0	495	88.3
78	79	2	.3	497	88.7
79	80	0	0	497	88.7
80	81	35	6.2	532	95
81	82	0	0	532	95
82	83	2	.3	534	95.3
83	84	0	0	534	95.3
84	85	1	.1	535	95.5
85	86	1	.1	536	95.7
86	87	0	0	536	95.7
87	88	0	0	536	95.7
88	89	0	0	536	95.7
89	90	2	.3	538	96
90	91	3	.5	541	96.6
91	92	0	0	541	96.6
92	93	0	0	541	96.6
93	94	0	0	541	96.6
94	95	0	0	541	96.6
95	96	0	0	541	96.6
96	97	0	0	541	96.6
97	98	0	0	541	96.6
98	99	2	.3	543	96.9
99	100	0	0	543	96.9
100	101	17	3	560	100

MEAN: 17.51607 S-SQUARED: 921.1551 S: 30.35054 SKEWNESS: 1.571276
S.D. OF MEAN: .9507784

Low Outliers = 0
High Outliers = 459 = Owned 101 Acres Or More

Table 62

---> FREHIST (rhtfreq): Acres Tilled:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0	25	383	37.5	383	37.5
25	50	42	4.1	425	41.7
50	75	46	4.5	471	46.2
75	100	39	3.8	510	50
100	125	57	5.5	567	55.6
125	150	33	3.2	600	58.8
150	175	59	5.7	659	64.6
175	200	28	2.7	687	67.4
200	225	45	4.4	732	71.8
225	250	12	1.1	744	73
250	275	24	2.3	768	75.3
275	300	10	.9	778	76.3
300	325	43	4.2	821	80.5
325	350	7	.6	828	81.2
350	375	16	1.5	844	82.8
375	400	4	.3	848	83.2
400	425	27	2.6	875	85.8
425	450	2	.1	877	86
450	475	12	1.1	889	87.2
475	500	2	.1	891	87.4
500	525	22	2.1	913	89.5
525	550	1	0	914	89.6
550	575	9	.8	923	90.5
575	600	0	0	923	90.5
600	625	11	1	934	91.6
625	650	1	0	935	91.7
650	675	2	.1	937	91.9
675	700	1	0	938	92
700	725	8	.7	946	92.8
725	750	2	.1	948	93
750	775	6	.5	954	93.6
775	800	1	0	955	93.7
800	825	8	.7	963	94.5
825	850	1	0	964	94.6
850	875	1	0	965	94.7
875	900	0	0	965	94.7
900	925	7	.6	972	95.3
925	950	0	0	972	95.3
950	975	1	0	973	95.4
975	1000	46	4.5	1019	100

MEAN: 197.7306 S-SQUARED: 66680.8 S: 258.2263 SKEWNESS: 1.770564
S.D. OF MEAN: 8.089344

Low Outliers = 0
High Outliers = 0

Note:339/383 in the "0-25"category above tilled no acres or did not indicate the number of acres tilled. There were 304 non-farmers the sample, most of whom owned little or no tillable acres; ther were 704 farmers and 11 people with no designation.

44/383 in the "0-25" category above tilled from 1-24 acres

Table 63

---> FREHIST (rhtfreq): Acres Tilled:1019 : 100 Acres Or Less

FROM	TO BELOW	FREQ	%	CUMUL	%	
0	1	339	63.3	339	63.3	= Tilled no acres or did not indicate # of acres tilled.
1	2	5	.9	344	64.2	
2	3	3	.5	347	64.8	
3	4	1	.1	348	65	
4	5	2	.3	350	65.4	
5	6	5	.9	355	66.3	
6	7	1	.1	356	66.5	
7	8	0	0	356	66.5	
8	9	3	.5	359	67.1	
9	10	0	0	359	67.1	
10	11	2	.3	361	67.4	
11	12	0	0	361	67.4	
12	13	3	.5	364	68	
13	14	1	.1	365	68.2	
14	15	2	.3	367	68.5	
15	16	3	.5	370	69.1	
16	17	0	0	370	69.1	
17	18	1	.1	371	69.3	
18	19	2	.3	373	69.7	
19	20	0	0	373	69.7	
20	21	8	1.4	381	71.2	
21	22	0	0	381	71.2	
22	23	1	.1	382	71.4	
23	24	0	0	382	71.4	
24	25	1	.1	383	71.5	
25	26	0	0	383	71.5	
26	27	2	.3	385	71.9	
27	28	2	.3	387	72.3	
28	29	0	0	387	72.3	
29	30	0	0	387	72.3	
30	31	6	1.1	393	73.4	
31	32	0	0	393	73.4	
32	33	0	0	393	73.4	
33	34	1	.1	394	73.6	
34	35	0	0	394	73.6	
35	36	6	1.1	400	74.7	
36	37	3	.5	403	75.3	
37	38	1	.1	404	75.5	
38	39	3	.5	407	76	
39	40	0	0	407	76	
40	41	9	1.6	416	77.7	
41	42	0	0	416	77.7	
42	43	1	.1	417	77.9	
43	44	0	0	417	77.9	
44	45	2	.3	419	78.3	
45	46	6	1.1	425	79.4	
46	47	0	0	425	79.4	
47	48	0	0	425	79.4	
48	49	0	0	425	79.4	
49	50	0	0	425	79.4	
50	51	12	2.2	437	81.6	
51	52	0	0	437	81.6	
52	53	1	.1	438	81.8	

---> FREHIST (rhtfreq): Acres Tilled:1019 : 100 Acres Or Less

FROM	TO BELOW	FREQ	%	CUMUL	%
53	54	0	0	438	81.8
54	55	0	0	438	81.8
55	56	5	.9	443	82.8
56	57	1	.1	444	82.9
57	58	0	0	444	82.9
58	59	0	0	444	82.9
59	60	1	.1	445	83.1
60	61	13	2.4	458	85.6
61	62	0	0	458	85.6
62	63	0	0	458	85.6
63	64	0	0	458	85.6
64	65	0	0	458	85.6
65	66	5	.9	463	86.5
66	67	0	0	463	86.5
67	68	0	0	463	86.5
68	69	1	.1	464	86.7
69	70	1	.1	465	86.9
70	71	6	1.1	471	88
71	72	0	0	471	88
72	73	0	0	471	88
73	74	0	0	471	88
74	75	0	0	471	88
75	76	9	1.6	480	89.7
76	77	1	.1	481	89.9
77	78	1	.1	482	90
78	79	1	.1	483	90.2
79	80	0	0	483	90.2
80	81	16	2.9	499	93.2
81	82	0	0	499	93.2
82	83	1	.1	500	93.4
83	84	0	0	500	93.4
84	85	0	0	500	93.4
85	86	1	.1	501	93.6
86	87	1	.1	502	93.8
87	88	0	0	502	93.8
88	89	0	0	502	93.8
89	90	0	0	502	93.8
90	91	6	1.1	508	94.9
91	92	0	0	508	94.9
92	93	0	0	508	94.9
93	94	0	0	508	94.9
94	95	1	.1	509	95.1
95	96	1	.1	510	95.3
96	97	0	0	510	95.3
97	98	0	0	510	95.3
98	99	0	0	510	95.3
99	100	0	0	510	95.3
100	101	25	4.6	535	100

MEAN: 19.93552 S-SQUARED: 997.3561 S: 31.58095 SKEWNESS: 1.382903
S.D. OF MEAN: .9893228

Low Outliers = 0
High Outliers = 484= Tilled 101 Acres Or More

Table 64

---> F[illegible] (rhtfreq): How Hear About Clinton Plant:1019

FROM	TO BELOW	FREQ	%	CUMUL	%
0 Not Applic/M.D.	1	285	27.9	285	27.9
1 Newspapers	2	112	10.9	397	38.9
2 Elec.CoopNewsp.	3	21	2	418	41
3 Friends	4	32	3.1	450	44.1
4 Neighbors	5	10	.9	460	45.1
5 Relatives	6	31	3	491	48.1
6 Elec.CoopMeet.	7	11	1	502	49.2
7 TV	8	88	8.600001	590	57.8
8 Radio	9	11	1	601	58.9
9 1+2 above	10	21	2	622	61
10 3+4 above	11	21	2	643	63.1
11 2+6 above	12	6	.5	649	63.6
12 1+7 above	13	102	10	751	73.6
13 1+8 above	14	10	.9	761	74.6
14 Other 2 sourc	15	88	8.600001	849	83.3
15 Any 3 sources	16	73	7.1	922	90.4
16 Any 4+sources	17	35	3.4	957	93.9
17 Other 1source	18	62	6	1019	100

MEAN: 7.344946 S-SQUARED: 39.78754 S: 6.307737 SKEWNESS: .2456783
S.D. OF MEAN: .1975998

Low Outliers = 0
High Outliers = 0

Note:258 people did not know of the Clinton plant;they comprise 258/285 of the "0-1" responses above=Not Applicable. There were 27 respondents who did not indicate how they had heard about Clinton;they were coded above as "0-1"=Missing Data.

Table 65

---> FREHIST (rhtfreq): Think Thoughts/Actions Effect Clinton Plant:1019

FROM	TO BELOW	FREQ	%	CUMUL	%	
0 Don'tKnow/M.D.	1	72	7	72	7	
1 Yes	2	123	12	195	19.1	
2 No	3	824	80.8	1019	100	*MEDIAN*

MEAN: 2.237979 S-SQUARED: .334681 S: .5785163 SKEWNESS:-2.091195
S.D. OF MEAN: 1.812293E-02

Low Outliers = 0
High Outliers = 0

KEY
- Use Less
0 Use Same
+ Use More
DK Don't Know

Appendix A

Individual Responses to Question #32

32. How would this increase in the cost of coop electricity influence your electricity use? Would you use the same, use less or use more? (Circle One Number):

1 Use the same amount of electricity 2 Use less electricity 3 Use more electricity

A. Why do you feel that way?

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	1	"I'll get rid of over half of my usage."
-	2	"but there is only so much you can do. I try to keep things down anyway."
0	3	"Terrible. I didn't realize that. We've probably gone about as far back as we can."
0	4	"We don't let stuff run that doesn't have to."
0	5	You gotta have your basics.
0	6	"It wouldn't be possible to use much less. We try not to waste it now. We'd have to get rid of things to save electricity."
-	7	"no way" could never afford a tripling of bills
0	8	can't go without what we already have--we'd go broke.
0	9	try to conserve it a lot now, we've even had our own yard light cut down
0	10	we're locked into using the same amount
0	11	"Everything we use now that's electric is a necessity to keep the farm operating."
-	12	can only cut back a little bit with things here and there
0	13	no way we can cut back without freezing to death
0	14	using as little as necessary now, can't cut back in dairy section of farm
0	15	we've cut back as far as we can now
-	16	would probably move out of area
0	17	would hate to have to, but if we have to, we have to--cutting back actually makes their bill go higher because energy costs more for coops
-	18	we're conservative now--we'd try to cut back, but it would be hard
-	19	probably turn off all lights--probably can't cut back much on farm though

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 21	I'd have to try to cut back but don't know how I could-kerosene or gas lanterns, maybe
0 22	We conserve so much now, I don't know how we could cut back without having none at all
- 23	as little as I could-salary not going up that fast-it's a waste
0 24	"What else can you do? Something we don't ever want to think about."
0 25	husband work(garage)is side line--can't really cut back might when new house built
- 26	can cut back, but only so much--would be hard to cut back more
- 27	probably have to cut back- aware of others going alternative sources of energy
- 28	have to have it, but have to do something to keep cost down
DK 29	"we'll probably end up moving" can't pay a high light bill-can't afford it
0 30	"We try not to waste it so I don't see how we could do too much different"
0 31	"I don't know how people could afford it. I don't know how I could use less. I already use bare minimum now."
- 32	might have to cut off lights more
- 33	unless cost of living increases came along too
0 34	might move regardless of cost; can't cut back
- 35	seems it got ridiculous after a while
0 36	can't cut back any more--very conservative conscious now
DK 37	difficult to do on farm--might find some ways to cut back or switch--can't say right away
- 38	we can't cut back--now using least kilowatts in my life and paying highest bills--if they make it higher they should plan on losing a lot of business
0 39	keep trying to cut back to afford it
0 40	don't think conservation measures make any difference in bill-it's high anyway
0 41	try not to use more than have to, already
0 42	"when you have kids, you can't change much"
0 43	already using a minimum amount
- 44	couldn't cut hardly any off
0 45	no way I can live with less--they keep asking us to cut back--how much more?!
- 46	cut back, switch to windpower to save money, save energy ; if we had more money, we wouldn't cut back so much on energy
0 47	can hardly go less--if it goes too high we'll move out

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	48	income is down
0	49	because already using very little
-	50	"can cut it a little, but you can't cut it out"
-	51	I'd buy a wind mill.
-	52	Who wants to pay $200 a month? I think we're already paying too much
-	53	would move, $300 bill into $1000 bill,"I'd move",might go to wood
-	54	already cut back some
0	55	"I don't suppose I would change a whole lot." could cut back, but probably won't
-	56	"I've encouraged my husband to buy a generator."
-	57	presently unemployed-husband is
0	58	we're not savers
0	59	"If it's gonna cost that much more, we don't need it." I'm not afraid of nuclear power--but if the rates go up, that's not right
-	60	would have to
0	61	"I save every bit I can"
-	62	"We try to get by as cheap now as we can."
0	63	when you're as old as we are, you just go along with it
0	64	"We try to be pretty frugal."
-	65	can't afford to use as much

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	66	can't cut back anymore
0	67	"We conserve as it is"
-	68	"Whether I can or not, I don't know"
0	69	"We have everything now (gas) that we can. maybe a wind generator "
0	70	can't cut back (her kitchen was probably below 40 degrees F.)
0	71	can't run a farm like this with less
-	72	as it is, we use hardly any in house that's not necessary--the farm stuff is all a necessity
0	73	How can you cut back?
0	74	Everything nowadays is run by electricity, so what are you going to do?
0	75	you can cut so far and that's it, and I've already cut it.
0	76	can't go without what I've already got
0	77	wouldn't like the increase but would have to use the same amount to survive
0	78	trying to cut back now
0	79	"unless we sit around in the dark" we're already using as little as possible
-	80	would like to try and keep it so my bills stay the same as they are now
0	81	couldn't use much less to get along

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 82	trying to cut back as much as we can already
- 83	I would use no electricity - build our own plant or something
- 84	would be ridiculous to pay double or triple rates
0 85	barely use any now - How do you expect me to survive?
0 87	"I don't see how I can cut back."
0 88	no way we can operate the farm safely
- 89	couldn't afford an increase greater than we already get
0 90	don't have anything against supporting development of technology
0 91	we're already cutting back in order to keep bills down
0 92	cut back all we can now
0 93	using as less as I can now
0 94	everything we use now is used to keep the farm operating
0 95	"I have a right to live comfortably. I'm not gonna freeze or give up farming just to pay for some bills. I'll let them break me first."
- 96	our bills are already outrageous--they don't need to steal from us anymore

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 98	don't see how you can unless you quit farming
- 100	no way we'll survive - we'll be paying electric bills
- 101	use as little as possible now - would do other things though
0 103	don't know how we would get along with much less - necessary for animals
0 104	already reasonably conservative to a liveable degree - farm is a necessity
0 105	Everything that's running now is a necessity
- 106	I've cut what I can cut - my electric bills are nothing compared to my neighbors'- I think I do very well
0 107	can't cut back on farm uses of electricity - pipes, farrowing, house
- 108	crops were poor this year - have already tried to cut back
0 109	"we try to cut corners the way it is
- 110	"do try to cut down - don't use a any more than I have to"
0 111	"I suppose we'd go ahead and pay it just the same. We'd have to. We have a hog barn..."
- 113	"I'd probably just try and cut down as much as I could."

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	114	"We'll conserve in any way we can."
-	115	"I don't see how we're being too extravagent." "We'll cringe when we pay the bill."
0	116	we've cut down everything we could
-	117	don't really know how or where
0	118	"couldn't use less - still one of the cheapest forms of power usage"
0	119	"don't use as much as used to"
-	120	'cause you'll have to give all your money to electric company
0	131	I'd get sick - I've cut back
0	153	no way to cut back on what they're using already
-	154	never could afford rates as they are now
0	157	"we are already skimping by"
0	158	we're cutting back now
-	159	might have to cut it out just completely
-	160	to be able to afford living
DK	161	depends on economic conditions
-	162	It's not necessary to raise it.
-	163	do what we can to save energy but still survive
0	164	don't know where I would cut back
0	165	"barely keeping our feet warm now" no way to cut back
-	166	can't afford it
-	167	economic reasons
-	168	"I'm having a tough time now." will have to move if I kept using the same
-	169	"not going to go broke paying for electricity use"
-	170	won't pay it!
0	171	couldn't use any less - already cut back so much
-	172	don't know how but will have to be able to live "like humans"
-	173	would have to get by - can't cut that much though
-	174	won't pay the price
-	175	can't afford it now
-	176	necessary to keep what we are using
-	177	"what more can we do?" watching usage now
-	178	wouldn't be able to afford a triple increase
0	179	already cut back as much as can
0	180	necessity
0	181	"don't use it anymore than I have to now"
0	182	"don't know how we could cut back" don't use much anyway
0	183	don't know how we could - heat's down as low as can go now
0	184	"don't know what I would cut back on"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	185	we can cut back a little but not much
0	186	have already cut back too much
-	187	house is too big to be able to afford electricity for it
-	188	just want to save some money
-	189	have to keep going
-	190	wouldn't be able to afford bills
-	191	"that's terribly unreasonable- no way we could live like that"
-	193	try to save money
0	194	can't cut back - every bit we're using now is a necessity
0	195	don't know what else we would do
+	199	we'll have a family by then
0	226	we conserve well
0	239	farmers have to have it
-	261	not going to pay it
-	262	retired
-	263	bills are too high the way it is
-	265	can't afford it
-	267	don't want to pay
-	268	can't afford to spend 3 times more than I am now
-	269	won't pay the price
0	270	we cut back plenty now- built the house to conserve energy
0	271	"doubt seriously if we could do anything more"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	272	already freezing at nigh and we take few showers to save ot water
-	273	"We'll probably go back to wind mills." -"We've cut back from $3-400/month to $100."
-	274	"because electricty bills are high enough as it is"
0	275	"we try to use just what we need to use anyway"
0	276	"hell, I'm usin' about as least as I can use right now!"
0	277	I'd like to use less, but I don't know how I could
0	278	move into apt.
-	279	if they're going to start without finishing, what good is it
-	280	reason why they haven't gotten air conditioner - rates!
DK	281	there's no way the public can afford this - would have to use alternative
-	283	find other types of sources - wind generator
0	284	I don't know where I could cut it any
0	285	cut back on welding - "I play"
-	286	probably go back to oil - I don't know how much we could cut back
0	288	I don't use that much
0	289	what could I do?
-	291	save
DK	292	I don't know of any way - don't use dryer in summer. 2 water heaters for awhile - went back to one

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	294	nothing to cut
DK	295	confused
-	296	save
-	297	we'd try to
0	298	can't affect it
-	302	try wouldn't want to spend
0	304	we already are conservative
-	306	I don't use any more than rich and not too poor.
0	307	"We have alternative source of electricity" PTO driver generator for buildings
-	308	"liable just to disconnect meter"
-	309	we'd shut everything off and use lamps and wood
0	310	"I've already lowered our bill $20/month."
-	311	either use less or cut them off-we've got plenty of alternatives
0	312	we want to live comfortably no matter what the cost
-	313	get rid of hogs and grain drying - go to different farming -could not afford a hike.
-	314	would have to cut back if we want to keep farming
0	315	It may cost more but we gotta support the effort. One of these days we're gonna be out of coal and wonder what to do
-	316	couldn't survive with a double
0	317	We use what we do now with conservation always on our minds.- we can't even afford the bills now
-	318	if it means saving money and not paying outrageous bills, we'll cut back
0	319	too much work than it's worth to try and save money
0	320	the farm couldn't continue without it - only thing to cut would be A/C.
0	321	using less doesn't do any good, it seems
-	322	won't put up with that kind of hike - people won't be able to hack it
0	323	can't cut back anymore
-	324	would have to cut back even more than already are to survive
-	325	no way we could stay afloat with a tripling of rates
-	326	try not to use too much right now-seems like the less you use now, they up the price
0	327	already cut back in the last rate hike - only thing to do is get different appliances
0	328	can't use any less
-	329	couldn't afford that kind of increase
-	330	may sound like a terrible thing but in the long run it's gonna be a blessing
0	331	I hardly pay anything anyway. They're charging me for not using any electricity.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 332	can't use any less - the grain dryer and hogs are a necessity
0 333	can't afford to use less - the farm wouldn't operate
- 334	have to cut back somewhere to remain farming
- 335	can't afford a rate hike
0 336	we are conserving it as much as we possibly can right now
- 337	I wouldn't run anything!
0 338	we're all retired and can't live without what we have now
0 339	our farm usage is a necessity
- 340	try to conserve as much as we could but will have to try hard to find something
0 341	we need all we're using now unless we don't want to move around in the winter
- 342	we can't afford a raise like that
- 343	we would have to do something to cut back
0 344	got it set up where we use a certain amount already
- 345	can't even afford it now- we'll have to build a fire in the middle of the floor
- 346	have to do something to live
0 347	couldn't cut back on much of anything
0 348	no way we could cut back anymore
0 349	no use cutting back, it wouldn't be worth the effort

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 354	we don't waste
- 359	I'd move for sure
- 360	none from co-op
0 369	we'd move
- 378	some other source
- 383	have trouble paying this bill -cut down to only lights
0 384	use it as long as could get it-don't know really
0 385	try to conserve what could, but can only use so much
0 386	we've cut down a lot now
- 387	"layed off a year;fixed income"
0 389	"can't do anything else"
0 388	don't use much;just heat water
0 390	isn't too much I can do
- 391	just took cut in pay to save job
0 392	don't know how they would use less
0 393	because leave same appliances
- 394	not extravagant now-wouldn't amount to much
- 395	couldn't afford
- 396	hard right now 'cause husband works only 6 months-unemployed-cut
0 397	nothing be added
0 398	renter using place, they pay bil cut off electricity if no renter
0 399	attempt to use less, already trying to get rid of as much as possible
- 400	to save money

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	401	cost too much
-	402	because of expense
-	403	could afford
0	406	try to conserve as much as can now
-	409	because of extra cost
0	410	wouldn't be very welcome
0	411	couldn't change much
0	412	because hard time paying as is
0	413	couldn't cut down any I know of
-	414	"could afford to do something better"
-	415	should try, but hard to do
-	416	couldn't pay it if doubled or tripled-go back to coal oil lights
0	417	because don't know where cut back
0	418	cross bridge when get there
-	419	move into fewer rooms-too expensive
-	420	because too expensive
0	421	have to-semi-retired, less income
-	422	"sounds ridiculous for electricity"
0	423	try to conserve now
0	424	we live a certain way
0	425	we don't use anything we don't have to
0	426	we don't use a lot

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	427	couldn't afford it
-	428	cut everywhere could
DK	429	wouldn't be able to pay it-on aid-no washer or dryer
0	430	no more utilities
0	431	"can't see how to get along with too much different"
DK	432	wouldn't be able to pay it
-	434	use quite a bit of electricity in shop and for all night (night watchman)
-	435	inflation
0	436	thought about and discussed where to cut back and haven't found anywhere
0	437	probably gripe but used to using what they use
0	438	we don't use that much "probably do without air conditioner"
0	439	couldn't use any less
0	440	suppose people would cut back
-	441	person can only get along w/s
0	442	hate to see triple
-	443	can't pay more
-	444	cost too much
0	445	already using min., don't know where cut back
0	446	don't use but H_2O
0	447	no short cuts on farm except in house
-	448	have to live on fixed income

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 449	can't cut down a whole
- 450	can't afford-try best can now
- 451	too expensive
0 452	can't conserve anymore-irrate that companies are ripping off consumer need to take out of own profits, executive's cut
- 453	like to think we can
0 454	I don't see how could use less
0 455	I don't know how we would use less
0 456	don't know how we would cut back more and keep operation going
0 457	"won't be very good, I know that" wouldn't be able to use less
- 458	close off certain sections of the house-in heat or cold
0 459	"you'd have to pay it-if you live here, you've got to have electricity"
0 460	unless cut down on livestock
- 461	you can do alot of things if have to
- 462	have to use less (fixed income)
0 463	"just certain things we use everyday"
- 464	but not much 'cause we're getting down
- 465	fixed income-couldn't pay-cut off
0 466	"couldn't do without something you got"
- 467	steep enough as is
- 468	on budget

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 469	because don't feel they should double when you have to have it
0 470	wouldn't have no choice
- 471	because too much money
0 472	we need the electricity
0 473	because might go to solar or wind power
0 474	if there weren't any other way
0 475	only way we can go with farm--everything in house on gas but washer, dryer
- 476	because farm prices so low
0 477	we don't use that much
- 478	wouldn't be able to pay much more
0 479	can't cut down more than I have
0 480	necessity as I see it
0 481	I don't know
- 482	have dependable electricity with my own power plant--management not good--low voltage here all time
- 483	to hold down cost of bill
- 484	if it's going to triple
0 485	got to use what I use, not wasting any
- 486	too expensive
- 487	certain amount we have to use but we can try to cut back
- 488	want to get rid of electric water heater--switch to CIPS
- 489	I'd probably change the way I generate electricity

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	491	I don't know how we could get by with much less
-	492	we've already tried to keep it down
-	493	we probably have to go back to burning wood--I don't know what we'd do
0	496	won't add anything
-	497	cost
-	498	Have you ever heard of a utility dropping their price? It'd make me move--I couldn't pay it
0	499	we've been running the same for quite awhile; nothing I see is going to increase it
-	500	I think we'd just about have to have our lights discontinued--our kilowatts aren't much but the bill's sky high
0	501	not much choice
-	502	once you put in electric heat, you have to use it
0	503	I'm using it now only for the basics
-	504	"do everything we could to quit using electricity" I never had a voice in deciding why should I have to pay for it
0	505	we would not have a choice but to use same--grain dryer
-	506	we need alot more of what we're selling to pay our bills
-	507	we're always trying to cut down --that's just human nature
0	508	"there's not much really I can change"
-	509	"probably couldn't use it, buy a generator is what I'd do."
-	510	they're already high now--it only makes sense that you would conserve to me.
-	511	I think I'd move and get on another system--if they raise it 2 or 3 times, I don't see how you can afford that. It's already to the breaking point.
-	512	"I can't pay for my bills as it is"
-	513	Your land is hooked on it--they'll put themselves out of business--farm prices will go up--everybody will pay for it.
DK	514	I don't know
0	515	Can't -- essential
-	516	Economy won't support those kind of electric bills.
0	517	"What could we cut out?"
0	518	We're not extravagant now
DK	519	Hate to pay more but use what want -- might try to cut back
0	520	don't know how would cut back
-	521	Couldn't afford
-	522	Set income -- people on set income won't be able to make it
-	523	High enough as is
-	524	Couldn't afford it
0	525	Wouldn't have any choice
-	526	"My check ain't that big"
-	527	"High enough now"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	528	Use out of necessity
0	529	It would come out of my own pocket book -- they should take it out of theirs
0	530	No way we could use less
-	531	Feel pretty conservative now
-	532	Use less electricity, Probably look for another means of heating -- save money
-	533	I don't know where at
-	534	Quite a few compliants
0	535	I really don't have anything I can dispose with
-	536	I can do without air conditioner
0	538	We use it for everything, we have to use a certain amount
0	539	I have full intention of not paying any big bills
-	540	Cause of the price increase
-	541	probably use none. I'd have to get a generator
-	542	$108 too high, but would pay if couldn't get around it
-	543	Use none -- getting info on steam power to generate electricity, heat, home and warmth.
0	544	"Because we try not to use much
	545	We do same old routine -- when nobody home, don't use as much
	546	"Wouldn't have that much of income to pay more"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	547	No reason to increase it, I guess
+	548	Operation doesn't stop -- it expands so use would increase
-	549	"If I didn't burn wood, I probably couldn't pay mine." --because too high now.
-	550	"I don't know what to do, but if tripled do anything I could to use less"
-	551	"I don't see how people cost could pay that much of an increase"
0	552	"God, everything goes higher all the time!"
0	553	We try not to use that much anyway
-	554	Because won't be able to afford
-	555	I don't know how to use less
-	556	"Can't afford it"
0	557	No use doing without if can pay for it -- don't believe in being wasteful
-	558	"It would be so outstanding nobody can afford it"
-	559	For obvious reasons
DK	560	I don't know, I just don't like it
-	561	To save money
-	562	"Too high now"--if possible
0	563	I don't think I over-use -- and I am as carefully now
0	564	Don't know how to live if lowered.

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	565	Feel comfortable with what we use now
-	566	Bills be too high to pay
-	567	"If it's going to increase, I'll try to use less"
0	568	We use what have to have
-	569	"Conserve as much as possible -- matter of economics"
0	570	Don't plan to be here then; plan on being south
-	571	What's the use of financing something when you have what you need in the air -- wind.
-	572	If I had to
0	573	Have to use it
0	574	Going have to pay it anyway -- might as well use it
0	575	Try to use least we can anyway-- we have to have what we got
0	576	Only use it for lights and radio and TV
0	577	"We don't waste any -- we use what we need" Not extravagent as is.
0	578	"Depends on whether my wages increase enough"
0	579	Because no intention of doing anything different -- already on gas -- can't afford electricity
-	580	I don't believe we ought to pay for government mistakes -- nobody pays for ours
0	581	"We're not extravagant -- just two of us"
0	582	"can't hardly use less"
DK	583	depends on finances
-	584	if get own house, will not plan to use
-	585	don't know where, but will be retired then
-	586	because doubt salary would double or triple
0	587	right now don't feel I use anymore than need to--have already cut back
-	588	"matter of economics"
-	589	but don't know if could with family expanding
0	590	"I don't see any way of cutting down--we don't use much to begin with."
-	591	try to keep to minimum now
0	592	I don't know how we'd cut down too much --need it
0	593	can't cut back much more than have--turn heat down at night already
0	595	not much way can use less
0	597	We've strained down to using what we have to--hope our product can meet cost.
-	598	couldn't afford
0	599	"We use what we need."
0	600	put more insulation in maybe, but need electricity
-	601	have no choice--can't double income.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 602	have to--double is ridiculous
- 603	don't know how since put everything on LP when moved in and knew costs would be jumping
0 604	"I don't see how we could use less."
0 605	because can't use any less hardly
- 606	everything's increasing so--salaries not going up
0 607	"At our age, we want to be comfortable."
- 608	already have gas connected
- 609	could go to gas water heater and dryer just as soon as I leave them
- 610	I don't see how could use less--hardly pay now
- 611	not about to pay that kind of bill
- 612	limit to how we could decrease it with farm
0 613	"Way too high now."
- 614	try to use everything less I can
- 615	on social security--husband dead
- 616	cost itself
- 617	to hold bill same
- 618	on social security--can't afford bills
0 619	I don't see how I can use less than what I am now, in fact, I don't understand why my bills are so high now.
0 620	depends on other living cost--no way we can afford everything--don't know how could use less
0 621	"I'm here alone and keep going as long as able to."
0 622	"We don't over use."
0 623	"Can't cut off what I have."
0 624	"It's an evil that's a necessity." was supposed to be for people, now it's not--locked into REA--we had no say as to Clinton
0 625	no way getting around somethings
0 626	try to min. as much as can now
0 628	don't think anything else we can do to reduce
- 629	cut down as much as possible because of money
- 630	if at all possible, but I don't
- 631	high enough now
0 632	have to keep it operating
+ 633	I don't know.
- 634	couldn't afford it
- 635	"We don't use a whole lot now."
- 636	try to if going to be 2-3 times
- 637	couldn't afford
0 638	doubt going to change much
- 639	"If going to double or triple."
- 640	expense
- 641	already tried to conserve--point beyond what you can do
- 642	economic reason

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	643	cutting corners now
-	644	burn fireplace more-- It's gone up as much as I can afford.
0	645	'cause wouldn't want to change over or do without
-	646	it's an awful lot of money
0	647	"I don't try to over-use it."
-	648	I don't know.
-	649	only certain amount can cut-- try to skimp as is
-	650	tight budgets
0	651	there's only so much can cut
-	652	try to but don't know if can-- only be in house
-	653	we probably wouldn't have any 'cause can't afford it
0	654	"We use min. we can use now."
0	655	Don't know how to cut back other than shut it off completely
-	656	reasonably should use less
-	657	"We try to be conservative now!"
-	658	"We just couldn't afford to pay it."
-	659	to save money
-	660	try to but don't know how
-	661	I don't know what we'd do-- thinking about moving.
0	662	"We use minimum now!"
-	663	"We couldn't do much about it."
-	664	barely getting by now
-	665	or try because of cost we're already trying to keep it down.
0	666	can't see changing anything - we're going to wood furnace rather than stoves
-	667	won't get rid of wood burner and can't live without air conditioner - going to try fans this summer, though
-	668	probably conserve all could
0	669	because have to have it - as long as can afford it
0	670	"what cha gonna do?"
-	671	right now terribly expensive - husband presently laid off
-	672	if possible - if it goes up
0	673	"we watch what we're doing anyway"
-	674	high enough now
-	675	"we'd have to pay bill"
0	676	"all we use is lights, TV, and water heater - can't do without"
-	677	"try to - gets to place where you can't afford it"
-	678	forced to - can't keep up with bills
-	679	"try to cut down if that high" possibly move - double up - I like to enjoy electricity and heat
-	680	the higher the price - forced to use less - fixed income coming on cut back as much as could but with hogs, can't cut

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	681	cut back as much as could but with hogs, can't cut
-	682	"eventually everyone will have lower standard of living"
-	683	"too much money"
-	684	try to - isn't anything can do unless switch
-	685	wouldn't be able to pay
0	686	try now to watch lights - about all we can do
0	687	we just use so much
0	688	we aren't going to change our habits
-	689	save money
-	690	'cause of expense
-	691	try to use less, but don't really think they're gonna complete it
0	692	don't make no difference-- got to pay just like insurance going up--have to pay price to have it
0	693	can't hardly use more
0	694	"I don't know how we'd change it."
-	695	"if keep doubling it, I can't pay it and it'll be cut off."
0	696	"we use what we consider minimum now"
-	697	we're saving now--wouldn't use more
0	698	I don't know how we'd cut much more

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMEN
0	699	move out--don't know how to cut down--could change to gas hot water heater but don't think will
-	700	try to be conservative, but prefer electrical appliances to gas-- afraid of gas
0	701	we've already cut back
-	702	couldn't do it--on retirement
0	703	we use what we got to
0	704	we're very economical as is-- we've installed air conditioner that we can't use 'cause of cost- only daily needs on electricity
-	705	cost
-	706	if possibly can
-	707	cost
0	708	"I don't think we could cut down much--things we heat or cool with make a difference"
0	709	no use for anything else
-	710	try to--wouldn't know how to go about it
-	711	if goes that high
-	712	try to use less to help save
-	713	to keep bills down
0	714	try to cut back but don't know how to do it
-	715	"hard times"
0	716	I don't know of any major thing that we'd use any additional

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0	717	'cause don't use any more than have to
-	718	if cost goes up, try to cut corners
-	719	cost prohibitive
-	720	can't afford what pay now
-	721	"if going to increase like that"
-	722	planning on getting gas water heater this spring--costs too much now
-	723	none--can get by without
0	724	way things run--try to use less
0	725	about all we got to pump water and heat house
0	726	don't know what use less--6 kids
-	727	wouldn't have choice--money
0	728	use same--working in minimum now
0	729	normal living routine
0	730	we're down to bare necessity
0	731	because at minimum now
0	732	we try not to waste it now
	733	if it goes double, I'll go back to kerosene--we've got camper that we can use cheaper
-	734	expensive
	735	"don't see how we'd cut back"
-	736	"if things get tougher, wouldn't use it"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	737	try to, but as farmer, gotta use what you use--with livestock got to have it
-	738	try to use less but if we use less than minimum then it costs more--they're not fair--they should pay for their own mistakes
-	739	maybe a little less but have to run business
DK	740	depends on how much work I got at time--same if I have work--less if I don't
-	741	if goin' to triple
-	742	"can't stand bills"
-	743	too high- money
-	745	"cause of paying bill"
-	746	probably move to town
0	747	we're set up
0	748	no way to cut down
-	749	have to cut down--can't afford $3,000 bill- they'd have to raise price of livestock
-	750	we can't pay $1,000 a month
0	751	got to use certain amount
DK	752	don't know
-	753	try to use less
0	754	not going to sacrifice living standard for mismanagement
0	755	wouldn't hinder us
-	756	"money"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 757	necessity
+ 758	in 1986
0 759	we can't cut down
- 760	"160 a month now is a load to pay"
- 761	"try to save money"
- 762	think electricity already outrageous
- 763	change heating system
- 764	"our bills now are all we can afford"
0 765	"'cause used to living the way we are"
0 766	with kids around can't use less
0 767	"getting by about as cheap as can, now"
- 768	'cause bill too high
- 769	it's not worth it if you can do without
- 770	"I don't know why they got into that mess"
- 771	cost
0 772	no way I could cut down
- 773	like when gasoline got high
- 774	because cost
- 775	"such a large increase"
0 776	"probably have to move out if it went up like that"
DK 777	don't know where cut back on farm

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 778	"probably wouldn't influence it unless farm prices get worse"
- 779	I don't know how I'd get by with any less--I don't throw it away
- 780	try to use less--pay high now for no more stuff than got--when first started $3 a month
0 781	can't get along with less
- 782	have to "just be prohibitive"
- 783	we've got one solar panel now and might get more--possibly for house and for bins, too
- 784	try to if can unless farming gets a lot better or cut back in other areas
- 785	'cause of increase
- 786	because too high--high enough now
0 787	still have to use as much
- 788	can't afford
- 789	way it is now, high enough
0 790	we have enough electricity and couldn't replace
0 791	got to use it
0 792	don't affect me 'cause I don't pay bills
- 793	cost higher price
- 794	'cause power plant costs too much
- 795	try to--can't afford
- 796	go to something else, if could
- 797	can't afford it

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
DK 798	"I hope they don't do stuff like that--closing in on poor class" I don't know what I'd do
0 799	"everybody tries to cut but you've got to use so much"
- 800	expense
- 801	"absolutely couldn't afford it--use less or live in a teepee" fixed income
0 802	don't know where they could cut back
0 803	"we never were extravagant with electricity" there's no place to cut back.
- 804	cost
- 805	cost, just too expensive
- 806	would have to, too expensive
- 807	expense
- 808	couldn't afford it
0 809	We don't waste any, no place to cut back
0 810	Gotta use what he needs to live, can't cut much more than he has
0 811	As long as he can pay for it
- 812	can't afford to pay more
- 813	too expensive - not made of money
- 814	can't afford it
- 815	expensive
0 816	Not much to cut back on
- 817	If wages don't triple, can't pay it
0 818	Would just have to foot the bill
- 819	Can't afford it
- 820	too expensive
- 821	"I would strongly look to moving into town again" consider moving
- 822	Not extravagant - would try to cut every corner
0 823	"We down to minimum usage now."
0 824	We're using the minimum now
- 825	To save money
- 826	"My wife is just going to raise all sorts of hell if I don't turn the lights out." May try to conserve a little
- 831	Save money
0 832	"I don't think we use an extreme to maintain life style--to being comfortable."
- 833	"Bank would have the house--does not pay to live in the country."
0 834	Use minimum now. "Raise rates before they ever charge you so they can get their money."
- 835	To keep expense down
0 836	"Right now try to save as much as we can." Use less - expensive now
- 837	"We try and use least as possible right now." "You can't afford it-working people can't afford it."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 838	"Because its too damn high now."
- 839	"I'm going to produce my own power & sell it back to them."
- 840	"If it doubles, have to crank generator up"
- 841	Save money
- 842	Try to use less
- 843	Save money
- 844	"Because they're ripping us off; if can buy it cheaper"
- 845	"I'll buy me a God damned generator. To hell with that. I can't pay now -- I'll find a way to burn wood. I have back problems & can't work many times."
- 846	"That's only common sense"
- 847	"Be ridiculous to pay that much."
- 849	"have to cut in house as much as we can."
0 852	"Some things you can't change."
0 853	How are you going to use less?
- 854	"If you can't pay the bill, you have to use less."
0 855	"Both of us are old enough to need light to see and a house full of grandkids."
- 853	"We can't afford what we got now."
0 859	"We're conserving in our use."
- 860	Save money
- 861	Try to cut down a little
- 862	"I have to do something different; I can't pay."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMME
0 863	trying to cut down though
- 864	try less
0 865	because he rents, he plans no changes - if he owned, he would react differently
- 866	try to find ways
0 867	not too much can do
0 868	was on advising board - MJM
0 869	so much to use electricity
- 871	will build new house in summer maximum in insulation and solar and passive
- 872	"Isn't that the natural thing t do?"
- 873	"I guess to save money"
0 874	"Unless I was going to renovate and go to gas, I'd be stuck with electricity."
- 875	"for people our age, it would be a necessity that you'd have to cut down."
0 876	"There's nothin you can turn of deep freeze or refrigerator."
- 877	"Too expensive"
- 878	"can't pay for it"
- 879	if the rates double, then it wil be impossible to use as much hea
0 880	probably would continue lifestyl until she couldn't pay the bill and then would cut down
0 881	no way of cutting down any more than they already have

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 882	bills are high enough now
0 883	"'cause I have to" using the least amount possible now
- 886	"There ain't no possible damn way that I can pay."
- 887	"I'd revolt."
- 888	"It's an out of pocket expense."
- 889	"Couldn't pay for it."
- 890	I don't think I could cut it any more
- 891	"Use what we need; probably try to use less if they raise the price up."
- 892	"I'm sorry, I don't feel these are legitimate questions." "One of these days you won't be able to get blood out of a turnip."
0 893	same stuff to do
0 894	don't care to change way of life
- 895	don't want to pay so much
0 896	I'd put up a windmill or other generator - sell the excess back to the co-op
0 898	I don't waste electricity now as it is
- 899	depends on if I had a good job or not - if not, I would use less
- 900	don't know what we'd do - trying to keep it down now as it is
- 901	couldn't afford a double
- 902	couldn't afford a hike like that
0 903	we're well enough off to afford it - house small enough it's not too expensive
0 904	can't use less than what you use now
0 905	already using not very much
- 906	that's what you have to do
- 907	we'd never make it that way
- 908	it's just getting out of hand
- 909	couldn't afford that kind of rate hike
- 910	we'd try to anyway because we're in process of paying off house - need all money
0 911	we'd pay as long as we could
0 912	we can't live any less and the hogs definitely need theirs
- 913	"because of the cost" to save money
- 914	to save money
- 915	to save money
0 916	have to
0 917	you have to use it - they run a dairy farm
0 918	he needs to use the same amount
- 919	shouldn't be raised all at once
- 920	waste of money - not justifiable
- 921	just too expensive
0 922	can't get into habit of turning off light - too old to change ways

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 923	Not much choice, have to pay for electric or gas - have to live. If gas were cheaper they might switch
- 924	No one could afford it, don't waste any now
- 925	Would probably cut it off entirely and switch to something else, would study alternatives, nobody can afford it
- 926	To save on bills
- 927	"costwise, costs are getting ridiculous."
0 928	"I just don't know."
0 929	"there'd be no way we could change our habits, but we might do something with the grain drying."
- 930	"A guy can only pay so much. It's gettin' plumb out of reason anyway."
- 932	"not sure how we're gonna do it" Have to
- 933	Expense
0 934	Isn't much you can do. Gas will go up if that goes up. Not going back to coal oil - put up with them enough.
0 935	Just the way we live
- 936	Because of money
- 937	"Out of reason, we can't afford it; if we had a good year... there's a limit somewhere."
938	"if my bill's going to triple; I'll use less."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 939	"Can't cut down on much of anything else."
0 940	Would be inconvenient to get along with anything else.
- 941	"Go back to kerosene lamp." "We can't afford it."
- 942	"The reason it is costing so much is these environmentalists. I remember when we used the bare necessities; our children are spoiled with all these modern conveniences. "We are conserving as much as we can now. I don't believe the rates are going to double or triple."
- 943	"haven't figured out how yet." "too high."
- 944	"The hog heaters and water pumps; you got to have it for the hogs, dryin' the corn."
0 945	"keep that overhead down."
- 946	"If it gets too much out of line, You'd have to do something about it; you'd start to think about putting up your own plant."
0 947	"I am not. I only use what I need now so why would I use less." "I'm a Mrs. Johnson about turning off lights."
- 948	"can't afford it." Go down to the creek to wash my clothes."
- 949	"The bottom line would be that there will be alternative things I can do (heating)."
0 950	Needed
0 952	Has to use the amount they are using - for running farm equipment.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
0 953	Use same things, appliances
- 955	Have to cut back somehow. Farmers aren't making enough, last year they ended up in the hole
- 956	Couldn't afford it
- 957	It's ridiculous as it is
- 958	"Right now it's pretty steep- on a fixed income it's hard to make ends meet."
- 959	Has been trying to cut back.
- 960	"If it's going to triple, I won't want to pay $600.00." Going to try to be independent of electrical heat.
0 961	Use only what's necessary
- 962	"Anything I could do. I couldn't afford to pay higher bills."
- 963	"I'd make any effort to use less - I can't pay it."
- 964	Use a little as could. "You bet we'd cut back --we'll have to after all, we're on social security and we don't have much money."
0 965	"You're committed with stuff you got."
0 966	Try to use less.
- 967	"Only so much you can cut back on the farm & house."
- 968	"Have to - can't afford 4,000 - 6,000/month. Just couldn't pay it."
0 969	"I'm as conscientious as probably can be."
0 970	"We don't use much now."
- 972	Too much
- 973	May take it out, use less electricity, couldn't live on any less income.
- 974	Limited farm income
0 975	Only use now what needed
0 976	"That's our business" (dairy)
0 977	"I sure wouldn't use more." "Can't really cancel when you have the convenience; once you've got something you really don't want to do without it."
0 978	Couldn't use any less
- 979	Save money
0 980	"Have to get by on standard living."
- 981	At minimum now - go to alternatives.
0 982	lights only
0 983	"Can't see using less, have to be a fool to use more." "If the price went up... all we could cut is the water, we don't want to do that."
0 984	"have no idea"
0 985	"gotta have what I use"
0 986	"We'd have to --I don't see how we could use less." "We'll never go upstairs."
- 987	"If our electric rate triples, I don't know how we could pay them - how could any ordinary middle class family pay that bill."
- 988	"Find a way to get around it."
- 989	"Couldn't afford it."
- 990	Try to use less. We conserve now.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 991	"Crazy if you didn't try to use less."
0 992	We won't change. We use very little now.
0 993	"Farming situation the way it is - we'd have to pull the water to make due. No way we could afford that - holy moley - that's a scarey thought!"
- 996	General consensus around here is-- several old generator plants will cost a lot to generate.
- 997	Couldn't afford to use.
- 998	New wood stove in basement.
- 999	Save money
-1000	Save money
01001	"Don't see where I could cut; we don't use much more (elec.) than we have to;" "if you're on a fixed income, you're going to have to cut corners somehow."
01002	"Don't know how in the world we'd pay for our elec." "We can't afford to pay any more" "it's hard to keep your (fresh) food going."
-1003	"have to pay it."
-1004	Can't answer that.
01005	"It's needed on the farm, anyway."
-1006	"Last year I used $889.00 of electricity; if you double or triple that..."
-1007	"We're not necessarily using much electricity now."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 1008	I'll be losing my job in 2 weeks and we'll be on a fixed income.
- 1009	"if it's going to increase the cost, a person will have to use less" "the cost is the best answer you can give." "We're also retired, our income isn't as great as when we were farming."
- 1010	"regardless of what you use, it's still high" "just to keep your bills down"
- 1011	"if it got too high we couldn't afford it." "If they would give me a lower rate I'd be happy too."
0 1012	"There's nothing we can do about it, there's nothing we could unplug."
- 1013	"my dad's killing me for what I'm using."
- 1014	"That's a stupid question, anybody is going to try to use less." "Anybody with brains would use less; we could all save and use half of what we use."
0 1015	"I don't use anymore now than I have to." "I couldn't cut down."
0 1016	"We ain't going to use anymore than I have to."
0 1017	"because of the cost, you know."
- 1018	can't afford.
0 1019	forced to use the same, can't dry grain without power; got to heat water with power. This house had huge Satellite Dish outside. But they say a double in rates would put them under.

KEY
+ Complete
? Undecided
- Cancel
* No Opinion
NA Not Aware

Individual Responses to Question #29

29. Are you aware that there is a nuclear power plant under construction in Clinton, Illinois? (Circle One Number): 1 Yes 2 No
A. If no, please skip to statement #31.
B. If yes, do you have any opinion as to whether the Clinton Nuclear Power Plant should be completed or cancelled now? (Circle One Number): 1 Completed

2 Cancelled now 3 Undecided 4 No opinion

C. Would you briefly tell me why you feel that way _____

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 1	I don't think it'll make any difference.
? 2	uniformed
* 3	"I really never give it much thought."
- 4	"It should have never been started in the first place."
- 7	"I hear our rates will skyrocket."
- 9	cost of electricity will go higher
+ 10	We're paying for it anyway. concerned about earthquake
- 11	no way farmers who have $300.00 to $600.00 electric bills could survive
+ 12	Should never have been started--if they've gone this far, might as well finish.
* 15	haven't read up enough on it
? 19	Hate to see it cancelled because of all money in it, but we don't need it anyway.
? 22	It might be good, but you never know how things like it will work out.
- 23	Don't see any point in building it--will cost us more, not less.
+ 25	In long run will benefit us--people don't believe that now, but long run is beneficial.
+ 26	hate to see that much money used and then shut down--fears about nuclear energy a little extreme
* 27	Might be a help--will it help with the energy or is it for war time?
- 30	"I'm also aware that I'm going to have to help pay for it."
NA 31	This was confusing to her--she knew of construction of nuclear plant that WIEC would hook up--but she thought the plant was in Henderson County--she didn't know of Clinton.
? 32	Wouldn't care to have nuclear plants close to me, but if that's the way they have to go, I guess they need it.
* 36	Don't know much about it.
* 38	Consumers shouldn't have to pay for it!
* 39	Don't really know.
? 41	Don't know facts.
? 44	Could be good for economy but don't want nuclear.
* 47	Nuclear power is great but too many 'hands in fire'--cut out a loop and it'll be cheaper--shame that there's nothing better to eliminate waste.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
? 48	"We're getting ripped off somewhere down the line." - "You're a victim of the times whether you know it or not." everything costs too much
+ 49	"I'm pro nuclear power plants... they're needed."
? 51	"I think people around Clinton should decide that. It's one of those things that if it's in your backyard you don't want them to build it, but if it's in someone else's backyard, you'd just assume they build it."
? 52	Less nuclear we have, the better I like it.--could be some nuclear reactor accidents--we aren't trying enough to be safety-conscious
? 53	Whatever's best business decision for keeping our bills down.
- 56	"It's like sinking more money into a sinking ship. There's no sense sinking more money into something that's going to have to be redone anyway. It's mismanaged, misbuilt."
NA 57	Know that Hancock County is scheduled for a nuclear dump site.
* 58	I'm not afraid of all that stuff --they can do it if they want to.
? 59	"Think it's ok to finish it--we need the power don't we?"
* 62	"I never even thought about...I just thought it was one of those things."
- 65	because electricity can be made a lot cheaper.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 68	"I think we'll gradually get that safer and safer--I hope."
* 69	"Somebody goofed." not that verse on it
- 71	If our rates double then what's the purpose?
? 72	Not sure what the situation is once you get started, you can't quit something.
? 75	If they started in their budget, I'd like them to finish it.
* 76	Don't care about all this garbage that's happening.
* 77	Haven't thought about it that much.
* 79	It's gonna cost us which ever way it goes.
- 80	"Stay away from it! I'm against nuclear power."
- 83	"We'll go back to old days living seriously." Don't like anything nuclear and won't pay high prices.
* 84	don't know enough about it
- 87	I know what it will do to my bill.
? 88	"I've heard arguments for both sides that are good and bad."
+ 90	We'll need it for the future of energy--sooner or later our current sources will run out.
? 94	Not exactly sure what the fuss is about.
* 95	Don't really want to even get involved with it--it's so uncalled for.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 98	I don't want to pay anymore than I'm already paying.
* 99	hardly have heard anything about it
- 100	It'll kill us financially.
+ 102	got the money into it now--might as well finish it
- 105	I hear it's gonna raise our rates --can't have that.
- 106	plant not needed--consumption of all energy forms has gone down--not enough demand to make plant necessary
- 109	"If rates are going to go up, I don't think the consumers should pay for it." all the mistakes they make
+ 110	"Good idea--it's all right.
+ 111	"We owned the farm up in Ottowa and they came in and condemned it, and we had to sell it for less that it was worth. I think we need power."
+ 113	"Complete it as long as they've started it."
- 114	"I've heard so many derogatory things."
* 115	"REA is always alot higher than CIPS." haven't studied it enough
- 116	because they don't know what to do with waste after done with it--been to meetings
* 117	don't know enough--shame because of money put in, but it's sad to raise rates
* 118	"Cause they'll put it on if they want it and they won't if they don't."
- 122	don't like nuclear--dangerous
+ 138	if it is safe
+ 140	no fear of nuclear
- 141	if it raises rates
- 142	if it triples rates
- 143	rates
+ 144	not afraid of it
- 147	Don't like nuclear! Put money in solar and wind.
+ 152	if they do what they're supposed to when building
? 153	haven't heard enough on it
+ 155	It's going to bring prices down, so why protest it.
? 156	don't care enough about it either way
? 157	don't want to get involved
* 158	don't know anything about it
* 159	never thought much about it
* 160	Not getting involved with it!
+ 163	they've sunk alot of money into it already--so might as well keep going
- 165	"Ain't gonna do us no good taken our money."
+ 167	"I don't think it could get out of hand."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
? 168	heard arguments for both sides but can't decide which is better
- 169	"I'm not gonna pay for other's mistakes!"
? 170	"I'm confused!"
? 172	just can't decide
- 173	don't think they should ever complete plant
- 174	if it's going to increase my bills, I don't know enough about it
* 175	don't know enough about it
* 177	don't know much about it
? 179	don't know enough about it
* 180	don't know enough about it
+ 181	"wouldn't do no good to fight the continuation"
- 182	should never have been started-aren't experienced enough to handle it
+ 185	as long as it's safe
+ 186	it's gone this far, so why not continue
? 187	"not sure what all the complications are about"
- 190	it's gonna make rates higher
? 194	don't want to get involved
+ 199	we'll need energy sources-it employs people
- 210	don't want high rates

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 212	no need for it-other sources are cheaper
- 213	if we don't need it
- 214	scared of nuclear and triple rates!
- 218	"don't know what the hell they're doing"
- 220	rates
- 222	rates
- 225	we don't need them
+ 226	nuclear will be less expensive
* 230	don't know the story
+ 234	need a cheap source of power
- 237	too expensive-all of those nuclear plants
- 238	not in favor of nuclear
- 239	don't like nuclear-dangerous waste, don't need it
- 240	don't need those rates
+ 242	spent a lot of money on it
? 244	I'd rather see coal
- 245	don't know a lot about
- 253	too expensive
- 256	I'm anti-nuke
* 257	don't know enough about it
- 260	too expensive
- 263	too many other kinds; beef up ones they have now

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
?	265	good, but if rates go up, it's bad
*	267	have a wood stove now, just use it more
?	268	not enough information
*	269	don't know enough about it
+	273	if they put all this money into it they should finish
*	277	"I don't think it'd make any difference because I don't think anyway that they'll lower our light bill"
-	278	doesn't like nuke, dangerous
+	279	not any more dangerous - not opposed to
?	280	concerned about dangering people's lives
-	281	I wish they would never have started - other natural resources to use - quality is question in construction
-	284	should be able to charge public for scraping it - "They" don't need it
+	288	lower the rates
+	289	I don't think they can - can afford to - eventually they're going to need it
+	302	Since they put so much money
*	304	As long as precautions are taken and make nuclear power safe it's okay
+	305	"I do think that's not the solution" Use more coal. The U.S. should be supplying our own energy."
NA	308	"can't understand why we've gotta pay for this garbage"
-	309	It's no good. - It's obsolete, that's what my friends say. We're getting ripped off paying for repair of CIPS equipment
-	310	Power companies are the biggest rip-off in the country. They tell us to conserve, then they charge us because we conserve.
?	312	not exactly sure what the specifics are
*	313	don't want to be committed to anything
-	314	already robbing us blind and it's not even finished
+	315	I feel nuclear is the energy of the future
?	316	not enough information
-	318	if it's gonna triple our rates, I don't want it
*	319	don't care about what happens
?	320	would like to learn more about it before I decide
+	321	I'm all for nuclear power - no more dangerous than coal
-	325	"We're an all-electric farm. We'd have to go to some other source of electricity if what we hear is true."
+	327	can't stop it now or we'll pay for something that'll never be completed
-	328	I don't want anything to do with higher prices.
?	329	not really informed enough on the situation
+	330	they started it, they better finish it - we need this new energy
-	332	rates are supposed to triple
?	334	heard good for both sides

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	335	if it's gonna raise my rates, I don't want it
?	336	haven't given it any thought
NA	337	don't think our co-op should have gone in on that
*	338	not getting involved
-	339	only if it's gonna raise our rates - they should've known what they were getting into
+	340	eventually we're going to need it because our current sources won't last forever
+	342	only if rates will be cheaper
+	344	wish they would get going - it's only costing us money - be best power we can get
+	347	they've gone this far and we'll pay for it anyway
+	349	They can't start something and not finish it, we'll be paying for a pile of scraps
-	350	there's excess capacity now
+	355	There's so much money in it already.
+	357	need all the power we can get
-	358	go back to coal
+	363	nuclear will save natural resources
-	365	halt construction and research
-	367	cost overruns; waste problem
-	368	they can find some other way
-	375	I thought it was scrapped

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	378	against nuclear
-	385	because plenty of coal reserves - afraid of Russians picking off nuke plants
-	390	don't like nuke power - afraid of people getting hurt with it
+	392	with as much money put into it now?
?	394	think U.S.A. will go nuclear but don't want it in back yard
+	395	if at reasonable cost
+	399	for nuclear but that plant too expensive· "100% of cost should be born by REA and not passed on to customers"
-	400	too many accidents with nukes
-	402	burn coal in it - we have coal
?	408	"don't think we need it"
-	409	afraid of nuclear power - don't understand a lot about it
+	410	if something's started, it should be completed
?	414	don't know enough
*	415	don't know whether more expensive to complete or cancel
NA	416	got to have power from some place but nuclear power will blow up world
*	419	don't know much about it
*	420	can't make up mind about whether I like or dislike nuclear power
NA	421	not sure we really need it - have our own at Pittsfield and Pearl - may be need for it

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 422	don't make any difference to me
* 423	don't know that much about it
* 424	don't make any difference to me
+ 428	doesn't know where the source of energy will come from
* 432	"don't study up enough on that stuff
* 438	don't know anything about it
* 442	don't know much
* 444	don't know enough about it
? 445	don't know how to rid waste, but because we have investment in it, should be finished
- 450	don't think it's safe
- 451	I don't believe in nuclear - too dangerous
+ 452	if it'll make rate cheaper - if run properly
+ 453	if we went this far with it
+ 456	not that much damage done to environment with it
? 458	"haven't thought that much about it"
+ 460	already spent enough money - cheaper energy
* 465	if they want to, they will, and if they don't,they don't;it'll help I think.
* 470	don't know much about it
* 471	don't know much about it
* 473	not being any closer to Clinton, don't know pro's and con's

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 477	as much money as put in, better
* 479	don't know about it much
? 482	completely wasted too much money but don't care if it ever gets complete
+ 483	have to do something for energy and it's already under construction
+ 484	far enough along - be completed
+ 485	cheap to build now than later for energy
- 486	afraid of them
* 487	need more information - have pro's and con's
? 489	I know that we're paying for it - if it's not going to be built, why are we paying for it
+ 490	they started it, they ought to finish it
* 496	should be cheaper
- 497	cost too much for one thing - it isn't as safe as they would like for it to be
+ 499	we're paying for it now so I know that WIPCO's paying for it "That's when we had another increase when they went to WIPCO"
* 500	no, I'm just not in stuff like that
? 501	The waste is hard to get rid of
* 502	"don't know enough about it to make a decision"
+ 503	see if I can get cheap electricity and stuff - got to get the utilities down or else nobody's going to be able to live here

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S COMMENTS
- 504	I don't think we ought to use the damn--it's a hazard for one thing
* 506	I don't know what phase of construction they are in--if they got it built right
- 507	"Cancelled now if it was up to me" How's it going to be an advantage? --I got a bad taste about it from the news
+ 508	"We've paid this much, they might as well continue" "it's just as dangerous as a nuclear power plant." (gas line) They are kicking the pressure up in a small line right out back (of house) (gas line) up to 300 psi
- 509	I heard it would double your electricity
* 511	"I don't figure my opinion would amount to anything"
? 512	It's a shame to put that much money into it and not finish it
? 513	"I don't think they sould have started it--it's too late now. I think they should finish it"
? 514	I don't think anyone knows--I guess it's kind of dangerous at times, but anything cheaper than electricity would be something
? 515	there ain't nothing we can do about it now
* 516	haven't seen enough of it
+ 518	put so much money into--should be completed--not against nuclear power
- 520	nuclear banned--too much waste
- 521	don't have it under control
* 524	not well enough informed to know

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENT
* 526	don't know that much about it
* 528	need new sources but don't know
+ 530	nuclear power doesn't bother me
* 532	haven't read about it--don't know enough
* 533	I don't think it's necessary, rea
- 534	they need it, it will help out
+ 535	make cost of electricity cheaper eventually
- 536	because of the costs of building--it has sky rocketed and because of environmental radiation
- 538	because the price keeps going up the consumers end up paying for it
+ 539	acid rain is a result of sulfuric acid in coal-firing electricity. It's contaminated many lakes.
? 541	that is up to somebody else. I don't try to get involved with anything like that
+ 542	"another source of energy that we need"
+ 544	because brother-in-law works there
- 546	"paying now and they're going to ask for more"
* 548	"it'll be added rates"
- 549	"this one a joke from the beginning against nuclear
* 550	what I hear, it'll make rates higher--what would you do with it if it isn't finished?

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 554	way building, don't know if should be allowed to do that anymore
+ 555	since under construction, what would happen if it wasn't completed?
* 556	long as they don't make us pay
* 557	not anything I can do about it - wouldn't want to live in that area, but we live in fear too much
- 558	if having as much trouble with stuff leaking out - cancer...
? 559	"whole idea of plant over-sold - if increase passed on, don't see how people will pay for it." don't think REA in good judgement to get into it
+ 560	because girl I babysat for has job there
+ 561	"if started, might as well finish it"
* 569	"don't seem nuclear board is too happy with it"
+ 573	but never should have been built
* 577	don't know - far enough away, don't let it bother me
* 578	"I'm glad it's there, not here"
+ 579	with all money spent?
+ 580	should have built one and worked problem out - should go with nuke but management too bad
- 581	don't like 'em
+ 584	after all money gone in?
? 587	don't have good feelings about them but I guess it's progress
* 588	I think plant's going to cancel itself - never see it run as is
- 589	"cost too much and not competently built"
? 591	too dangerous, but already put money in and ought to be completed
- 596	"being they've got it started, they ought to do somethin'"..."rather not have it completed then."
+ 597	cheaper source of power - every electricity consumer will be paying for something not used
? 598	stupid to begin with but we put so much money into it
+ 599	an acceptable source of electricity... we have problems with fossil fuels; we'll continue to have
+ 600	great deal if completed
- 601	not afraid of it but the cost!
- 603	cost of it for REA people
+ 607	always need more power
+ 610	spent all money on it - say there's shortage - for nuclear power
+ 611	too far along to drop now
? 612	not enough information about pros and cons
+ 613	long time ago completed - too much politics - men on construction told bad construction
? 616	rates go up having it finished - in long run, might pay off
+ 617	it's going to end up as one of cheapest sources - properly controlled, safe

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 618	"blow thing up"
? 620	"power people know needs, I suppose, but it'll make our rates higher"
- 622	"shouldn't have ever been started"
- 623	it's a fake
- 624	expense of plant plus danger
- 625	"I don't understand what will happen with waste? - Where will people and livestock go?"
* 627	don't make any difference - they're going to complete
+ 628	"put that much money into it..."
- 629	"too expensive"
+ 633	should have been completed long ago - think we could have done without it
? 636	don't see how can cancel but understand will cost so much to pay
? 637	wish it wasn't there but it's so far along - wish it wasn't that close to us
* 638	not well versed enough, but a lot of money gone in - ought to complete
+ 639	put so much into it already
+ 641	"I just as well take some of the risk"
? 642	like the fishing
+ 643	since started
? 647	"I don't know we need it but they've spent that much money on it - it'll possibly make bill go up more"
+ 648	all money spent

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 649	scared of nuclear power - not well guarded - terrorists
+ 650	"we're going to run out of gas sometime - got to use something"
- 651	"if increase cost a lot"
+ 654	because think we need nuclear power but we need to take precautions which aren't being taken
- 657	"It stinks" - "don't know if necessa - wouldn't have objected if they'd kept to time schedule and cost" costing too much because supposed to be finished long ago
+ 658	"save us money in long run"
? 660	"I worry but don't know enough about it"
+ 662	"It's gotta go - way of the future"
* 663	"nuts to start with"
+ 664	"We need it - should be finished with precautions"
+ 665	necessary - no danger if properly supervised, but could be done better
+ 666	husband works for Illinois Power
- 669	"don't think we need it"
+ 670	"they ought to check cost - they invest this much in it"
+ 672	"as much money as in it?
? 673	as far as using them, it's okay but the cost is terrible
* 676	"I figure they know what they're doing"
- 677	"because they keep raising rates"
? 678	"a lot of money invested, but don't want to pay for something unused"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 680	don't think it should have been started - enough power plants as is
+ 681	if it'll cut rates
- 682	since other plants putting scrubbers (and know they work) use them and get away from radiation
+ 683	this far completed - forget second one
* 684	only thing don't like is charging customers - charged whether completed or not - it's company's fault - nobody said had to do it - make them pay for it
? 685	awful to make people pay if get running or not - not against nuclear power
* 686	"sister lives near one and doesn't bother her"
* 687	"I don't pay too much attention to them 'cause they don't pay too much attention to farmers"
* 689	"as long as it takes electricity costs down, I don't care"
- 691	"not against nuclear but against cost write it off now"
- 695	"they shouldn't have any nuclear plants in the world - creates more problems"
+ 696	if started, should complete it
+ 698	"got it started"
- 699	"I don't think it's going to do the job"
? 700	comments on danger but suppose necessary to have
- 701	"if it makes electricity cheaper, I'm for it"...."don't care if it gets done or not;what good is it going to do us?"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 703	should never have started but so much money in it.."better not finish it."
- 706	spent too much money
- 708	not so sure I want it done - makes bills go up and too near
+ 709	started it - got that far
+ 710	"it's not going to make power cheaper but in theory it's supposed to"
+ 712	"it'll help with bills"
? 714	wonder if okay or not okay
+ 716	with all technology I believe can be made safe and that's most people's concern
* 717	from what I read seems to be a nuisance
+ 718	if it's done right, they're all right - suppose to make cheaper
+ 719	"nuclear power only way to go"
+ 720	"insufficient supply of coal by year 2000"
* 721	"right now just a pain in the neck for everyone"
- 725	cost of blame thing
- 727	don't like nuclear power
+ 730	if spent this much money on it
* 731	shouldn't have ever been started - lean toward finishing because started
- 736	"should never have been started - too much money"
+ 737	"big mistake to have it go so far before getting wires straight"
- 738	don't like nuclear waste though

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 739	use it properly-commerce commission at fault-handout increases readily
+ 740	"don't see why they shouldn't complete it-alot of money for nothing if don't"
- 742	"if going to make bill go up" don't see why REA got into it
? 746	question why needed
- 748	"don't believe in nuclear energy"
? 749	when I hear what drastic things nuclear does-if it's going to help public though...
? 750	scares me to think of what could happen, but don't want to waste money already spent-need to have good rules to follow
+ 751	been expensive
+ 752	I guess-have money
? 753	if could complete it-not opposed to nuke but need to know rules
+ 754	if this far, complete, but shouldn't have started it
+ 756	this is what world is turning to-not afraid of it-population will need it when went that far (money wise), they should
- 758	I don't know-health reasons
- 759	because of rate increase-presently feel rates are reasonable
+ 760	since they started it
+ 766	just as much for it or anything else

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
? 767	don't know why they started-might help
+ 770	can't see amount of money put in, cancelling it cost going to be too high
- 772	"don't believe in nuclear war"
? 773	cost a lot ot finish, but...
- 776	I don't like anything nuclear-danger
- 778	"shouldn't have been started-in places, converting them back to coal"
* 780	up to light company
+ 781	throwing a lot of money away for nothing-heard cutting too many corners
? 782	they've spent alot of money but need to figure waste disposal out
+ 783	"nuclear energy is going to help with shortage"
? 784	not crazy about nukes but the money
- 785	too close to home-not evacuation plan
- 788	don't believe in nuke power
+ 790	already spent enough
? 791	raise rates but got to have it
- 793	cost too much money--don't even need it
+ 794	going to have to have it one of these days
- 796	"it's not going anywhere--worst thing ever started"

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+	805	since they've put in money it should be finished, but it shouldn't have been started--too dangerous
-	806	they keep changing the date and costs going up, they should switch to coal
+	807	inevitable that we'll need it
-	809	Don't think much of nuclear energy--too dangerous. They should switch it to a coal plant.
-	810	Don't like it--dangerous--waste of money
-	811	he's a coal miner, coal safer, nuclear needs more research
?	812	People having to pay for plant not even finished, but shareholders will make the profit. Doesn't know if it should be cancelled due to loss of money in it already.
?	813	Should do study to determine method of lowest rate to customers whatever that is.
?	814	Don't know at this point since so much has already been invested that never should have in the first place. (he came in at this point to express anger over consumers having to bail out utilities).
+	815	if that's what it takes--must have power
-	816	nuclear is dangerous,(coal miners against it since it affects his earning a living).
-	817	If not safe, cancel(his opinion) She didn't like the expense, either.
-	818	He's a coal miner, it's too expensive for what they'll get out of it.

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
-	819	should use the coal available if pollution control better
?	820	whatever way is most efficient to produce energy
-	821	"Taking more people to produce electricity with coal than with nuclear."
*	822	"I know it's a lot of extra expense and people will have to pay for it."
-	823	"I think it's a big waste of money; in the beginning, we hear first--now it looks like a big white elephant." "My friends tell me the plant will never open." "I think we should use coal." "If we can send people to the moon, we can go back to coal."
-	824	"If rates will triple, that cotton-picking thing should be cancelled." "I hadn't thought about it."
*	825	"I don't know enough about it."
+	826	"My son-in-law works there; why throw all that money away; ain't no way he can back out; he's an engineer; training to be operating engineer. "I sold some stocks because they were building a nuclear plant."
+	827	"They spent a lot of money over there; I have an investment in it."
+	829	"I think if it helps the energy crisis, they better finish it." "Nuclear power doesn't bother me--you can die lots of ways."
+	836	"Put so much money into it now; might as well finish it." Dad worked up there when they started.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 865	not the answer 'till solve waste problem--opposed to nuclear power
? 866	can't fathom over-runs--huge over-runs--once decide to do it, get what can
+ 868	should go ahead and complete--start it, finish it--have to pay for it anyway
* 869	don't know
- 870	plant only done damage
+ 878	we will have to have more source of power, and nuclear power should be the cheapest way to go
- 879	why build something that isn't worth it--if it costs too much to build, then it isn't worth the savings
+ 880	they should complete what they start--don't know for what reasons --doesn't know much about plant at all
+ 881	so that we can cut the cost
+ 883	"in so deep that we got to stay with it now"
+ 893	they already spent the money
- 896	too dangerous--element of human error too great a factor as well as mechanical breakdown--we need to use fossil fuels that are readily available--nuclear waste is impossible to safely dispose of
* 898	I don't live next to it
* 901	haven't heard enough about it
? 902	don't know enough about
+ 903	they've put so much into it now it'll pay off in the future

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 905	'cause of the cost of it
? 906	too confusing to try and understand all these goings on
? 907	haven't got enough info.
- 910	too dangerous for me
* 911	don't know anything about it
- 913	just against nuclear power
- 914	just doesn't think we need it
- 915	they don't know what to do with the waste from it
+ 918	should complete since they already started and would waste money if they didn't
+ 919	efficient, safe (for a period of time)
- 921	"they better just forget it" doesn't like price increases
+ 922	there's a place for them if properly managed
- 923	never should've started it, no way to treat waste materials.
- 924	don't need it. It will cost more to use it
- 925	"Not worth the money, don't like their line of bull."
* 950	"If we need the power--what else can we do?"
* 953	Don't have any say in the matter anyway
* 954	Don't know about cost. Didn't think about it when I was told

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 955	"They don't know what to do with the waste materials so why build them?" Oil, coal cheaper, nuclear not safe
- 956	Safety, afraid of Nuclear power
? 957	Nuclear power can be worked with safely but they haven't got all of the bugs out of nuclear power yet.
+ 959	"Yipeeayae! I'm for it-" Think that's the only way we're going to have electricity-take advantage of energy source because fossil fuels are running out.
? 961	knows people who have been there-they (friends) feel they should use it-they have spent a lot of money on it anyway (relies on friends' opinion.)
? 962	Is personally against plant, but doesn't know what alternatives would be if they don't complete it.
? 963	"I've heard more complaints this month than I ever heard in my life." I don't know how we're going to pay our bill. Maybe it's cost a lot.
+ 964	"Oil and coal is higher ; nuclear power is a heck of a lot cheaper. It's not all as dangerous as they say."
- 965	"They might to blow it up. I'm not sure they'll even get it to run. People won't be able to pay their electric bills"
+ 966	"I think they'd better complete it, as much money as they've spent on it."
* 967	"I don't know that much about it."
* 968	"I don't know that much about it."
? 969	"I'm not scared of nuclear. I think it's a wonderful thing-- I think we don't know how to use it."
* 886	"I don't pay that much attention they spent much money"
- 887	"Because of availability of coal" I know how much more it is costing-I know the energy they are putting out is not going to be as cheap as they thought."
+ 888	"Nuclear power is a safe, viable source of power for the future"
+ 889	"No sense in not completing; we got to get used to the charge."
+ 872	"It shouldn't have been started in the first place. After spending that much money, I think we should ...what are you going to do-throw out that 2 billion?"
* 873	"don't know much about it"
? 937	"I thought it sounded like a good idea" Can't believe how it has escalated in price.
- 938	"I don't know why they ever started it." "If it really isn't needed it will make people's utilities more expensive, I don't see why it should be completed."
- 939	"Costin' 10 times what it ought to; and your rate's going to be that much higher."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 940	"It would be a waste of money cancelled now."
? 941	"I wish I knew how I feel about that. I feel unqualified to answer. I'm seeing these rates going up and wonder if they're going to continue."
+ 942	"There won't be enough electricity" "those conservationists are going to ruin things." "Electricity hasn't increased as much as other things."
- 943	"It's going to be too costly."
- 944	"The way they overbudgeted it, they're draggin' it on and we're paying for it."
- 945	"Think we got a lot better sources of power than that." "they got to put a lot of money into it just to finish it. Should've never started it. It's kind of bad to scrap it now they got all that invested in it."
A 946	"Don't know enough about it."
- 947	"I'm rather opposed to nuclear power. We have nuclear power surrounding us, and now centralizing this, if something went wrong...it could cause a great deal of damage."
- 948	"We don't need nuclear when we have all this coal; we don't need our rates doubled."
+ 949	"It's going to bankrupt MJM either way; should never have been started."
+ 874	"Don't know all the pro's and con's; there isn't that much nuclear energy on the west side of the state."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMEN
? 875	"We hear so much about opposition to nuclear plants by people who live near them; I don't know enough about them to voice an opinion, do you?"
? 876	"If it's going to make it higher, we don't need it any higher
? 877	"My family all works for the coal mine."; "I just feel uninformed."
- 890	"It makes our electric bill go up; the cost overrun is ridiculous." It ought to have been cancell a long time ago
- 891	"costs too much"
* 892	"I'm not for nuclear power; we don't know enough about it." (we= all of us)
? 977	"6 to one and ½ dozen to the other. They say now that cancelling it will cost just as much as completing it."
? 978	May as well complete it-over half is done; corp. is getting too large; too many people, relying on it.
- 979	"You're gonna have to pay for it."
- 980	"It's just nothing but a thing that produces waste--ya can't do nothing with." "No nuc. plants nowhere." Dam and electrify the Mississippi
- 987	"Some people said make bill go higher--electricity rates are going to get outrageous." "If they are, I sure hope it

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
987 cont.	don't get completed."
927	"it's a terrible waste of money otherwise" but I also think MJM had no business investing any money in it anyway.
988	"I'm all for nuclear power."
989	"We're going to have to have them things to survive -- have electricity to run this country"
990	"Be silly to cancel it now as much money as sunk into it -- just continue it. That's the biggest white elephant this state ever had." My brother works there;those regulations setting them behind.
991	"I feel in some respects they'll have to go to nuclear but need to learn what to do with waste before they continue building them."
992	"I don't know enough about it."
993	"I hadn't thought about it." (end of interview) "Where is the first kill zone. I'd like to be close up than farther away. I don't want to walk around like a zombie."
994	"You hear so much about it; I don't understand whether it would be a benefit or not." Son works there.
995	"All depends on how much they raise rates."
996	"Someone's going to pay for junking that thing -- it's going to cost you either way"I used to be in favor of nuc.power;now changing
997	"All the coal we got around here." "More practical to put in coal plant." If MJM could get money out of it, shut it down.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 998	"I know it's going to cost us."
? 999	" "Time they bought in - now rates will increase."We knew higher costs were coming"
-1000	"I don't think consumers should be paying for somebody's mismanagement." If it isn't needed, it should be cancelled;
- 1001	"Too costly "expense "they've already spent too much in it
* 1003	"I think they have enough with the other one to take care of this one; that's the second one they've bought into."
+ 1004	"far as economics is concerned, we need it."
* 1005	"We don't understand the need."
- 1006	"If it means doubling my bill, I'd say cancel it." When they first talked about Nuclear Power, they talked about making it cheaper, but that's not the case."
- 1007	"From the experiences of the one across the river, the cost of nuclear is greater than conventional plants and the danger of nuclear reactor."
* 1008	"I don't have...The little person doesn't have much say - if the government is going to do something, they'll go ahead and do it."
-913	"I don't know all the 'ins and what have you."
+ 929	"I hate to see the tremendous waste of the money they spent. Had they never begun, I'd be opposed. Somebody is going to have to pay for that thing."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 930	"I'm old enough to die anyway."
- 931	"the expense"
? 933	"while coal in Illinois oughta use that. Nuclear to me is a bad thing, while we got so much here"
* 934	"Be a lot cheaper if the EPA would let us use the coal around here." "Not against EPA but sometimes they go...."
- 982	"I don't feel it's right that we people should have to pay for it" Overshot budget
? 983	"They should hang some people over that deal;" "too bad they can't hang the people responsible there" "The quality of construction and the way they went about it seems like poor management" "they haven't figured out what to do with the waste." "What'll they do dig another pit?"
+ 1010	"we're going to pay for it anyway" "I'm not much in favor of it" "Hard to say" "More people are going to electricity I guess" "...population increases" "more uses for electricity."
? 985	"don't know enough about it to talk about it"
- 1011	"we already got a source of power"
* 1013	"don't have enough information yet"
- 1014	"I think it should be burned down before it ever starts" "I'm not anti-nuclear" "there are other sources which they haven't looked at which are better - I don't necessarily mean coal."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMME
- 1016	"we don't need it"
? 1017	"if it's going to raise the utility rates, then it shouldn be completed." "it should be completed if it can be done without any enormous costs"
- 1018	"they've proven that it's cost more in the long run" "I don' care for any more nuclear"
- 1019	"cancel the son of a bitch" "they're going to close it down as soon as it starts up so they can charge us for getting electricity from it."
? 854	"I doubt if they even should have started it;there are so many that have been abandoned after they spend as much money They are shutting them down because of accidents. You could not help but hear about it. We know it's going to costs us mo More regulation in coal plants, I suppose. There's a good reaso healthwise why they have them regulations."
- 855	"I don't care for that."I thin they're too dangerous. They don't know what to do with the waste. Someone builds a house and wonders why they get sick.
- 831	"I think it's useless--waste of taxpayers' money.They're building that for the big boys that's all they're building it for."
* 833	"I don't think about it."
- 834	"It's no good;all money to the rich."
- 835	"They've got no way to dispose of this waste. If could be converted to coal; ought to be burning our own coal.It's a

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 835(cont.)	shame we've got all this coal right under our ground here and we're not using it for energy. Son works in coal mine--he's laid off now. EPA and air pollution putting people out of work"
+ 837	"Too much coal around this part of the country; they could have had this thing operating if they'd used coal." "I don't trust the people running it.Not afraid of nuclear."(spouse)
? 838	"If they need it, they should complete it; if they don't need it, they should not have started it. It is hurting our local area as far as funding."
+ 839	"It will make wind and solar pay back in one year. They might as well complete it.They could have built ten coal-fired plants."He will produce power and sell to the coops;more expensive coop electricity is, more money he makes.
+ 840	"As far as they went, they should keep going."
? 842	"People will use more electricity as long as we could get it."
+ 844	"I guess it should be completed. I guess they are adding more now in the rate base--just read about it."
- 845	"They're ok if operated right--I don't know;my brother-in-law is working on one in Texas."
* 846	"I don't know enough about it to say. I rather see coal; we have unlimited coal."
? 849	"To my knowledge, can't see the need for it. Stories we hear--spending a lot of money up there; wondering who's going to pay for it.With what you say it's going to do to the rates, I wonder if we need it."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
* 843	Not close enough to make a difference.
- 850	Needless expense;don't need it;unsafe.
* 830	I don't know.
? 852	"I don't know enough of the facts about it to know. It's a long way from being completed and a lot of money is being spent on it."
- 853	"God damned right we are and don't like it.I don't think it's right;they told us we're going to get a raise. I don't think this son-of-a-buck will ever operate. This is getting ridiculous. We have to pay for Illinois. Why should we have to pay for Clinton when they can't get it off the ground."
- 856	"I know of a few that got shut down. I don't think that any person knows enough about it.""Are they building nuclear bombs there? That's awfully close(immediately to husband) Would you say cancel?"....Coal gasification plant should come in."
+ 857	"Don't know much about it.They've already sunk quite a bit of money in it; why stop now?"
+ 858	"I think it's what it's going to have to come to;EPA is on their backs. Coal can't burn that--gas is ridiculous."
- 859	"I'm just afraid of it.I don't think you should have nuclear power plants. I don't think they know about how to get rid of the waste."
+ 860	"One of these days we're going to run out of energy; they hurried it a bit. They had some problems."
+ 861	"It's going to mean more work for people; there's alot of negative aspects to it also.Anything that's going to provide more work, they should go ahead and complete."
-862	"I think we are being oversold.I don't think we have the shortage. I don't think we need it."

Individual Responses to Question #35

35. Are there any other steps you would take if the Clinton Nuclear Power Plant was completed and your electricity rates doubled or tripled? NOTE TO INTERVIEWER: Do not probe--just record responses; no follow-up questions._____

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1	"not that I can think of, but that'll change" People don't believe you.
2	"well there's just no way I could pay it"
3	"maybe bomb Clinton Plant"
4	"I'd cut off everything I could"
5	I'll know that when the time comes
6	"my husband would probably be the one to make that decision"
7	no
8	nothing would do anything to change it
9	no
10	talk to Board of Directors or join the Board
11	no
12	no
13	no
14	no
15	no
16	I don't think so
17	"After they get those plants built on your money, then they don't know you anymore" generator would help solve problem
18	probably it would make us want to build a new-house-with wood burner
19	"They got us over a barrel" There's nothing you can do. It would be nice if it (plant) did make costs go down.
20	Whatever we'd see fit to do, we'd do. We'd mainly need to keep light.
21	don't know-go back to gas lights maybe
22	don't know of any
23	not use electricity except for refridgerator or freezer
24	don't know
25	do like we're doing now-keep the lights off
26	Possibly move into town-if utilities higher than rent in town, since home is now rent free
27	don't know-live someplace else? will have to work that out
28	complain, what else can you do?
29	"like I said, we'd move"
30	"I don't see much what we could do"
31	try to cut back on use of electricity or just move out
32	move away! (laugh) No! I don't know-hope corn prices go up

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
	too. They got ya up where they want ya.
33	find out what I could do
34	doesn't know
35	go to candles or lanterns?
36	don't know
37	don't know
38	I'll figure it out as it comes along
39	don't know-don't know much about it
40	move-get a different power company
41	cut the wires outside!-to hell with 'em
42	don't know
43	start using hand tools-to replace electrical
44	no
45	no
46	work harder to enjoy it more-might shut attic off in 3-4 years-when children leave home-only in future
47	could write petition, write to congress
48	don't know-cut back on air conditioning
49	"don't know enough to agree, don't know enough to disagree"
50	"I don't suppose there would be...I wouldn't do anything different."
51	might not be economically feasible to run graindryers-Prohibitive-would investigate all other methods of energy for these
52	move
53	move,-people will work harder to find answers becouse they have a stronger motivation now
54	"this all new to me"-"I can't see that (rates) they'll go up that high."
55	change the stove "that'd be about it"
56	"I think if the rates triple, I would get pretty irrate." aware that WIPCO didn't have to buy into nuclear and didn't need that much power
57	contacting WIPCO rep. and telling him not happy
58	no
59	close up some rooms, wear more clothes and turn down thermostat
60	"of course I've written letters to the coop and that didn't do much good" write letters
61	we're going to have to do something
62	don't know
63	"go back to kerosene lamps"
64	I would like to have a little wood stove to use.
65	"I'd consider some other way of electricity."
66	don't know

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
67	probably complain
68	run no heat upstairs at all
69	get a woodstove--that would save propane not electricity
70	"I'd go to solar heat"
71	no
72	no
73	no
74	if a group went together, I would
75	can't do anything
76	no
77	no
78	no
79	no
80	no
81	no
83	just shut the electricity off
85	no--too lazy
86	no
87	no
88	no
89	no
90	no
91	no
92	no--wouldn't do any good
93	no
94	no
95	no--do no good
96	no
97	no
98	no--only at annual meeting
99	no
100	just complain when I pay the bill
101	no
103	no
104	no
105	no
106	don't think so--haven't got many options besides pay it
107	"that's 1986--who says we'll still be here by then?" don't know
108	"I suppose a person could cut back on things."
109	"I don't think anyone knows that, they just have to wait till it comes. It depends on how the economy is, too."
110	burn more wood
111	"I think we certainly ought to write and tell them."
113	don't think there's much I could do
114	maybe change way they're heating their water
115	go to wind turbine
116	might build more efficient home--possibly heat water from wood stove

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
118	wouldn't be much else you could do
120	possibly put fireplace in but expensive too
121	possibly kerosene lamps
122	no
123	go to LP on water heater
124	no
125	shut off rooms
126	no
127	might write to co-op
128	don't know
129	no
130	would shut off rooms--write representatives and congressmen
131	I might write letters
132	no
134	no
135	no--might live without it
136	people in neighborhood would get together and go to co-op
137	don't know until the time came
138	maybe a wood stove
139	"might have to do away with it" might go to old folks home
141	no
142	don't know
143	write and complain to congressman
144	no
145	write letters
146	no
147	no
148	don't know but we'd have to change
149	no
150	no
151	no
152	he's on co-op advisor and board
153	no
154	just complain some how
155	no
156	no, do no good
157	no
158	it wouldn't do any good to complain in anyway
159	no
160	no
161	no
162	write REA and complain
163	"I don't think REA is gouging us." no
164	no
165	no
166	"I would voice my opinion to them."
167	"Yes, I'd let them know I didn't approve."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
168	"It wouldn't do no good." no!
169	no--wouldn't be worth my time
170	no
172	on advisory committee-would probably advise officials of public opinion
173	yes--personal friends of district head--would just talk with him
174	write to local REA
177	probably
178	no
179	no
180	write to REA
181	"wouldn't do no good anyway" no
182	no
183	no--do no good anyway
184	yes, if it tripled
185	no
186	no
187	no
188	"probably have our say to not liking the increase"
189	no
190	no
191	no
192	wouldn't do any good
193	no, all it does is use postage
194	no
195	no
196	no
197	don't know what
198	no
199	we might go to them for an explanation
200	maybe disconnect--might move
201	don't know yet
202	no
203	probably move to CIPS--many people in neighborhood would
204	no
205	no
206	no
207	no
208	move--pretty sure
209	no
210	no
211	don't know--might move to city
212	don't know
213	no
214	might write the co-op--might move out
215	might write

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
216	no
217	no
218	no
219	no
220	no
221	no
22	no--wouldn't know what to do
223	go back to kerosene lamps
224	"might shut it all off" coal oil lamps
225	might complain
226	no
227	no
228	don't know
229	don't know
230	conserve as much as we could
231	no
232	no
233	talk to co-op representative
234	no
235	consider moving to town
236	no--might have to move out
238	don't know yet
239	don't know yet
240	no
241	we will move for sure
242	no
243	could easily write congressman--do most everthing on LP
244	no
245	might complain
246	no
247	no
248	talk to directors of REA
249	no
250	cut back wherever we could
251	no
252	might move to CIPS
253	don't know
254	considering moving away
255	don't know--might move
256	no
257	no
258	"They've got a problem on their hands." talk to co-op
259	no
260	might move South
261	if price really goes up--yes
263	he'd object in any way possible
264	yes, write in to see how they could help
265	maybe write in hopes to get attention
266	no, not necessary

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
267	just write letter asking why and letting know they don't like it
268	no
270	write to company and complain
271	no
272	no
273	"Well yes, I'd go to some other source. I'd go to bottled gas .....I'd turn my lights off in the barn."
274	don't know of any
275	no
276	no
277	I could "quit payin' my light bill and then they'd disconnect me."
278	would contact Spoon River personnel - in office
279	maybe letter
280	would be angry, especially for elderly/fight - personally confront
281	she felt it probably wouldn't finish
282	no
283	move to town
284	"by god I have to do something if they tripled" - write congressmen."
285	don't know if there would be any I could take
287	"write old Michael and everyone else"
288	"I think we should go to nuclear power"
289	"No - I know Gershner - think he's doing what's best"
290	no
291	think about that
292	As a community would participate in
293	Yes - "you've heard of a guy taking his hat off and stamping on it."
294	"I'm not that smart about those things." Go along with other's suggestion to cut
295	no
296	
297	No - I'm kind of a "pacifist" Write to Congress - we neglect our old people man
298	no
299	Go to board of Spoon River (laughed afterward)
300	Searching for another company or source
301	My daughter uses alot of electricity
302	Get rid of electric stove - go gas
304	Cut back - (perhaps) along with friends work together to make a commotion
305	I would write my congressman I'm not sure it would do it any good
306	I think they are high enough as is

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
307	Probably not
308	won't do any
309	just cuss them out in my sleep
310	no
311	no - do no good no matter what you did
312	no
313	no
314	complain to officials
315	no
316	no
318	no
319	no
320	no
321	no
322	no
323	no
324	no
325	no
326	no
327	no
328	no - do no good
329	We know a board member - talk to him and see what we could do
330	no
331	no
332	I would complain to someone

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
333	no
334	no
335	no, do no good unless whole country contributed
336	no
337	I have already
338	no
339	no
340	no
341	no
342	no
343	no
344	do whatever I can on the board
345	no
346	no
347	no
348	just question them for the purpose of this
349	no - do no good
350	severe steps but I don't know what yet
351	might move - couldn't pay $600
352	no
353	do some bitchin'
354	might move to a cheaper place
355	might build a new home
356	don't know
357	no

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
358	no, I'm getting on board for Spoon River
359	probably move for sure
360	might move out
361	shut off some rooms
362	don't know
363	getting old - move to smaller house
364	no
365	might not heat for hogs
366	no
367	be seriously tempted to move
368	no
369	we'd move - husband retiring
370	no
371	write letters to governor
372	no
373	get a lawyer and get on I.P.
374	no
375	definitely woodstove - maybe complain
376	no
377	we'd move if it got up to $450
378	no
379	might move to another utility
380	no
381	no

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
382	might consider moving south
384	might move to town but already thinking of that
389	she said she can't live if they double
395	write congressman
398	wouldn't know
399	change bad management of REA
402	leave
414	move to a place where it's cheaper to live - not build electrical home
421	if couldn't pay bill, put in heating stove - wood -- hate to do it, though
423	kerosene lamp or two
426	the other insulation would be put in anyway if money
429	no
434	buy new home - trailer too expensive to weatherize
436	possibly a generator
437	doubt it - dad might cut off electricity at hogfarm, use just in winter
443	line dry
452	move to town
457	"might have to go back to kerosene lamps"
458	someday, she'd like to get thermopane windows all over
459	selling place and get a place with CIPS - IRE unreliable

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
464	see what cost to pull CIPS one mile to house
466	put in another woodstove, put in outside building and heat blown in
477	if we owned farm, put wood furnace in, or use gas
480	might go south (seriously)
482	go gas
484	scream!! - love my electricity tripled!!!! - unreal!!!
487	I don't know - just have to see - cross that bridge when you come to it
488	"Put a woodstove upstairs to eliminate blow furnace."
489	"we'd cut back, I'm sure, we'd have to."
490	"see if I can get CIPS to hook me up"
491	"not that I can think of"
493	"we'd have to - we couldn't pay 'em"
494	"if it got what I thought was out of reason"
495	"no - I don't believe so"
496	"that I don't know"
497	"just insulate"
498	"Yeah, I'd move - maybe write my congressman or something"
499	"I doubt it "
500	"I don't know because I don't know much about this nuclear"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
502	"well, what could you do? if you were close to a gas line you could get gas"
503	"just have to quit using 'em!"
504	"not that I can think of-turn off the lights more often."
505	"There would have to something, I don't know, Rob would have to figure out something, that would be impossible for us to carry." there would have to be something-- I don't know
506	"see what I could come up with for my own source of energy"
508	"other than going to methane?"
509	"not outside of quitten' em"
510	"might get real nasty, nothing I guess"
511	"hell with 'em" I'd just move out of the system
512	"I don't know how I'd ever pay it"
513	I don't know what I could do about it
515	ain't nothing I can do--conversion is expensive
516	an individual doesn't have any clout, anymore
526	would make me consider more strongly going to efficient apartment
529	"Holler"
532	definitely try to cut back and conserve
533	not that I know of
534	insulate home more

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
536	"I don't know what else you could do about it--once it's open, it's open--you have to stop it before it opens"
537	"no"
538	"I don't know what we could do"
539	"I might try and find out why they have it so darn high. Somebody in high places ought to know."
540	"see if I could talk to some kind of representative"
541	"he'd probably have the meter shut off"
545	go back to burning kerosene (burn some now)
546	could use coal oil lamp
547	"not as long as we could pay our bill"
549	might move to Florida--truly considered
553	don't know unless move out of state
554	"start doing without more"
556	move to Florida
558	"not much really could do"
559	get along with less
560	might have to go to gas or move out
563	possibly go to wood (partially)
565	try to cut down
567	cross it when get there

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
570	move aboard boat as already planned
572	new windows in where needed
579	move--seriously--fed up with weather and bills--Arizona prices look good
580	throw a fit
582	if enough people, probably they'd cancel it--I can't afford triple rate increase
583	when time comes
584	look into things--check more into solar heating
585	"might go back to gas if it got too bad"
588	possibly look at wind generator
591	"they've got us over a barrel"
593	kerosene heater
595	hope I'm not here
596	No
598	wait until happened
599	no
602	If group people got together, I'd be in on that to protest
605	"What could a person do?"
608	not sure--husband might
609	have to do something different if it got so high.
611	might move to where on CIPS
613	all I know is shut if off--can't hook on to CIPS cause wrong territory
616	might move to house either under different electric company (3 around us) or move to house where walls are

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
	thick, so insulate
617	"Don't know how we could pay bills."
619	wouldn't know
621	kerosene lights
623	"Build a shed without windows to keep heat in."(he said with a laugh)
624	they got you
625	try to be more in touch with local representative
627	no
628	no
629	move to California, really!
634	no
635	we'd keep eyes and ears open for ways to conserve
636	"take some thought."
637	maybe lights
638	try to be more economical
643	may find other energy alternative--like solar
647	"I wouldn't be happy. It's high enough as is."
649	think more emphasis should be on solar
650	if can't get trailor--build underground
651	complain
652	try to think of something
654	we don't have any choice--have to pay bills
655	"You can't fight 'em."
657	"Don't think we have any choice."
659	not sure--possibly move to smaller house
660	that would be horrible
661	"What else could we do?"
662	probably complain but it wouldn't do any good
663	cut down more--have to
664	don't know
665	maybe move--don't know--personally, I'm afraid of waste
667	got to live
668	leave unnecessary lights off
670	"They should take steps to control money." not much else can do
672	try to use less
673	no
674	no
676	no
677	raise
678	looking up other ways
679	might move to town(seriously)
680	"They raise rates as long as people buy it." move to town a way

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
681	probably sell out--cut back on operation--let corn stand in field longer--we irrigate too --go to sensor, so don't use so much
682	no
683	"like to just quit electricity" (ha, ha!)
684	don't know what would do
685	"quit using it"
686	try to conserve more
68	"just going to have to live with it"
690	nothing can do
691	not much could do
693	just wait and see
694	don't know
695	move (seriously)
696	don't know
697	cuss
698	don't know
699	don't know
700	don't know
701	definitely look into windmill
703	save all could
704	don't know
708	if electricity rates go up may look at something different than geothermal heat pump --our oil furnace about to give out

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
709	no
710	possibly cooking and heating water if electricity too much --not sure how much cut co-op use
711	no
712	not for sure
713	I try to find out
715	not sure yet but would think more when the time comes.
716	"hate to see it do that but already plant has cost a lot"
717	might set up generator of own
719	might change my opinion on whether plant should be completed
721	no
722	no
727	don't know
729	"Up to landlord and they're not interested." not know of
730	a lot of bitchin'--time people voiced opinions
731	no
733	move to Florida where warmer
735	don't know
736	cut down
738	might look into
740	don't know
743	no
744	go solar--wind pretty expensive

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
745	no
749	"raise hell"
750	no
751	might move to town
753	no
754	be vocal against coop
755	might go to wood but don't know at our ages
757	no
760	thought about putting up wind generator because plenty of wind but initial cost is $5,000
762	they've got us in bind
763	don't know
765	no
771	not unless CIPS can over build
772	don't do a lot of cooking
773	"wish they'd forget that thing up there"
776	move out
780	I don't know what we'd do
782	consider moving to town
785	"protest I guess with neighbors but until something like that happens, don't know what to do"
786	nothing can do unless get another company in here

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
788	put in gas water heater
791	I don't know
793	change to CIPS - it's down road
797	"what else can you do"
800	no
801	move into one room of house
802	no
803	no
804	no
805	no
806	no
807	no
808	kerosene heaters
809	no
810	no
811	no
812	no
813	no
814	no
815	no
816	no
817	no
818	no
820	different windows

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
821	"Go shoot _____ -- just be looking to move"
822	I don't know
823	To see if there is another way
824	"I'd go somewhere; I wouldn't put up with all that" Move
825	move out of the area
826	"Well, just cry a lot I guess"
827	"Off-hand, I don't think"
828	"Not that I can think of"
829	probably not
830	caught many by surprise
831	"I'd put thermo-glass windows in."
832	"I'm not real sure"
833	"Probably I'd move - very likely I'd have no choice but to move."
834	no
836	no
837	"Join a coalition to make them sell it to somebody."
838	"Got to beat the system - show them sons of bitches."
839	no
841	Go without lights as possible
842	maybe wind
843	I don't know

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMEN
845	"Many kids are away from home now" Sell house and move to a smaller town
846	"I guess not"
847	"Just go to candle light"
848	None
849	"Close off half of the house"
851	"Corn crop burned up. Beans ain' going to amount to much; It's going to be slim this year. Jus tell them to give us a good sea-son, and I can tell them more about it. "I don't think so.
852	"No - I don't know of an alter-native at this time"
853	"The only God-damned thing is to sell the son-of-a-bitch and get out" How can you - How you gonna stop? If it don't go through, REA is done cause they ain't gonna get any God-damned loan from the government."
854	"Unless you move to towns and get off of REA." Might move to Arizona
855	"At our age you don't need much cutting"
856	"Move into underground home - son builds them. He's got eight or nine projects this year."
857	no

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
858	"Not right off-hand"
859	no
860	"No -- Do a little griping"
861	no
862	gas dryer
863	none
864	feel trapped - never get Clinton for 83% completed - pay for 83% - pay for completion - go ahead and finish Clinton - a mess - nuke power was suppose to be so cheap they would pay us to use it - pipe dreams
865	not now
870	why build and then triple our rates when we pay for it
872	raise heck
873	put in new storm windows
874	"I could plead with my state legislators; but I don't know what I could do on my own."
875	"I can't think of many places where we could cut our electricity and have any use at all."
876	"We don't use that much in heatin' - we use gas." We already closed off two rooms and that didn't seem to help.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
877	"other than get a different kind you mean? I don't know. If it doubled or tripled, we'd have to do something."
878	"we will have to wait and see them"
879	could move - speculation - it isn't his house
880	no
881	none other than wind
882	don't know
883	"I doubt it"
884	no
885	no
886	"There are a lot of people who can't pay right now" I'm on Social Security; fortunately my wife has a job."
887	"I'd revolt."
388	"Yes, I would like to see MJM broken up;" "separate Macoupin Co." "We subsidize those people over there." "I would like to see IP take over out here."
889	"None right off-hand."
890	"No, not much else I could do."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
891	No
892	"I'd move to the sun belt."
893	go to a generator
894	energy will shift to electricity
895	no
896	political pressure
898	no
899	no
900	let our opinion be known to somebody
901	no
902	no
904	no
905	no
906	growl a little
907	no
908	no
909	write and complain to MJM
910	no
912	no
913	"I guess not" No
914	no
915	no
916	no

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMM
917	doesn't know
918	no
919	"probably - eventually go self-sufficient in energy needs"
920	"possibly use some kerosene lamp
921	no

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
922	nope
924	possibly move
927	"I'd probably be right up ther protesting."
928	"I'll tell you, if they do double or triple, we might have to give up electricity; if you don't have the money to pay for it, what are you going to do?"
929	"I really can't think of any - thing -- go back to the old kerosene lamps and ice boxes."
930	"try to get out from under it, that's what I'd do" "start lookin' at other sources"
931	"How do you beat city hall?" "People tried to block Calloway, what good did it do?"
935	"don't know what you could do' keep saving on heat
937	"I'm afraid not, I'd just probably pay it like everybody else."
938	I don't know
939	"I don't know of any. Get out the old lamps..."
940	not right off
941	"We already close off part of the house and live in a smaller area and we can do more."
942	"No, I think we have taken all the steps that ...
943	"I don't know right now."
944	"Boy, I wouldn't know unless there was some petition a person could sign"
945	I doubt it
946	"I'll bet that there is some way, but I don't know what they'd be; how's that for an answer."
947	"Be more conservative - I guess."
948	No - nothing else
949	No - I'd pay it
950	would do nothing different than now doing.
951	if younger - use another source
952	try to find different sources of heat - for hog house, etc.
953	no
955	go back to coal - oil lamp
956	"Not much more you could do but get off of it." No
957	probably suicide
960	"Not too much I could do. I'd just like it or lump it."
961	not too much you can do
962	"I don't know - I don't think much of the plant. I'm against the plant -- if happens, but I've got to be realistic. I would rather pay higher bills rather than risk lives. All this should have been studied a long time ago."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
963	"Think government better get efficient. Too many high wages paid on that." Hadn't heard about double or triple.
964	"Now, I've always been under the impression that when Clinton went on line, costs would go down."
965	"You're hooked on the line not so much you can do. That's what the suckers know"
966	"Close off. Quit the line and do without."
967	I don't know - that would be pretty bad.
968	I don't know
969	probably not
970	no
971	try to conserve
972	no
977	"A guy might generate his own with wind or some sort. An increase would make it that much more feasable."
978	complain a lot
979	look into gas powered generator
980	don't know
981	nothing short of moving
982	burn candles
983	"Where they going to double; they've been telling it'd be cheaper if we had that."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENT
984	no
985	"Not that I know of, by the time they get in there, I probably won't be around."
986	"Cry" "If I were out of a job I would."
987	"Do we have any choice in the matter?" "Did anyone ask us first if they wanted that; what I read about it is expensive."
989	No
990	"Sign a petition and bitch about it."
991	No
992	"Ain't much we'd change"
993	No
994	"probably have to do without everything if they go to tripling." just don't know
995	"only holler but it wouldn't do any good." No
996	No
997	we could go to IP
998	"No - it's getting ridiculous" (plaster over windows)
999	I don't know
1000	"A lot more beans and less steak"
1001	"if it got bad enough, might shut it all off " "I lived many years without it, though I'd hate to."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1002	"I'd get up a petition" "We haven't got much say-so" They didn't send us anything on this.
1003	"Don't really know if I'd look for a replacement or not."
1004	"I'd gripe about it - (for all the good it'd do)."
1005	"We bought that for and it really works; can't see that it's going to double; can't see how people are going to pay."
1006	"Selling and moving; I surely couldn't afford to double or triple the rates."
1007	"Would consider moving to an area outside of the region."
1008	"You would just have to live and experience, that's what you could do."
1009	"I doubt it"
1010	"Not that I can think of"
1011	"guess if we had to, we'd move, go to some other area."
1012	"my dad would probably build his own generator"
1013	"not sure at this time"
1014	"I don't know what you could do"
1015	"I'd move to town" "Get the hell away from them"
1016	"I don't know what for"
017	"no, I don't think so, I don't know what I could do"
1018	wait to see what it does, cut back as much as I could, install a wind generator
1019	"contact my lawyer;" "if there's a group opposing it, I'd..." I tend to think he would become active in a movement against the plant, though he did not actually go that far.
586	no
587	no
596	no
973	don't know
974	won't know till then
975	no
976	"I'll have to wait and see what it does."
933	oil lamps
794	try to conserve

Individual Responses to Question #36

36. Do you think that your thoughts or actions will effect the completion or cancellation of the Clinton Plant? (Circle One Number): 1 Yes 2 No

A. Why do you feel this way? _____

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1	"cause I think they're committed to it financially..it's too late to back out."
2	"Do they ever take your opinion for anything?"
3	"I don't know how far along they are on anything. I've never really been for nuclear plants. the news media had always been saying that with nuclear plants your rates would be cheaper."
4	"nobody ever asked us whether it should be started or not"
5	If they gotta sell electricity they'll get it somewhere
6	sometimes petitions help and sometimes they don't
16	I kind of doubt it
17	"I don't think anything people will say will stop it unless total membership says we won't-or pass a law"
18	"What some poor farmer says won't effect big corporations-they're ruled by their Board of Directors"
19	They do what they want, no matter what anyone says.
20	lot of people have been bitter about it, but I don't know what we could do. Maybe ** might still get out
21	if enough people complained, it certainly would-why is it so high, if not helping me more.
22	people seem to have little say-things are taken out of our hand
23	big shots have adequate funds-big farmers how do they dry corn with electricity and afford it
24	we can't stop anything that anyone wants to do-they're gonna do it anyway. I wish there was something we could do about it.
25	They'll finish if they want to; if they don't want to, they won't
26	"don't believe they worry about what people think" late fee deposit seems cruel to user--$250 dep e.v.--meetings dropped fees est. new guidelines
27	haven't expressed thoughts publicly, haven't contacted senators and representatives--we should write--express opinions--interviewee has written to them on other issues
28	unless a group got together--one person can't do anything
29	"you'd have to get a lot of people to go in and protest--it hard to do around here--you know people talk. . . "
30	"if all the customers would why then they probably would listen to what customers wanted"
31	I don't think rates should go up-I think utilities should cut back on labor costs, especially
32	"If the right people do somethin I doubt it. The public has lit

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
32 cont.	say. The (utilities) try one thing; if it doesn't go, they try another
33	but it enough people were against
34	don't know enough about plant to say
35	they wouldn't stop it just
36	opinions expressed would have effect--believe in power of prayer (minister)--pray for these people before into talk to them
37	doesn't seem to make much difference--they'll do it if they want
38	they can't expect the people to always do whatever they want to do
39	they'll do what they have to do to supply electricity--got to have electricity--we'll have to do without something--if I knew more about it I might do something about it
40	only if you had enough people
41	I wouldn't do anything about it--50 little people in a community wouldn't stop a corporation
42	"I suppose it would if we stood up or petitioned or something"
43	one individual couldn't do anything--if they want to build it, they will
46	cousin said thought Clinton would be completed--we don't have any say
47	people have already invested a lot of money--won't let it sit idle
48	"Where will you get your energy if they don't complete it?"
49	it's pretty much completed, perhaps a little through WIEC
50	"We can't go back to the 18th Century and live off a coal oil lamp."
51	"These things are such big projects and involve so much time and money that I hate to see them stop. . . . That's a waste of money, too."
52	not one one-to-one basis
53	assumed we were legally bound to contract
54	"I don't know, if the rates go up we may move." "if it's over half-finished they'll go ahead and finish it."
55	politicians do what they want to do anyway regardless of what the people want them to do anyway
56	"I just think if you get enough irrate women together, they can make things pretty uncomfortable"
57	"as usual, one voice in a crowd means very little."
58	"Let the young one take care of it."
59	"if cost goes up, I'll holler like heck!" if enough people complain about it
61	"Why would one?--you'd have to have a majority"
62	"it's probably too far along to do anything about it"
64	"I just have an attitude that what's gonna happen's gonna happen" fatalist

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
65	"They wouldn't pay any attention to us little old farmers out here." "The older they get (the coops) the rottener they get."
66	"I haven't given it too much thought."
67	I'm afraid to speak up and say what I think
68	"because I car t object much to it. I won't write to my congressman or anything."
69	"these are already predetermined"
70	because you're in a backward area where people will go along with what's going on unless they have someone to follow
100	they've already made up their minds
106	If enough people default on their bills, might effect them--can't disconnect the world. Won't have much effect--raise rates when cut back usage
107	they'll send us a bill anyway--we've got to pay it
109	once they get going on it, you can't stop them
110	take more than just me--lot of people
111	"They do just about what they please in the country."
112	don't know
113	"if everybody cuts down, they won't need the electricity as much." doubt it

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMEN
114	"I imagine government will do as it wants to."
115	"I really feel like for posterity and for children growing up, they'll need electricity from somewhere."--"We're into the thing, let's get it done."
116	money has power and we don't
117	public utility--we're just a peon
118	"They never asked me whether to build it or not."
119	not much you can do about it if they want it
120	don't think they'll take our view into consideration
121	don't know
125	don't know
130	It'd help
131	They might help old people.
132	They won't pay attention.
135	wouldn't think so
137	if you had enough people
140	no, they're very independent
141	don't know
142	hope it would
143	if enough people did
145	make me feel better
146	if everybody wrote
149	if many people did

Appendix D (Cont.)

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
154	"Look at what they've done so far against our say."
162	everyone around here wouldn't do anything about it so it wouldn't have any effect
166	"if enough people would write in"
167	if enough people did it
173	if enough people talked to him
174	realistically it wouldn't effect
175	wouldn't help so why try
177	plants have too much power over people
184	if enough did it, I suppose
188	never has before
197	don't think so--maybe if everyone did
198	they're not concerned about the dollar bill anymore
199	probably--I'm involved in telephone problem
202	it might
210	if they do
211	probably--if lots of people wrote to REA directors
212	never know
213	they wouldn't read them
214	doubt it
217	if they can get out of contract
218	it might
219	don't know yet
220	if everyone in the state did
221	none
222	if you send enough of them
223	might
225	be willing to try--have written about gas de-control
226	people don't know what's involved
227	don't know
228	wouldn't know
229	don't know
230	"We have good representatives."
231	no good--a lot of people complain but they have to meet their needs
232	they wouldn't care a bit
233	all you can do
234	if there were enough
235	we've already sent letter to congressman about telephone rates
236	whatever might help
237	I've written letters before and it doesn't do any good
238	don't know--hope it would
239	it should

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
240	if enough people did
241	doubt
242	let them make the decisions --I won't criticize
243	I'm gonna try
245	it might with all the nuclear protesting
246	maybe congressman could do something
249	"might make them raise it more" not one bit
250	possibly
251	not on electric rates
252	not unless people petitioned
254	don't know
256	if I wrote the right people
257	they'd listen--good group--friendly
258	"they have their schedules"
260	maybe
261	need too many signatures to do any good
263	they don't listen
264	"If it's gonna take place, it's gonna take place."
265	"I'm only a drop in a bucket."
267	"I'm just one person out of hundreds."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
269	hate to see high prices
270	it never has helped to try and explain public opinion to huge corporations
273	"the only way to do it is if the government stopped them from doin' it--that' the only way."
274	"I just think they'll go ahead and complete it."
275	" 'cause I don't care wha they do with it"
276	"I hope so--blow that God damn plant up!"
277	"usually when they start something they finish it.
278	they're set in their way
280	I don't know if they'd even listen to me
281	hard to know--people in Mid West are "hard-headed
282	if enough people would, i may
283	I don't think the people could stop the government
284	I'm thinking it's foolish to run the damn thing--switch to coal oil
287	nobody cares--listens
289	"I could pull some strings'
290	it could
291	don't have any connection
292	write to congressman--it takes more than a few

Appendix D (Cont.)

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
293	If a person is so close to it they may be concerned but we're 100 miles away - too far away.
294	I wouldn't know anybody wouldn't be.
295	laugh "not too much on politics"
296	Mass effort may have more effect.
297	Just try to cut down
300	"I don't think they have much say in govt. - they don't listen."
301	Everybody needs to do what they need to.
302	It's mostly political- stock holders are politicians.
305	If enough response was taken it could influence
307	these guys have a corner of the market.
314	They've already got their minds made.
329	big company like this already know what they're going to do.
332	I heard they're already going to complete
337	They do what they want to do.
344	I'm not going against nuclear, just the higher price, not even sure if I would try to stop the hike - we'll all benefit from the project eventually.
350	you can't cancel the plant now
351	it hasn't helped anybody yet.
353	if lots of people
354	not mine alone
356	if enough people wrote
357	it all costs money
358	don't know
360	if enough people
361	if people got together
362	if you could get enough people- probably not
363	"They don't care about Illinois." politicians are only interested in themselves
364	you can't stop "progress"
365	a group could make a difference
366	not worth the time
367	"You're dealing with people who don't have to worry about light bills- they have money."
368	congressman might help
371	if enough people did
372	nobody reads them
374	it might help
375	It'd make me feel better
376	we'd try
377	doubt it - they do what they want to
378	they don't even notify us about this tripling of rates.
379	"if enough people would talk and rural farmers will"
380	if enough people did

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
381	if enough people took action
382	I don't think too much of political people
383	"I don't feel I have any influence at all - feeling of frustration, I guess."
384	I don't know
385	they have their mind set
386	it won't stop it by having wind mill
387	that's way I feel
388	they don't care one way or the other
389	can't live without what we've got
390	"They do what they want anyway - people usually do."
391	can't see anything wrong with what we've got
392	they will do what they want
393	we wouldn't change anything - our voice isn't worth much
394	economics on part of electric company will determine
395	company will determine one person in community, pretty complacent community--consider nukes to be most economical and environmentally safe but cost forced on company by government make unreasonable
396	what we feel doesn't matter--it's what companies want
397	just one person speaking against organization--no political pull
398	people paying for it from raised bill

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
399	because too many powerful people doing what they want to
400	seen one in MO. and it was fought but still event up
401	"They've already started it."
402	if they're going to, they're going to
403	they do what they want to
406	just one against many
407	we have to have electricity
408	"I hope" my opinion has effect because too expensive
409	no reason really
410	"because my inputs small-small vote"
412	because they don't ask us, they just do
413	not going to hold sign up anywhere
414	because a lot of people will change
415	they have their mind made up
416	"They don't care what we think."
417	don't give a whole lot of thought
419	not singly but as a whole depends on what done
420	because I'm not going to do anything about it
421	"only minute particle in universe--unless enough people felt like I did, it wouldn't make any difference"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
422	I wouldn't do nothin' to change what they think
423	whatever big shots want, they get
424	because electricity rates increasing all over, not just local
425	people can't afford 'em
426	don't think power company for people--oldest son laid off
427	they don't pay too much attention to little fellow
428	doesn't feel it'll make any difference-power plant just another cost added on to bill
429	"I don't own this place"
430	"no matter what you say, they do what they want to" wouldn't do any good
431	"because America too used to using all it wants"
432	"if everyone gives their opinion, they would go by with what most people thought"
433	one person can't do anything although if enough people complain...
434	"I doubt my opinion would matter much" not against nuke, just hate to see bills raise
435	"already started...they'll go ahead and complete it"
436	what can we do?
437	"don't know nothin' 'bout it so I don't have no interest in it"
438	"don't feel my opinion much to do with anything"
439	don't think it'll effect them
440	they won't change something as big as that with one
442	"little guy, big company"
443	don't pay attention to us--we're small
444	probably not enough people to say anything
445	"up till now, no but it may--I write letters to congressmen."
446	"don't need to build on my account--doesn't make difference because of me"
447	'cause they got their mind set
448	I don't think surveys are very accurate.
450	I really don't know
451	"one out of a million"
452	I'm for nuclear power, but not for paying more money
453	the old attitude--'best for most' will be what they say--farmers don't matter
454	"They will do what they want to, regardless."
455	"So many people rely on REA--we have to have it."
456	too near completion
457	what could a person do about it
459	"I doubt it--not if they want to build it."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
460	they'll do what they want, anyway--people need electricity
461	"Would it make any difference?"
462	I hope it does because of rate increase
463	they do what they want to--have to go along with it
464	because not aware
466	other people would rather see it completed and go along with it
467	I don't know--How could I affect it?--They don't listen to us.
468	because maybe not everybody feels way I do--costs too much for wind
469	no matter how hard public tries to change things, it doesn't happen
470	they'll do it if they want to
471	don't know
472	they decide to do it, they'll do it
473	"not unless community effort"
474	I don't know anything to do about it
475	"if there's a vote"
476	"because doesn't make any difference what you say or do" they do what they want
477	"drawn up and done years ago--already okayed."
478	they'll raise it anyway if they're going to do plant
479	it'd have to be a group of people
480	not much I can say about it
481	if they've got it started, they've got people power behind it
482	if enough of us together complain, yes--nothing against nukes; mismanagement
483	they already know what they're going to do and don't care about the little people
484	because little bug and farmer, and they never had reason to go with us
485	one person hasn't got much say
486	if enough people agreed with me--might
487	I think that enough popular opinion could, one person alone can't do it
488	"if they've started they're going to go ahead, like the gas."
489	"they never asked us to start with--I don't think they care." The rural people are a small percentage--the minority--the only way they pay attention to us unless they want more money.
490	"absolutely not. It's a cut and dry thing--they know now what they're going to do"
491	"because they have it underway, I don't see how they can start it and not complete it"
493	"if they want to build it they will"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
494	"if it's safe--that's the thing"
495	"I wouldn't do nothing to go against them--I didn't think it was fair for REA to double--nobody got a warning or nothing--there should be a warning when you're my age."
496	"I don't think they'll listen to anybody."
497	REA owns too much percentage. It isn't as safe as they would like it to be.
498	"They'll do what they want to anyway."
499	"They've already spent too much money on it so..."
500	"I don't know--I don't know anything about the plant."
501	"They already started it, doubt if there's much to be done at this point."
502	"Whoever is the head of it is going to go ahead and push that through, no matter what the people think--when you get old like we are, you can't change."
503	"People are afraid."
504	"I doubt it but I wish it would --nobody's going to listen to a poor old farmer unless you go down there with a shotgun or something."
505	"your thoughts won't unless you act on them. If enough people act on them it might make a difference."
506	"I don't know--what stage they're in--we're going to have to pay that bill anyway, however far they've gone."
508	"The potential from the goddamn chicken houses is unreal. Never need to pay electricity." (Methane)
509	"They usually do whatever they want to."
510	"One opinion wouldn't make a difference."
511	"It's just a little drop in the bucket."
512	"They don't pay much attention to the little people, poor people."
513	I would go along with a group to do something, I really couldn't influence anyone
514	might have to go back to coal--you don't know what you'd do
515	The little man ain't got no say in this country anyway
516	not that I could think of--move
517	"too many big power ahead of us"
518	not sure
519	wouldn't have much to say
520	"Us peons have no say."
521	in a minor way, only get one
522	they do what they want
523	if they're going to finish it, they will
524	"What we think is immaterial." they will do as please
525	"My thoughts wouldn't stop a big outfit like that."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
526	go along with it as long as could but then I'd have to do otherwise
527	don't suppose anything I'd do have an effect--never gave it much thought
528	they won't listen to one person--big business
529	don't know--I wouldn't ask others for money
530	I don't have any input
531	if in construction now, not much we can do to stop it
532	possibly, but...
533	"unless it's in the majority"
534	"They usually don't listen to a 19 year old person who doesn't pay many taxes anyway."
535	"I'm just one little bitty person--a majority would have a lot more to say with it."
536	"It would help."
538	"I'd like to see them cancel it but I don't see that they will."
539	"They're going to do what they want anyway. There ain't nothing that these people say out here that's going to stop it."
540	"If there was enough people with me."
541	"If everybody quits using it, there won't be any use for it."
542	"I don't see how my thoughts or actions will anyway--I'll still be using electricity but at a minimum amount."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
543	might if everybody went to steam power
544	don't think it'll be complete by 1986--brother-in-law engineer
545	I don't know just way I feel
546	only one with opinion--too many who might want it done because of jobs--one opinion not make difference
547	I'm not going to fight it--I'm too old
548	"I don't think I have enought influence."
549	just one little peon in whole chain--coops don't ask in the first place
550	if it has to be, it has to be
551	companies go ahead and do what they want to anyway
552	"because they're at head and they'll do what the heck they want to!"
553	don't suppose one person could do anything
554	"People won't stick together on anything--enough people with money who'll use it without cutting back."
555	big business takeover--always has
556	"One little fella' ain't going to stop nothin'--if everybody got behind them, might make difference."
557	"They do whatever they want to."

Appendix D (Cont.)

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
558	"if they're going to do it, they're going to-if you raise stink, they'll still complete it"
559	on overall 'cause basically everyone feels same-farmers income not doubling or tripling like rest of economy
560	my thought wouldn't have nothing to do with it-just little . . .
561	"it's kinda out of our hands, I think"
562	because I don't like high electric bills
563	if they want to build it, they will
564	"don't do too much good-if you have to have it, you have to have it"
565	no idea
566	don't know
567	I don't know
568	"I wouldn't know what it would do, only knew they were building one"
569	one little opinion won't influence one way or another
570	wouldn't have any affect on them
571	"if they've started, they'll do it regardless of what people say-people don't have much say anymore" I don't know
572	"it would take alot of people to have that happen"
573	because not going to fight utilities and win governor appoints the...
574	I don't know
575	"I could care less"
576	"I don't know nothin' 'bout it"
577	economy might have influence
578	"more depends on town's opinion"
579	because they'll do what want anyway-too many people against nuclear-use it if it'll cut our costs
581	"as big as they are, they've already come this far"
582	strongly consider moving to town on CILCO rate
583	"have to have organized effort" I'm too busy
584	public doesn't have lot to say-big money
585	"I'd probably say plenty"
586	one in a million
587	because already spent money needed to complete it
588	that plant set its own destiny -won't be cancelled by consumer but by regulations
589	I wish it affected Menard's involvement with it
590	"not that involved with it-haven't thought that much"
591	I'm scared of plant, and read about how it's been built
592	"I don't know"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
593	"don't think we need plant" once their mind's made up, that's way it stays
595	"they just do things without asking people"
596	if they're going to, one wouldn't make much difference
597	because people from Sierra Club have effect but I disagree with them
598	"too little an indian and too many big chiefs--not enough input"
599	I think they'll complete it so what I think is irrelevant
600	have to have electricity
601	I would vote for bowing out of plant
602	it could help
603	didn't ask us when decided to get into it
604	"who listens to one person--if you don't join group and protests, who listens"
605	it's to the stage where they're going to complete it or all the money's gone down the drain
606	"I don't think one person's going to affect it any."
607	"just small cog"
608	I just don't think it would
609	"I say it won't happen" (the rates increasing)
610	"just got to worry about yourself--what one person thinks isn't going to affect it"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
611	"they're gonna do as they please"
612	"would hope"
613	"don't think asking me now would make much difference--they didn't ask when they started it"
614	"going to do it--they're going to take a bunch of people"
615	one person don't get no where--maybe a community
616	"depends on if they get government backing"
617	unless shows up on survey
618	not as long as there's politics
619	"they'd go ahead anyway--people don't have too much to say anymore"
620	"if everybody sticks together"--"they didn't ask us when they were starting it and now they want to know our opinion"
621	"I don't think what I've got to do will interfere at all"
622	"keep my feelings to myself"
623	not going to be around that long
624	I have no say--no consumer on REA does. They didn't ask us for opinion on meter reader
625	not enough money
626	'cause can't afford expense
627	just what I've read about it
628	"they've already spent that much money on it, they'll finish it"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
629	no-unless 3/4 of the people do something
630	because just one person and can't live without it
631	haven't followed it and didn't think it'd affect us that much
632	"they'll do what ever they think best"
633	they'll do what they want to anyhow
634	they've already started--I think they'll complete it no matter what
635	"they're going to do what they want to anyway"
636	"already committed; to abandon that much work looks foolish--probably up to WIPCO and whoever"
637	electricity is something we need--no competition, so we have to go along with them
638	rural population is so small compared to total population that it wouldn't have much effect on political issues
639	progress some; already going
640	a lot of stuff already set to complete
641	"government has been closing them faster than we can get them on line"
642	because they could care less--big money people
643	"they'll finish it no matter what--they've probably already decided"
644	it would take countywise or statewise to affect it
645	no answer
646	they want to build it, they'll build it
647	"I don't feel like my words mean much in a bunch like that--they didn't ask us to build it"
648	what little we use wouldn't affect either way
649	"just a drop in the bucket"
650	either demonstrators will shut it down or they'll finish it
651	"it's gone too far--I don't think they be any stopping it"
652	one of a small number
653	I'm just one person
654	if enough people responded
655	"they're gonna do it one way or another--they've got their minds made up"
656	I doubt there'd be too many people do what I'd do" I think it wouldn't have effect.
657	"if enough comments to at least make 'em think about what they're doing--they've already spent too much money" I'm glad they're running survey
658	"if everybody got together. . ."
659	"I'm not sure if one person doing this is going to change anything"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
660	"it's a big company and they kinda decide what they're going to do, so they've got you over a barrel" need electricity
661	because nobody ever listens to anybody--I wrote congressmen and the opposite of what I wrote for happened!
662	I don't think they care a whole lot
663	"'cause they just don't pay attention to us little people"
664	"might be a vote for it but I don't think it would cancel it"
665	"if enough people but not just me"
666	"with fuel being the way it is, it will be something we have to go to with fuel running out"
667	because simply individual
669	because dangerous--mostly afraid of polluted underground--didn't think of waste
670	"they're gonna do what they want to customers pay either way"
671	"don't see what we can do--what they've put into it, I can't see them stopping"
672	"we're not that big a user"
673	"if more people felt that way, it would have effect"
674	why would they? for me saying something--if like others, may not start it up
675	"nothin' we ever done changed anybody's mind"
676	"ain't much I can do about it--if they have to have it, they have to have it."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
677	"my thoughts don't amount to nothin'"
678	"make stock payers pay" not unless a lot of other people agree with me--if it could save us some money some day, it'd be o.k.--but it doesn't look good now
679	"I feel like it has to be done for electricity"
680	I don't think needed in first place--don't like lake either--took virgin trees, cut them.
681	just one little person--unless everybody give same answer
682	there's other factors other than electricity behind plant
683	just a little farmer
684	they never asked when started--not going to ask whether finish--monopoly--farmers only 2% of population
685	can't see where we need nuclear--can't see coal hurting atmosphere
686	they'll do what the majority wants them to do
687	wouldn't make much difference to me
688	"I'm not too important a person out here--REA should get out there and speak for the people"
689	"they've invested that much in it, they'll finish it unless construction not up to snuff." we're just little people around here--big money doesn't listen
691	money and government control will be the answer--not surveys--part of plant is already obsolete

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
692	if they're gonna do it, they'll do it "to keep the people satisfied, I imagine"
694	"we don't really have any say in it anyway"
695	"Money!! The big guy's going to do what he can get (money) and doesn't care about me"
696	"because understand that much money in it--if they don't try it, it'll be a terrible waste"
697	"they don't pay no attention to me but if enough people...."
698	they started it and didn't ask us then--it'll be the cost that'll make 'em quit
699	hell of a lot of money spent that I think's unnesessary
700	"big plants like that...I didn't think my thoughts had much to do with it."
701	"they're going to do what they're going to do--they have us over a barrel"
702	"I wish it would"
703	"big money thing--won't pay much attention to us--do as they damn please"
704	I would feel helpless in face of it --I doubt anything we'd do would affect their decision
705	nobody's gonna listen to me
706	hasn't affected anything before. coops run for people running them not for people who belong to 'em
707	"'cause not going to try to change"
708	"it's gonna be influenced by somebody bigger than us--the consumers don't have a whole lot to say"
709	"why should I talk on that"
710	one of many--ridiculous to spend that much money and leave it--possibly convert it to coal
711	"not unless a bunch of us feels that way--I don't think they'll scrap that much money"
712	"because too many people with different opinions and so many bias could go either way"
713	"if home-owner maybe"
715	big business
716	"but sometimes if you contact government, it pays but I don't know if one person's would affect it"
718	they're pretty far along--they'll probably go all the way--should have stopped when first looked bad, but now too far along
719	"We don't have a whole lot of say so in thing"
720	"I hope they have some say"
721	they're going to do what they want
722	"I don't even think about it"
723	"I'm a peon--it's how much money you have in your pocket."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
724	they're going to build it one way or another
725	"I think it's poor judgement on someone's part--we don't need it--can build steam plant lots cheaper"
726	don't know
727	I don't know of anything I could do about it
728	'cause one small voice
729	I don't know
730	just one person--have to get a lot of people
731	"I think so many people involved that voice of one person won't make any difference"
732	I just feel that if they want to build it, they will--don't have any say because have seen what government can do
733	they don't care--there are a lot of people who'll pay the bill
734	"because they probably won't care what we think"
735	not much you can do to control whether the plant's built or not
736	they'll just keep goin'--- put money after bad
737	we got to make electricity some way if we don't have plants

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
738	I don't think they'll pay any attention
739	"capital investment already made" we've already been paying for it
740	"just a little shot--ain't nothin'"
741	"because so many more that would out-vote us"
742	we're on limited income--it'll go on anyway--too far gone--wouldn't be against plant if make electricity costs less
743	one in 100 or more
744	big business
745	I don't have much say so
746	no answer
748	if they're going to build it, they're going to build it anyway
749	probably not, but I'm not the only one whose bills will go up
750	I don't see how could
751	because if everybody expressed concern--might change it
752	"I don't have influence in community"
753	"it's bigger than individual coop user--we didn't make decision"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
754	never has before
755	"us out in country" don't think effective
756	"public opinion should have some baring" but I'm not into politics
757	"if enough of us, it might but..."
760	we can talk about it but it's the people that have the money will decide unless join lobbying group or something
761	too small of a part of WIPCO and it in turn only a small part of Clinton
762	there's nothing we can do
763	we weren't asked if it should be built in first place & people don't realize it'll increase their bill that much
764	I don't feel our rates should go up that high
765	"just a piece of dirt under rug" my vote isn't going to do anything
766	most of it's all politics anyway - if they want to build it, they will - if not, it'll sit
767	if they want to, they will
769	unless enough people cut off
770	they didn't ask me about getting into it - don't imagine they'll listen
771	have no voice in completion of it
772	you know how a single person feels - one vote doesn't make much difference

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
773	"I would hope so, but I don't think we have much influence on big company when they make up their mind"
774	not us as individual household but maybe together
775	"if we need extra energy, they'll go ahead with it"
776	if it's going to double or triple rates, what the hell do I need it for - if I can get by with what I'm paying now, it's fine
778	"there ain't much we can do about it"
779	I don't know
780	I don't know
781	if enough of 'em, it might"
782	business & industry is going to have power from somewhere - industry carries bigger stick than people like us
783	"one person or family doesn't have that much say, but if co-ops get together & then vote opinion, they would be heard"
784	I didn't have anything to say about putting it in - don't see how my say would matter now
785	if enough people against if, they'd burn it or something
786	if everybody thought that way
787	probably make 'em raise money quicker
788	not one person though - I'd like to think it would

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
789	big business
790	takes everybody
791	they won't listen to us
792	I'm not one deciding--it's already been decided higher up line
793	"we're squirts down here"
794	"not by ourselves if enough of us"
795	"because people don't listen to just one person--I don't have enough pull"
796	"because if they're going to do it, they'll do it no matter what I say"
797	"they're going to do what they want to anyway"
798	"I don't think what the poor people think amounts to much"
799	take more than me
800	not enough people to make a difference
801	politicians control it but would try if others would, not a leader but she's a good follower!
802	"if they're gonna do it, they're gonna do it"
803	she didn't know if anyone would listen to her opinion
804	they have to open it since money already invested
805	just a few farmers wouldn't influence completion.
806	if enough people got together it could influence it.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENT
807	don't think one person makes a difference
808	they have their mind made up already so people can't get it cancelled.
809	doubts that they would listen to her opinion
810	don't know enough about it to decide
811	maybe of enough opinions get together
812	if enough people got together it would make a difference
813	they would of they (power producers) knew usage would decrease when rates raised.
814	if an association got together it could, but not individuals.
815	they don't listen
816	not enough people would get together to do anything
817	if everybody in the area got together it would influence the decision.
818	they have too much money invested to change it now.
819	if people got together it might have an effect.
820	not enough people would speak up to make a difference
821	"If they put in something that would double why would anyone want it?" "Why should they, I don't know what I would say" "I would be for nuclear if it would

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
821 cont	not double our bills."
822	"As much money as they've spent, they've got to go ahead; there has got to be a better way. Just read in the paper about nuclear plant out east that leaked and they just now let the news out."
823	"Big business is big brother; they are running the whole show."
824	"If rates will triple, that cotton pickin' thing should be cancelled." probably not
825	"I imagine it is too far into the works to stop now."
826	"This is the best way you can go." I don't know how they would I think down the road our rates won't escalate.
827	"I hope it helps; millions of dollars they spent there would be wasted."
829	"I doubt it very much. If he gets mad enough, they'll listen to my husband."
830	not at this time
831	"their gonna do it either way."
832	"It's already under construction once they're under construction, I don't think there's a whole lot you can do about it."
833	"Because I'm nobody and it takes a somebody to get something done. I believe they'll keep raising prices until everyone has nothing."
834	"I hope it does."
835	"Just one person--the money they spent, certain individuals, ain't gonna change it."
836	"I think they will complete it."
837	"They're going to do what they want; if you get enough people mad, they'll adhere to it." One guy ain't gonna stop it."
838	"Cause I'm one man's opinion; I don't know how others feel about it. If everyone else felt this way, I guess it would make an impact."
839	"They're going to do what they want to do anyway; they're going to finish that thing anyway."
840	Probably not.
841	"I'm just one person; bigger people are probably more influential than I am."
842	"We're just a little fella."
843	"I'm just one grain of sand in a pond."
844	"They got you on the barrel. They own the power lines."
845	"Whenever they do anything, they will do it. If they're going to double, I can't afford that kind of stuff. They're going to do what they want no matter what the hell we say."
846	"I never feel they needed my vote for that much."
847	"I guess if everyone's opinions counted and survey is precise. . ."
848	"I think they'll go ahead and finish it anyhow."
849	"I doubt it--it's all cut and dry;

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
849 cont	they're going to do what they want to
851	"I don't know enough about it"
852	"Possibly."
853	This is getting to be a God damned "settie"; they been to long "a" building. I don't know how it--how it got tangled."
854	"Well-one person has very little control; now we elect our own REA board member but that's only part. They do the best they can."
855	I don't think there's enough to swing it not enough care, a lot of people don't give an opinion at all.
856	I don't think our thoughts alone would "It takes a group."
857	Just one person-"I don't see what I would say that would make any difference."
858	"it's the people up in the higher wealth will--sure ain't gonna affect us. Sure, ain't gonna wait it out.
859	"Because nobody really listens to what consumers have to say."
860	"I think its enough the need."
861	"They don't really care about one person"--"how it affects them."
862	"Definitely not; I just don't think they're going to listen to the small people. Why do we have to pay? The companies need a profit; they should take it out their profit."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
869	minds are made up
870	will do it anyway
873	"I don't understand what you mean about this plant doubling my electrical bill."
874	"That depends on where your survey is going."
875	"You have to know something about it before you can support or oppose it" Somebody thought that we needed it, they support it "Now some think we don't need it-they oppose it."
876	"I don't know-they go ahead and do what they want anyway."
877	"I don't know what would cancel or change it-what facts would change it."
878	"well, we got to have more energy and they got to come from somewhere"
879	survey is being done on it
880	"there will have to be more people then me"
881	"just don't think it will"
882	if enough people are against the increase, it might affec the rates
885	I don't know
886	I don't know why it would
887	I think the seed is already planted It took them a year longer than I thought to admit they made a mistake.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
888	"That's why they're taking the survey; they want customer input."
889	"I don't think public opinion would have much bearing on it."
890	"They got too much invested now; they're not going to back out now. "I don't know how many million or billions they've spent now, but..."
891	"Big business does what they want."
892	"The politicians will do as they please anyway."
900	public opinion doesn't matter to them
906	it just won't do it, I don't think
909	if they want to do it, they'll do it
911	wouldn't do any good anyway
913	doesn't think people's opinion really matters;"you say it's going to cost so much, maybe we ought to cancel the plant;maybe if enough of us hollar, it'll do some good."
914	because they're going to do what they want anyway
915	they didn't ask him, they didn't have a vote on it - they just went ahead.
916	ain't much you can do - rates will never go down
917	don't know
918	they probably have their minds made up already
919	would like to think that others feel the same as he does
920	it would take a lot of people to get them to cancel
921	everyone should work together to have some affect on prices they pay
922	just one old couple - doesn't matter on something like that
923	MJM won't listen - they didn't ask us about it before starting the plant so why would they care now?
924	If enough people hollar, they'll have to listen
925	Some of the utility people might listen to her opinion.
926	One person doesn't make much difference.
927	"Cause I probably won't be out there protesting."
928	"What's the use in doin' all of what (the survey) you're doing if there isn't some change?
929	"I don't feel we'll have much influence; they'll do what they want whether or not."
930	"My thoughts don't amount to much ...what I think ain't goin' to help us either way it goes."
932	"we're into it" "we're gonna have to pay for it sooner or later"
933	"People won't stick together" "Too much power in the companies" "Poor management in power co."
934	"I'm not a politician"

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
935	Too powerful
936	Too old--corporation too big
937	"I don't know that much about it."
938	They've started this thing and think there's only one way to go--complete it.
939	"They're going to do what they want to do. We've hollered at these guys in town and they didn't pay no attention. It's too late to holler."
940	"I don't think one person will have much influence."
941	"They'll do exactly what..." the coops or powers that be overwhelm the little guy. We're lacking a strong voice in our coop.
942	It's going to be up to the people using the power.
943	"I think they've committed themselves and they're going to go through with it in spite of hell."
944	"Cause it's all out of our hand in committees."
945	"Just one person, no. They're not goin' to listen to me here. One guy ain't goin' to influence them people."
946	"Well, I don't think I'm big enough."
947	"I'm not in favor of it."
948	"It's up to them, after all, it's a cooperative and the patrons are the ones that ought to have made the decision in the first place."
949	"If this is thrown in with enough surveys, then yes. If you spend 200 million and it turns into 300 million you don't piss away the 200 million."
952	"Takes a lot of people to get something like that done."
953	"Don't think anything we're every going to say is going to change their minds any."
954	"I won't, but someone most likely will be able to do something about it."
955	"We're just one little oyster in the stew."
956	"One person isn't going to do much."
957	The only thing that's going to stop the plant would be the government not giving them a permit.
958	Enough people don't have to worry about their electricity bills.
959	"I wouldn't want it cancelled --I want it--it's the energy of the future."
960	"Probably would, but I'm just one to sit back and not do anything about it." Rural community could probably get something done.
961	"May talk about it with MJM people and friends - come up with new info."
962	"If enough people think my way. What's going to happen if they don't build it? We got so much coal; we need to figure out how to use that coal rather than build something as

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
	dangerous as this."
963	"I've never seen that."
964	"It's not going to be healthy for the country if prices go up so high so people can't afford to live."
965	Too much politics involved.
966	"They're going to do as they please. I don't know how some people pay it." MJM fella says he will not be able to pay bills when he retires and they double.
967	"If everyone uses less electricity it might not be as profitable to go into that by venture." "Just one person out of many others--if everyone feels the same way, I imagine they'd do what they want to do."
968	"Don't feel that close to the situation."
969	They must base their go-ahead on reaction of majority of issues.
972	Don't know
977	"Not a big enough percent change. There's still gonna be demand at double or triple rates. People can't do without unless they can't afford it."
979	"They're gonna do their own thing."
981	past experiences - anti works haven't worked elsewhere.
982	"I hope it cases cancellation."
983	"my thoughts wouldn't mean anything"
984	"I didn't know they were building another one"
985	"don't make much difference what I say; I don't know that much about it"
986	"Probably have to go with that anyway - that nuclear stuff
987	"I doubt it; I don't know of any action group in the area that is speaking out against it."
988	"Not mine alone - might if other people thought the way I did."
989	"Not big enough"
990	"cause they in there with both feet and they can't get out of it." Long as you got it coming there, the wires they get you. Long as one of the people can pay for it.
991	"So far down the line now they gotta complete it."
992	"I'd never sell out. I don't want to live up town."
993	"If enough people felt the same way." "If enough people said cut electricity, what good would it be to build the plant."
994	"I doubt it. -Just one opinion"
995	"That's too big of an outfit for 1 guy to say anything about."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
996	"I never thought about it."
997	I hope so.
998	"Politicians will take care of that. They didn't ask when they started building it." (Our opinion don't matter)
999	I don't imagine. I believe they're going ahead with it.
1000	"It's going to take a lot of public opinion to have any affect; people at SW electric are having public meeting trying to create some P.O."
1001	"They take surveys all of the time, but they do what they want" "its all political-you either take it or do without."
1002	"They've got to have a lot of power - they started it didn't they." "fighting the state is impossible. I don't think you have any rights to freedom today" "This is a health consideration - what kind of world our kids are going to grow up in." "We're turning from a democracy to a socialist state"
1003	"It never had no effect on the bills being run up or the plant to be built."
1004	The only thing that can control that is politics.
1005	I don't think the people are going to matter. Whatever Witt says is going to go. And it's not him, it's the one's behind him.
1006	"They'd never, they don't care about the consumer" "the public wasn't involved in the first place."
1007	"I think big business is going to do what they feel irrespective as to the feeling of the populous."
1008	"The little man doesn't have no say; never had it."
1009	"If they got the thing started, they'll probably go ahead and finish it"
1010	"I heard something about two months ago about them not completing it, but nothing lately." "They're going to do it if they can ...complete it if they can." "Is there a move to not complete it?"
1011	"percentage wise, if they feel they can get an OK from the government, they'll go ahead with it"
1012	"they're a big company, you can't do much with them"
1013	"I doubt very seriously if they know who I am"
1014	"too much money is socked into it" "politics"
1015	"on account of the expense"
1016	"There's nothing you can do about it." " They're going to do what they want--the bigshots." "They're supposed to give us a dividend, but they never give us one." "They just 'credit our account'"
1017	"I think they're into it so far finacially, they can't

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1017 cont	afford not to go through with it"
1018	"Politics, who's - ever going to get their pockets fullest is..."
1019	refused to comment

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENT

Appendix E

Individual Responses to Question #33

+ Strongly Consider
± Maybe
- No
DK Don't Know

33. Would you switch to any other sources of energy or other ways of generating electricity? (Circle One Number)
1 Yes 2 Strongly Consider 3 Maybe 4 No 5 Don't Know

A. What new sources would you consider and why?_____

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++ 1	is in the process of changing to natural gas; already have natural gas as a back up for wood stove; hot water heater gas; can't avoid animal drinks on electric
DK 3	I don't know what's available
++ 4	wind generator--they're looking into it quite fully--pretty well set on buying it because electric so expensive and it would pay off quickly with rising electric costs
± 5	solar or wind
± 7	cut back electric heat; go 100% wood
± 8	maybe solar-neighbors have amateur solar plant; works pretty good for them
+ 10	digester from hog manure
± 11	maybe solar, although if it's not yet perfected it might not pay off
+ 12	wind generator; free use of the wind
± 9	only if it would pay off
- 13	too old to worry about that
+ 14	changing dairy manure into fuel for energy, very possible, many doing it already
± 15	wood burning; we can't afford a triple in rates
16 ±	solar panels; "they say they do pretty good"
17 ++	threaten to get my own generator
18 ±	If we build a new house, we'd go probably to gas and put a wood stove in basement
19 ±	maybe windmill--but it would cost a lot, too
20 ++	probably we'll go everything to gas; propane
21 ±	If I was younger person, I probably would; gas lights maybe
22 DK	Don't know what's available. I recently read that we (U.S.) have a lot of oil right here--it's all contrived, this development of energy resources
23 ++	anything to keep from paying higher prices--don't know what
25 ++	solar--possibly cells--in new house--daughter and husband are using solar on A-frame--we may use it for kitchen and living room, gas or back up, w/wood stove
26 ±	windmill--for three or four households--probably pay in long run, but initial investment prohibitive
27 ±	prob. wouldn't--change heating system first--why not--cost, elec. heat very clean and nice--price prohibitive
29 ++	generator--4 or 5 people going in on it, "if there was another way without paying such a high light bill, we'd do it"

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
±	31	Delco generator; wood furnace might be possible, this would be extra problem--might be cheaper to move
++	32	wind power (husband has talked about it before)--it might be cheaper; especially in future
±	35	if they proved less costly, don't know
±	35	in far future, wind generating
±	37	haven't talked about it yet
++	38	didn't want to say what he was going to do, might go to generator, we've worked all our lives to get something handy--then they go building another plant and charging us for it
±	40	if owned own home
±	41	maybe generator
±	42	woodstove
±	43	if had to, wind power
±	44	solar
-	45	I don't have enough time left
++	46	windpower, gasification of corn cobs, methane gas from hog manure
+	47	wind generator
DK	48	wind, but too expensive
-	49	wind generator, but impractical
++	51	wind mill, put everything on a wind mill, "we'd put one in that would handle it all--down the road at the farm couldn't get a windmill that would handle it all
-	52	doubt it, for heating, gas is cheapest; already conserving-window arrangement--heat and cool levels (floors) according to

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
52	(cont.)	season--furnace doesn't run much--buys fuel in summer when cheapest
53	++	wood, solar--any option
54	-	doesn't add up--suppliers still cheaper--investments, costs of other fuels too high (i.e. gas gen.)
55	±	gas to cool with perhaps if had to replace stove
56	++	generator--delco or wind
57	++	generator (wind) not sure can afford--or solar
58	-	not at our age--not worth all that trouble
59		cost just as much to get new source as to pay for
60	+	"if we moved we would...if we had our own home; we would look into other sources of energy"
61	-	we thought about a wood stove
62	-	"not at out age"
63	±	"go back to kerosene lamps"
64	+	I'd like to but my husband...I would like to have a little wood stove to use
65	+	nothing particular yet
67	++	switch to wood heat
69	+	solar or wind conscientious use; get a woodstove--that would save propane, not electric
70	++	"I'd probably move because the rates of energy here are excessive" solar "I'd go to solar heat"
71	±	look into wind generator. only if initial cost will be paid off in its production of electricity

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
±	72	"might consider switching water heater, stove and furnace to gas
+	73	wind generator
+	74	if worse comes to worse we would go to wind generation
±	75	maybe put add-on furnace in basement, wood burner
-	79	we're renter, no-option
±	80	change drying system to another source of energy
+	83	gas-powered generator
±	86	have no idea would just have to look into different things
±	88	Possibly a Diesel generator because diesel would be cheaper and we have a friend who has one to use.
-	89	too old
+	93	wind power to recover costs
-	94	Not until every other source of generating is perfected.
-	95	Nothing is reliable right now.
±	96	New way to dry grain
±	97	Put in gas water heater
+	99	Wind generator—put in wood burning stove.
+	100	Switch to gas appliances.
±	102	"Maybe if we build a new house we'll go solar."
+	105	Solar possible not sure. Don't really know the alternatives.
±	106	wood burning stove--if owned house

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
	108 ±	if it's bad you don't know what you'd do--we used to do it w/out electricity
	110 +	Burn more wood.
	113 ±	"I've thought about it if it got high enough we might try it"
	114 ±	solar probably active
	115 ±	use kerosene heater more-husband yes! hot water heater--gas & a wind turbine. Maybe wood as supplemental.
	116 +	Generator. "Cause ripping us off as is."
	117 +	"Wind if I could-gen. cheaper and they have to buy back extra of course that's subject to change."
	120 ±	H_2O heater, but elec. nice cause H_2O heated fast. Might consider going to gas. Possibly put fireplace in but expensive to.
	121 ++	Gas stove & wood heat
	123 ±	LP on water heat.
	124 ±	husband would try; switch to gas water heater.
	125 ±	Switch to gas hot water
	127 +	wind
	129 ±	"Go back to kerosene lamps."
	130 ++	Gas generator
	132 +	Gas generator
	133 ±	Switch to gas water heat.
	135 ±	Thought of wind
	136 ++	Owns gas generator
	137 ±	Don't know

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
±	138	Maybe home generator
++	140	Wind generator. Put in gas water heat.
+	141	Solar--considering for house and hogshed--woodstove for sure.
±	143	Wood stove would cut gas bill.
+	144	Wood heat for ferrowing hogs consider methane generator/ burner
±	147	can't afford it. Use kerosene lamps
±	148	Put in gas water heater.
±	149	Rely on wood more
±	151	go to wood stove
±	153	Solar. "have heard it is costly but works good. Picture windows already radiate warmth on sunny days."
+	154	Wood furnace because they have electric furnace--Solar Power because "we get a lot of sun here"
-	157	Couldn't afford it. "rates won't triple"
+	159	Wind generator
-	161	Initial investments are too high
++	163	Switch to heat pump-supposed to be more efficient. Geothermal around heat pump. heating area around pump
-	164	too old
-	165	Couldn't afford anything's initial costs.
±	167	Solar. "I heard its much cheaper

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
170	±	Wind Power-used to use it and had much less trouble then now.
174	±	Solar if it was economically feasible.
175	±	Generator
176	±	Solar to lower Bills.
177	±	Solar if final price is cheaper then electric Bills.
179	±	will go under if it triples-- if it's feasible but don't think anything could produce the amps we need.
183	±	"If they could prove it would save I would."
184	±	generator. Have it already "I would use it to run our peak loads"
186	±	"If I could see that it would pay, I'd try anything."
188	+	Wind Power Source-hoping to save money; go to gas stove
189	+	Wind Generators. heard they are affective; change water heat to wood. & wind
191	-	too old to do that
194	±	Solar or Wind Power. "If it would turn out cheaper than a doubled electric bill, why sure I would"
195	-	last year considered woodburning. But it was too dirty and expensive.
197	±	Don't know what but we'd try something; maybe put in gas heat.
198	+	Wind generator
199	++	Solar water heater--woodstove

Appendix E (Cont.)

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 202	Windmill
± 203	Put in gas furnace
++ 205	Bigger woodburner
++ 207	Heat water w. wood-gas stove
+ 208	Diesel generator and others
+ 209	Wind
± 210	Depends on their price
+ 211	Wind generator Buy gas water heater, stove, clothes dryer, gas. Wood stove that heats water.
+ 213	If it was reasonable, Thinking of wind
± 214	Go back to gas stove
+ 215	Gas generator
± 216	If I owned home, I would do others. Switch to gas stove & water heater;
+ 217	Wind generator
++ 218	Diesel tractor generator-solar corn drying
+ 219	Wood stove
+ 220	Solar--drying-heating--hogs; change water heater to gas.
± 221	Diesel generator
± 223	Maybe wood, Go back to Kerosene lamps
± 224	If something was cheaper. "might" shut it all off"--coal oil lamps
± 225	Own a tractor generator that we might use
± 227	Own a tractor generator-might use no electric heat--wood.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
229 ±	Kerosene lamps Get another woodstove
232 +	Would study new sources
233 ++	New woodstove
235 +	Wind--interesting researching it now-solar water heaters
236 ++	Woodstove
237 +	Gas generator or propane
238 ±	Maybe wind generator
240 ±	Research the alternative energies
241 +	Change to woodstove
242 -	Couldn't afford
243 ±	Switch to gas water heater & gas stove
244 ±	If something was cheap enough
245 +	solar--husband has talked about it; maybe switch to propane water heat & stove.
246 ±	Maybe switch to gas stove or water heat
247 -	Too old
248 ±	Thought of Wind generating and solar panels Water heater would change to gas.
249 ±	No water heater; get gas stove
250 +	Woodstove; maybe gas water heat
252 ±	Son is looking into wind generator; go to wood heat; maybe-has water heat & stove & gas dryer.
253 ±	Windmill; gas water heat & stove

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
± 254	Solar heat. If we build on we put in woodstove "Like to get a gas stove."
± 256	Switch to Propane Stove
++ 258	Consider Solar Panels. Methane gas electricity from hog manure; Switch to wood heat; switch to gas water heat
+ 259	Woodstove
+ 260	Considered windmill
+ 261	Generator. Gas powered
DK 262	Too far down the road.
+ 263	Wood.
± 264	Wood
± 265	Wood or Coal "because it's cheaper"
++ 266	Wood
± 267	a gas powered generator for the barn.
± 270	Not Sure
- 271	until it's more popular--no--
++ 273	burn wood, turn thermostats down; we'll probably go back to windmills. I'd go to bottled gas.
- 276	I'd move "if triple, it'd get so you can't pay it pretty soon"
- 277	"I'm getting too old to start that kind of stuff now"
- 279	The initial cost is too much.
++ 280	Gas. Someday maybe going to gas.
++ 281	Wood.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
283 ++	Wind
284 ±	Too close to retiring Wood--kerosene heater
285 ++	Wood stove
286 ±	Probably go back to oil
287 ++	Throw out everything; get generator.
288 ±	When I build my new house I'd put 30% solar
289 -	In this "country" nights are long--days short--Sun very practical
290 +	Wind
291 ±	Solar wouldn't be too bad--but initial cost would be? Wind mill etc. wouldn't save none
292 +	Wind mill. Solar for heating--try
293 ++	Wind, change heating supply, buy my own power plant, look into Wind power
294 ++	Solar/ even w/ investment
296 ±	Water heat to gas.
297 ±	Solar--think the bugs will be worked out of solar
299 -	wait & [illegible]
300 +	Wood
301 ±	Change to gas stove.
302 ±	Gas water heater. Not in this house but in new house
303 ±	solar for house--cheaper than ele.--wind gen. if they get cheaper.

INDIVIDUAL RESPONDENT#		RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++	304	Wind
+	305	Wind; "If my rates double, I'd buy a generator--gas."
+	307	Wind or big generator outfit--something we've got to look into. "We have alternative source of electricity; PTO driven generator for buildings."
±	309	Use gas lamps and wood.
+	310	go to anything that is feasible.
±	311	If I could find a source that would be worth the initial investment
±	313	Don't know what he would do
±	316	Depending on what chores there are and feasibility
±	321	If things got bad enough, would have to be pretty bad. Not sure what kind.
±	322	Possibly wind generators-heard they are the latest. Can even sell excess electricity produced back to Co.
±	324	different kind of grain dryer; getting to old for others.
+	325	Wind if perfected more-Solar if perfected too. Air conditioner, heat, dryers, appliances--probably switch to gas or oil.
±	327	Solar. I think that's what is best perfected.
±	330	Not sure. Would just have to look into different kinds
±	332	Possibly wind generated
±	335	Change electric appliances to gas; can't afford the initial cost of others.
-	336	"I have had a guy trying to sell me a wind generator but it's too damn expensive to begin."
±	337	it would be an awful inconvenience. Maybe solar power.
-	338	too old. Maybe our kids
±	339	Thought about Switching to a Diesel generator, but deciding if Diesel would cost just as much.
-	340	Might as well support the electric Co.
±	341	Solar or windpower-Thinking about building a new house or remodeling.
±	342	Gas stove & gas dryer. Depends on how expensive it is to start with others.
+	343	Solar. would just like to try it, and if it paid for itself I would; wood burning stove.
±	346	Might build underground house: if it gets bad enough.
-	347	Might as well support the company until they perfect these new services.
±	348	Maybe solar when we build our new house. Now we'll wait to see if rates to jump before we build.
++	350	Solar Panels & Passive Solar
±	351	Switch water heater to gas.
±	352	Get gas stove, dryer & water heater. Don't know about others.
+	353	Wind power.
±	354	Son-in-law might figure out something

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 355	He's already switched to wood--we'd use more wood--thought of solar or wind.
+ 356	Husband has talked about solar & wind & woodstove
++ 357	Woodstove-solar grain drying-solar panels for house; switch electric water to gas.
+ 358	Woodstove. Wind generator
± 359	Don't know--look into it
++ 360	Battery-operated generator
+ 361	Wind generator. Woodstove
± 362	Fireplace--woodstove. Switch to gas water heater.
+ 363	Solar panels for heating
± 364	Switch to gas dryer
+ 365	Solar heating panels; more gas in heating.
± 366	Gas dryer & water heater; not as much grain drying.
± 367	Solar and Wind are possibilities. I own a gas generator that I might use.
± 369	Don't know yet.
++ 370	Gas generator.
+ 371	Woodburner. Researching Solar Passive and Active.
± 372	Solar--maybe woodstove.
± 373	Gas stove; water heater & dryer.
+ 374	More wood
++ 375	No automatic belts. Woodburner.
+ 377	Gas dryer (clothes). If solar is cheap enough.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
378 ++	Either a wind generator or gas generator.
379 +	Wind generator. Solar Heat. Storage Unit.
380 ±	Wind generator. Research it.
381 +	Husband has talked about Solar and Wind.
382 +	Gas generator. Bigger Woodburner.
383 +	Switching to gas or wind generator. Couldn't afford it. They'd take away anyway if we couldn't pay; get rid of electric stove; hang lines for drying.
386 ±	Air power job if I could afford it cause it would cut costs of elec.
387 ±	Different stove for heating; get rid of electric water heater.
388 ±	If choice & money, fix windmill to save money.
390 ±	Wood Burner.
395 +	Windmill to be as self-containing as possible.
396 ±	Solar-been interested & read on it.
397 ++	Wind generator "over period of time will pay for itself."
403 ±	own power plant w/ batteries
406 ++	wood heat, anything cheaper
408 +	"Windmill--because other too damn high."
413 ±	Possibly use gas stove; gas dryer?
414 ±	Put in wood burning stove.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
- 415	Like to but doubt if would.
± 416	Oil lamps
- 419	Put elec. in 30 years ago.
± 421	Put in heating stove--wood. Hate to do it though.
± 422	Get rid of electric stove.
± 423	Kerosene lamp or two.
++ 426	Tower, like windmill. Generates elec. & can store it. (wind tower)
± 427	If could windmill, I guess, might be cheaper.
++ 428	gas or propane, wood heat
± 431	Windmill for energy effic. Will get paid back for energy not used. (This woman sounded quite serious. She appeared to have read up on windmills and had the gumption to go through with the idea. The log house apparently was her idea.)
+ 433	Windmill generater would pay out in 10 yrs. even if only a suppliment. Possibly get a gas stove. Possibly switch to gravity-flow water system.
± 434	Possibly wood for heating.
- 439	"Time would only tell." pro-nuke
± 440	Not at present. Possibly wind generator.
+ 442	Windmill generator. Lot of wind in this area. Gov. pays back if you (on taxes) couldn't pay; Heat by wood & gas.
± 443	Some gas for pumping water.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
445 +	Already talked about----Windmill and delco light plant--economics of it.
446 ±	Might switch to gas if cheaper. Gas well less than ½ mile.
447 ±	Windmills--it's windy here.
450 ±	If I had place of my own. Windmill--cheaper. Don't use that much ele.
451 +	Build plant of own using gas.
456 ±	Depend on what available at time.
457 ±	"might have to go back to kerosene lamps!"
458 +	Replacing old furnace & go with electricity.
459 ++	doesn't have any ideas but thinks he could do it cheaper.
462 ++	Don't know but because of cost.
464 ±	Switch to gas stove, gas dryer; pre-heat water with wood. Look into different types!
465 ±	Get out coal oil lamps again.
466 ±	Might get home generator--make light bill cheaper; put in another wood stove. Put in outside blding, heat blown in.
468 ±	If economical way would come up. Delco, or battery, wind but they're high price.
472 +	Windmill. If we could find out how to hook it up.
473 +	wind or solar "economical reasons"
474 ±	Possibly wood stove but wouldn't want to. More expense.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
± 476	Don't know. If they'd come up w/ something different.
± 477	Possibly gas if landlord wanted to. Gas generator.
± 479	I don't know-change propane heaters in hog house.
- 480	If younger I'd put furnace in basement.
++ 481	wood--cheaper
++ 482	Yes-own generator.
++ 483	Solar for heat. If wind would work--electric generating.
++ 484	Go strictly to gas or generate our own. Have generator now. Because of cost.
± 485	To save money--windmill.
± 487	"we already switched to wood heat. We do have an operating wind mill. Out building with solar panels.... if it got so high you'd have to do something-probably can't do much more."
± 488	Wind power?
++ 489	Solar or wind power- They're not feasible yet generator or tractor.
± 490	If it was available, wind power.
DK 491	I don't know of any others that are profitable right now.
± 493	We need electric to dry the corn.
- 494	I wouldn't be interested in that.
++ 495	If I saw fit. I don't know, just some way that's fair
DK 496	probably not, it's in our wages, we rent.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
497 ++	solar, wind, air turbine cheaper, natural once you have essential cost, only maintenance left.
498 ±	There ain't any other ways unless you go to solar or something. If it gets to where I can't pay it, I'll move.
499 -	Right now they ain't profitable.
500 -	Don't know any other way to do it.
503 ++	I've thought of wind power; if I could get it up there high enough.
504 ±	wind power-maybe methane - I'd go to kerosene lights.
505 ±	Switch to gas heater. Solar is extremely expensive; windmill might be all right for backup.
506 +	If the nuclear gets off the ground.
507 -	We hear of wind power, but at my age, I don't know.
508 ±	Not unless they get methane gas perfected to a higher degree than it is now.
509 ++	buy a generator
511 ±	I don't know what it would be. Cut down on drying.
513 ++	Have to have something in your price range; if it meant savings, I think anybody would.
514 ±	Wind power; you have an expense there too.
515 ++	Wind too expensive.
516 ±	Solar, underground--draw air underground (thermal air).

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
± 517	Gas stove
+ 518	Not in this house but want to build solar. Freedom. Makes sense. Blding cost same for solar as normal home but w/ advantage of heat.
+ 520	Wouldn't know.
+ 521	Windmill & photoelectric cell. Don't like paying bill.
- 523	Generator to reduce costs.
± 524	Generator (consider using it. having it) to save $ but not sure it would (for emergency presently).
- 527	Used to have wind power but doubt go back to it.
± 528	Solar—talked about—it's there—why not use it.
+ 530	Gas water heater. To save $.
++ 532	Solar; scavanger system--burn trash or anything to heat.
++ 533	If cheaper, solar.
± 534	If building new, I'd have it solar.
DK 535	Generator is expensive.
++ 536	Diesel tractor & generator, maybe but not dependable.
± 538	I don't know how you could out here. I guess I could get me a wind mill and hook up a generator.
++ 539	Wind turbine.
++ 541	Wind generator--pretty popular.
+ 542	Generator "saving $" run it mostly in winter and fall when need it most. Already considering.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
543 ++	Steam power to generate electricity; more efficient. Runs on wood which is cheap and is one cost.
544 ±	Wood for heating but a little afraid of wood.
545 ++	Go back to burning keresene (burn some now).
546 ±	Could use coal oil lamp.
548 ±	If avaible—wouldn't consider unless reduced cost.
549 ±	Wood water heater definately; wood cook stove possibly; if put another house up, would go only with wood; other are pretty expensive.
550 ±	Lot of wood-possibly use it.
552 -	to old, farmers have to stand own loss.
554 ++	Own power plt.--H_2O or diesel. "Wind won't do it in this area." "Switch to gas water heat."
555 ±	"Wind gen. I imagine. If they price themselves out of range, have to use somethin'." Gas water heater.
556 ++	Wind chargers cut my bill down. Gov. will give $ back on that.
559 ++	Switch electric things to gas--washer, dryer, stove, water heater.
560 ±	Might have to go to gas or move out.
561 ±	Solar--talked some about that. To save money.
563 ±	Possibly go to wood (partially).
571 ++	Windmills--they've been getting more and more efficient.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++ 572	Bigger wood furnace. Not use oven as much.
± 573	Solar. If build on.
± 579	Checked into solar heat and found out abt. ele. solar cell. Possibly use it. Won't work 50% of time. $7,000 unit looked at.
+ 580	Consider solar. Windmill possibly. If neighbors go together.
± 584	Not practical with livestock & like. Pple. mostly spoiled. depends on how bad it gets.
± 585	"Might go back to gas cooking if got too bad."
± 586	Heat use kerosene heater more; definately switch to gas water heater.
+ 588	Possibly go to gas H_2O heater. Active solar water heater.
± 589	If they'd get anything,solar so that we could afford it. Poss. wind charger.
+ 590	Need to read up on 'em.
± 593	Solar. Planning to. Kerosene heater.
+ 596	Possibly own generator "If they are going to triple it."
- 597	Not practical.
± 600	Generator run off tractor-if worse came to worse.
± 601	Generator or solar for grain.
± 602	I don't know right now, but I know it'd be too much for this family to have ele. double.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
604 ±	If could. Generator--fuel powered.
605 +	If something available that's cheaper.
608 ++	Gas--heat & water heater.
609 ±	"Wouldn't be worth it to me unless go to solar." Kerosene lamps. Have to do something different if it got so high.
610 +	Talk landlord into gas H_2O heat.
611 ++	Generator--gas be cheaper.
612 +	Talked about solar for grain drying.
613 DK	Generator not feasible.
614 +	Portable dryer.
616 +	Wind. Looked into it at state fair. Not much to it.
617 ±	Wind because we have it.
618 +	Windmill---used to have windmill here. Use kerosene lamps.
621 ±	Kerosene lights. Because of cost and I use so little.
622 ++	If cost feasible. Talked about underground pipes for heating house. Wind gen.
624 +	If solar was practical But ele. companies have slowed down solar. Or even wind. Not pract. now.
625 ±	Poss. use wood stove in own house.
626 ++	solar
630 ±	Check into solar but costs. Using some kerosene.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
± 631	Not unless got real bad. Home generator--gas.
DK 632	Owner would have to.
± 635	Husband has looked into wind, but I don't know if he'd say he'd change.
± 636	Poss. gas H_2O heat. Costs lots to convert over. To do ele. costs too much.
DK 637	Only thing could do is gas stove or oven, but don't know if do that.
+ 638	New type of cattle water heater.
+ 641	Cattle water to more natural method; less corn drying.
++ 642	Windmill--save $ also. Also out in country need solar--extra heat when wind blows.
± 643	Plan on putting in furnace, ele. (cleaner) May find other energy altern. like solar.
± 644	Solar have to change house to accomodate it though; burn fireplace more.
++ 650	H_2O heater--gas; baseboard water heat. Plan to move into trailer & put in wood stoves.
± 651	If something available.
± 652	Don't know what.
++ 654	If we didn't rent--like solar.
+ 656	Look in to gas appliances. Perhaps windmill. solar
± 657	Corn drying cut back on if possible.
+ 658	Go back to gas for water heater; water heater for cattle & stove.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
659 +	Solar for heating house--cut cost. Use fireplace more.
660 ±	Might consider windmill. Have one.
665 ++	Gas hot water heater. If owned place but...
667 ++	Going to gas hot water heater, stove, clothes dryer.
671 DK	If owned home would look into it.
672 ++	Switch heating back to oil or wood.
677 -	Wait until time comes, when pubiic can't stand it they have to change.
678 ±	Not right away but look into something if go out of hand. Talked about solar but sounded expensive.
682 ++	Wind easiest thing to go into, looked into already.
683 ++	Gas water heater, dryer, air-conditioner. Solar unit for light possibly.
684 ++	Solar- have solar for grain drying now. Have to build one for house, but whether it will cut electricity or not I don't know; need fan to move heat.
685 ±	If any way to do it.
689 ++	Gas water heater and stove. Have working windmill.
691 +	Have gas stove and clothes dryer.
695 ++	If can, will put own plant up; wind generetor, because of economy.
697 -	No way to get generator and wouldn't know how to run it.
698 ±	Solar for home

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 701	Windmill if could, have talked about it, because cheap and could generate own electricity. They've come down in price.
++ 702	Talked about getting generator or would go wood.
- 704	Looked into solar and wind but for us not economical.
± 705	Windmills look good, have wind.
++ 706	Change two electric water heaters, clothes dryer and stove to gas.
++ 707	Solar, if electricity did jump, for heating house. Use fireplace.
± 708	May look into something different. Geothermal heat pump.
± 710	Possibly change cooking and water heating if electricity too much.
++ 711	Windmill- rather than lower cost.
+ 712	Burning more wood.
± 714	Stove to gas. Solar maybe for heating, use own generator.
± 715	Solar heat.
± 717	Might set up generator of own.
+ 718	Generator--I don't know if it'll help much but could run on diesel. Might consider solar.
- 719	Can't afford to.
DK 721	We've talked about solar but too expensive.
± 722	Planning on getting gas water heater in spring.
++ 723	Buy generator- gasoline, wood furnace.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
724 DK	Gas powered generators but don't know, cost of gas.
725 +	Only way I would change would be to switch to LP gas but it's not a whole lot cheaper.
727 -	If own home solar- but here no change.
728 ±	Wind power. If possibly run duct work upstairs for heat. Wood burner.
730 ±	If had means to I would, anything to cut down expenses.
732 ±	If I could have own place, part solar.
733 ++	Kerosene lamps and changing hot water on gas. Gasoline generators cheaper than electricity, cool with ice.
736 ±	If anything cheaper, unless flaw to it.
738 +	Consider gas for house. Wood stove upstairs.
739 ±	Personal generate -fuel
742 ++	Different type heating.
743 +	Gas light, kerosene, gas air condition.
744 ++	Convert to solar. In the process. Hot water.
745 ±	If alternative.
746 ±	If lived out here.
747 ±	Clothes dryer and water heater- gas.
748 ++	Gas water heater and stove.
749 +	Might go to gas water heater.
750 ++	Run on gas generator if more feasible. Already have generator, used it for a week when power off.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
± 753	Windmill, solar
+ 754	Switching to gas, wind-plenty of it, free bio-mass generator.
± 755	Might go to wood but don't know at our ages.
DK 758	Not unless husband can invent something;got to use it if it's there.
++ 760	Propane- water heater and everything else. Electricity costs more now.
± 761	Solar or wood heating. Wouldn't affect electric bill alot,but I have considered it.
+ 762	If can figure a way to do it.
+ 763	Natural gas heat- because close to us.
± 764	Generator (wind).
- 765	If I had a place of my own,yes.
- 766	Like to but not until I buy house.
± 768	If I can think of something cheaper.
± 769	Solar, wells for cooling, heat water outside, bought in the country to be as self-sufficient as possible.
+ 771	Gas stove, gas dryers, generator.
+ 773	Change hot water heater; wind wouldn't work around here.
+ 774	Gas or Kerosene for office; couldn't afford electricity.
- 776	Don't own.
± 777	Possibly solar or wind, have to use something if it goes up that much.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
778 -	Emergency type only
781 ±	Old Delco plant, it's obsolete now though, uses heavier wiring.
783 ++	Possibly solar, considering gas water heater.
784 -	Unless come up with something practical, but not big enough operatio
785 +	Solar if we ever build.
786 ++	Put water heater and stove on gas.
788 ±	Kerosene lights.
789 ++	Propane stove.
793 ±	Generator- gasoline.
794 +	Solar energy.
795 DK	Just rent.
796 +	Generator- gas if cheaper.
797 ++	Oil lamps- cheap. Kerosene lamps.
799 DK	Never talked about it.
800 ++	Solar energy- to save money.
801 ±	Depend on cost. Have thought about wind energy but not taken any action. Sounds like a good idea.
802 ±	Haven't looked into it.
803 ±	Don't know, probably won't be here much longer, expect new inventions to come along since people can't pay higher prices.
804 ±	Use tractor generator to generate electricity if things got really bad.
805 ±	Strongly consider changes if rates increase soon, wind and solar.
806 ±	Would consider going solar for heat but don't know about electricity.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++ 807	If feasible, can't think of any sources though.
DK 808	Would have to look into it.
DK 809	Don't know about it, would have to see what happens.
DK 810	Don't know of any other source.
++ 811	Solar, cheaper.
± 812	Maybe switch back to gas stove.
± 813	Wind power, cheapest alternative.
++ 814	Investigating solar, probably not a windmill, don't know much about them.
DK 815	Don't know what kind.
++ 816	Windmill might be a good idea.
++ 817	Wind generator, would consider it if profitable.
± 818	Wind and other alternatives not perfected enough yet but if they heated with electric they would be more inclined to switch.
++ 820	Solar (if they owned the place..)
++ 821	LP, wind generator, outside boiler, wood furnace. Already been looking into them. I would put in a $1,000 boiler.
± 822	If I owned my own home would think of supplement- outside furnace, wood.
++ 823	We had a feller here to talk solar. Wind generator, hot water heater back to gas.
± 824	I haven't given that any thought.
± 826	I've read about photovoltaic cells, if it's practical. I'm looking for new ways.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
+ 827	Gas for grain dryer.
DK 829	"I don't have any idea."
± 830	Solar-corn drying;son blew insulation in hog houses.
++ 831	"If I could find a way to do it myself."
+ 832	Solar."Natural way to heat your home and cheaper in the long run."
++ 833	Change electric cooking and drying to gas; wind mill.. "if I had alot of money."
± 835	Gas hot water heater.
± 836	Dad's talked alot about solar panels; friends have Johnson energy converter--wood.
++ 837	Fuel Oil;"neighbors talk about generator, but we're too small to do that. They can go 100% on it."
++ 838	Wind generator;"Already checked into;if that would double or triple electric bill, I'd definately go to it--no questions asked--sell them electricity." Gas and wood;"that's what they are forcing us to go back to." "Cut back on grain dryer. Even solar some, if it's feasible--learned in California."
++ 839	Solar and wind generator and sell them electricity.(very serious)
± 840	Generator--wind.
± 841	Wood stove--furnace.
++ 842	Gas generator and solar;maybe wind.

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++	844	"Gas to lower bill on appliances and heat livestock."
++	845	Kerosene;fireplace--wood;gas generator;"my boss has got two."
±	846	"I'd go to solar;I believe I could almost heat this house with solar" .... and heat water.
++	847	Gas stove.
++	849	Tank water heater onto gas.
-	851	"I'm getting too old; I used to have a delco plant...Those people down there;they have electric heat; they talked it on them and I heard several of them say it's as high as $700." They are grain and hog farmers.
-	853	"How could we get it?" CIPS line goes right by here and can't get it--this is REA territory..."They'll be hell-fighting when they come up for the meeting."
-	854	"I don't know how you can."
±	855	"If we could get it from coal, I know we would." Coal-gasification plant to be located in Virden. "If they ever got that perfected, it will be cheaper. Have a son in the mine now.
++	856	"If it was cheaper and safer. If we could get it, I'd use coal. We're close to the coal mines. Coal gasification plant should come in."
±	857	"I would try and look into it probably."
++	858	Gas;solar in future, if tax worked out.
±	859	Wind or other sources.
++	860	Gas;LP..."but that's expensive too; went up 1/3 last year."
±	862	"LP for all."

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++	864	Burn wood.Ought to do this.
++	866	New furnace;pulse air--98% efficient.
±	868	"Could go solar--use alot of electricity for hogs and cows; depend on it."
++	870	Any way can find.
++	871	Solar
±	873	Solar--"it's free." (if she were to build a new home.)
++	874	Gas;"if my electricity bill was going to be 3x as high..." (improve efficiency of existing appliances)
++	875	wind: people used wind power before we got electricity; gas: there isn't any natural gas lines nearby
DK	876	"get off the MJM lines"
+	877	Solar: "cheaper"
±	880	Gas maybe - really don't know
±	881	Might eventually use wind operated or static electricity generator
++	882	Thought about trying windmill. Looks simple to construct
±	885	Large hog house could be heated differently; husband has talked about it
++	886	Generator - buy gas for $600 to $700 "hell they're automatic"
DK	888	Solar collectors: more economical than LP. underground heat collectors .
++	889	wind: "I think it's the coming thing"
++	891	wind gen.: it's a successful cheap way of producing electrici

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
±	892	Wind: free, Solar: free
±	893	Generator
-	895	If it was cheaper
++	896	Wind steam or water generator
++	897	Solar and wind power - both are definitely cheaper in the long run
±	898	If I was younger I'd go solar but not now.
±	899	Wind generator but until husband makes up his mind to come back to me I'm doing nothing.
±	907	Purchase a diesel generator; diesel would be cheaper I'm sure.
++	908	Go to oil lanterns and coal stoves.
±	912	Solar if it seemed right.
++	914	Solar energy, because it would be less expensive.
++	915	Solar, windmill. To save money.
++	916	Coal. There's a lot of coal.
DK	917	Don't know. Would not use gas.
++	919	Solar. Cheaper, wood. More available.
+	920	Wind generator or gas generator. Wood Kerosene lamps
+	921	They have looked into possibility of wind generator.
DK	922	Solar energy-grain dryer or water heater but probably nothing else, not wind energy.
±	923	Gas
+	925	Don't know much about them but would find out, just can't afford utility increases-don't know anyone in area who could.

	INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++	926	Don't know what's available but her sons are looking into it - can't afford heat/elect.
++	927	"I already own it" 35K generator, "energy cost/tax incentive" for solar peak for drying grain; I'd be looking at a wind turbine; "electricity costs"
+	928	"I wouldn't know."
+	929	"if the rates went to what you're talking here..." Wind generator: "we live in a windy area."
++	930	Delco Generator; it only cost $2000.00 "I'd be sellin' it back to MJM."
++	931	Gas generator, windmill
+	933	if feasable wind, solar.
-	934	"Not at my age I wouldn't" "Wind generators work good when it's windy" "Solar isn't getting cheap"
++	935	Hot water heater, gas
±	937	"If things come to worse we'll dig a hole and live in it" "I'd like to say yes, but I don't see how" berm house
±	938	maybe solar
±	941	the only possibility I can think of is a gas generator; because it is more convenient than others
-	942	if we moved, we would consider building with solar and/or underground facilities.
+	943	Solar; "I think it's the most efficient."
++	944	Wind; "most of the time there's a wind out here and its free once you get your unit installed."

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++ 945	Wind; as an extra back-up, if I can get a windy day and cut my electric bill
DK 946	"Don't know of any how that I would" "there's sometning somebody will come up with if it gets plumb out of line"
++ 948	wind, gen. "cheapest source we got; always got wood"
+ 949	heat pump coolant-more efficient than present A/C system; wind generator; free energy source--would pay for equipment in 5-7 years
± 952	have checked into windmills, generators, sources of heat--for hog house,etc.
DK 955	Wait and see.
+ 956	wind generator;more wood stove use.
++ 957	Portable generator and/or wind generator "I'd sell them power back...to hell with them"
± 958	maybe propane; gas-operated electric generator
± 959	wind generator--maybe solar if they could bring down prices for drying grain
++ 960	"Planning on switching to wood anyway"
± 961	Propane switch; would not use generator--husband is not well
++ 962	solar and wood for heating house
++ 963	solar for hogs ; earth type ventilation or wind charger.
++ 965	"It may become necessary--I'm sure we're too going to look to alternative sources--we can't afford it." "Solar pacs are very promising." Wind generators are practical. Find a cheap source and generate their own for peak load.

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
966 +	gas
967 +	gas
968 ++	wind power generator; "We'd have to find alternative ways" "We'd have to change hog houses to make them open front." Different method to dry grain.
971 ++	solar power and wood; water heater
972 ++	"if it was cheaper, then yes" "all I know of is nuclear" I don't pay attention too much
973 +	no idea
974 +	whatever was available at a reasonable cost
976 -	"We haven't really discussed it so I couldn't say"
977 ++	wood; now use wood for all heat. whole house is electric
978 ++	a gasahol still, a methane gas plant.
979 ++	windmill wood attachment to furnace, now have a kerosene lamp gas powered generator;1952 got elect.
980 ±	solar, 40% gas cut....don't know
981 ++	windmill
982 ++	windmill and solar
983 ++	wind: "one of the cheapest forms you can get;" solar: "lot of times solar would be economical"
987 ++	gas furnace then in April and May
988 ++	solar; do it yourself solar panels; wind--priced them already-- "It is always windy up here on the hill" .Solar for hot water. Do 100%;wind-75% and solar-25%.
990 ++	Plans to build earth solar home-- "only way to go. Go wind and solar, There's no other way to go;if a person had the money.Cut those line out there and forget it." Spouse comments--just go 80% on our own and pay service charge for grid electr ty.

Appendix E (Cont.)

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
++ 991	gas; hot water, kerosene heater fired boiler- with wood--to heat shop.
- 992	"not at my age"
++ 993	wind or portable power wind unit to tractor generate"I imagine you could run a generator cheaper than electricity"—"solar if we ever built a new home."
± 996	more solar--heat hog house, wind wood
+ 997	talking about fireplace, heat pump, hot air furnace--gas
++ 998	wood 100% heat, gas water heater
++ 999	wood--water and heat.
1000	solar panels, we could put blower on wood stove and vent more heat
++ 1001	"what would I switch to?" Generator would cost more; we're mostly gas here
+ 1002	wind gen.--"we have the property "it don't cost no money" "if the wind's blowing, it's blowing up here""If it doesn't cost an arm and a leg."(implied wind wouldn't
++ 1005	get rid of electric stove, gas stove, "water heater and everything"
++ 1006	solar "once your capital is invested your cost is minimal: wind gen: "another source that will always be available"
+ 1007	wind gen: "potential cost savings'
++ 1011	wind gen.: "cheaper, wouldn't have to buy any fuel for it" would do if had to.
± 1012	own generator
++ 1013	wood or steam heat; "try to prod. my own electricity"
++ 1014	solar "it's clean, it's permanent, non-maintenance: (passive)thermal, "one can cool the house as well as heat it" fireplace: "I want one

INDIVIDUAL RESPONDENT#	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1014(cont.)	I own 40 acres of oak timber
++ 1015	nothing in particular now; "whatever comes up"
- 1016	"how can you switch when you're already hooked up"
++ 1017	"wind gen; cost and hoping if the cost is going to be that high, I can sell it back to the coop."
++ 1018	wind gen; I could afford go into more gas, water cool the house
++ 1019	solar; it's here, it's the coming thing -- wind; it's here already, it's proven

Appendix F

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT's QUOTES INTERVIEWER'S SUM OF COMMENTS
17	Husbands comments: "If co-ops sell out there won't be any co-op. We shouldn't have to stand for it. Sell out to higher bidder. Should of took vote or let members know about it (Husband knows about Clinton). "They (members) have plenty of electricity already. When they started reading our meters the bill jumped 100 dollars. I'm a little on bitter side of REA." "If we were to cut back I don't know what we'd cut out." "The fellow (newly elected director) in the REA now might help settle thing down."
18	"Are you anti-nuke?... I don'tlike marchers-- don't see what they accomplish... I would hate to live next to one of them plants."
21	"If I knew what trouble we'd get into, I'd a never put electricity in." 80 years old "Why isn't farmers income up enough to meet other costs?" (unfair)
27	Knew people had gotten aid to pay electric bill- doesn't want to do that- aid should be for people who really need it- she doesn't think of herself that way.
38	"REA is higher (per kilowatt) than any other line" Let 'em put out their own money, not bleed the consumer."
39	"Sometimes you wonder how they will make electricity if they don't build nuc. power plants-" "Something most of us don't read/ know much about unless it hits you in the pocketbook."
41	buying power from other companies- every time it changes hands, there has to be a profit. neighbors, relatives have power co., have a lower rate can shop for other necessities but can't shop for electricity.
46	has done work in using corncobs- propane in corncobs
54	"We thought we were getting something great when we got electricity."
59	neighbors are planning on building underground homes.
83	This person will seriously disconnect all electric lines into the house and resort to either non- electrical things and build own power generator! Very serious about it. Hates REA.
85	This house was kind of different hardly used any appliances but his house was terribly built. did it himself. nothing lined up right, holes everywhere, windows didn't fit right, etc.
115	this couple is the go between the REA advising board
122	"That nuclear company got you doing this."
134	"It has to stop someplace."

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
142	"They can't keep taxing farmers- people eat from the ground and they better remember that."
145	"Tell them to sell their share."
147	"They're playing with something that's too dangerous." "If they put the money that they put into solar and wind we'd have something."
148	"I didn't make anything farming the last 3 years and I'm sure farm prices won't triple."
149	"Us old people on fixed incomes won't be able to pay that. What can we do?"
166	new house and still have low electric rates.
171	Very old couple. Had no insulation in house, but they kept it cool anyway.
179	Sign in front of house said All Electric farm. Has average monthly Elec. Bill of $500.
181	four retired living in a huge house on $2000/ year. Poorly insulated.
185	If it gets high enough, they'll find something else-- solar or wind ex. can't keep meat without electricty.
189	Son works for Adams Coop. And says their talking of raising rates double as soon as next year at this time.
197	"We couldn't afford $1000 per month - who could?"
198	"The union's gonna break this country" "This plus the phone bill tripled - we couldn't do it
199	"If it's a safe energy source - go for it"
201	"Can they (WIPCO) give their share of it away?" "I wonder what the co-ops will do when people can't make those payments"
202	"REA will do what they want to - and we'll all suffer for it"
210	"I don't see how people less fortunate than I could pay it."
211	"Co-ops should take bankruptcy" - who would be liable? "Doesn't seem to make any sense" "Cheap energy is what has made America what it is."
213	It would put us out of farming business
216	"1986? - I'll worry about it then"
219	"We'll have to investigate this and see what we can do."

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
221	"There's no way I'm gonna pay a $1500 electric bill" "This is gonna really hurt Illinois farming"
222	"I can't do nothing about it - but I am not for it" "What are they gonna do with this nuclear waste" "anybody can buy off the commerce commission - those sons of bitches"
226	Environmentalists make it expensive
230	"If we don't need it, why finish it?"
231	"If the cost of living keeps going like this everybody's gonna move out West where there are jobs - a lot of my friends have."
232	"When they get it so that you can't afford to operate - you're gonna quit" "They can go to hell." "About 90% of what they say is lies"
233	"I'm tired of being worth thousands of dollars on paper and afraid to write a 5 dollar check"
236	"We couldn't pay it."
237	"Nobody can afford this."
238	"They don't know enough about it to spend all this money on it."
242	"The entire construction of it has been a rip-off -- we know people that work there." "Unions are the problems" "Unions are making the population go down out here."
243	"I know it's a mess."
244	"I've got a friend who's been laid off for 2½ years because of that crazy plant."
246	"If our rates triple that'd be more than a paycheck - we couldn't afford that."
248	"You ruined my day tellin' me that."
251	"It'd raise hell all over."
252	"I think they're really nailing the little guy and somebody's filling their own pockets."
253	"REA sure ain't for the farmers anymore."
255	"I talked to a man working on Clinton that built a brick wall on Clinton for 6 months that they tore down."
257	"This is the kind of thing that nobody is going to raise a stir about until 1986 when the bills start coming in."

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
258	This situation is a direct parallel to the oil embargo - people will conserve. "There will be diminishing returns for the co-ops." "Methane gas would be very practical for farmers." "They can't afford a drop in usage." (the co-ops) "They're in real trouble"
281	Wind should be used more. Was wearing vest and turtle-neck heat kept down to 65 degrees.
282	Doesn't know how they do it if tripled.
283	Real concerned-asked many questions.
284	He'd try to switch over to C.I.P.S.- He's right across the street from C.I.P.S.
285	had abandon house on same property to trailer
289	They don't pay on the capital until the plant is in use;the coops will be paying into it.Always need to look into future 10 years or so to what will be needed. The government will absorb into its deficit the excess cost, etc. Which will....Amax coal closing down they can't sell it.
293	"We should be able to help with cost- rather than Uncle Sam absorbing cost- deficit is ridiculous." "We don't mind payin' taxes." "Farmers that are in debt are trying to keep... "We have to go out every day that is fit to work."- small tractor "If you can't pay for it we don't buy any thing. If electric ..."
302	Why couldn't Ill. power buy off of C.I.P.S.?
310	"The Power Co.s tell us to conserve and then when we do they raise our rates because we're conserving too much and someone has to pay for all those extra produced kilowatts."
325	All electric farm
331	holes in windows covered with cardboard. rough wood siding. "I think I've proved that man can live healthy without paying outrageous electric bills." Look at me I am just fine.
339	Wrapped entire West section of house in polyethylene.
350	"I sure as hell am not going to pay for their mistakes... people won't do anything (conserve) until they have to, but if the rates force them to they'll cut back." "They don't realize people will conserve which will send rates up creating a vicious circle."
353	"People on Soc. Security are gonna be in bad bad shape.
355	Friend was in charge of Clinton expenditures- he got discouraged with it and asked for another job within I.P. He felt management was not

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
355 (cont.)	good. "IP is just barely hanging on financially." "This is putting sand down a rat hole."
358	"We've lost a lot of factories in this area which is lowering demand."
359	"We have to depend on electricity"
360	"We're late on our bill now There is no way could pay that"
367	"Farming's a hobby for all us farmers; it's amazing they're loaning them the money to finish this when it's obvious they'll go under.
368	"Don't think REA should loan them the money- They should pay off their own deficit."
369	"We wouldn't pay that" "People on fixed incomes could die!"
370	"I can barely afford electricity now."
371	"We'll write."
373	"They can set a price and we have to pay it. We can set a price and nobody has to pay it."
376	She's going to write REA
378	"Sloppy construction is what's slowing it down. I worked construction 12 years - and I know sloppy work makes cost overruns."
379	"This would make solar energy cheap"
382	"Everybody's gonna move out of here if they do that"
389	Sweaters draped over front door in attempt to keep cold air out. She says her home's not hard to heat.
405	Plastic on windows all torn up
419	Warm house but door left open (cracked) during whole interview
421	Goes to REA meetings
429	There might have been some insulation in the ceiling but I couldn't tell. There was only an open heater in the middle of the living room and the people left their coats on. (The lady was babysitting her grandchildren.)
430	Sat around stove during interview but when I went out the front door I found it open.
443	Very energy conscious. Drape over the front door. Usher me in and out very quickly.

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
529	Blanket at bottom of door.
584	Straw around house.
592	Straw blocking off one door A/C wrapped in plastic.
597	against Sierra on lock and dam as well as no nuke attitude. Pool out front.
615	Plastic around base of trailer;a few hens; wide trailer.
623	Blankets around doors.
652	Left door open while talked.
670	Compared to CIPS, we pay! Companies need to learn to pay for own mistakes.
676	House only 3' above ground. Rest below above ground entrance.
681	"Hope survey does some good"
691	Said that as long as they have money, they'll keep their house warm and eat good food.
721	Carry water into house; washing machine the wringer-type.
730	Very angry!
780	Drying clothes outside.
803	The way I understood her, this farm once was hers a long time ago while her husband was alive. Now its actually owned by _____ College but run by _____ Bank. She said she and her brother rent it as partners but they weren't doing too well and didn't expect to be there much longer. She said her "income" last year was actually $600 in the hole. She tried to be as cooperative as possible but seemed to be at the end of her rope.
805	These people are renting the land and the house comes with it. They're at an age where they would not want to make major changes if they didn't have to. If grain prices went up enough to cover electric increases, they wouldn't switch to other methods, but if grain didn't increase, they would be inclined to go to solar and wind. They wished nuclear plant had never been started since its too dangerous but since so much money is invested, it should be finished.
806	Very much aware of what's going on. Doesn't like the idea of having the nuclear plant or the fact that the costs and dates are not what they were originally told they'd be. Strongly feels it should be switched to coal.
808	Very cooperative young couple. Nice house; very large.

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
809	She was friendly, well-informed, outspoken against nuclear energy, willing to answer anything. He was suspicious, unwilling to cooperate--at first. He thought the questions were too personal and was sure I was going to try to sell him something. After asking numerous questions, he seemed more relaxed and cooperative. The only question he would not answer was income. He ended up telling me stories and offering tea.
810	Very strongly against nuclear plant, thinks it should be shut down. Years ago when he was persuaded to heat with electricity by REA, they offered him $50/month credit. When I asked if he still got it, he laughed "are you kidding!?". REA, at that time, arranged for contractor to insulate the house.
812	Don't use upstairs at all so it acts as insulation. Also have drop ceilings. Very unhappy at having to foot bill for plant construction that's costing more than expected and then to be charged higher electric bills when its done--especially, since shareholders will get the profit.
813	He was very interested in alternatives--even the point of going to court to get on CIPS lines near his house, if it would help. He asked for address to inquire about results of this survey.
814	Strongly against. People shouldn't have to bail out utilities. Both were well educated (master's degrees). Hope to see something done to stop consumer rip-off by utilities. Not against nuclear per se, but definately against its wastefulness, waste of ratepayer's dollars. Big old house. Some attempts at remodeling going on. Very fixed income. No farming; he teaches which can't pay much. She's expecting a child.
817	This young couple and baby live in house in exchange for working the land. They don't know utility costs since landlord pays the bills, but they felt strongly about the upcoming increases because it would affect his wages even though they didn't directly pay the bill.
818	If a group of protestors is gotten together, he volunteers to be on the board of directors.
819	Older gentleman whose wife died recently and loved company. He's still farming, but figures he'll have to give it up pretty soon.
831	"What good are they; it's a bunch of B.S.. They got all they need right now
833	"I'm really dissatisfied with PEA; I'm really unhappy about them. 11 years I've been here--rates have tripled. I bet you've heard a lot of bitching" "My neighbors probably think like I do"..."I just heard from a reliable source, they're going to sock us again."
838	"My son just moved out of a big old farmhouse (he was renting); gas bill alone was $500/month." "I don't know how in the hell poor and elderly and young families are going to survive it." "We're concerned because we're going to be old some day."

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
844	got in REA newsletter -- REA will add 1¢/KWH for Clinton. Mine now costs 9-10¢/KWH. Dad lives in town; costs 2½-3¢/KWH.
847	two or three of the family farm the land plus 3 hired hands -- 2000 acres. Said there are some bigger around here.
848	said small farmers are going under; can't get a tractor for under $40,000. Costs $130,000 for a 4-wheel tractor. With 400 acres can make a living but barely. Five hired hands farm this 1500 for one family. There are 2000-3000 acre farms around here.
851	"The govt. is going to try to run the whole thing and give you just a little to live on... Every time they have a meeting, they take a little more from you... I never saw it like this 'prosperity' we got now. This here Reagan prosperity -- they're ain't much to it."
852	Twenty years ago there was a lot of on-farm storage of grain; now has tapered off. No more development or houses.
853	"I don't believe in REA having to pay for Clinton plant -- they (Soyland) bought land in Pittsfield to build a plant and they blew it.....I don't like the idea of having to pay for them."
856	"It's hard to make it just as a farmer. Just look at our farm friends. We are one of the lucky ones -- we have a mobile home part and an orchard."
858	"Gas bills gone up 90% in last few years.... It don't make no difference if its nuclear, coal or gas.... People are fighting nuclear account of hazards of it."
862	"Fellow at _____ distribution coop said central air and heat is going to be a thing of the past.... He heats his home with individual thermostatically controlled units in each room.... I like electricity; its the only way to go -- they'll force me out." "Older people in rural area."
875	"We got a granddaughter who lives in Morris and she's got a cousin in Clinton and they don't hear nothin' about it... When you read an article you only hear what the writer thinks about the thing."
877	"I know I probably should know what sort of insulation is in there, but I just don't know"....MJM is a lot more than IP, but we're out in the country and have to use MJM."
881	Thinks that he would use foam if he reinsulated. Outside of house isn't completely covered.
888	"We can't just keep on digging coal out of the ground... I think that the nuclear power plants of the future will be more acceptable...."
892	"We don't know enough about it to use it yet. It's a wonderful thing, but it's like sending you out today to clear a mine field. You don't know a damn thing about a mine field." This couple was relatively hostile towards outsiders. He was manifesting a fairly strong us/them

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
892 (cont.)	attitude toward both _____ coop and those involved in conducting this survey.
901	He says his electric rates double in the summer and yet he uses half as much electricity. He says he asked them about it and REA says they raise rates in the summer. (It's the first time I've heard of that.)
913	"Years ago, I thought this was the way to go, but now I don't know anymore." "things change from year to year." "When I went to school, they said they couldn't split the atom, but now they did." "Electricity' the cheapest thing I got; I can't live without it." "The way we're set up, we couldn't run this place without electricity."
920	She mentioned writing a letter of complaint to _____ coop about a higher bill but got no cooperation. They offered to send someone out to read her meter at a cost of $9 to her.
921	Very well informed woman, very interested in taking action rather than simply handing over more money. She was the first to mention that MJM's newsletter described the rate increases due to Clinton Nuclear Power Plan
922	Older couple, been in house many years. He had stated early on that he thought electric costs were cheap for what they were getting. He seemed somewhat inclined to feel otherwise after hearing rates would double or triple, but since he'd made a stand already, he stuck with it. She was open to possibilities such as turning off lights if she could remember to He opened up to such ideas as solar grain dryers and water heaters. She seemed interested in solar heat. Once they got to chatting they both seemed more interested in alternate energy forms.
924	Old lady with somewhat younger one staying with her as helper/friend. Too old to switch to alternative energy sources but against nuclear energy.
925	Older widow - uncertain of many answers about heating and insulation but very angry at _____ coop for getting into this situation that will cause such an increase. Four generations of her family lived in same place and she knows everyone for miles around and knows that none of them will be able to pay increases.
927	"I never realized Clinton was going to go that high." "Nuclear power shouldn't be developed unless it's going to save money." "I'm for nuclear power, but when the costs get like this, those protestors ought to go against the bombs (and leave the plants alone)."
941	"We don't have all the answers and I don't think they want us to know."
942	This woman said that she hoped to "move to a more moderate climate" -- to get away from environmentalists. She also said that we get more radiation from wood fires than from nuclear power plants. When she finished she told me to write that down. She seemed very angry toward "those environmentalists".

Miscellaneous Comments

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
948	"I think this nuclear business is, well, maybe I'm all wrong, but if it's supposed to be so cheap, why is it costin' us so much money?"
949	"I'm a hundred percent against it, but you spend that much money...." "We have coal, methane..." "If all that money had been put into research..."
956	This woman remembered MJM letter about our study. She wondered if we'd come to their place or not.
957	Coal man at _____ Coal Company. "MJM is too G.D. high." He will take wires down and go to generator. "I'm for black skies and clean water."
958	"If you cut down on your usage, they just raise the damn bill so you don't gain anything..." Shut lights off and get a gas operated electric generator. "They should shoot the head honcho of _____coop and elect a new one." "_____ coop is the most expensive."
960	Has bales of hay on side of house. Can't afford to insulate more. "All in all, I think electric companies are getting outrageous...."
961	"Govt. and _____coop makes all kinds of plans and the little people pay ...no matter what." "Farm people are not so dumb." "Why can't the big officials design, figure out how to conserve energy. We know who pays for their mistakes."
968	Told of an example nearby; "Both parents had been in a nursing home for so long--just wiped them out and had to sell farm--been in family a long time."
969	Stated people always come here to rural areas in spring and fall to sell stuff; think rural people are "good buyers"; they are skeptical of people coming door to door. Said roads are poor because there is no school bus --no kids left in this area. Township is poor--has no industry. Just a saw mill in town. Noted one solar home in town with huge greenhouse windows.
970	Roads very poor; township has no money. Want to build here--if roads get fixed. No industry here, no money.
983	"If we can get the supply of energy, I'd care less if that plant just wasn't completed." "...They tell us we need the plant for more energy..." "If we need it, then I guess we'll have it, but if we don't I'd...."
990	"For all the money they spent on that nuclear power plant, they could have researched ways to get that sulpher out of that coal."
996	"I used to be in favor of nuclear power. Over the past few years, I'm kinda changing my mind."
1002	"Coop's are supposed to represent the people." "You don't know any of the facts." "You vote for a proxy."

INDIVIDUAL RESPONDENT #	RESPONDENT'S QUOTES INTERVIEWER'S SUM OF COMMENTS
1002 (cont.)	"For a non-profit organization, they sure seem to be making a lot of money." "If I had the money to set up my own particular system, I'd do it in a second." "I can understand a small increase over a period of time, but I've been in _____coop for 16 years." "Our cost has gone up 500% in 15 years."
1005	"I sure didn't know it was going to double. People who don't really have any income--that't really hard."
1007	A young couple:
	He "I'm really dissatisfied with_____coop; do you know where Illinois Power gets its power?
	He "I don't think I'm going to build here after all"
	He "Their rates are ridiculous"
	She "That makes a difference as to whether we move; we were going to break ground in a couple of months, but now I don't know."
	He "My understanding of a cooperative is that its a group of people who bond together for the betterment of all. But_____ coop has the highest rates of anywhere I've ever seen in all of Illinois."
1008	"The only way the little guy can do anything is to get together and, what do you call it--where people have signs and all?" "Or when a whole town like Times Beach gets together." "When 15 people get killed, the people listen." "I'll go to kerosene lamps, candles..." "What's the good of a nuclear power plant, if it's going to cost us more? You get along for less; it's better, right?"
1014	"I don't think any new nuclear plants should be started. I'm against nuclear power in a'l cases. Why don't we have any information on passive thermal heating and cooling?"

CONFIDENTIAL

Co-op_____

E.D._____No._____

WESTERN ILLINOIS POWER COOPERATIVE CUSTOMER/OWNER ENERGY USE STUDY

PRINCIPIA COLLEGE, ELSAH, ILLINOIS:DEC.1983 - JAN.1984.

This set of questions is part of an energy use study of rural electrical customer/owners of the seven distribution co-ops which are organized into WIPCO (Western Illinois Power Cooperative), a generation and transmission co-op in West-Central Illinois. The purpose of the study is to learn more about energy use among REA customer/owners in this area. You have been randomly selected to participate in this study. All information is confidential and is for statistical purposes only. You do not have to answer any questions you do not want to answer. However, we hope that you will help us to make this a good scientific study by answering the questions. We appreciate your help very much.

E.D____No.____
Page 2.

1.Sex (Circle One Number): 1 Male 2 Female

2.How many adults, 18 years and older,are in the household?_____.

3.How many children, 17 years and younger,are in the household?_____.

4.Do you own or rent your home?(Circle One Number): 1 Owner-occupied 2 Renter-occupied

5.Type of dwelling(Circle One Number): 1 Single-family house 2 Mobile home 3 Other_____.

6.Type of residence(Circle One Number): 1 Rural farm 2 Rural non-farm 3 Village/town 4 Small city 5 Suburban 6 Urban

7.How long have you been an Illinois resident?_____years.

8.How long have you been in this home?_____years.

9.Where did you live before you moved here?City_____ State_____Always here__.

10.What type of residence was this?(Circle One Number): 1 Rural farm 2 Rural non-farm 3 Village/town 4 Small city 5 Suburban 6 Urban

11.What was your utility then?_____.

12.How do you heat your home? (Circle All Correct Numbers and Indicate % of Total):

% of Total		% of Total	
_____	1 Utility gas	_____	6 Wood
_____	2 LP,Propane or Bottled gas	_____	7 Active solar
_____	3 Electricity	_____	8 Passive solar
_____	4 Fuel oil,kerosene, etc.	_____	9 Other(please indicate)_____.
_____	5 Coal or coke		

A.If more than one source: About what % for each of these?(Please record above)

13.Have you ever heated your home differently?(Circle One Number) 1 Yes 2 No

A.If yes: How?_____. When did you change?_____.

Why did you change?_____

_____.

14.How do you heat your water?(Circle All Correct Numbers):

1 Utility gas
2 LP,Propane or Bottled gas
3 Electricity
4 Fuel oil,kerosene, etc.
4 Active solar
5 Passive solar
6 Other(please indicate)_____.

15.Have you even heated your water differently?(Circle One Number): 1 Yes 2 No

A.If yes: How?_____. When did you change?_____.

Why did you change?_____

_____.

E.D._____No.____
Page 3.

16.What energy source do you cook with?(Circle All Correct Numbers):

1 Utility gas
2 LP,Propane or Bottled gas
3 Electricity
4 Coal or coke
5 Other(please indicate)_____.

17.Have you ever cooked with another source of energy?(Circle One Number): 1 Yes 2 No

A.If yes: How?_____. When did you change?_____ .

Why did you change?_____

_____.

18.Do you air condition your home?(Circle One Number): 1 Yes 2 No

A.If yes,circle one number: 1 Central system-electric 2 One room unit 3 Two plus units

19.How many bedrooms are there in the home?_____.

20.How many bathrooms are there in the home?_____.

21.We're interested in knowing how the amount of electricity you use changes during the seasons of the year. We know that sometimes it goes towards heating in winter and air conditioning in summer; is this the case with you or are there any other major uses of electricity that stand out in your mind that would make your bills in those seasons or in the fall or spring really high? Briefly, is there anything that makes your electric bill higher in a certain season?

	Monthly Electric Bill
Fall	$_____
Winter	$_____
Spring	$_____
Summer	$_____

22.What is your monthly electric bill during those seasons?(Record above).

23.What does your monthly electric bill run outside of those seasons?$_____/month.
Note to interviewer:Please record KWH usage also if volunteered by respondent.

24.What kind of insulation is in your ceiling?(Circle One Number):

1 Fiber glass 2 Rock Wool 3 Foam 4 Cellulose 5 Celletex Panels 6 Other_____.
A.Do you know how much?(Circle One Number): 1 Yes 2 No B.If yes,how much?_____.

25.What kind of insulation is in your walls?(Circle One Number):

1 Fiber glass 2 Rock Wool 3 Foam 4 Cellulose 5 Celletex Panels 6 Other_____.
A.Do you know how much?(Circle One Number):1 Yes 2 No B.If yes, how much?_____.

26.Since you have lived in this home, have you ever added any insulation? 1 Yes 2 No

A.If yes, was that in the ceiling, walls, floor , windows, or doors?_____.

B.When did you add it?_____.Why did you add it?_____

_____.

27. Which of the following have you added to your home? E.D._____No._____
1 Caulking 2 Storm windows 3 Weatherizing strips Page 4.
When?_____ Why?_____.

28. In the past, has your electric rate ever increased alot in a short time period? (Circle One Number): 1 Yes 2 No

A. If yes: When?_____.Do you remember how much?_____.
How did you respond to this large rate increase?_____

_____.

29. Are you aware that there is a nuclear power plant under construction in Clinton, Illinois?(Circle One Number): 1 Yes 2 No
A. If no, please skip to statement # 31.
B. If yes, do you have any opinion as to whether the Clinton Nuclear Power Plant should be completed or cancelled now?(Circle One Number): 1 Completed

2 Cancelled now 3 Undecided 4 No opinion

C. Would you briefly tell me why you feel that way_____

_____.

30. How did you hear about the Clinton Plant?(Circle Correct Numbers):

1 Newspaper articles
2 MJM newsletter
3 Friends
4 Neighbors
5 Relatives
6 MJM Officials at annual meetings
7 TV
8 Other(please indicate)_____.

31. Your coop is one of the seven coops in WIPCO(Western Illinois Power Cooperative) which owns 9.5% of the Clinton Nuclear Power Plant. Because of unexpected costs of building the plant, WIPCO estimates that wholesale electric rates will double or triple--which should double or triple your electric rates when Clinton is completed (now scheduled for Nov. 1986).

32. How would this increase in the cost of coop electricity influence your electricity use? Would you use the same, use less or use more?(Circle One Number):

1 Use the same amount of electricity 2 Use less electricity 3 Use more electricity

A. Why do you feel that way?_____

_____.

B. If you would use less, where would you cut back first, second, third, etc.

Uses of electricity cut back on in order of priority:

1._____

2._____

3._____

4._____

C. Altogether how much percentage-wise would that cut your coop electricity use?_____%.

E.D_____No._____
Page 5.

33. Would you switch to any other sources of energy or other ways of generating electricity?(Circle One Number):
1 Yes 2 Strongly consider 3 Maybe 4 No 5 Don't know

A. What new sources would you consider and why?_____

_____

_____.

B. How much percentage-wise would these new energy/electricity sources cut your coop electricity use?_____%.

34. Would you insulate or weatherize your home more?(Circle One Number): 1 Yes 2 No

A. If yes, specifically what would you do?(please indicate amount and type of insulation or weatherization and where it will be placed)_____

_____

_____.

35. Are there any other steps you would take if the Clinton Nuclear Power Plant was completed and your electricity rates doubled or tripled?NOTE TO INTERVIEWER:Do not probe--just record responses;no follow-up questions._____

_____.

36. Do you think that your thoughts or actions will effect the completion or cancellation of the Clinton Plant? (Circle One Number): 1 Yes 2 No

A. Why do you feel this way?_____

_____.

37. Would you tell me your approximate age_____years.

38. Would you tell me how many years of school you have completed_____years.

39. How do you earn your living?_____.
A. If farmer: Would you tell me how many acres you own_____acres.
How many of these acres are tillable_____acres.

40. Does your spouse contribute any cash income,wages or salary? 1 Yes 2 No
A. If yes, how does your spouse earn her/his living?_____.

41. Would you roughly estimate your net yearly household income within $5,000.$_____.

42. Approximately when was your home built?_____.
A. Have you made any other major changes in the home that we haven't already discussed? (Circle One Number): 1 Yes 2 No. If yes, when and why_____

_____.

43. What construction materials are on the exterior of your house now?(Circle All Correct Numbers): 1 Wood siding 2 Aluminum siding 3 Cinderbrick siding 4 Brick
5 Combination of_____. Other_____.

That's all the questions I/we have.Do you have any?

WIPCO RURAL ELECTRIC CUSTOMER/OWNER ENERGY USE STUDY

SAMPLE SELECTION FORM

PRINCIPIA COLLEGE
SOCIOLOGY DEPARTMENT
1983 -84

DISTRIBUTION COOP_____ENUMERATION DISTRICT____COUNTY_____TOWNSHIP_____INTERVIEWER(S)_____

SECTION #	NAME	QUADRANT	NOT AT HOME		NOT AT HOME		REFUSED INTERVIEW	COMPLETED		#	COMMENTS ABOUT SAMPLING PROCEDURE
			DATE	TIME	DATE	TIME		DATE	TIME		

Roger Batz
Principia College
Dec. 6, 1983

INTERVIEWER GUIDELINES FOR WIPCO PROJECT

1. Introductory comments:

It is important for each of you to have somewhat similar introductory comments in order to preserve as much as possible the validity of the responses you receive. Of course you must be relaxed and natural, but it is helpful if we try to have a somewhat similar introduction. Therefore, I suggest that the following be used as closely as possible.

"Hello, my name is_____.I/we are students at Principia College and are doing a home energy study of _____coop members.We would like to ask you a few questions for five minutes"

If there is some hesitation or if a person asks something to the effect of "what is the purpose" or "what do you really want" you might follow up with wording as follows--try to stick again to this as much as the context allows.

"The purpose of our college project is to see how people use energy in their homes and how they plan on using energy in the future"

If they still are unsettled, the third intro. remark should be:

"Coop officials say that electric rates are going to double or triple in a few years because of cost overruns on a power plant and we want to see how this is going to affect coop customers and their energy or electricity use." --notice I have no reference to Clinton or a "nuclear" plant; we don't want to raise that question at this time. If they are still unsatisfied, you might read them the wording on page one of the questionnaire.

I think that it is very helpful for you to tell them--when you think that it is appropriate that ..."All information is confidential and is for statistical purposes only." Some of our pilot study interviewers found that this was cumbersome to say to people at the beginning of the interview when you are trying to establish a rapport. I don't think that it can hurt you if the people are very friendly and have welcomed you into their home--but use your discretion if you feel it is not appropriate then. However, sometime before you get into the more personal questions, I think that it is only fair to let them know that no-one will know that they--personally--have stated this. It may enrich your rapport and make them more comfortable in telling you their income at the end of the questionnaire; if you wait until right before the income question to tell them about the confidentiality of the interview, it may seem somewhat artificial--but this is where your skill and appreciation for the integrity of the individuals involved can be demonstrated. Remember you are a guest in their home and that they are telling you some very personal information. I am very pleased with the abilities that you as interviewers are bringing to this Principia College project and confident that you will represent yourselves and Principia College well in the field. This is the first social science research project that Principia College has sponsored and look forward to continued development in this area.

2. Please ask the questions as they are stated on the questionnaire/interview guide. If your questions are worded differently, the results will not be comparable and the question unusable.Minor deviations are expected--use your discretion.

Roger Batz
Principia College
Dec. 6, 1983

INTERVIEWER GUIDELINES FOR WIPCO PROJECT

3. Please do not let your opinions show during the interview; even the slightest hint of your opinion may bias the respondent; please remember that many of these people want to "please" you by giving the most correct answer--particularly if they do not know much about a question; they look for leading cues from you.

4. If they ask you for your opinion about the plant, you can just avoid the question somehow or simply state that you are not supposed to let your opinion out during the interview--if they seem to need that answer.

5. Even at the end of the interview, you should be careful about how you present yourself to them; at that time in the interview, your comments can no longer bias their responses--but the way you present yourself will be characterized by the respondent and communicated to their friends--who may be future respondents. It is certainly appropriate to be honest and indicate that you have feelings and opinions--especially since you have asked them some very personal questions; that is why I have included the comment at the end of the questionnaire, "That's all the questions I/we have. Do you have any?" But you should be very low-key in your response to questions related to data that you are gathering; we don't want you or the other project interviewers and the project itself characterized in any biased way. The data--the economic and social facts and opinions of the people--will speak for itself and be useful information for those who are making decisions in relation to energy and electricity use among coop members and the public in general. Hopefully, this study will enable people to understand more the economic and social implications of their decisions in relation to the Clinton plant and other energy/electricity generating issues. The more cool and calm we are, the more people will be able to see beyond us to the issues involved and the data that we present.

To:All Energy Use Interviewers
From:Roger Batz
Date:Dec. 12, 1983
Re: Intro. comments to be communicated at the beginning of the interview; miscel.comments.

I have made a more folksy version of the comments on the first page of the questionnaire. "This set of questions is part of an energy use study of rural electrical customers of the seven coops which are organized into WIPCO, which is Western Illinois Power Cooperative. The purpose of the study is to learn more about energy use among rural customers in this area. You(all) have been randomly selected to participate in this study. All the information you give us is confidential and it will only be used for statistical purposes.You don't have to answer any questions you don't want to answer. But, we do appreciate the responses you give us."

After you introduce yourself(ves)---Hello, my name is_____. I/we are students at Principia College and are doing a home energy study of_____coop. We would like to ask you a few questions for five minutes.", some people will immediately let you in the house. When they have sat you down or in some other way indicate that they are ready, you could read or state as closely as possible what is written above. Then you can start asking the questions of the questionnaire.

B.Miscel. comments:

1.Have college ID.
2.Try to work on Fri,Sat and Sun. These are days that working people will most likely be at home;we don't want all retired people in the survey.Some people are finding it appropriate to take off on an inclement day or part of such a day during the week.Get to the first home ready to interview by 8:30 am or so--perhaps 9:15 am on Sat.
3.Record all responses to the income question--don't say anything before this question to the effect that they don't have to answer it;then they probably will not do so. This is an important question to have data for--it provides a key indicator of social class. If you have clearly stated that the results are confidential at the beginning of the interview, then the respondent will be likely(maybe more likely) to give this info. Be sensitive to their responses to the question,prod a bit indicating that this data helps complete the questionnaire—if they are very resistant, back off and record any general comments about income that they are willing to give.
4.Net income=income after all major capital expenditures such as seed, fertilizer,etc are paid for, or it is the income after taxes for a salaried person.
5.Record all info. re. conservation practices or attempts to conserve use of energy or electricity that come up at different times during the interview.
6. In addition include any observations that are pertinent to the study--ie. gaps in the windows with wind rushing through--at the same time that people are telling you that they have caulked the home. Record these on page one. Clearly indicate what is your comment or observation by putting ( ) around them. Such insights are crucial to the final writers of the report;it gives them a further flavor for the data.

7. If you want to, you can record some insights and generalizations that seem to come to you after a few days or a week or more work. These are your impressions of patterns that are starting to appear to you;they are really preliminary hypotheses and can be roughed out in a journal-like fashion in a separate notebook. This is optional but very important kind of information to me when I am trying to make some sense out of all the data. Your insights are crucial because you are much closer to the data. If 5 or 6 of you make similar comments or generalizations, then it will be up to me and others analyzing the data to investigate the degree of validity of such comments; in essense, you are providing a guide through the maze of data.

8. Question 28 is interpreted differently by people. Some view it as asking for a time when their bill went up;if they so interpret the question, record their response.Then follow up with a comment such as do you remember if the rate or the sheer cost of the electricity ever went up alot in a short period of time. If they start out interpret the question in the latter fashion , record their answer and move to the next question. You don't have to get a response from them about the "tough" seasons when they had high bills.

9. Sometimes people may get uneasy when they find out that their bills will increase so much and might seem as if they are not listening to questions after that one. Be sensitive to their mood and roll with it. If they are getting antsy towards the end of the interview, you might try a comment such as, there are only 4 or 5 questions left.

10. Sorry, I left too little space to record answers to question #27. Just try to squeeze it all in, ie. the separate times that they caulked, weatherstripped, or added storm windows and why. That's important data--particularly the WHY?

11. Please be sure that you put " " around the exact comments of the people;selections of these will definately be used in the final report. It is crucial that we know if it is a direct quote or a paraphrase;such paraphrases are helpful also, but I need to be able to tell if it is you talking or your respondent. Get into the practice of memorizing direct quotes--particularly if you are working alone--anthropologists and sociologists try to do that.

12. Clipboard,boats,warm clothes,shovel and bucket of sand in truck of car. envelopes for completed questionnaire.
13. Keep accurate records of all gas,oil purchases. Do obvious maintanence of car.
14. If they say they will move out of the area in response to ratehikes, discern if this is speculation or has some validity to it.

The
PRINCIPIA
Principia College
Elsah, Illinois 62028
Phone 618 374 2131

The following is a description of the sampling procedure to be used in the energy use survey of randomly selected rural coop customers who belong to WIPCO(Western Illinois Power Cooperative) through their membership in one of the seven distribution coops that we are sampling.

How do you know which houses to select in the sections in the township?

1. Each township has 36 sections. I will circle on the maps the sections that must be sampled--one person per section for a total of 15 people in each enumeration district/township.

   Sections: 6,33,32,24,35,17,13,18,15,27,29,7,11,1, and 5.

2. If there is no-one avaiable to be sampled in any one of the above 15 sections, you must substitute sections in the following order : 23,26,10,36,16,3,30,12, 21,8,20,14,28,22,19,4,2,34,31,9,and25.

3. You can interview people in the 15 sections in any order--you can select any section first and go to any other one next until you have one person from 15 different sections.

4. Each section can be mentally divided into four quadrants:

Northwest	Northeast
Southwest	Southeast

In some cases there will be property lines that follow such a division of sections. There are 640 acres in a section.

5. When you start in the morning/afternoon, you somehow arbitrarily select one of these four quadrants to begin in the first section that you sample for the day. ie.you can assign each of the quadrants a # and put 4 #s on four sheets of paper and mix them us and select one piece of paper. That # corresponds to a quadrant which is the quadrant you begin in the first section that you decide to go to for that day.

6 The first house (or trailor) that you see in that quadrant of that section is the first house that you attempt to interview. If the person refuses an interview or is not at home or the house is abandoned or if the person is not a member of the electric coop(is on an investor-owned utility), you proceed to the next dwelling that you see IN A CLOCKWISE DIRECTION.Note:if you see two dwelling simultaneously, you go the

one whose driveway you come to first.

7. You continue going in a clockwise direction until:A)You find two"not-at-homes" , B.You run out of dwellings in that section, C.You receive a successful interview.

8.If you find that there are all abandoned dwellings or refusals in that section, you substitute the first section on the top of the substitute section list;In essense, you throw this empty section out of the sampling pool of 15 and substitut another one. Then you continue to go around to the sections you need to sample. Note:You do not need to immediately go to the substitute section-- just as long as you hit it sometime for an interview.

9.If you find two "not-at-homes" in any section, that is your message to STOP at that time interviewing in that section and return to the first "not-at-home" at another time of the same day or at another time on another day. ie. the theory is that there may be an event that takes people of a certain persuasion away from there homes on a certain day(or time of that day) and you will end up biasing your sample. If you find one "not-at-home" you can assume that this is random and continue going clockwise in that section to search for your successful interview. Please note that you do not eliminate that section totally , you simply return to the first "not-at-home" first and the second "not-at-home"second at another time of that day or on another day.

10.Please record all of your findings about the nature of the interview on the sample selection form,ie. indicate if the house was abandoned also please. We are finding quite a few of them and are trying to get an indication of how many abandones ones there are out there.

11.The most frustrating parts of the process are:A.If the roads do not follow clockwise around a section. B.If it is difficult to find a dwelling in the section-- your time is spent going all around the section searching for a dwelling. C.Some of the black dots on the map are no longer inhabited by people or are not even there-- the maps are 10 years old in some cases.

12.You can counter for some these problems by:starting to sample in another section if you find that roads do not allow you to easily get to another quadrant in the section you are searching in--then come back to that section.

13.Please note that you start in the section that you select second in the quadrant that is the next one clockwise from the quadrant that you STARTED in the previous quadrant. ie. you selected the northeast quadrant to start in at the beginning of the day. You decided to start interviewing in section 36 because according to the map that would be the first section on your approved list that you would hit on the road from your home. You spot a trailor in that quadrant in that section 36 and go for it and achieve a successful interview. Then you hunt for the southeast quadr of the next section that you decide to hit and go for the first house/trailor in that quadrant that you see. Perhaps you have to go to three houses and proceed into the southwest quadrant before you get a successful interview, you begin in the next

The
PRINCIPIA
Principia College,
Elsah, Illinois 62028
Phone 618/374-2131

next section in the first quadrant in a clockwise direction from where YOU BEGAN in the previous section--in this case you would begin in the southwest quadrant.

Please find attached some guidelines of how you should introduce yourself; substitute Louis and Clark College where if says Principia College student. Your coop will probably be MJM;a few may be in Rural Electric Convenience.

Please find enclosed packets which contain:
A.Copy of the research prospectus.
B.Sampling guidelines on how to introduce oneself.(4 pgs)
C.A questionnaire (please do not recopy and distribute widely). They should not get out into the public until the study is completed.
D.A map of the coops.
E.A sample map of one of the enumeration districts/townships.

I hope this is helpful;I will answer questions on Fri. with you--and discuss anything beforehand that you wish.

I would like to offer some compensation;but don't know as of now if I am able.

I will be available after the completion of the interviews for some followup discussion et al.

Thank you again for your gracious offer of aid in completing this very important project.

Cordially,

Roger Batz

United States
Department
of Agriculture

Rural
Electrification
Administration

Washington
D.C.
20250

SEP 09 1983

Drs. Roger Batz and E. B. Shultz
#1 S. Elsah Hills Road
Elsah, Illinois 62028

Dear Drs. Batz and Shultz:

Thank you for your letter dated August 24, 1983, expressing your concerns over the growing Clinton Nuclear Generating Station construction costs and the resulting potential impacts on cooperative members. The material you submitted will be carefully reviewed. The decision by the Rural Electrification Administration (REA) on whether or not to provide additional financing to Western Illinois Power Cooperative (WIPCo), Jacksonville, Illinois, and Soyland Power Cooperative (Soyland), Decatur, Illinois, for the Clinton plant will be a major one.

The issue of Clinton economics when viewed at this point in the construction process is exceedingly complex. Among the factors that require evaluation are: the need for the facility to meet load; the competitiveness of the Clinton plant as an operating entity compared against other alternatives; the contractual commitments of the participants; the total costs incurred in cancellation versus the costs incurred in completing the project; the impacts upon consumers in Illinois; etc.

These factors will be carefully considered by REA, Illinois Power Company, the public, and the members of Soyland and WIPCo before a decision on additional financing is made. We encourage you to continue to study the matter and to bring to the attention of WIPCo, Soyland, Illinois Power Company, REA and others any information you deem significant.

Sincerely,

Jack Van Mark

Jack Van Mark
Acting Administrator

United States
Department
of Agriculture

Rural
Electrification
Administration

Washington
D.C.
20250

SEP 9 1983

Mr. V. Dale Cummings
24 Elsah Hills Drive
Elsah, Illinois 62028

Dear Mr. Cummings:

This will acknowledge receipt of your August 29, 1983, letter relative to additional funding for the Clinton Nuclear Project.

Western Illinois Power Cooperative, Inc. (WIPCO), is a 9.5 percent owner of the Clinton Nuclear Project. M. J. M. Electric Cooperative, Inc. is one of 7 electric distribution cooperative members of WIPCO. WIPCO has informed the Rural Electrification Administration (REA) that it will need substantial additional funding to complete its 9.5 percent share of the Clinton Project.

REA will require additional study be performed to determine if continued Clinton funding is in the best interest of cooperative members.

We are aware of the potential rate impacts on cooperative members when Clinton becomes operational. At this point we do not know of how we can soften the economic impacts of Clinton, but you can be assured that we are aware of the problem.

Sincerely,

Frank W. Bennett

FRANK W. BENNETT
Director
North Central Area-Electric

WASHINGTON UNIVERSITY IN ST. LOUIS

Center For
Development Technology

September 1, 1983

Mr. Donald B. Bringman
General Manager
Western Illinois Power Cooperative, Inc.
P.O. Box 609
Jacksonville, IL 67651

Dear Mr. Bringman,

We have been studying Steve Hahn's article in the State Journal-Register (Springfield) of August 7, page 5. Two statements seem to be contradictory. Maybe Hahn made an error that you could help me correct. I am also writing to the Soyland General Manager today, to ask for his response to similar questions concerning the two statements:

> "Soyland officials estimate their members' rates will increase about one and one half times when Clinton begins operation."
>
> "...WIPCO members are expected to have to pay about $175 for 900 kilowatt hours of electricity, while Soyland's would pay about $95."

From the second quote above, I calculate that rates in WIPCO and Soyland would be 19.4¢ and 10.6¢ per kWh, respectively.

May I ask the following?

1. Was the newspaper right or wrong about $175 for 900 kWh in WIPCO (19.4¢/kWh)? If wrong, how should it be corrected?

2. Do you know if the newspaper was right or wrong in its statements about Soyland (1.5 times, and $95 for 900 kWh)? If wrong, how should it be corrected?

3. What is the current average retail rate in the 7 WIPCO distribution coops? Are the 7 roughly about the same? Any unusually high or low (as in Soyland)?

4. Concerning the 19.4¢/kWh (or, a corrected value), on what anticipated interest rate for financing the WIPCO share of Clinton is this based?

shington University
mpus Box 1106
Louis, Missouri 63130
4) 889-5455

Mr. Donald B. Bringman
September 1, 1983
Page Two

The apparent contradiction in the newspaper article seems to be the 1.5 times and the 10.6¢ per kWh for Soyland. If both are true, then their present average retail rate is 7.1¢ per kWh. This seems unlikely.

Your help in straightening this out will be appreciated. Our research group here at the School of Engineering is helping me get out a preliminary report. You will receive a copy as soon as it is available.

Sincerely,

Eugene B. Shultz Jr.

E. B. Shultz
Associate Director

EBS:kmr

WIPCO

Western Illinois Power Cooperative, Inc.

POST OFFICE BOX 609
JACKSONVILLE, ILLINOIS 62651
217/245-6161

September 8, 1983

Mr. E. B. Schultz
Associate Director
Washington University
Campus Box 1106
St. Louis, Missouri 63103

Dear Mr. Schultz:

The two quotes of your September 1 letter are from Mr. Hahn, not this Cooperative.

We answer your questions as follows:

1. We really don't know. Our forecasts indicate that wholesale rates to our member cooperatives, not the ultimate consumer, will increase by 2 or 2½ or 3 times. What the ultimate user's rate will be is thus in part dependent upon what the member distribution cooperative must add as their cost to distribution.

2. We have no idea.

3. Average rate is about 8 cents. They are all about the same. None are unusually high or low.

4. Our forecast of cost upon commercial operation of Clinton are based on an interest cost of 11% per annum.

Yours very truly,

D B Bringman

D. B. Bringman, General Manager

DBB:bd

Charles W. Witt, Manager
M.J.M. Electric Cooperative, Inc.
P.O. Box 219
Carlinville, Illinois 62626

5September 15, 1983

Dear Mr. Witt:

Thank you for the newsletter about the activities of our MJM Coop. I have been following the discussion about the price effects on MJM members of buying power from the Illinois Power plant at Clinton. Your last report indicated a doubling of rates which I assume would mean going from the present nine cents to around eighteen cents. The prospective change is so large that it prompted me to investigate economic studies that have measured the effects of rate changes on the quantity of power demanded by consumers. What I discovered will be of much interest to MJM.

Without going into detail--the studies are cited below--, it appears that the relationship between the price for power and the quantity demanded is approximately one for one. That is, a price increase of one percent leads to a consumption reduction of one percent given some time for the adjustment to take place. Obviously, a 100 percent increase in price would not eliminate all demand for electric service but I suspect it would lead to a major reduction. Any reduction would then feed upon itself in that rates would have to be raised even further to compensate for the reduction in demand which would lead in turn to a further reduction in demand. This situation strikes me as a very dangerous one for our electric coop.

Is there no way that we can cut this horrendous cost increase before it gets any worse, before it results in price increases of the magnitude that you have suggested? Your comment in the newsletter implied that we could not escape--that we were doomed to march ahead and accept these cost increases. Is that an accurate statement? It seems difficult for me to accept when a reasonable forecast points so conclusively to bankruptcy. Surely an organization is entitled to protect itself, especially when the cost increases have gone way beyond our originally committed endorsement.

I'm sure that you have given much thought to this problem and I'm sure that my perception of the problem may be too simple. My purpose in writing is simply to express my concern, add some information that may help, and urge you to continue to explore all avenues to avoid the collapse of MJM. I am not an expert on utility economics but from my perspective as a professional economist, it seems we in the coop need to get together to save our organization quickly.

Taylor, L.D. "The Demand for Electricity: A Survey", The Bell Journal of Economics. Spring, 1975, pp. 74-110.

Most sincerely,

Jack H. Snyder

Jack H. Snyder
265 Professor of Economics

M.J.M. ELECTRIC COOPERATIVE, Inc.

"The Line with The Member in Mind"

262-268 North East Street P. O. Box 219 Carlinville, Illinois 62626
Telephone: (Area Code 217) 854-3137

September 23, 1983

Mr. Jack H. Snyder
Professor of Economics
% Principia College
Elsah, IL 62028

Dear Mr. Snyder:

Thank you for your comments on the Illinois Power Company Clinton Nuclear Power Plant and the resulting increase in M.J.M.'s power costs, when Clinton becomes operational.

First, we must firm up M.J.M.'s participation in the Clinton Nuclear plant. M.J.M. is one of seven members of Western Illinois Power Cooperative (WIPCO), commonly referred to as a Generation and Transmission (G & T) Cooperative. It is through WIPCO that M.J.M. actually has indirect monetary ownership in Clinton. WIPCO has a direct 9.5 percent ownership of Clinton. M.J.M. has contractual agreements to purchase all of our power through the WIPCO G & T.

The anticipation of much higher power costs, resulting in higher retail rates, has been called to the attention of our membership for several years. It was the referral to specific amounts that got our members attention. We hope the specific amounts were on the extreme high side and there is a possibility the specific amounts may not be so high.

Your Board of Directors and Management has taken the position that we need to be open with our members. This frankness has initiated an exploration of all the alternatives by the WIPCO leadership. Prior efforts were being made with no particular concern by our Mortgage Holders. We now have their attention. We are now at a point in time when we must allow time for the alternatives to jell. Please believe me when I say no pages are to be left unturned. The best minds in the electric utility industry are being put to work. This includes Engineering and Finance.

Mr. Jack H. Snyder
Page 2
September 23, 1983

Getting out of Clinton could be the ultimate solution. As of now, I do not think so. Then too, we must realize there are contractual obligations to Illinois Power (IP), all sanctioned by our Mortgage Holders, which is in fact, the U.S. Treasury. It is easy for anyone to say, "Get out of Clinton, now," but the investment to date must be satisfied or negotiated. Once out of Clinton a firm source of power would have to be secured, not on a monthly basis, or a yearly basis, but firm for at least 10 years, and updated each year thereafter. Without a doubt, the supply could be secured, but the cost would be firm for not more than a year at a time.

With "Acid Rain" legislation in the pipeline on Capital Hill, and the thought of the United Mine Worker's securing a monopoly to supply coal for conventional coal fired electric generation in the midwest, may cause Clinton to be far the best alternative in the long term. Our only firm source of quantity electric generation in the midwest is coal or nuclear. There are no sites for hydro in the midwest, and oil or natural gas is out of the question except for emergencies and short periods during system peaks.

Enclosed is a copy of an article from the September issue of the Rural Electrification Magazine published by our National Association. Perhaps the article will help shed some light on the economical plight of the electric utility industry. The plight is nationwide, with varying degrees of impact on the consuming public.

Sincerely,

Charles W. Witt

Charles W. Witt, General Manager
M.J.M. ELECTRIC COOPERATIVE, INC.

CWW/dle

cc: Donald Bringman, General Manager, WIPCO
J. Brandon Jackson, Field Representative, REA
All M.J.M. Board Members and Attorney

Standard and Poor's Credit Week Feb. 28, 1983

Illinois Power Co.

$51 million preferred stock
Filed: February 18, rule 415 shelf registration
Preliminary rating of 'A', outstanding ratings lowered

Rationale. Ratings on Illinois Power's outstanding publicly rated first mortgage bonds, collateralized pollution control revenue bonds, and preferred stock are lowered to 'A' from 'AA–'. The ratings on the company's and Illinois Power Fuel Co. (unconditionally supported by Illinois Power Co.) commercial paper programs are revised to 'A-1' from 'A-1+'. Also, the proposed preferred stock issue is assigned a preliminary rating of 'A'. The rating reductions reflect heightened construction risks, the low contribution of internal cash relative to capital spending and poor earnings quality, as well as prospects for an extended period of financial difficulties. The utility's overall financial condition has deteriorated over the last several years due to strains arising from extensive external capital needs for construction of the Clinton nuclear facility. In view of the various stop-work orders issued last year, it appears likely that Clinton will be subject to further cost escalation and delays, the extent of which are now unknown. In the interim, the resulting burdensome external capital requirements will continue to strain earnings and cash flow measures, as well as financing flexibility. Significant reduction of financial pressures cannot be realistically expected until the Clinton investment is recognized as plant in service for rate-making purposes. However, the possibility that a rate moderation plan may be adopted for Clinton creates uncertainty regarding the timing and extent of cash flow improvement. Moreover, the fact that the unit will represent over half the company's rate base for some time is a source of serious concern. Future levels of credit protection for senior security holders will depend importantly on the pursuit and receipt of rate decisions which emphasize cash flow support in addition to earnings levels.

Business: Illinois Power, a medium-sized combination utility, provides electricity (62% of operation revenues) and gas service (32%) in several non-contiguous areas of northern, central, and southern Illinois. The service territory encompasses a large portion of the state's agricultural business and a highly diversified industrial base. Electric operating revenues are derived approximately 34% residential, 22% commercial and small power, 36% large power and light, 6% rural cooperatives and municipal utilities, and 2% other. Company-owned net generating capability aggregates 3,816mw, of which 99.2% is coal-fired, which produced a 29.4% reserve margin over the 1982 summer peak load of 2,951mw. Approximately 55mw capacity is available from Electric Energy Inc., a 20% owned steam electric generating company that supplies power primarily to the Department of Energy. In addition, under contract with Electric Energy, the company has about 165mw of capacity through September 1983 that is being resold to Commonwealth Edison Co. Based upon expectations of 1.5% annual peak load growth, reserve

(Mil. $)	1982*	1981	1980	1979	1978
Cash Flow Analysis					
Cash Retained Earnings	(48.7)	(46.7)	(35.7)	(27.7)	(18.5)
Depreciation	N.A.	62.7	60.0	57.6	53.0
Deferred Taxes	N.A.	41.6	43.0	40.6	43.1
Cash Flow	61.1	57.6	65.7	70.5	77.6
Cash Flow/Capitalization (%)	2.6	2.8	3.3	4.0	5.0
Depreciation Rate (%)					
Electric	N.A.	3.4	3.4	3.4	3.4
Gas	N.A.	2.9	2.9	2.9	2.9
Cash Payout (%)	179.8	201.3	185.5	175.1	149.1
Capital Requirement					
Construction Expenditures	316.1	288.1	264.3	252.9	283.5
Maturities & Sinking Funds	20.0	0	10.0	15.0	15.0
Working Cap. Change (Source)	(8.4)	(27.4)	0.1	11.9	(8.5)
Total Cap. Needs	329.7	260.7	274.4	279.8	292.0
Cash Flow/Const. (%)	19.3	20.0	25.1	27.9	27.4
Cash Flow/Cap. Needs (%)	18.5	22.1	24.1	25.2	26.6
Const./Capitalization (%)	13.9	13.8	13.2	14.5	18.2
Asset Protection (%)					
Property Funding Ratio	40.5	39.3	44.4	43.8	44.6
CWIP/Net Plant	N.A.	48.1	43.1	36.7	28.9

*For the 12 months ended Sept. 30 (unaudited)

margins will satisfy the 15% Illinois-Missouri Power Pool minimum requirement through 1984, at which time the Clinton unit is currently scheduled to begin commercial operation.

Regulation: Retail rates are regulated by the five appointed members of the Illinois Commerce Commission, while wholesale rates are subject to the jurisdiction of the Federal Energy Regulatory Commission. Illinois regulatory treatment is viewed as generally constructive with regard to cash flow enhancement and stability of financial results. Although state statutes require fair value findings, decisions are based largely on original cost calculations and recently on average rate base, including a cash return on a portion of construction work in progress (CWIP) and normalization of tax benefits. During 1981, new filing rules were implemented requiring 10 years of historical test data. Nevertheless, the rules permit companies to file a sufficiently forward test period so that the test year will still be fully projected at the time of the rate order. A uniform fuel adjustment mechanism permits recovery of changes in energy costs, with any other or under recoveries reconciled in later months.

On January 12, the commission authorized a permanent rate increase designed to produce additional revenues of $69.9 million for electric service and $39.6 million for gas service. This rate proceeding was initiated almost a year earlier, when the company requested a $136.9 million electric hike and a $49 million gas increase, excluding add-on revenue taxes. The order was based upon a 15.5% return on common stock equity and an 11.98% return on an average rate base for a fully forecasted test year ending Dec. 31, 1983. In its electric rate base, a cash return on an additional $250 million of CWIP, or $625 million in total was permitted, which represented approximately 42% of the utility's investment in Clinton as of Nov. 30, 1982. In addition, a rate moderation plan was proposed by a staff witness. The proposal involves setting rates at the net income level and allowing the restoration of carrying charges to rate base through a capitalization procedure. This procedure would be followed until the book cost of the plant were equal to the cost which would have resulted if no CWIP had been included in rate base.

Capital projects: The only major addition to generating capacity presently under construction is Clinton 1, a 950mw nuclear facility, 20% of which is owned by two cooperative associations. Fuel load is currently scheduled for January 1984, with commercial operation to begin the following August. Total estimated cost of the facility is $2.15 billion, of which Illinois Power's 80% (760mw) ownership share will approximate $1.79 billion. Construction expenditures, including allowance for funds used during construction (AFDC), but excluding $23 million for nuclear fuel, are projected to total $967 million for 1983–1987. These outlays are planned at $355 million for 1983, $211 million for 1984, $130 million for 1985, $130 million for 1986, and $141 million for 1987.

Construction of Clinton 1 is continuing at a reduced pace as a result of various stop-work orders issued last year and restraints in the release of new work caused by an inspection backlog. Work has been partially resumed with Nuclear Regulatory Commission approval in each of the areas affected by the orders. However, until the orders are lifted, the company will not know the extent of the impact upon the cost and construction schedule of the unit, although it is likely that the date of fuel and commercial operation will be delayed. Subsequent completion of Clinton 1 and based on current load growth projections, new base load capacity will not be needed until the early 1990s. Hence, it will not be necessary for management to make a decision for several years regarding the type and timing of additional capacity, including construction of Clinton 2.

Finances: The construction program, primarily related to the Clinton Power Station, continues to exert pressure on the company's financial position. Over the last four years, internally generated cash has funded about 25.1% of construction expenditures and 24.5% of total capital requirements. For the 12 months ended Sept. 30, 1982, the equivalent ratios were 19.3% and 18.5%, respectively. Despite inclusion of $375 million of CWIP in rate base, a substantial portion of net income (47.1%) is represented by AFDC, thereby placing a major drain on internal funding ability. Although an additional $250 million of CWIP was recently permitted in rate base, internal funding of capital outlays will remain marginal at least until 1984, when Clinton 1 is scheduled to become operational, assuming substantial rate relief is granted at that time. In addition, the ratio of CWIP to net plant will continue to rise, reflecting the substantial asset concentration in the facility. While the $106 million recently authorized permanent rate increase may lead to a near-term reduction of the gap between reported coverages and coverages excluding AFDC, the potential exists for this gap to widen in the coming years. Accordingly, continuation of the historically supportive regulatory posture and ongoing cash flow enhancement mechanisms will be necessary to prevent further impairment of financial flexibility and liquidity, and to maintain the conservative capital structure.

Pro Forma Capital Structure ($000)	—Dec. 31, 1982—	
Long-term debt	1,149,990	46.6%
Preferred Stock	302,171	12.3%
Common Equity	1,013,452	41.1%
Permanent Capitalization	2,465,613	100.0%

Liquidity Analysis	1982*	1981	1980	1979	1978
Current Ratio (x)	0.90	0.78	1.25	1.00	1.02
Cash Flow Avg. Short-term Debt (x)	N.A.	2.72	2.20	5.88	5.92
Cash Flow/Long-term Debt (x)	5.5	5.9	6.6	8.1	9.9
Profitability Analysis (%)					
Return on Equity	13.3	12.5	12.6	11.5	11.9
Return on Capital	10.6	10.3	9.5	8.9	8.9
Operating Ratio	85.2	85.8	85.9	85.9	85.4
AFDC/Net Income	47.1	48.2	45.1	42.4	35.1
Income Tax Rate	35.6	34.4	36.2	35.1	36.8
Earnings Test (x)					
Interest Coverage					
Pretax	3.41	3.22	3.31	3.21	3.42
Excluding AFDC	2.68	2.52	2.65	2.60	2.88
Preferred Dividend					
Pretax	2.60	2.39	2.39	2.33	2.34
Excluding AFDC	2.04	1.87	1.91	1.88	1.97

*For the 12 months ended Sept. 30 (unaudited)

Barbara A. Walcke

AUGUST 10, 1983
DECATUR HERALD AND REVIEW
DECATUR, ILLINOIS

Moody's lowers Illinois Power's bond rating

By RON INGRAM
Herald & Review Farm/Business Writer

Illinois Power Co.'s bond rating was lowered Tuesday by a major New York rating firm because of escalating cost and lengthening completion schedule for the Clinton nuclear power station.

Moody's Investors Service Inc. announced Tuesday it had downgraded Illinois Power's first mortgage bonds and its preferred stock to A2 from Aa3. The bond rating for the utility's financing subsidiary, Illinois Power Finance Co., also was lowered to A3 from A1.

"This means we run the risk of future financing costing us and our customers more when we go into the money markets," said Al Adams, Illinois Power spokesman, indicating the company is likely to face higher interest rates on borrowed funds.

Adams said Illinois Power, throughout its most recent rate case, expressed the fear it would not be able to maintain its rating and thus its financial integrity.

Illinois Power last year sought Illinois Commerce Commission approval to include $875 million of construction work in progress in its rate base. But the commission ruling in January granted only $625 million in CWIP. A review of that ruling was concluded in July and the commission left its original order unchanged.

Factors influencing the downgrade decision included the delay in completing the Clinton plant, the plant's 30 percent increase in cost and the resulting postponed recovery of the utility's cash flow, a Moody's spokesperson said.

She said if Clinton had been completed on schedule, the rating firm's concerns would have been alleviated.

But Moody's does not expect a strengthening of Illinois Power's financial ratios until 1986, she said. The Clinton station currently carries a $2.85 billion price tag and is scheduled for operation in November 1986.

Financing of the Clinton plant has decreased the internal generation of funds needed for construction below 25 percent for the next two years, the Moody's spokesperson said.

Thus the utility will have to borrow more than 75 percent of the funds it needs to complete the project.

The spokesperson said the downgrading effects $1.177 billion of outstanding Illinois Power bonds and $251 million in preferred stock.

Illinois Power last month survived a review of its bond rating by the other major New York rating firm, Standard & Poor's Corp.

Standard & Poor's analyst Barbara Walicke said Illinois Power's rating was maintained at single-A for first mortgage bonds and preferred stock and A1 on commercial paper.

Ms. Walicke said Standard & Poor's last major review of the utility took place in February. At that time Illinois Power's rating was downgraded from double-A minus.

Ironically, the Clinton power station figured prominently in Standard & Poor's most recent decision to maintain Illinois Power's rating.

"The stop-work orders should be lifted by the end of August on the Clinton project," Ms. Walicke said. "We're now looking at the timely completion of Clinton."

She said her firm anticipates Illinois Power will continue to receive favorable regulatory treatment from bodies like the commerce commission.

Adams said the recent actions by the two New York rating firms show that bond rating is not a precise science.

"If it was, we'd know what we need in financial ratios to meet the rating standards," Adams said.

THE STATE JOURNAL-REGISTER
Springfield, Illinois
August 24, 1983 Page 1

Feasibility of IP plant under study

by Steve Hahn

Illinois Commerce Commission staff members are studying whether Illinois Power Co.'s Clinton nuclear power plant will be economically feasible, the State Journal-Register has learned.

The study is designed in part to determine if stopping work on the half-complete plant, and finding other ways to meet IP's future power needs, would be cheaper than finishing it.

The commission, and Chairman Philip O'Connor in particular, apparently have kept the study quiet to prevent potential Wall Street jitters that could hamper IP's ability to continue to finance the multi-billion-dollar project.

The commission hopes to head off speculation that IP could face financing problems similar to those that recently bankrupted the Washington Public Power Supply System.

"I was told that if I publicly disclosed the study, the ICC would absolutely deny doing it," said one person familiar with the study. "I was told they don't want to have Wall Street find out."

However, it is very unlikely the study will determine that canceling the plant would be cheaper than continuing to build it, because commission staffers are relying at least in part on data compiled by IP. A spokesman for the utility said it is in no way involved in the study.

"If we see a report at all, I'm sure it will favor continued construction of the plant," said a second person who is aware of the study.

"This whole thing is just a little, quiet, in-house, private study," a third source said.

At least one of the five commerce commissioners, Daniel Rosenbium, was not initially told of the study to prevent the possibility that the outspoken Rosenbium might discuss it publicly.

The ICC study is designed in part to determine if stopping work on the half-complete Clinton plant, and finding other ways to meet IP's future power needs, would be cheaper than finishing it.

A second commissioner, Andrew Barrett, said he cannot recall being informed of the study when it apparently began earlier this summer.

Barrett said he was told of the staff's activity Aug. 8, one day after he was quoted in a State Journal-Register article as favoring at least a limited study of the Clinton plant's viability.

At the time, Barrett also said any such study should be done by commission consultants, not the ICC's staff. The staff's scrutiny of the project and its objectivity are questionable, he said.

Like Rosenbium, Barrett has been critical of the increasing cost of the IP plant. Although the utility maintains that the unit will be completed in 1986 at a cost of $2.8 billion — more than six times higher and six years later than its original cost and schedule estimates — Barrett has said he believes costs might soar to $4 billion.

Because he was informed of the study only recently, Barrett said, he knows very little about its scope.

Rosenbium has consistently opposed the commission's practice of allowing IP to charge customers for Clinton construction costs before the plant is in operation. He declined to answer questions about the study.

O'Connor declined to say if the commission's staff is studying Clinton's financial outlook. However, he said, the ICC "routinely tracks" the progress of the project.

The tracking, he said, is "not at all unusual. It is fairly routine."

O'Connor also said he has never attempted to prevent any other commissioner from learning about any ICC staff activity.

He said he could not discuss the possibility of an economic feasibility study because the issue is part of a case now before the commission.

In a petition to the ICC seeking a second rehearing in a recent IP rate case, the Governor's Office of Consumer Services says the commission is doing a Clinton "cancellation" study. The office also says it should be allowed to participate in the study.

"On information and belief, (the consumer office) submits that the commission has now undertaken such a cancellation study as recommended by (the office) in (previous ICC) testimony," the consumer agency said.

The previous testimony referred to was offered by the consumer office's chief engineer, Peter Penner.

Penner testified that his preliminary study of IP's Clinton construction costs reveal the company could save more than $200 million in the long run if it canceled the project, constructed a coal-fired power plant and aggressively promoted energy conservation.

IP officials have told the commission they believe Penner's assumptions are incorrect and as a result, his conclusions are worthless.

AUGUST 25, 1983
DECATUR HERALD AND REVIEW
DECATUR, ILLINOIS

Costs could kill Clinton plant

By DON SEVENER
For the Herald & Review

SPRINGFIELD — Soaring costs at the Clinton nuclear power station have prompted state regulators to intensify analysis of the beleaguered project, and may lead to examining the possibility of scrapping the facility.

Illinois Commerce Commissioner Charles Stalon said Wednesday the commission has become increasingly concerned over rapidly escalating costs at the Illinois Power Co. project and the ongoing difficulty the utility has encountered meeting safety standards imposed by the U.S. Nuclear Regulatory Commission.

The Clinton plant, 81 percent complete according to the company, remains under three stop-work orders imposed by the NRC, although seven others in critical electrical cable areas have been lifted.

Both Stalon and commission Chairman Philip O'Connor said existing cost and construction data suggest it remains economically beneficial to finish the Clinton plant.

"Once you get this far along, the economics almost always work in favor of completing a project," Stalon said.

"But," he added, "we've really had some shocking numbers come out of there in the past year and a half. We've got a problem of massive proportions. You can't rule out any possibility because of the inability to get the work done."

He said the NRC stop-work orders, imposed to enforce safety standards, have contributed to rising costs and long delays.

"We may finally reach the point where this is just an impossible task, even if it's 90 percent complete. There has been a lot of discussion internally that we may be faced with some disturbing alternatives."

In May, Illinois Power revised its cost estimates and schedule for Clinton, increasing the price tag by $700 million to $2.8 billion and extending the completion schedule by two years to 1986.

O'Connor said the staff study of the project is a response to those numbers.

"What is being done is normal," the chairman said. "There is no information that shows the basic economics of the project have changed. That could happen. That is why we do the tracking" of costs at Clinton to company estimates.

He said the staff "wouldn't look at alternatives (to finishing Clinton) until it is clear you need alternatives."

But Stalon said he believes the staff should be examining that issue now.

He noted intervenors in a rehearing of Illinois Power's last rate case contended the company and its ratepayers would be better off if the Clinton plant was scrapped and alternative power sources built.

"It's clear the commission is going to have to make a judgment on that issue, so I'd hope the staff would be looking at it."

Champaign, Illinois News Gazette August 28, 1983

ICC showing concern over IP's Clinton plant

By TOM KACICH
News-Gazette Political Editor

After years of delays and cost overruns, members of the Illinois Commerce Commission are indicating an increasing concern about the tardiness and cost of Illinois Power Co.'s Clinton nuclear plant.

In the aftermath of reports that the ICC is conducting a special study of the economic feasibility of the plant — reports at least two ICC members deny — they have voiced serious concern about the project that already is three years behind its original scheduled completion and six times above its original cost estimate.

Still, while concerned, commissioners say they are not investigating the shutdown of construction nor alternatives to the nuclear plant under construction 40 miles west of Champaign in DeWitt County.

"I don't think anyone would deny that this is an expensive plant and that there have been any number of times when the costs went far beyond what the previous estimates have been," said ICC Chairman Philip O'Connor.

"But once you accept that it doesn't necessarily follow that the plant has become uneconomical. It may be less economic than it was, but not necessarily uneconomical."

O'Connor has ordered what he called "a routine study" of the data and methodology IP has used to forecast the new completion date (November 1986) and cost ($2.8 billion) of the Clinton plant.

"Our people look at the methodology for calculating those figures," he explained. "They look at the data. They also have an opportunity to take a look at the performance that has taken place since the estimates. You can look at that as the first level of analysis."

O'Connor said the second level of analysis would come if the ICC found defects in IP's projections — which, he said, it has not. The third level would be "to look at the basic economics of the plant, whether some line has been crossed to make it less economical to finish the plant."

While O'Connor called the study "routine," adding the ICC has performed similar audits of construction at Commonwealth Edison plants, Commissioner Daniel Rosenblum had a different view.

"I'm not going to say much but I will say that this is definitely not routine," said Rosenblum, the commission's foremost opponent of the Clinton plant.

Rosenblum also said he was not made aware of the O'Connor-ordered study of Clinton "when I should have been." He declined to say when he found out about it.

O'Connor, meanwhile, said his request for the study was "a basic administrative thing. I told everybody."

Commissioner Charles Stalon, now the longest-serving member of the commission, called the delays and cost overruns "frightening."

The plant's cost and completion estimates have been revised seven times. IP rates have soared in the last eight years as the company has labored to finance the project. A consortium of rural electrical co-ops in the western half of the state recently voiced alarm about the cost of the plant. And the Nuclear Regulatory Commission, concerned about lax quality control at the plant, has maintained three stop-work orders at the facility for more than a year.

"The worst part is the NRC," Stalon said. "They just won't let go. I'm not saying that they should, but we're dealing with a force that no one can forecast. These numbers in the last year or so have really shaken our confidence."

Stalon said he has known about the study of the IP data and said he believes it came about as a result of testimony by Peter Penner, a former Champaign resident and now a researcher for the Governor's Office of Consumer Services.

Penner offered testimony this spring saying that IP could save money by canceling Clinton, building a smaller coal-fired plant and pursuing an aggressive conservation program.

272

Decatur Herald and Review

Decatur, Illinois, Saturday, October 15, 1983

Page A14

Clinton costs catch co-ops short

By STEVE CAHALAN
Herald & Review Staff Writer

Two electric cooperatives each will need an additional $170 million in loan guarantees for their share of the construction cost of the Illinois Power Co. Clinton nuclear power plant, according to estimates from federal Rural Electrification Administration officials.

But one of the two, Western Illinois Power Cooperative Inc., will not apply for a supplemental loan guarantee until it decides whether to try to get out of the project. It must decide by February.

The additional guarantees are needed because of construction cost increases.

In May, Illinois Power Co. revised its cost estimates and schedule for Clinton. This increased the pricetag by $700 million to $2.85 billion and extended the completion schedule by two years to 1986.

The REA previously approved loan guarantees of $286.8 million to the Jacksonville-based WIPCO and $328 million to Decatur-based Soyland Power Cooperative, according to REA spokesman Jeanne Miller.

The loan guarantees allow the co-ops to obtain lower interest rates when they borrow the money.

WIPCO has a 9.5 percent interest in the Clinton nuclear power station, while Soyland owns a 10.5 percent interest.

WIPCO will exhaust its current loan guarantee in mid-February, according to General Manager Donald Bringman.

Soyland will use up its guarantee in early spring, according to Executive Vice President and General Manager E.H. Williams. He said he does not know when Soyland will apply for a supplemental guarantee.

WIPCO will not apply until it decides what to do with its ownership interest, Bringman said.

He added that he has talked to a representative of Missouri cooperatives about buying WIPCO's interest in the plant. But the Missouri official was not interested, he said.

Bringman said his board has not decided whether to actively try to sell its interest. He said he does not know whether WIPCO can withdraw from its agreement with Illinois Power.

"There are a lot of other options," Bringman said. "I'd prefer not to comment on them until the board decides what to do."

The project is not as attractive to WIPCO and Soyland as it was when construction began in 1975. The cost then was estimated at $430 million, with operation to begin in 1980.

WIPCO officials say they do not blame Illinois Power for the subsequent delays and cost increases. Instead, they blame increases and changes in federal regulation.

WIPCO board members have said member cooperatives' electric rates are expected to double and perhaps triple when the Clinton plant begins operating.

Jeffrey D. Reeves, manager of Bloomington-based Cornbelt Electric Cooperative and a board member of Soyland Power Cooperative, said Cornbelt has been saying rates probably will double.

But he said this week that he hopes the increase will be smaller.

Soyland's Williams had no predictions on how much member cooperatives' rates will increase.

Asked if Soyland was considering other options, as WIPCO is, Williams said: "We have an ownership agreement. We would expect to honor it."

Soyland plans to continue with the project and get it completed as soon as possible, he said.

Because of today's surplus in generating capacity, it is difficult to sell part of a power plant, Williams said. Demand for electricity is less than was forecast several years ago.

"The capital costs on the plant are higher than heck," Williams said. "But once the plant is completed and starts generating electricity, the energy costs will be the lowest available."

He predicted the nuclear plant will be less expensive in the long run than a new coal-fired plant.

But Williams and WIPCO's Bringman agreed their cooperatives probably would not have gotten involved in the Clinton project if they had foreseen the cost increases and increased federal regulation.

ICC cost review continues

The Illinois Commerce Commission staff is continuing to review Illinois Power Co.'s latest cost estimates and schedule for completing its Clinton nuclear power station.

One commissioner, Charles Stalon, said this week that he hopes the informal staff review will be completed within several weeks. He said he believes the review also will address alternatives to completing the project.

Stalon expects the staff to brief the commission on its findings once the review is completed.

"The commission is obviously concerned about the cost increase — almost explosion — that occurred over the last year-and-a-half or so," Stalon said.

He said he expects the commission to decide soon whether to order a more formal study of the project's feasibility or be convinced that the informal review shows the plant should be completed.

"Economics almost always supports the completion of a project that is fairly far along," Stalon said.

The Clinton plant is about 80 percent complete. But Stalon wants the staff to examine alternatives.

Stalon said he was not aware of two recent congressional requests for analyses of the Clinton project.

U.S. Rep. Richard Durbin said he recently asked the commission and Illinois Power for estimates of the final construction cost and the impact the project will have on utility rates. The Springfield Democrat's office had not received that information as of mid-week.

Illinois Power spokesman Al Adams said the utility has been in contact with Durbin's staff, trying to clarify what information the congressman wants.

Tim McAnarney, an aide to U.S. Sen. Alan Dixon said he wrote the commission in August, asking whether an independent feasibility study of the project is likely. The Illinois Democrat's office had not received a response as of mid-week.

Springfield State Journal-Register

Wednesday, October 19, 1983 Page 11

ICC: No public study of Clinton plant

by Steve Hahn

The Illinois Commerce Commission voted 4-1 Tuesday not to conduct a formal public study of the continuing economic feasibility of the troubled Clinton nuclear power plant.

As a result, Com. Daniel Rosenblum, who sought and voted for a public study, charged that the ICC decision may "encourage Illinois Power Co. to waste additional ratepayer dollars on a plant which should not be completed."

Without a full public study of plant Rosenblum said he cannot determine whether the unit should be completed. A public study is needed to provide the information needed to accurately make that determination, he said.

"The longer the commission waits before it opens a (public) proceeding, the less likely cancellation becomes," Rosenblum said. "If the commission does not even allow parties to have a formal proceeding in which to develop an evidentiary record, the commission effectively precludes any challenge to the Clinton construction program."

The continued construction of Clinton — as opposed to canceling it and finding other means of meeting IP's future electric generation requirements — becomes more financially prudent with time since roughly $1 million a day is spent on the plant.

Since IP began construction of central Illinois's first nuclear power plant in the early 1970s, the estimated cost of the unit has jumped from $429 million to $2.85 billion. State officials, including an ICC member, predict the final cost could be $3.5 billion to $4 billion.

The plant was to be completed in 1980. It now is scheduled for commercial operation sometime in late 1986.

Rosenblum Tuesday confirmed a State Journal-Register report in late August that the commission staff has conducted a secret examination of whether Clinton should be built or scrapped. He also said he was not formally notified when the staff began the study.

"Despite rapidly escalating costs and repeated delays, the commission, over my objection, refused to initiate a (public) investigation (of Clinton) at the conclusion of (IP's) last rate case," Rosenblum said.

"Then, to my surprise, the staff opened its own investigation. (The) staff has communicated with the company about the study but has kept the study from the public."

He said the staff study should now be made public.

ICC Chairman Phil O'Connor, who could not be reached for comment, earlier claimed the staff was not conducting a study of Clinton's economic feasibility. Any examination the commission might be doing of the Clinton plant would strictly be "routine," O'Connor said.

IP officials, who also could not be reached for comment, also earlier denied participation in the staff study.

Although the vote on Rosenblum's motion to conduct a public study was taken during a public ICC session, he said commissioners discussed their votes in a closed session.

That private discussion, plus the decision not to conduct a public inquiry into Clinton, indicates a "disturbing trend" by the commission to limit public participation in the ICC decision-making process, he said.

"Increased reliance on staff analysis, without the opportunity for public participation, means that the commission is not presented with alternative points of view," Rosenblum said.

"Parties are not given the basic rights to present testimony, cross-examine witnesses, obtain crucial data or argue before the commission. Utilities, and often times large corporations, can talk to staff, but the public as a whole does not have the same access. The problem is particularly serious with regard to Illinois Power."

He said no complete study of the Clinton plant's economic feasibility has been completed since the mid-1970s. However, an analysis conducted earlier this year by the Governor's Office of Consumer Services found it would be cheaper to halt construction and find other ways of meeting IP's future electrical demand, than to continue to spend money on the plant.

The ICC did not officially comment on that study and IP has said its assumptions were incorrect.

Although Rosenblum has not previously taken a position on legislation designed to make all ICC sessions open to the public, he said its decision on the Clinton study has led him to support it.

"Decisions, such as those on Illinois Power's construction program, must be made in open session," he said. "We should not be permitted to consult with staff and the utilities while providing no public hearings and no public discussions on issues of major importance."

The General Assembly, which approved such a measure last spring, will consider Gov. James Thompson's amendatory veto of it during the current legislative session.

Tues., Dec. 27, 1983 St. Louis Globe-Democrat 10A

Clinton nuclear plant listed among costliest

Globe-Democrat-Copley
News Service

SPRINGFIELD — Illinois Power Co.'s Clinton nuclear unit is one of the most expensive in the country and has suffered from a "mismatch among the technical, financial and managerial requirements of nuclear power plant construction and the equivalent resources available to their owners," says a report by Cambridge Energy Research Associates Inc. of Cambridge, Mass.

The new report on the nation's nuclear industry says management's key role in nuclear plant construction is apparent because of the fourfold difference in the cost of similar nuclear projects under way.

THE STUDY was completed by I.C. Bupp, a Harvard University Business School professor who co-wrote the popular book, "Energy Future: The Report of the Energy Project at the Harvard Business School." Charles Komanoff, director of the New York-based energy research firm Komanoff Energy Associates, also contributed to the report.

Based on IP's current cost estimate for Clinton of $2.85 billion, the two researchers predict that the plant will produce electricity at 14 to 18 cents per kilowatt-hour. They say that nationally — and again, including capital costs — oil-fired power plants produce electricity for 5 to 6 cents a kilowatt, while coal-fired plants generate power a little more cheaply.

BECAUSE THE Clinton unit is not IP's only plant and the utility must get Illinois Commerce Commission approval for rate increases, the expected kilowatt-hour cost cannot be directly translated into a specific level of rate increase. However, the high cost obviously will mean some level of increase.

Clinton's expected completion cost will make its generating cost roughly equivalent to electricity produced from oil costing $60 to $90 a barrel. The actual world price for oil today is about $30.

"Thus by any contemporarily reasonable economic stand, the partially built nuclear plants at the upper end of the range of capital costs (such as Clinton) are a disaster and none look particularly attractive unless oil prices increase substantially," the report said.

Plant's expected completion cost will make its generating cost roughly equivalent to electricity produced from oil costing $60 to $90 a barrel, study says.

COMPARING THE expected Clinton generating costs with the cost of electric generation from coal would be even more lopsided, it says.

At Clinton's current costs — and nearly all experts agree the figure will rise — the 950-megawatt plant's cost will come to about $3,000 a kilowatt. That figure would make it the most expensive unit among the 18 other U.S. plants that are between 80 and 95 percent complete. The average cost per kilowatt for those units is $2,100.

Commonwealth Edison Co.'s LaSalle No. 2 is listed as the cheapest in that category, with the 1,078-megawatt unit estimated to cost $1,100 a kilowatt. Another Com Ed unit, Byron I, is listed at $1,500 a kilowatt.

THE REPORT cites the Chicago-based Com Ed as the "only U.S. utility with a consistent record of building nuclear plants at a cost well below the industrywide average."

The company also is the largest and most experienced nuclear utility in the country. By contrast, IP is a medium-sized firm with no nuclear experience before Clinton.

"In general, the utilities with the greatest previous experience in building nuclear plants have built the least expensive reactors in the 1980s," the report says. "Those with little or no experience are suffering the greatest costs."

EF Hutton

ELECTRIC UTILITIES

EQUITY RESEARCH

Raymond E. Moore, CFA
(212) 742-6592

Louisa T. Burgio
(212) 742-5415

Release Date: January 12, 1984

ILLINOIS POWER CO.
(IPC-NYSE)

1/6/84 Price	52-Week Range	Earnings per Share 1982A	1983E	1984E	P/E 1984E	Ind. Div.	Yield	Market Cap. ($ Mil.)	Opinion S	L
$21	$24-$19	$3.04	$3.80	$3.50	6.0X	$2.64	12.6%	$999.7	4	3

Overview--Why assume the risk?

Over the past 52 weeks, Illinois Power Company common stock has traded in the 24 1/8-19 3/8 range and is now selling at around 21. Based on our 1983 and 1984 estimates of $3.80 and $3.50 per share, respectively, the stock trades at multiples of 5.5 and 6.0, while the $2.64 per share dividend provides a 12.6% yield. The typical electric utility trades at 6.9 times latest earnings and yields 10.7%.

The comparatively depressed stock price and higher than average yield reflect investor concern over the company's 80% ownership of the 950-megawatt Clinton nuclear unit, scheduled for completion in 1986. Although Clinton is not considered "in trouble," investors have seen other nuclear projects that were thought to be safe falter as they neared completion, e.g., Palo Verde and Shoreham. In our opinion, Clinton does represent an inordinate level of risk. When completed in 1986, this one-unit plant will account for only 17% of the company's total generating capacity, but 176% of common equity and 74% of capitalization. Rate increases to cover the cost of Clinton going in service will be large, and the resultant 52% reserve margin may be considered excessive. We expect the shares to remain under pressure near term as controversies continue to surround all nuclear projects, and we consider the shares swap candidates. Long term, the total return of 16% annually is about average.

Clinton Financial Overview

For financial purposes, Illinois Power Company may be considered a one-unit construction company, all nuclear. Management estimates its 80% share of the Clinton nuclear unit at $2.43 billion upon completion in 1986, an amount equal to

E.F. HUTTON EQUITY RESEARCH

SOURCE AND APPLICATION OF FUNDS — ILLINOIS POWER CO. — 1/ 9/84

FUNDS PROVIDED FROM OPERATIONS	12/31/82	12/31/83	12/31/84	12/31/85	12/31/86	12/31/87	TOTAL	GROWTH
NET INCOME	156	205	206	225	231	228	1,095	7.85
DEPRECIATION AND AMORTIZATION	62	68	71	75	95	182	491	24.03
DEFERRED TAXES - NET	17	20	21	22	73	80	216	36.31
DEFERRED INVESTMENT TAX CREDIT - NET	22	21	24	21	16	3	85	(32.87)
ALLOWANCE FOR FUNDS USED IN CONSTR	79	88	100	104	91	95	478	3.76
PREFERRED DIVIDENDS	20	24	29	33	35	35	156	12.00
COMMON DIVIDENDS	114	119	133	144	157	155	707	6.33
NET FUNDS AVAIL FOR CONSTR	44	84	59	62	132	207	545	36.35
GROSS CONSTRUCTION	413	395	405	315	240	250	1,605	(9.55)
LESS - AFUDC (TOTAL)	79	88	100	104	91	95	478	3.76
NET CONSTRUCTION	344	307	305	211	149	155	1,127	(14.74)
PCT. OF CONSTR GEN INT	12.7	27.5	19.5	29.4	88.7	133.8		
ESTIMATED FINANCING REQUIREMENTS								
DEBT -NET	125	223	246	149	17	(52)	582	
PREFERRED STOCK		135	131	95	(6)	(7)	347	
COMMON STOCK	133	50	32	22	6	(2)	108	
TOTAL ESTIMATED FINANCING	258	38	83	33	17	(44)	127	
		223	246	149	17	(52)	582	
ESTIMATED CAPITALIZATION								
DEBT - NET	1,187	1,322	1,452	1,547	1,541	1,534		5.26
PREFERRED STOCK	251	301	333	355	361	359		7.42
COMMON STOCK	1,013	1,114	1,241	1,321	1,377	1,371		6.24
TOTAL CAPITALIZATION	2,451	2,737	3,026	3,223	3,279	3,264		5.90
ESTIMATED CAPITALIZATION STRUCTURE								
DEBT - NET	48.4	48.3	48.0	48.0	47.0	47.0		
PREFERRED STOCK	10.3	11.0	11.0	11.0	11.0	11.0		
COMMON STOCK	41.3	40.7	41.0	41.0	42.0	42.0		
SHRS OUTSTANDING - YEAREND(MILS)	46.9	48.6	52.3	53.7	54.3	52.6		2.30
EARNINGS PER AVG SHR	3.04	3.81	3.50	3.63	3.62	3.60		3.42
DIVIDENDS PER AVG SHR	2.48	2.48	2.64	2.72	2.90	2.90		3.17
ESTIMATED RETURN ON COMMON EQUITY		0.171	0.150	0.150	0.145	0.140		
ASSUMED PRICE/BOOK RATIO		1.00	1.00	1.00	1.00	1.00		
PAYOUT RATIO		0.8[illegible]	0.75	0.75	0.80	0.81		
INTEREST EXPENSE	103	121	140	156	162	161	739	9.32
TAXRATE		0.40	0.40	0.40	0.40	0.40		
INTEREST RATE		0.14	0.14	0.1[illegible]	0.14	0.14		
ESTIMATED COVERAGES								
INTEREST COVERAGE	3.49	3.82	3.45	3.41	3.38	3.36		
INTEREST COVERAGE-AFUDC	2.73	3.10	2.74	2.74	2.81	2.77		

74% of estimated 1986 capitalization and 176% of common equity. Rate increases to cover that large an investment could lead to strong consumer resistance. The company has $625 million, or 38% of $1.637 billion spent to date, in rate base, but the remaining revenue requirement may approach $428 million, or 55% of current electric revenues. A one-year delay could increase the revenue need by $45 million.

Clinton Nuclear Plant
Estimated Revenue Requirement
($ Millions)

	Investment		Cost	Capital	Revenue
	Amount	% of Total	Rate %	Cost Amount	Requirement* Amount
Debt	$1,021	42%	12.0%	$123	$123
Preferred Stock	218	9	12.0	26	52
Common Stock	875	36	16.8	147	294
Deferred Income Taxes	170	7	0	0	0
Deferred Investment Tax Credit	146	6	12.5	18	36
	$2,430	100%			$505
Depreciation @ 4% annually					97
Gross Revenue Requirement					$602
Less Revenue Impact of $625 Million of Construction Work in Progress					$131
Estimated Fuel Savings Over Coal of $0.01 per Kwh and 60% Capacity Factor					40
Net Incremental Rate Increase					$431
Increase as a Percent of Electric Revenues of $775 Million					55%

* Assumes 50% tax rate.

Management's goal is to temper rate shock by including more construction work in progress in rate base and by phasing the rate increase in over three years once the unit goes commercial. The state legislature and the Governor of Illinois have recognized the danger of having too large a capital commitment in one unit. In 1983, the legislature gave the Illinois Commerce Commission authority to retain the present level of construction work in progress (CWIP) in rate base and include up to 50% of additional CWIP incurred since January 12, 1983. Management plans to file a CWIP-related rate case in the first half of 1984.

Despite regulation, investors are cautious with nuclear projects under construction. Too many things can go wrong. Cost control is impossible. Even the best managed projects are subject to changes in Nuclear Regulatory Commission guidelines, expensive retrofitting, time delays, etc. Also, the change in the slope of the sales curve since these projects were initiated often leaves the companies open to criticism over excess capacity. Clinton, for example, will represent 17% of Illinois Power Company's 1986 generating capacity, but the reserve margin rises from 20% to over 50%.

Hutton

Construction and Financing

On page 2, we present an estimated Source & Application of Funds statement for the 1983-1987 period. Construction estimates are based on the June 1983 forecast sheet issued by the company. As shown, internal cash generation is minimal through 1985, but rises dramatically as Clinton comes on line in 1986. Although construction budgets are being revised, financing needs even with phase in should drop dramatically in 1986.

Earnings and Dividend Outlook

Illinois Power Company reported earnings of $3.74 per share for the 12 months ended October 31, 1983, some 22% above the $3.07 earned in the prior comparable period. The strong profit advance stems from strict cost control, electric and gas rate increases effective January 18, 1983, and unusually warm summer temperatures. For calendar 1983, we estimate earnings at $3.80 per share, a 25% gain over $3.04 per share in 1982.

First quarter 1984 earnings should compare favorably to the 1983 period when temperatures were mild, but more normal summer temperatures and the absence of rate relief are expected to produce earnings declines in the following quarters. For calendar 1984, we estimate earnings of $3.50 per share. Despite the 8% profit decline, we expect the Board of Diectors to increase the dividend rate at the December 1984 declaration, perhaps 3% from $2.64 per share to $2.72 per share.

E.F. Hutton & Company Inc. managed or comanaged a public offering of securities for Illinois Power Company within the past three years.

Additional information is available on request.

Raymond E. Moore, CFA
(212) 742-6592

Louisa T. Burgio
(212) 742-5415

S&P 500: 169.2

St.Louis Post-Dispatch Tues. Jan. 17, 1984

IPC Has Nuclear 'Doubts'

CLINTON, Ill. (UPI) — An official of the Illinois Power Co. concedes that the utility now has second thoughts about its decision to build a nuclear power plant.

William C. Gerstner, Illinois Power executive vice president, said Monday that the cost of building a nuclear plant had risen so much that financing was now nearly impossible.

"Knowing what we know today and the climate that exists today, no, we would not" build a nuclear plant, Gerstner said at a news conference at the construction site. "The cost of building a nuclear power plant has gotten so high it makes it almost impossible to finance."

The latest estimates from the Decatur-based utility place the cost at $2.85 billion. Operation is expected to begin in November 1986.

Both the price and the starting date are considerably different from what they were when Illinois Power began work on the plant in the early 1970s. A series of delays has helped to raise the cost from an initial cost estimate of $430 million.

Gerstner said the plant was now 82.6 percent complete, only slightly behind the latest schedule. In addition, the utility is $17.5 million ahead of the latest budget, he said.

There should be no further revisions in either estimate this year, he said.

The turbine that runs the generator — the second-largest piece of equipment at the plant — is complete, he said. The largest is the nuclear reactor.

The final three of 10 stop-work orders issued by the Nuclear Regulatory Commission recently were lifted. Gerstner said full production had resumed at the plant.

The last stop-work orders covered heating, ventilation and air conditioning work at the plant.

About 5,000 people are employed at Clinton, half of them craftsmen and about half technical support workers, he said.

Gerstner said he had been surprised when an NRC board rejected Commonwealth Edison's application for an operating license of its Byron plant near Rockford last week.

"Edison has an excellent record of licensing on time," Gerstner said.

He said Illinois Power anticipated problems in licensing, but not what Edison was experiencing. Illinois Power has worked closely with the NRC in developing a re-inspection program for construction work, he said.

"Certainly, I expect some problems," Gerstner said. "There is no plant I know of that goes through with absolute routine and obtains an operating license."

Licensing hearings, delayed from last summer, are scheduled for later this year.

Gerstner said Illinois Power would go before the Illinois Commerce Commission sometime this year to seek another rate increase. A year ago, the ICC granted a $69 million-a-year rate increase. In addition, it granted $250 million more for Clinton construction costs to be built into the rate base.

The plant will provide electric service to Illinois Power's half million electric customers in central and southwestern Illinois.

Nuclear plant costs soaring

WASHINGTON (AP) — The nuclear industry, shaken by the cancellation of one power plant and the government's refusal to license another, got more bad news Tuesday with a government report showing that three-fourths of the nation's reactors have cost consumers at least double what was promised.

The Energy Department's Energy Information Administration said the final construction costs for 77 percent of the plants now operating were at least double the pre-construction estimates.

In 28 percent of the cases, the agency said, the final cost was more than four times the original estimate.

The EIA, an independent agency within the department, blamed the increased pricetags primarily on inflation, skyrocketing interest rates and construction costs, and long building delays.

IN 1971, FOR example, utilities were estimating it would take them only four years to build a nuclear plant. Now, they say the average construction period is 14 years.

(Dick McAleenan, Union Electric Co.'s manager of nuclear information, said the cost to build the Callaway nuclear power plant near Fulton has "at least doubled" because of inflation and increased interest costs.

(When plans for the plant were announced in 1973, UE expected to complete the project for $800 million to $900 million, he said. UE now expects the plant to be on line by the end of 1984 or early 1985 at a cost of $2.85 billion.

("The effects of inflation have been tremendous on construction projects that last for a long time," McAleenan said. "And by law in Missouri, we cannot recover costs as they occur, but rather we must delay recovering them until the plant is on line. This further adds to our costs."

(McAleenan said that the plant's cost would have been "well below $1 billion dollars" had UE been able to recoup costs as they occurred.)

Scott Peters, a spokesman for the Atomic Industrial Forum, which represents the nuclear industry, said he could not comment on the report because he had not reviewed it. But he said he was not surprised by the figures.

THE REPORT, coupled with other developments within the past week, raised new questions about the fate of some of the other 48 reactors under construction around the country.

Last Friday, a Nuclear Regulatory Commission licensing panel, citing quality control failures, refused to grant an operating permit for Commonwealth Edison Co.'s nearly completed, $3.35 billion twin-reactor Byron plant in Illinois.

On Monday, bowing to pressure from state officials, Public Service Co. of Indiana abandoned efforts to complete its twin-reactor Marble Hill plant after having sunk $2.5 billion into it.

The decision on Marble Hill, the 99th and 100th reactors canceled since 1974, sent shock waves through the industry because construction was so far along.

Work on the first unit was 59 percent completed, and the second unit was 37 percent finished. Until then, a utility had not scrapped a plant that was more than 27 percent completed. That occurred when the Tennessee Valley Authority canceled its Phipps Bend plant in 1982.

Last month, the government said in a report on the future of the nuclear industry that it made no sense economically to cancel any plant in which 45 percent of the construction was finished.

"THAT JUST shows you how far the government is behind the times," Charles Komanoff, a consulting economist on nuclear economics, said Tuesday. "As it now stands, you can make a good economic case for canceling a plant that is not into the 70-to-75 percent range of construction."

Already one utility, the financially troubled Washington Public Power Supply System, has put two plants — its Unit 1 and Unit 3 reactors — on hold after going into default on bonds for another reactor.

Even though the WPPSS Unit 1 and Unit 3 plants are 60 percent and 70 percent completed, respectively, many doubt that they will ever generate a watt of electricity because of an inability to find further financing.

Two TVA units have also been deferred, but officials for that seven-state power system have indicated they may not be finished.

And the primary owner of the Zimmer nuclear plant in Ohio, Cincinnati Gas & Electric Co., is fighting political pressure to abandon the facility, even though it is 97 percent completed. Officials estimate that it may cost $3 billion to fix problems resulting from quality control breakdowns at Zimmer.

COST OVERRUNS on the 44 plants still under construction and the four on hold or deferred status now range from 300 percent to as much as 1,100 percent for the nearly completed Shoreham plant on Long Island.

"Ultimately, it comes down to money, because you can finish a plant if you have the time and money," said Komanoff, a frequent critic of nuclear power. "But in the fourth quarter of '83, Wall Street and utility regulators finally took to heart the financial risks of nuclear power.

"Investors stated to demand such high rates of return on additional money to cover the overruns that it became clear that these plants could destroy the local economy," he said. "The only question now is how deep the damage will go."

St.Louis Globe-Democrat
Wed. Jan. 18, 1984

NRC 'Sat On' Nuclear Power Plant Problem

By Jon Sawyer
Post-Dispatch Washington Bureau

WASHINGTON — Nuclear Regulatory Commission inspectors discovered in March 1980 that the supplier of key safety-related equipment for Commonwealth Edison's Byron nuclear power plant had falsified quality-assurance records.

But the commission waited almost 2½ years before alerting other utilities to the problem.

The results of the NRC's inspection in 1980 might never have come to light at all, according to a report by the NRC's Atomic Safety and Licensing Board, had not agency officials inadvertently given a copy of the inspectors' report to one of the public intervenors in the Byron licensing case.

NRC spokesmen said they did not know what other nuclear power projects had employed the contractor, Systems Control Corp., a supplier of control panels and electrical relay trays.

Spokesmen for Systems Control, based at Iron Mountain, Mich., declined to comment.

The NRC also has no such information on three other contractors at the Byron plant that have been linked to shoddy quality-assurance practices. According to spokesmen, the NRC has no overall directory listing nuclear contractors and the projects on which they have worked.

The NRC's three-member licensing board voted Friday to deny Commonwealth Edison's application to operate the Byron nuclear plant — two 1,120-megawatt reactors outside Rockford that were scheduled for completion later this year. The plant's cost is estimated at $3.35 billion.

The board based its denial on what it termed a long record of poor quality assurance by Commonwealth Edison and by the four contractors hired to work at the Byron site.

The denial is the first in the history of nuclear power regulation.

Commonwealth Edison executives say that they will appeal the decision and that they expect an early reversal.

According to the board's 413-page order, the most serious findings pertained to Systems Control. As far back as 1977, the report notes, Commonwealth Edison inspectors uncovered "major deficiencies" in Systems Control's quality-assurance program — no documentation on first or final inspections, for example, and no evidence that company welders had been qualified according to NRC criteria.

Problems persisted, but so did deliveries. Between December 1979 and February 1980, Commonwealth Edison waived its own final inspection requirement on 20 safety-related local control panels supplied by Systems Control. According to a later NRC investigation, the 20 panels were installed but "were later found, on re-inspection in place, to require extensive repairs."

The investigation in March 1980 by NRC's Region III was prompted by allegations from a former Systems Control employee. The investigation determined that the company's internal audit reports had been falsified and that its manager for quality assurance was unqualified. Apparently he had never worked in the nuclear field; his principal experience was six years as a quality-control inspector for a furniture manufacturer.

The NRC reported the findings of that investigation to Commonwealth Edison. The evidence of fraud was referred to the Justice Department for criminal investigation. But it did not notify other utilities of the serious allegations about Systems Control until August 1982, almost 2½ years after the completion of its own investigation.

Jan Strasma, spokesman for the NRC's Region III office in Chicago, said the Systems Control case had been handled "differently from normal" because of the Justice Department connection. He said utilities were eventually informed of the problem when similar breakdowns in quality assurance surfaced with two other vendors.

One of those vendors, Comsip Custom Line Corp., supplied control panels for Union Electric Co.'s nuclear plant in Callaway County. UE initially reported concern about the quality of welds on the panels when they were delivered in 1981, but the welds later passed a battery of special tests. According to a spokesman, UE has not employed any of the four contractors cited in the Byron case.

Intervenors in the Byron case dispute the NRC's account. The NRC did nothing with its investigation report of 1980, they contend, until the intervenors got a copy independently and made it public themselves.

"In my view, it's fair to say the NRC sat on this report for over two years," said Jane Whicher, attorney for the Rockford League of Women Voters and two other Illinois groups that intervened in the Byron license proceeding.

The licensing board reached a similar conclusion.

"There is no assurance that the problems with Systems Control would have come to light in normal course in this hearing," the panel said. The secrecy governing the transfer of jurisdiction to the Justice Department was broken, the panel said, only because "a copy of the (1980) inspection report was inadvertently supplied to intervenors."

Commonwealth Edison's current relationship with Systems Control is ambiguous.

A report issued last month by the NRC's Region III office said the problems identified in 1980 had not been "finally resolved." But it said that "as a result of the NRC verification of allegations against Systems Control ... Systems Control has been barred from future procurement activity involving safety-related equipment."

A spokesman for Commonwealth Edison, James Toscas, said Systems Control still had an active contract with the utility's Braidwood nuclear project, near Joliet, with spare parts still on order. Toscas said he was unaware of any ban on purchases.

But according to Strasma, the NRC spokesman, the prohibition was self-imposed by Commonwealth Edison itself — not by the NRC.

"There is no NRC prohibition on Systems Control," Strasma said. "We have no mechanism to ban a particular supplier. The statement in the (December) report refers to Commonwealth Edison's internally barring any further purchases from Systems Control."

Toscas pointed out that recent re-inspections at Byron had turned up no evidence of any safety-related defects in the finished plant. He said that given the sudden surge of nuclear power plant construction in the 1970s and the paucity of contractors with nuclear experience, problems with quality assurance were all but inevitable.

"With most of these contractors you were getting a pig in a poke, as far as quality assurance goes," he said. "The contractors were in a new environment, and they didn't take it seriously enough.

"They didn't realize that the piece of paper, the documentation, was just as important to us as the product itself. It's a matter of attitude, philosophy, the whole way you think."

An NRC staff member familiar with the licensing board's approach to the case expressed a different view. Commonwealth Edison showed relatively little interest itself in quality assurance, he contended, and was all too quick to delegate responsibility to Systems Control and other contractors.

"This is where the public does a lot of the work," he said. "If the Rockford League of Women Voters hadn't raised the quality-assurance issue, this decision would have gone the other way."

St.Louis Post-Dispatch Sunday Jan.22, 1984

Costs Drive Ohio Nuclear Plant To Coal

Compiled From News Services

CINCINNATI — A nuclear power plant in Ohio that is 97 percent complete will be converted to a coal-burning plant because of rising costs and regulatory uncertainty, three utilities announced Saturday.

The announcement followed by five days word from a utility in Indiana that it was abandoning a partly completed nuclear power plant.

The chief executives of the three utilities — Cincinnati Gas & Electric Co., Dayton Power & Light Co. and the Columbus & Southern Ohio Electric Co. — announced the move jointly.

They said they were concerned about a continuing decline in their bond ratings and the plant's ballooning cost, now put at $3.5 billion.

Dayton Power has estimated that $350 million and 28 months will be needed to convert the William H. Zimmer Nuclear Power Station to coal. The three utilities already have spent a total of $1.6 billion on the plant.

In November 1982, the federal Nuclear Regulatory Commission halted all safety-related construction at Zimmer after allegations of unsafe welding work and missing records on pipe welds in the 1,100-megawatt plant's reactor safety systems.

Construction of the plant, near Moscow, Ohio, will be halted and 2,000 of its 2,500 construction employees will be fired, CG&E president William H. Dickhoner said. Officials said it was uncertain when the work would begin on converting the plant, which is along the Ohio River about 25 miles east of Cincinnati.

"There will be an immediate cessation of further construction expenditures on Zimmer as a nuclear facility," Dickhoner said at a news conference.

When construction plans were announced in 1969, the single-reactor Zimmer plant was to cost $240 million. Bechtel Power Corp., hired to help in managing Zimmer, estimated last September that it would cost $2.8 billion to $3.5 billion to finish Zimmer as a nuclear plant — up from a projected total of $1.7 billion a year ago — and that the plant would not generate electricity until 1986.

The three utilities had met regularly since then to discuss whether to complete Zimmer as a nuclear power plant, abandon it or convert it to natural gas or coal.

On Friday, Moody's Investors Service, a major financial rating service based in New York, downgraded investment ratings for the plant. Moody's said chances were dwindling for the Zimmer owners to recover their $1.7 billion investment in the incomplete plant.

When a utility's security ratings are downgraded, the company must spend more on interest to borrow money.

The Washington-based Government Accountability Project, a private watchdog group, had criticized Zimmer's safety and quality. A lawyer for the group, Thomas Devine, called the announcement of the latest plans a "victory for its whistleblowers."

The utility executives said that although they backed nuclear energy, "the economic impact of the uncertainties in the nuclear licensing process was a major reason to pursue converting the Zimmer unit to coal."

The announcement was made only five days after Indiana's largest utility, Public Service Co. of Indiana, said it was abandoning its $7 billion Marble Hill nuclear plant near Madison, Ind. Public Service officials said the company had already spent $2.5 billion but couldn't afford to finish Marble Hill.

The previous week, the NRC refused to approve an operating license for Commonwealth Edison Co.'s $3.35 billion Byron nuclear power plant near Rockford, Ill., citing quality assurance failures during construction.

The three utilities involved in Saturday's announcement serve 1.5 million customers in central and southern Ohio and small areas of Kentucky and Indiana near Cincinnati.

W.S. White Jr., chairman of Columbus & Southern Ohio Electric, said he knew of no other attempt to convert a commercial nuclear plant to coal. "We know of no technical reason why it cannot be done," White said.

WEDNESDAY, FEBRUARY 1, 1984 THE CHRISTIAN SCIENCE MONITOR

NATIONAL

Is there a future for nuclear power? Illinois not so sure now

By Laurent Belsie
Staff writer of The Christian Science Monitor

LaSalle County, Ill.

The nation's nuclear industry faces some ticklish questions.

They have emerged from long debates over troubled nuclear plants, from the West Coast to Long Island, N.Y. But nowhere is the debate as sharply focused as in northern Illinois.

This is Commonwealth Edison country. The utility — generally recognized as the leader in nuclear plant construction — pumps out almost half its power from seven nuclear reactors. By 1986, it hopes to bring five more on line.

The next unit expected to come on line is the Unit II reactor here at the LaSalle County Nuclear Station. In another era, the mood here might be as bright as the snow-covered fields that surround the hazy plant. But not now.

Last month, utility companies in nearby Ohio and Indiana scrapped two controversial nuclear plants. In Illinois itself, Commonwealth Edison announced six-month delays in starting up three other nuclear reactors. The biggest blow landed Jan. 13. For the first time ever, the Nuclear Regulatory Commission (NRC) denied an operating license to a nuclear power plant — Commonwealth Edison's nearby Byron Unit I reactor.

"It's got the company in an uproar," says Gerald Diederich, superintendent of the LaSalle plant. "But we're not demoralized. We're going to stand up on our haunches and get that plant running."

The chain of reversals has helped to focus public attention on the issue. But it has also drawn the battle lines more sharply between those who believe in nuclear power and those who, for whatever reason, don't. Unfortunately, the debate has grown more vocal without answering three crucial questions about nuclear power. They are so basic and yet so contentious that they have almost become riddles:

The first is the most emotional: Can man control nuclear power?

For Mr. Diederich and others, the answer is absolutely yes. Would technicians risk their lives working and living near something that was hazardous? they ask.

Yes, says Edward Gogol, president of Citizens Against Nuclear Power, because the technicians don't clearly perceive the risks. "They don't really have any idea what a powder keg they're sitting on."

Here in LaSalle County, some people are raising a related issue, says Robert Eschbach, president of a local environmental group. Their concern is not as much the safe operation of the plant, but how the utility plans to shut it down once the plant becomes obsolete.

While environmentalists and technicians argue the first riddle, consumer and industrial groups are focusing on the second: Perhaps man can harness the nuclear genie, they say, but can he do it economically?

"There are an awful lot of people in the regulatory process who are not antinuclear," says Al Grandys, director of the Illinois governor's Office of Consumer Services. "They are really arguing economics."

Many are concerned about the rate hikes Commonwealth Edison customers have received in 7 of the past 10 years.

In December 1971, the utility won approval for a $66 million rate increase. Eleven years later to the month, Commonwealth Edison got an increase 10 times that total. The utility admits that roughly three-quarters of those rate hikes are due to the utility's nuclear building program, which is the most ambitious in the country. Now, Commonwealth Edison is asking for its biggest rate increase ever: $964 million.

Here at LaSalle, utility executives blame a combination of inflation, overregulation, and endless delays.

"We jokingly say we built this place three times," says Robert Holyoak, project manager at LaSalle. "You're dealing with delay upon delay upon delay, because they keep changing the ground rules."

For example, when LaSalle was on the drawing board in 1970, the utility projected a total staff of 180 people for the plant, he says. By 1974, the figure was up to 240. By the end of this year, staffing is expected to reach 612, not including an expanded security force. Instead of its original $670 million estimated price tag, the plant is now expected to cost $2.4 billion.

Critics, however, have not been satisfied with the company's answers.

"It's always: 'There's light at the end of the tunnel,'" says David Stahr, research director for the Illinois Public Action Council. "But [the problem] is that the tunnel is very long and very expensive."

It is the third riddle, however, that is the most telling.

Does America even need nuclear power?

Many critics of Commonwealth Edison are concerned with all three riddles, says Jane Whicher, a lawyer for a nonprofit public-interest law and research center in Chicago who argued strongly against the Byron plant before the NRC licensing board. But even from a purely economic view, she notes, the numbers clearly show there is no need for at least two of Commonwealth Edison's five nuclear units under construction. Many critics believe Commonwealth Edison needs no nuclear power plants.

"It's adding plants when customer demand has been stable for the past five years," Mr. Stahr says.

Part of the problem, some critics suggest, is that the utility embarked on an ambitious nuclear-oriented program and is now simply being bullheaded about scrapping it at such an advanced phase. Others blame the regulatory system, which forces utilities to bring a plant on line before they can include plant expenses into the rate base. Commonwealth Edison, which expects its nuclear construction program to cost a total of $9.8 billion, simply wants to recoup its costs, they say.

But a different answer emerges from company officials. They admit that when all the nuclear plants are on line — perhaps by 1986 — their margin of reserve power will be a high 31 percent over peak demand. But, they caution, that figure is based on a low, 2 percent growth estimate in consumer demand.

"Two percent load growth? That says to me that the country's not going to grow," says Commonwealth Edison's Diederich.

Ms. Whicher believes that conservation measures will make even that 2 percent growth estimate much too high. She suggests conservation programs, cogeneration plants, and coal-fired units as alternatives to nuclear power.

But what appears to be at issue here is not merely the economics of nuclear power, but rather opposite visions of America's future.

From the post World War II era to the early '70s, the nation's energy needs grew as the economy boomed. Demand for electricity averaged a healthy 7 percent annual growth, says Don Winston, a spokesman for the Atomic Industrial Forum.

But the Arab oil embargo in 1973 changed all that. Fuel prices soared. Energy conservation came into vogue. And the growth in electricity demand was halved, he says. In 1982, demand declined for the first time since the Great Depression, although it's rebounding, he adds.

So which will it be? Will America go back to her old energy-using ways? Or are conservation and alternative energy here to stay? Energy producers and their critics have reached answers so diametrically opposed that the debate over nuclear power appears likely to drag on heatedly for some time to come.

THE WALL STREET JOURNAL. THURSDAY, FEBRUARY 9, 1984

U.S. Rural-Energy Agency Finds Itself Tangled in Nuclear Problems

By BILL RICHARDS
Staff Reporter of THE WALL STREET JOURNAL

The Rural Electrification Administration, which was created to meet the rural power needs of the 1930s, now finds itself seriously threatened by the nuclear power problems of the 1980s.

The REA, an agency of the Department of Agriculture, became involved with nuclear power in the 1960s, when it began backing loans to groups of rural electric cooperatives with interests in fledgling nuclear projects. Today, the REA holds guarantees on loans for 17 nuclear power units under construction; some are in deep financial trouble, including Indiana's Marble Hill project, Seabrook Unit No. 2 in New Hampshire and Clinton Unit No. 1 in Illinois.

Since the late 1970s, the REA and the cooperatives have watched with alarm as nuclear construction costs have ballooned and their debt obligations have soared. The federal agency currently has $9.75 billion tied up in nuclear plant construction, and more will almost certainly be needed. About half the guarantees have been for supplementary loans to cooperatives that needed additional financing to meet their share of construction costs.

At the 'Choking Point'

"This thing has really gotten out of hand," says Jack Van Mark, the REA's deputy administrator. He says the guarantees on loans, which are made by the Federal Financing Bank, have brought the agency to "the choking point."

The Reagan administration has become concerned about the REA's mounting obligations; the Office of Management and Budget has made it clear that it would like to see the REA get out of the construction loan business altogether. And those pressures are making the REA increasingly skittish about backing any new loans for nuclear projects.

"I believe in nuclear power," says John Holt, chief of the REA's plant branch. "But at this point we're most assuredly being more careful when the co-ops come back to us looking for more loan guarantees."

That could mean bad news for some cooperatives involved in costly nuclear projects. Many cooperatives are financially vulnerable simply because they're small; in addition, the REA prohibits them from phasing their nuclear construction costs into their rate bases before construction is complete, an avenue of financing normally available to larger, investor-owned utilities. That leaves cooperatives' customers facing huge rate increases when an over-budget nuclear plant finally comes on-line, reducing demand and creating new financial problems.

Troubled Illinois Plant

Just such a situation may be shaping up at the Clinton project in Illinois. Two small groups, Soyland Power Cooperative and Western Illinois Power Cooperative, signed on for 20% of the project in the mid-1970s and obtained REA guarantees for $240 million in construction loans.

But regulatory problems, construction delays and rising interest rates have increased Clinton's projected cost sixfold over the past 10 years, to $2.85 billion. Some Illinois regulators predict the final cost could be as much as $4 billion.

Twice, the two cooperatives have obtained additional loan guarantees from the REA; this month, they plan to ask the REA to back an additional $200 million, which would raise their share of the Clinton debt to $832 million. And REA officials say that share may eventually hit $1 billion.

Officially, the REA won't say whether the additional loans will be approved, although no one at the agency can remember the last time such a request was turned down. In fact, some REA officials say, the Clinton guarantees are likely to be granted, if only because the agency is so deeply committed to the plant.

Seeking a Way Out

Nevertheless, senior REA officials are beginning to question whether the agency's involvement is worth the trouble and expense. Seeking a way out, federal advisers have been talking with Clinton officials. One possible solution: an agreement with Illinois Power Co., which has an 80% stake in the project, to limit the cooperatives' financial liability.

The REA has already imposed such ceilings on several small cooperatives. In Michigan, for example, Wolverine Power Supply Cooperative found itself in desperate straits last year when the projected cost of Detroit Edison's Fermi 2 plant rose to $2.7 billion from $977 million. With REA backing, Wolverine negotiated a cap on its investment in return for a smaller share of the project.

"We've taken a situation that had gotten almost impossible and made it so we can live with it," says Raymond R. Cristell, Wolverine's general manager.

The REA faces a far more difficult situation at Indiana's Marble Hill. Wabash Valley Power Association, a group of 24 rural cooperatives, had planned to spend $365 million for their 17% share of the project; so far, the cooperatives have obtained REA guarantees for $948 million in loans, and work has been halted with the project less than half finished.

Raising Electric Rates

Last month, Public Service Co. of Indiana, which owns the other 83% of the project, announced that it was pulling out because it was overextended. Wabash Valley estimated it might have to rapidly increase its electric rates as much as 60% to repay its huge federal debt; now it's trying to decide whether the entire project should be scrapped.

That leaves federal officials pondering several unattractive alternatives. There's a possibility that the REA could end up operating Wabash Valley if the cooperative can't pay its bills.

"I shudder to think of it," says Mr. Van Mark of the REA. "But if the co-ops can't raise the cash we'd have to move in, take over and raise the rates ourselves."

The REA has taken that drastic step only once before; from 1968 to 1971 it operated a group of 18 Indiana cooperatives involved in building a coal-fired plant. The idea of doing that again doesn't appeal to REA officials.

"That really isn't what we were set up to do," says Mr. Van Mark. But he says the agency must make it clear to borrowers that "there's a cost involved, whether they complete their plants or abort them."

Decatur Herald and Review Feb.10, 1984

Official says Clinton plant cost may rise

By STEVE CAHALAN
Herald & Review Staff Writer

CLINTON — The total cost of the Clinton nuclear power station apparently will be higher than the $2.85 billion estimate which Illinois Power Co. announced last May, according to a federal official.

A company official said later that the utility still believes its 80 percent share of the plant will cost it $2.4 billion but cannot know what the exact costs will be for its partners in the project, Soyland Power Cooperative and Western Illinois Power Cooperative Inc.

Jack Van Mark, deputy administrator of the federal Rural Electrification Administration, said Thursday that if REA does not increase its loan guarantees to Soyland and WIPCO, Illinois Power may have to increase its ownership share in the plant.

The REA previously approved loan guarantees of $286.8 million to WIPCO, which has a 9.5 percent interest in the power station and $328 million to Soyland, which has a 10.5 percent interest.

The Wall Street Journal reported Thursday that due to rising costs, Soyland and WIPCO plan to seek an additional $200 million in REA loan guarantees this month to raise their share of the debt to $832 million.

WIPCO and Soyland officials could not be reached for comment Thursday.

Van Mark said he does not know how much the two rural electric cooperatives will request or how much the Clinton project will cost. He said REA never predicts whether it will or will not approve loan guarantees.

Van Mark said the previous loan guarantees to WIPCO and Soyland should be sufficient if the project costs $3 billion, including the cost of fuel and financing. If the guarantees must be increased, the cost apparently will be even higher, he said.

Van Mark speculated that Illinois Power's $2.85 billion figure might not include fuel and financing costs.

Illinois Power spokesman Harold Deakins said the company did include fuel and financing costs in estimating its 80 percent share of the project would cost it $2.4 billion. To arrive at a total estimated cost, it assumed Soyland and WIPCO's costs would be proportionate.

"What their (Soyland and WIPCO) money costs are, we're not privy to that," Deakins said. "We don't borrow the money for them."

The Wall Street Journal article reported some Illinois regulators predict the final cost could be as much as $4 billion. "I don't know what regulator they're talking to," Deakins said. "I'm always amazed at these unidentified sources."

Deakins declined to comment on whether Soyland and WIPCO officials have been talking to his company about the possibility of reducing their shares of the project.

Van Mark said he has heard rumors that such discussions have been held by Soyland, WIPCO and Illinois Power. He said he does not think REA officials have approached Illinois Power about the matter.

Van Mark declined to comment on whether REA would prefer that Illinois Power increase its ownership share.

With costs soaring, REA has imposed ceilings on the financial liability of several small cooperatives involved in some other nuclear projects. With REA support, a Michigan cooperative negotiated a cap on its investment in return for a smaller share of Detroit Edison's Fermi 2 plant.

The federal agency has about $9.75 billion in loan guarantees tied up in 17 nuclear plants under construction. About half of that has been for supplemental loans. Most of the loans are made by the Federal Financing Bank.

"This thing has really gotten out of hand," Van Mark said of the national trend.

"There's someplace where the agency has to say, 'Hey, we just don't think it's prudent to lend more money,' " he said.

The Wall Street Journal article reported some REA officials say the additional Clinton guarantees are likely to be granted, if only because the agency is so deeply committed to the plant.

Van Mark said Thursday he would not go so far as to make that statement.

St.Louis Globe-Democrat Tues.Feb.21, 1984

Rural users want review of possible electricity hikes

By MIKE FIELD
Globe-Democrat Staff Writer

Rates could double or even triple because of Clinton nuclear power plant.

Fears that rural residents in three counties might be paying electric rates double or triple what they are now have prompted a call for a review of an area power cooperative's involvement with Illinois Power Co.'s controversial Clinton nuclear power plant.

Members of the Eastern Organizing Committee for Madison County will ask Wednesday night that the Southwestern Electric Cooperative strongly consider breaking its ties with the costly project.

The Clinton plant, already four years behind schedule and at six times its original estimated cost, should be "on-line" by November 1986, according to officials with Illinois Power.

There is disagreement on just how much the project will cost, but conservative estimates from IP put the figure at $2.85 billion.

Two large groups of electric cooperatives have financial stakes in the construction. The Western Illinois Power Cooperative owns 9.5 percent of the project and serves 44,000 customers in Macoupin, Jersey and Montgomery counties.

The Decatur-based Soyland Power Cooperative, which serves 100,000 customers and 15 smaller co-ops in Southern Illinois, owns 10.5 percent of the multibillion-dollar plant.

THE TWO GROUPS OF cooperatives bought shares in the Clinton plant in 1975, when the final construction cost was estimated at less than $500 million.

But since then, delays and cost overruns have plagued the project, as they have many nuclear plants under construction across the nation.

And, as a result, some members of these small electric cooperatives are worried that the cost of buying nuclear power, once thought to be the wellspring of energy, now will be too high.

Southwestern is one of the small cooperatives that buys power from Soyland, which, in turn, is a stockholder in the Clinton plant.

Southwestern serves more than 13,000 customers in rural parts of Madison, Fayette and Bond counties.

A meeting has been called for Wednesday at 7:30 p.m. in the Hamel Community Center, at which Southwestern board members will be asked to consider ending the financial association with Soyland and, indirectly, with Illinois Power's Clinton plant.

"WE REALLY JUST want to know how much the Clinton plant is going to raise the electric rates of rural residents," said Larry Gallagher, executive director of the citizens' activist group called the Organizing Committee.

"We are going to ask the Southwestern board to have an independent study done on the effect of Clinton on local rates," Gallagher said. "We'll also ask them to do a legal study of what it would take to break the contract with Soyland."

Gallagher emphasized that what the Organizing Committee really is after is information.

"We don't know how much our rates will go up," he said. "We just want more than rumors and opinions which have been flying around. We'd like to get some facts."

Members of another small electric cooperative — MJM — have said the cost of the Clinton plant will double or triple electric rates for their 7,000 customers in rural Macoupin, Jersey and Montgomery counties.

Illinois Power officials said in a recent internal study of the Clinton plant's effect that IP ratepayers could expect rate increases slightly higher than the annual rate of inflation over the next 40 years.

An inflation rate of 5 percent, the study maintains, probably would mean a rate increase of about 7 percent.

ALTON TELEGRAPH

Serving Madison, Jersey, Macoupin, Greene and Calhoun Counties

Thurs., Feb. 23, 1984, Alton, Ill.

Co-op fears doubling or tripling of electric rates

By CYNTHIA VESPERENY
Telegraph Staff Writer

More than 200 persons jammed the Hamel Community Center Wednesday night to complain about potential doubling or tripling of rates by Southwestern Electric Co-Operative Inc. after completion of Illinois Power Co.'s Clinton nuclear plant.

"Years of mistakes and mismanagement by Illinois Power are clearly evident," said David Starr, research director for Illinois Public Action Council (IPAC).

Starr urged that Southwestern cut its ties with the plant and seek other power sources. "It's time to take another look," he said.

The meeting was sponsored by the Organizing Committee for Eastern Madison County, a citizens action group, organized by IPAC.

Southwestern has about 13,000 members in Madison, Bond and Fayette counties. It belongs to Soyland Power Cooperative Inc., an association of co-operatives, which owns a 10.5 percent interest in the $2.85 billion Clinton plant. Rate increases imposed because of Clinton would trickle down to Southwestern, members say.

Another association, Western Illinois Power Cooperative, holds a 9.5 percent interest. WIPCO has estimated its rates will double or triple when the plant goes into operation and users begin paying for it.

All nine members of the Southwestern Board of Trustees were on hand to answer questions regarding the plant. But most tried to defer questions to E.G. Williams, of Cedar Rapids, Iowa, who is general manager of Decatur-based Soyland. Williams met shouts of "Go back to Iowa" when he rose to speak, but he urged staying with the project.

Several trustees said involvement in the plant does not seem as attractive now as when the associations bought an interest in 1975, but that few alternatives exist.

"It's like a lot of other things that kind of went sour," said trustee Hollis McCasland. Said trustee Ron Schaufelberger: "It's something we've got to live with."

Many of the trustees said the contract with IP would be hard to break. "I feel that we have to go ahead," said trustee Lawrence Rubin. "I don't think we have a choice." Chairman Bob Zobrist said "We'll be in lawsuit after lawsuit" if the contract is broken.

Zobrist said an attorney had looked into consequences of breaking the contract, but he refused to identify the lawyer. "I'd better not," he told a reporter.

The board's pessimism about getting out of the contract angered many members, who charged that alternatives had not been considered.

"Everyone seems to have blinders on," said Joyce Oltman of New Douglas. Ms. Oltman echoed complaints of others in Southwestern that members had not been asked for an opinion on continued involvement.

Allan Libbra was the only trustee that seemed open to the idea of cutting ties with Clinton. He said he was not optimistic about the plant because of the project's history of delays and cost overruns.

The original cost estimate of construction in 1973 was $430 million and the plant was projected to be in operation in 1980. Cost projections have skyrocketed to $2.85 billion and company officials now say the plant will not be online until late 1986.

Two university professors testified that they were conducting studies on the feasibility of the plant. Sociologist Roger Batz of Principia College said rate increases are inevitable and that Southwestern's rural users will be hard hit.

"Most co-op rate payers are farmers and many are already at the margin of failure," Batz said. "Such large electric rate increases will increase the severity of their economic condition."

Gene Schultz of Washington University said the cost of electricity through solar power could become less expensive than nuclear power within 10 years. It would be less expensive to scrap the plant than to complete it, said Schultz, a professor of engineering and applied science.

McCasland said the incident at Three Mile Island devastated the progress of nuclear plants because the Nuclear Regulatory Commission upped safety requirements. "Every time you get something started, they come along and tell you you have to tear it all down," McCasland said.

George Pence of Alhambra, a Southwestern member, discouraged involvement in Clinton until more is known about disposing of nuclear wastes. "You own that stuff for 10,000 years," he said.

Members of the Organizing Committee concluded the meeting by polling trustees on their commitment to options the committee presented. Most trustees said they would be in favor of initiating cost and legal studies of involvement with Clinton.

Decatur Herald and Review Decatur, Illinois March 16,1984

Utility, co-ops near agreement

By STEVE CAHALAN
Herald & Review Staff Writer

Illinois Power Co. and two rural electric cooperatives may be close to a new agreement on the co-ops' shares of ownership and cost in the Clinton nuclear power plant.

Also, the total construction and financing costs of the Clinton project may reach $3.3 billion, because the utility's official $2.85 billion estimate does not include the co-ops' financing costs.

Illinois Power may make an announcement early next week concerning its negotiations with Soyland Power Cooperative and Western Illinois Power Cooperative Inc., company spokesman Al Adams said Thursday. The talks have not ended, he said.

Adams declined to comment on whether shares of ownership and costs are being negotiated. Illinois Power now owns 80 percent of the project, Soyland 10.5 percent and WIPCO 9.5 percent.

"We are in negotiations with WIPCO and Soyland on some of their long-term energy supply needs, problems that affect all of us," Adams said. "And due to the nature of the negotiations, I'm not in a position to disclose what the details are at this point."

According to an informed source, the co-ops have been trying to negotiate for a smaller share of ownership and construction costs. They also want to buy into Illinois Power coal-fired plants to get a cheaper mix of electricity, the source said.

The source said the co-ops also have asked the federal Rural Electrification Administration to allow them to include some Construction Work in Progress in their rates before the Clinton plant goes into operation in late 1986.

The REA traditionally does not allow construction costs to be included in co-ops' rates until a new plant goes on line.

REA spokesman Jeanne Miller and Adams confirmed that Illinois Power, WIPCO and Soyland officials met with REA officials this week in Washington, D.C., but declined to say what was discussed. Adams said an Illinois Power official merely sat in on a meeting with the other officials.

The REA previously approved loan guarantees of $286.8 million to WIPCO and $328 million to Soyland for their Clinton costs.

Ms. Miller said WIPCO recently applied for an additional $145 million in loan guarantees and Soyland an additional $134.6 million. They need the additional guarantees due to cost increases of the Clinton project.

It will be several weeks before REA rules on the applications. Ms. Miller said the amounts requested assume Soyland and WIPCO continue to own 20 percent of the project.

The $2.858 billion project cost estimate which Illinois Power announced last May includes $2.43 billion in construction and financing costs for Illinois Power, Adams said. The difference of $428 million is the estimated construction cost for the two co-ops, he said.

The $2.858 billion estimate did not include the co-ops' financing costs because Illinois Power does not know what they are, Adams said. "It would be very improper for us to ask them," he said.

Under Illinois Power's agreements with the co-ops, it is entitled only to know if the co-ops can meet their share of the construction payments, he said.

If Illinois Power's total cost share is $2.4 billion and the two co-ops need loan guarantees totaling $894 million for their construction and interest costs, is the total project cost therefore $3.3 billion?

"I would say that's sure pretty close to what it would have to be, when you start adding the numbers up," Ms. Miller said. She did not know how much of the $894 million figure represents interest costs on loans to the co-ops.

Adams declined to comment on whether it is logical to add the $2.4 billion and $894 million figures to arrive at a total project cost of $3.3 billion.

Ms. Miller said REA assumes Illinois Power's official $2.85 estimate is accurate, as far as it goes. REA estimates construction costs alone will total $2.25 billion, she said.

WIPCO and Soyland officials did not return telephone calls from the Herald & Review.

The State Journal-Register Springfield, Illinois Sunday, March 18, 1984 Page 5

Co-ops, IP quietly discuss move for Clinton plant cost-sharing

by Steve Hahn

Officials of two rural electric cooperatives and Illinois Power Co. held unpublicized discussions in Washington this week that could result in a new cost-sharing arrangement for the Clinton nuclear power plant.

The talks, set up with the U.S. Rural Electrification Administration, centered on the co-ops' proposals to cap their Clinton costs at current levels. If the caps are approved, the already financially-strapped IP — and its customers — could be burdened with a larger share of future cost overruns.

"This whole thing could once again weaken IP in the eyes of the financial community, because it could ultimately end up owning more of the plant," one observer said.

Another source added that, "What's going on out there in Washington is a sophisticated effort to bury the costs of Clinton with IP's consumers. It's an effort that will make IP's ratepayers dig deeper into their pockets."

The two co-ops are the Western Illinois Power Cooperative, which handles electric generation for 44,000 members of west-central Illinois distributing co-ops; and the Soyland Power Cooperative, with 100,000 customers in central and southern Illinois distributing co-ops.

The Illinois Commerce Commission does not regulate cooperatives, but it almost certainly would have to approve any substantial alteration in IP's role in the Clinton project and resulting rate increases.

ICC officials did not attend the Washington discussions, and a spokesman for IP said the utility has been only tacitly involved in the talks.

The sources said the co-ops also are studying the possibility of charging their member-customers for some Clinton costs before the plant actually begins generating electricity in late 1986. IP already is charging its customers for Clinton costs, but the REA has never allowed the co-ops to do so.

The Soyland board of directors reportedly favors the early charges,

"This whole thing could once again weaken IP in the eyes of the financial community, because it could ultimately end up owning more of the plant," one observer said.

known as "construction work in progress" or CWIP. However, Donald Bringman, WIPCO's general manager, said his co-op has not been pushing the idea.

Neither he nor any of the other parties would comment on details of the discussions.

The co-ops also are trying to set up an agreement that would allow them to share in IP's relatively cheap coal-fired generating capacity, sources said. That would reduce the co-ops' overall electric rates when Clinton comes on line.

If lower-cost power is not mixed with high-cost Clinton electricity, the co-ops' electric rates are likely to increase sharply, which probably would lead to a significant decline in electric use. Electric rates then would have to be increased again, and the resulting spiral could end up bankrupting the co-ops.

The sources said WIPCO and Soyland initiated the "cap" proposals because Clinton costs already are threatening the co-ops' stability. WIPCO is believed to be in especially precarious financial shape and may even merge with the larger Soyland in the near future.

"Soyland's problems are bad enough, but WIPCO's really in tough shape," one source said. "They own just about the same amount of the (Clinton) plant as Soyland, but they're only about a half or a third the size.

"There isn't anybody at Soyland who really wants to get involved with WIPCO, but it's sort of the lesser of two evils. If WIPCO goes belly up, then IP and Soyland are going to have to bail them out anyway, so WIPCO might as well get together with Soyland right now."

The co-ops, like IP, face financial difficulties partly because Clinton is costing them far more than expected. When IP signed agreements with the co-ops in October 1978, it estimated WIPCO's 9.5 percent share of the construction and financing costs would come to about $122 million, while Soyland's 10.5 percent share would cost $135 million.

WIPCO since has received federal authority to spend $286 million on the Clinton plant and has asked the REA to guarantee an additional $145 million in federal loans.

Soyland has received loans and guarantees for Clinton totaling $328 million and is seeking an REA loan guarantee for $134 million more.

With all Clinton costs accounted for, the plant's price-tag is $3.04 billion, a spokeswoman for the REA said. That ranks Clinton among the most expensive of the nuclear projects nationwide that are at the same stage of construction. When the co-op agreements were signed, the estimated construction and financing cost was $1.28 billion.

The REA's overall cost figure does not include the $279 million in additional loan guarantees sought by WIPCO and Soyland.

IP officials have been setting the unit's estimated completion cost at $2.85 billion, but that does not count interest owed by WIPCO and Soyland.

Despite Clinton's problems, there has been no move by the co-ops or IP to cancel the plant, because all three partners would face severe financial penalties.

A new analysis by the Wall Street firm of E.F. Hutton & Co. also says the Clinton unit does not appear to be on the verge of being canceled. However, questions about the plant's viability make investment in IP's stock "an inordinate risk," the analysis said.

For further information please contact:

Ed Williams (Soyland) 217/423-8000
Don Bringman (WIPCO) 217/245-6161
Al Adams (Illinois Power) 217/424-6400

For release: after 1 p.m.
March 28, 1984

JOINT NEWS RELEASE
ILLINOIS POWER-SOYLAND-WIPCO

Today, Soyland Power Cooperative, Inc., Western Illinois Power Cooperative, Inc. and Illinois Power Company signed a letter of intent to negotiate a definitive agreement to coordinate resources to meet their long-range electrical energy objectives. This agreement will help stabilize the cost of providing electric service to the customers of all three companies.

The definitive agreement is to provide the two cooperatives with a right to a portion of the output of Illinois Power Company's fossil-fueled generating capacity, and use of Illinois Power's transmission and subtransmission systems. Also, the generating capacity of all three parties will be dispatched jointly from a common pool.

The two cooperatives will initially obtain the use of 400,000 kilowatts of capacity from the Illinois Power Company system through the agreement. This is in addition to the 190,000 kilowatts of capacity which the two cooperatives will receive as part-owners of the Clinton power plant. The agreement also will limit the cooperatives' investment in Clinton to $450 million of the direct costs of placing the plant in commercial operation. The cooperatives' share of the current direct-cost estimate is $428 million.

The definitive agreement is to become effective January 1, 1985.

what to do when the power is off

If your power goes off, we offer these suggestions:

1. Check your fuses or circuit breakers.
2. Check your meter pole. If you have breakers, make sure they are in the "on" position.
3. If you still have no power, check with your neighbor to see if he has power.
4. Call the appropriate number below and report what you have found.
5. If you cannot reach your outage reporter or if one is not listed for your telephone area, call your cooperative at 438-6197.
6. Please give the person who answers the member's name as it is billed, and other information requested.

This is a complete list of outage reporters:

Cooperative Office. 438-6197
John McMillan, Chatham . . 483-2988
Eugene Beckey, Edinburg . . 623-5782
Wayne Fuchs, Farmersville . 227-3257
Vernon H. Schmidt, Litchfield 324-2765
Stanley Otten, Modesto . . . 439-7363
Henrietta Ladage, Divernon. 628-3479
Harold King, New Berlin. . . 488-6488
Leslie Johnson, Nokomis . . 563-8608
Wayne Overbey, Palmyra . . 436-2108
Wheeler Sloman, Pawnee. . . 625-7184
Francis Marten, Raymond . 229-3298
Ralph Gesell, Taylorville-Kincaid 237-4406
Richard Downing, Taylorville 824-2980
Stanley Smith, Virden 965-3208
John Welsh, Waggoner 227-3527
Raymond Duewer, Waverly, Franklin 675-2781
Larry Summers, Waverly. . . 435-8881
Joe Pope, Harvel 229-3380
Robert Hall, Loami 624-3681
Perry Broughton, Pawnee . . 625-7449
Mrs. Allen F. Gregory, Rochester 498-7687
Leonard Neff 627-2498
Kenneth Dunkirk, Morrisonville 526-3287

MANAGER'S VIEW

Surcharge means lower costs in long run

Roy D. Goode

Western Illinois Power Cooperative (WIPCO) has begun adding .0121 (1.21¢) per kilowatt-hour surcharge to your cooperative's wholesale power bill. WIPCO will use this new income to reduce borrowing from the Rural Electrification Administration to pay interest costs connected with the Clinton Power Station.

WIPCO owns 9.5% of the Clinton project, Soyland Power Cooperative owns 10.5% and Illinois Power Company owns 80%. WIPCO and Soyland have financed their shares of the construction cost, as well as interest costs, through loans from the Rural Electrification Administration. REA is the electric cooperative's "banker" and is part of the U.S. Department of Agriculture. Up to now, none of the costs of the Clinton plant have been passed on to WIPCO's member-systems. WIPCO has now determined that it can minimize the cost of its share of the project by beginning to collect part of the interest cost in current revenues.

The surcharge to our cooperative from WIPCO over the next three years will be passed on to member-owners as part of the wholesale power cost adjustment beginning next month. Each of the seven cooperatives that purchase power from WIPCO will be paying the same surcharge, collectively providing WIPCO with a total of $38,000,000 over a three-year period.

These are dollars that WIPCO will not have to borrow from REA at today's high interest rates. WIPCO's reduced borrowing from REA will mean the Clinton project will have less impact on our rates when it comes on line in 1987, not only through lowered interest cost, but because the $38,000,000 will be returned to WIPCO member-cooperatives through a credit on their wholesale power bills beginning in 1987.

Your representatives on the WIPCO Board of Directors have participated in the discussions that led to the decision by WIPCO to initiate the surcharge and have accepted the unavoidable decision to pass on this additional cost of wholesale power to our cooperative. This was a difficult decision to make because the immediate impact will mean higher electric bills. But, we also know that WIPCO's decision to fund part of its interest costs through a wholesale rate surcharge will mean lower costs to our members in the long run.

If you have any questions on the surcharge on our wholesale power cost, or on any cooperative matter, please call me.

An adjustment in the base rates of the cooperative has not been made since 1980. Higher costs for power have been inevitable and reported to our membership in prior years and, unfortunately, the prediction has come true.

RURAL HILIGHTS
(USPS 473-140) is published monthly for $3.00 per year by Rural Electric Convenience Cooperative Co. Publication Office, 6460 South Sixth Frontage Road, Springfield, IL 62707. Second-class postage paid at Springfield, IL. POSTMASTER: Send address changes to Rural Hilights, P.O. Box 3787 Springfield, IL 62708.

WIPCO Power Bill

February WIPCO Power Bill:

kwh Purchased	6,738,481
Dollar Assessment	$311,020.91
Cost per kwh	$.0461559
Rate Base	$.0420000
	$.0041559
Loss Factor	X1.15
Power Cost Adjustment (PCA) for 3/31/84 bills	$.0047793

M.J.M. news

published by M.J.M. Electric Cooperative, Carlinville, Illinois

VOLUME 22 APRIL 1984 NUMBER 4

Bulk power surcharge will reduce interest cost

Western Illinois Power Cooperative (WIPCO) is M.J.M. Electric Cooperative's power supplier. WIPCO is a generation and transmission cooperative (G&T). M.J.M. is one of seven members that make up the WIPCO G&T cooperative. M.J.M. has long-term, all-inclusive power supply contracts with WIPCO.

WIPCO owns 9.5 percent of the Illinois Power Company's Clinton nuclear electric generating station. This plant was initially scheduled for operation in late 1980. Regulatory delays have been responsible for postponing operation until at least November 1986. In the meantime, delay has caused costs to escalate approximately sixfold.

WIPCO has financed its share of construction costs with REA guaranteed loans. REA is the cooperative's "banker" and is an agency in the United States Department of Agriculture, Washington, D.C. REA will allow WIPCO to begin paying part of its interest cost on loans connected with the Clinton project out of current revenues which will reduce future long-term borrowing and total interest costs.

The surcharge to M.J.M. from WIPCO over the next three years will be passed through to the member-owners as part of the monthly wholesale power cost adjustment.

For the remainder of 1984, each of the seven cooperatives that comprise WIPCO will pay the same 1.21 cents per kilowatt hour surcharge. Surcharges after this year will be determined so that collectively the member-owners will be providing WIPCO with a total of $38 million over a three-year period. This is money that our power supplier will not have to borrow from REA at today's high interest rate. WIPCO's reduced borrowing now will reduce the impact Clinton will have on our rates when it comes on line in 1986.

Your cooperative representatives on the WIPCO board of directors have participated in all discussions that led to this decision by WIPCO to initiate the surcharge and have accepted the unavoidable decision to pass this additional power cost to member cooperatives.

WIPCO's decision to fund part of the interest cost to REA through a wholesale rate surcharge will mean lower costs to members in the long run.

The first wholesale power billing on which M.J.M. will be assessed the surcharge will be due by April 15 for power purchased in March.

The added surcharge will be incorporated as a portion of the power cost adjustment on the bill received by M.J.M. members on May 1, 1984.

From the desk of the manager

Future Power Supply

The notice on the cover page of this newsletter is the result of what a small segment of society has demanded and accomplished through governmental regulatory controls. The controls have escalated the cost of a nuclear power plant even more than for a fossil-fired plant. Environmental laws now on the books and legislation being considered in Congress could very well put fossil-fired plants in a cost bracket with nuclear plants. I am referring to acid rain legislation.

The incident, not accident, at the Three Mile Island nuclear plant, located near Harrisburg, Pennsylvania, is blamed for public concern and resulting controls. I don't blame Three Mile Island completely, as the Clinton nuclear station was delayed over a year before the Three Mile Island incident. Illinois Power was to construct a lake at Clinton for cooling. Keep in mind the lake was to be built by Illinois Power and solely owned by Illinois Power and the cooperatives. The Illinois Environmental Protection Agency (EPA) became concerned over the temperature of the water in the lake and would not issue a construction permit. EPA claimed an increase of about six degrees in water temperature in the hottest of weather would be harmful to shellfish in the lake. The issue was finally resolved with added expense in equipment and delay.

I would be the first to admit that some general guidelines are required to protect the environment and safety. However, I do not agree that concern for shellfish in a freshwater lake located in central Illinois should be a controversy. It seems to me that Illinois society should be more concerned with the cost-benefit ratio for the citizens of central Illinois. Authority vested in government agencies and commissions results in the ridiculous becoming the sublime. Who pays? Naturally, you and I as consumers.

Why did we get involved in Illinois Power's nuclear electric generating station at Clinton? The answer is simple. In the early 1970s loads were increasing seven to 10 percent a year. This meant that loads would double in less than 10 years. Wholesale power cost from the investor-owned utilities was increasing on an annual basis. There was no assurance from the utilities that a reliable source of bulk power would be available to us. The cooperatives in Illinois were faced with a decision that had to be made or run the risk of "getting caught with our pants down," so to speak. Our first obligation is to have adequate power available for you members at the flip of a switch.

The environmental movement was gaining momentum, causing the construction costs of coal-fired plants to be uncertain. Reduction of sulphur dioxide emissions from coal-burning boilers was mandatory by law. Violations would, and did, result in fines amounting to thousands of dollars per day. Utilities were being forced to spend millions of dollars on pollution-control equipment with no guarantee that the equipment would do the job. Each installation was designed as it was constructed. Most of the original installations were not satisfactory and caused other related problems resulting in additional costs. Can you imagine the frustration in the minds of those responsible for providing you with a reliable source of power?

Illinois Power Company was considered one of the most successful and respected investor-owned utilities in the nation. Commonwealth Edison Company in the Chicago area was leading the nation in successful nuclear electric generation. Nuclear was proving to be cost efficient, safe, clean and reliable. The decision was made by IP to go nuclear. This was in the early 1970s. In the meantime, because of anti-monopoly rules of the old Atomic Energy Commission, it was determined that small utilities such as the cooperatives could participate in the ownership of nuclear plants being constructed by the larger utilities. The cooperatives took special care to ensure that Illinois Power Company could never back out of the relationship. We must remember that the cooperatives were seeking a reliable source of power supply for their members as well as the most economical source of power.

The cooperatives in Illinois did not plunge blindly into the Clinton plant participation. Western Illinois Power Cooperative (WIPCO) and another G&T group of 15 distribution cooperatives used two separate consulting engineering firms to make exclusive engineering and economic studies. All the studies indicated that nuclear was the way to go. We had the blessings of the Rural Electrification Administration (REA) in Washington. The decision was made for WIPCO to own 9.5 percent of the Clinton nuclear plant.

The turn of events during the past 10 years has certainly not been to the liking of the M.J.M. board of directors and management. Our employees have shared our concern as we have witnessed control of power supply cost slip from our grasp. The board, management and over half of our employees are members of M.J.M. and pay for their electricity on exactly the same rate schedules as the rest of the members.

The board spends long hours studying the financial position of the cooperative. The ensuing debate is controversial. The ultimate decision always has to preserve the ability of M.J.M. to provide the members with an adequate supply of electric power at rates which will maintain the financial integrity of your cooperative.

We welcome anyone to examine and compare our local distribution operation. The degree of efficiency will surprise you. Power supply is the problem created by a demanding society for regulation of U.S. electric generation. I would be one to warn society that the result could very well be a nationalized electric industry in the United States.

A-2 THE CHAMPAIGN-URBANA NEWS-GAZETTE Thursday, March 29, 1984

Illinois Power, 2 co-ops strike deal on Clinton

By News-Gazette Staff

Illinois Power Co. has agreed to limit the amount of money two rural electric cooperatives will pay for a portion of the Clinton nuclear power plant, which is expected to cost five times the original estimate.

In addition, Soyland Power Cooperative Inc. and Western Illinois Power Cooperative Inc. have agreed to buy more IP electricity.

IP, Soyland and WIPCO signed a letter of intent Wednesday to negotiate a "definitive agreement" that will limit the financial responsibilities of the cooperatives and increase their electric allocations from the Clinton plant and from existing fossil-fuel plants.

The agreement would go into effect Jan. 1 and would limit Soyland and WIPCO to a total combined investment of $450 million in the Clinton plant, according to Al Adams, an IP spokesman.

The cooperatives have invested $428 million so far in the Clinton plant. About $200 million was from Soyland, according to Ed Williams, Soyland's general manager. Soyland provides electricity to Illini Electric Cooperative, which serves Champaign County, and to other rural cooperatives in East Central Illinois.

Williams said the increasing cost of the Clinton plant was part of the reason for the agreement.

"WE ARE ALL concerned about the cost of Clinton," Williams said.

He noted the agreement will allow the project to move ahead, while sharing the risks among the three groups. He said it was done "for the best interests of our rural consumers."

The atomic generating station at Clinton originally was to cost $429 million and produce electricity by the end of 1980.

IP's 1983 estimates put the cost at $2.85 billion with a completion date of late 1986.

"The two cooperatives have a joint interest in Clinton," Adams said. "When it goes on line, they'll have a mix of fossil and nuclear power."

Soyland has a 10.5 percent interest and WIPCO has a 9.5 percent interest in the Clinton facility, Adams said. Their shares of power from Clinton will be directly proportional to their investment in the plant, Adams said.

UNDER THE TERMS of the original investments, the cooperatives were to receive a total of 190,000 kilowatts of electricity. Under terms of the agreement, they are also entitled to buy up to 400,000 kilowatts from IP's total power generation.

Clinton's potential generating capacity is 950,000 kilowatts. Clinton will be a "base-load plant," which means it will be the first to respond to service demand, Adams said.

The percentage of electricity from Clinton to be provided to the cooperatives will be based on the actual power generated rather than the potential, Adams said.

The agreement "guarantees them (Soyland and WIPCO) the power they need and protects their costs during construction," Adams said.

IP BENEFITS FROM the agreement because it, in effect, "gives us another customer, and a very big customer," Adams said.

The cooperatives benefit because of increased access to IP's electricity from coal-powered plants, Adams said.

Williams said as the cooperatives buy IP's excess power, the agreement would provide "reasonable retail rates in the future for Soyland customers."

Under the existing agreements, Soyland and WIPCO "did not have the right to as much coal fuel," Adams said. The new agreement also will help stabilize the cost of providing electric service to the customers of all three companies, he said.

Decatur Herald and Review Feb. 10, 1984

Study backs Clinton

By DON SEVENER
For the Herald & Review

SPRINGFIELD — Seeking to allay the fears of Wall Street, Illinois Power Co. said Thursday an internal study shows scrapping the Clinton nuclear power station would cost consumers $9 billion.

Larry Haab, senior vice president for the utility, said the study demonstrates that the project is economically reasonable in the face of growing problems throughout the nuclear industry.

But he also said the company had retained an outside consultant to review feasibility of Illinois Power's $2.8 billion cost estimate and November 1986 completion target.

Haab said the company decided to release its study because while "things are going rather well at Clinton, things are not going well with the nuclear industry in general."

He said difficulties experienced with other nuclear projects "have caused the financial community to become very edgy."

Two of the nuclear plants that have had major problems — the canceled Zimmer plant in Ohio and Shoreham in New York where utility officials have raised the possibility of cancellation — are similar in reactor design to the Clinton plant.

But, according to the Illinois Power study, consumers would save $9 billion over the life of the Clinton plant compared to canceling the project and building alternative generating capacity.

Haab said the utility would need a 250 megawatt combustion turbine plant by 1990 and two coal units of equal size in 1993 and 1996. Those three facilities would cost about $965 million to build, the company estimates and would be more costly to operate, according to the study.

After 1988, Illinois Power would have to buy power to serve its customers.

Haab said EBASCO Services, Inc., a New York consulting firm had been hired for "in excess of $300,000" to examine Illinois Power's cost estimate, construction schedule and licensing process. The firm's report is due in early April, he said.

He acknowledged a higher figure for Clinton would change the picture drawn by the company's study, but he insisted it would have to rise by "hundreds of millions, close to a billion dollars before we would even reach the break-even point."

The current $2.8 billion estimate was made in May 1983 when Illinois Power raised its price tag for the plant by $688 million and extended the schedule by two years.

Illinois Power originally estimated the plant would begin commercial operation in June 1980 at a cost of $429 million.

Illinois Power Company
Decatur, Illinois

February 9,1984

Clinton Construction Review

The completion of Clinton Unit No. 1 will save Illinois Power electric customers $9 billion over the life of the plant as compared to the cost of halting construction and building replacement fossil fueled electric generating facilities. This conclusion is the result of a recent study completed by the Company.

Work at Clinton is progressing on a full construction schedule. The Company reiterates its commitment to meet the current schedule for constructing a safe, reliable, nuclear generating plant at Clinton, Illinois.

When completed, Clinton will supply 25% of the electric energy needs of Illinois Power Company's 530,000 customers. If construction on Clinton was halted, the Company would have to rely more heavily on electric generating facilities fueled by oil and natural gas in the short term and would need to purchase additional generating capacity starting in 1988 to meet the energy needs of its customers.

The study reflects an increasing demand for electricity by the Company's customers during summer peak periods of about 1.2% per year over the study period. By comparison, the summer peak energy requirements of the Company's customers have grown at an annual rate of 2.6% over the past five years, a period in which energy requirements in the Company's service territory have reflected a recessionary economy.

The cost and completion schedule estimates used in this study are currently being evaluated by EBASCO Services Inc., a consultant retained by the Company to independently review the reasonableness of the Company's cost and schedule estimate for the completion of Clinton Unit No. 1. As part of this study, EBASCO will conduct an evaluation of the liscensing process for Clinton. This study should be completed by the first of April with the results made public at that time.

The following page details the key assumptions used in the study.

Period covered by study: 1984 to 2026
Average inflation rate: 6% per year

Growth in peak load requirements: 1.2% per year
Clinton capacity factor: 65% average

Energy Source Information

Installation Data	Clinton Power Station	Needed if Clinton is Cancelled: Combustion Turbines	Needed if Clinton is Cancelled: Coal Units
Size:	950 million watts (MW) 760 MW (80%) owned by IP	250 million watts	2 units 250 million watts each
In-Service Date:	November, 1986	1990	1993,1996
Installed Cost:	$2,430,189,000 (IP's share)	$86,944,000	Unit 1: $482,957,000 Unit 2: $394,226,000
Book Life:	30 years	25 years	30 years
Cost to cancel Clinton at 6/30/84 (in nominal dollars):	$2,004,926,000	N/A	N/A
Fuel Costs ($/MWh):	$13.80/MWh	$136.10/MWh	$22.30/MWh
Increase in fuel costs per year:	1986-1989: material taken from inventory 1990-2026: 6%	6%	6%
Cost of Operation and Maintenance:			
Operations & Maintenance:	$2.30/MWh	$2.90/MWh	1st Unit $3.90/MWh 2nd Unit $3.00/MWh
Overheads (per year):	$17,996,000	$621,115	1st Unit $2,765,000 2nd Unit $2,155,000

NOTE: All costs are in 1986 dollars unless otherwise noted.

Champaign-Urbana News-Gazette March 30, 1984

Study defends IP plant estimates

By TOM KACICH
News-Gazette Political Editor

SPRINGFIELD — An independent consultant hired by Illinois Power Co. has found that IP's cost estimates and construction schedules for the Clinton nuclear plant are "reasonable" and "achievable."

But the more-than-300-page study by the New York firm of Ebasco Services Inc. suggests the plant may not be ready for fuel load in January 1986, as scheduled, or be built at the budgeted figure of $2.85 billion.

The firm, which has served as a consultant in the construction of 35 nuclear plants, began its $300,000 study of the Clinton project in January. The project was requested by Illinois Power officials in response to reports issued by the Governor's Office of Consumer Services last year.

THOSE REPORTS CLAIMED IP customers could save more than $200 million if the Clinton project were scrapped in favor of a small coal-fired plant and an aggressive energy conservation program.

"It was apparent to us," IP spokesman Harold Deakins said, "that that wouldn't be the end of it and they'd be back or someone else would, too."

Ebasco said IP's Clinton cost estimate "is reasonable, with an additional cost exposure of from $150 million to $200 million probable."

Additional costs, the consultants said, could come from as much as $80 million in future change orders, up to $50 million in additional purchases and as much as $70 million in a contingency allowance.

The report said that IP's scheduled fuel date "is achievable if the concerns addressed in this report are addressed in a timely fashion."

One major concern of the consultant was the failure of the Clinton contractor, Baldwin Associates, to meet a new construction schedule revised only last spring.

Ebasco said construction was 2 percent behind schedule "and showing a deterioration over the past eight months."

CLINTON HAD BEEN forecast for 84.8 percent completion on Jan. 31 but was only 82.8 percent complete, the consultants said. The plant was scheduled to have been 82.8 percent complete by mid-November.

Construction would need "to average 1.05 percent completion per month and sustain that rate for 11 months" to be finished on schedule. The consultants noted two other U.S. nuclear projects where expedited construction schedules have been successful, one where construction averaged 1.37 percent a month for 58 months and another where construction averaged 2 percent a month for 24 months.

"While it is recognized that the project is not on schedule, it would be presumptuous to conclude that the timely completion is unattainable," Ebasco reported.

The report called the schedule "ambitious and optimistic" but said the plant could meet the January 1986 fuel load date if the scope of work does not change greatly and if electrical construction work improves substantially.

IN ORDER TO MEET the date, 200,000 feet of cable will have to be strung every month, up from an average of 23,000 feet a month now. Nine thousand electrical terminations would have to be completed monthly, compared to 900 a month now. The length of electrical conduit installed would have to be increased from 15,000 feet a month to 20,000 feet.

In a response section at the end of the Ebasco report, IP said it has developed a detailed plan to recover construction delays brought about by 10 stop-work orders that were imposed on the project nearly two years ago. All 10 of the orders have since been lifted. IP also said it has hired and trained more quality assurance and quality control personnel to reduce a backlog in that area.

The consultants predicted few problems getting the plant licensed by the Nuclear Regulatory Commission. Only three main items will be discussed when IP faces the Atomic Safety Licensing Board and two intervenors (the State of Illinois and Prairie Alliance) beginning in August. Time available between then and the estimated fuel load date is above the industry average of 10 to 12 months, Ebasco said.

The consultants also said that Prairie Alliance and the state "are genuinely interested in assuring safe plant operations rather than stopping the plant from operating."

Illinois Agency Urges Nuclear Plant Cancellation

By Robert W. Allen

SPRINGFIELD, Ill. — The Governor's Office of Consumer Services has recommended cancellation of Illinois Power Co.'s Clinton nuclear power plant in central Illinois. The plant is more than six years behind schedule and six times over original cost estimates.

In written testimony filed with the Illinois Commerce Commission, Peter S. Penner, chief engineer for the state consumer office, said Illinois Power customers would be better off if the utility immediately halted construction of the nuclear plant and built a coal-fired plant later if necessary.

"According to my preliminary analysis, cancellation would save Illinois Power ratepayers about $260 million," Penner wrote.

But Illinois Power argues that Penner's recommendation has "errors so serious as to render his conclusions completely meaningless."

Testimony was submitted to the commission this month as both sides prepared for a rehearing on the company's most recent rate increase. Penner's recommendation is scheduled to be discussed this week.

In January, the commission allowed Illinois Power to add $250 million in its rate base for construction of the Clinton plant. The Governor's Office of Consumer Services and Attorney General Neil F. Hartigan appealed the order, asking the commission to rescind the part of the rate increase allowing the construction costs.

A spokesman for Gov. James R. Thompson said Friday that the state consumer office did not represent the governor's views. Thompson has generally supported nuclear power in his six years in office.

"The governor's concern is to see that as many facts get before the commission as possible," said the spokesman, David Fields.

Last week, Illinois Power filed a revised schedule for the Clinton plant that added $680 million more to the estimated cost.

Under the utility's new projections, the Clinton plant will not be ready until November 1986, at a cost of $2.85 billion.

About $1.8 billion has already been spent on the plant since construction began in 1975, a spokesman for Illinois Power said.

Inflation, labor problems and orders from the Nuclear Regulatory Commission requiring costly design changes have prompted the cost increases and delays, Illinois Power contends.

Penner's testimony says the $260 million would be saved if the Clinton plant is canceled this year and replaced by a coal-fired plant in the mid-1990s, "when Illinois Power load forecast indicates it will be needed."

Al Adams, an Illinois Power spokesman, contended that the company would need more generating power five years earlier than Penner asserted.

(Robert W. Allen, an intern at the Post-Dispatch, is a graduate student at Sangamon State University in Springfield.)

St.Louis Post-Dispatch April 23, 1984

Rift Growing In Electric Co-op Over Clinton Power Plant

By Safir Ahmed
Of the Post-Dispatch Staff

Fears that electric rates may increase dramatically because of Illinois Power Co.'s Clinton nuclear power plant is causing a sharp rift between some members and the board of the Southwestern Electric Cooperative.

The co-op members say they will try to replace the board members who are up for re-election in September. The members say the board "shows no respect for the democratic process" and fails to share their concern over rising electric rates.

"We are certainly going to look at those elections," said Harry Renken, a Southwestern member. "We'll probably form a committee of Southwestern members and work on running candidates."

The 13,000-member co-op, along with 14 other electric cooperatives, is a member of the Soyland Power Cooperative Inc. In 1975, Soyland bought a 10.5 percent interest in Illinois Power's Clinton Nuclear Power Station.

Renken said members believed that involvement in Clinton was becoming a serious financial burden and that Southwestern's board should study the consequences of ending that involvement.

The nuclear plant originally was estimated to cost $430 million and be completed by 1980. Now, it is expected to cost nearly $3 billion and be completed by late 1986.

At least one of the Southwestern board's nine members agrees with the co-op members.

"If there's a way for Soyland to get away from Clinton, they'll be much better off," said Alan Libbra.

Renken said the board had promised more than 200 members at a meeting Feb. 22 in Hamel that it would act on two resolutions at the next board meeting.

The meeting in Hamel was sponsored by the Organizing Committee for Eastern Madison County. Renken is chairman of the Organizing Committee's board.

But when Libbra introduced the resolutions at a meeting March 28, they died for lack of a second.

"The issue now has become not the Clinton nuclear plant but the accountability of the board," Libbra said.

One resolution asked the board to intervene in a Illinois Commerce Commission hearing on the economic feasibility of the Clinton plant.

Rich Gusewelle, a Southwestern member, said that if the co-op intervened in the hearing, it could receive a cost study of the Clinton plant done by the ICC.

Larry Gallagher, executive director of the Organizing Committee, said that since the co-op board had refused to intervene in the case, the committee had decided to do so.

"It would be more effective if the co-op, with 13,000 members, would intervene," Gallagher said, "but we'll do it on behalf of the consumers."

The second resolution asked the co-op board to conduct a legal study to determine the consequences of severing the contracts between Southwestern and Soyland and between Soyland and Illinois Power.

Instead, the board directed its attorney to study the cost of conducting a legal study.

Renken said, "A study for a study — that's a good way to stall."

Charles E. Kerjci, a Southwestern board member, defended the board's actions.

"We are afraid of the cost of a legal study," Kerjci said. Moreover, the federal Rural Electric Administration would probably not allow Southwestern or Soyland to sever the contracts, he said.

Kerjci said Southwestern was primarily financed by the REA. He said members owned 40 percent of the co-op.

"They are our bankers and we have to go along with what they say," Kerjci said.

As for the resolution asking the co-op's board to intervene in the ICC hearing, Kerjci said it was not proper for Southwestern to intervene.

"That's Soyland's job, not Southwestern's," Kerjci said. "Why should we intervene? We have no fight with the ICC."

Kerjci denied that the board had promised to act on the resolutions. He said the board had promised only to look into the issues that the members had raised.

"We did what we promised," he said.

Libbra disagrees. "There's no question in my mind that all the co-op members at the Hamel meeting were of the opinion that the board had told them unequivocally that they would approve the resolutions," he said.

Gusewelle said the Organizing Committee had sent a letter to the co-op's board inviting it to another meeting to "explain to the membership why they reneged on their promises."

Kerjci said, "We'll meet with any member, but at our office in Greenville."

Libbra said the co-op's board was mistaken in thinking that membership dissatisfaction was not widespread.

"They are like Richard Nixon — they believe in the silent majority," Libbra said. "They are trying to delude themselves that this is just a small handful of dissident members."

He said the board also failed to realize the economic impact of Clinton.

"Doubling of power bills is an economic burden that people in this area cannot bear," he said.

Gusewelle said that if electric rates doubled because of Clinton, it would mean Southwestern members would be paying a total of $1 million more a month in electric bills.

Said Kerjci, "There's no cheap electric rates in the country anymore. In five or six years I think the Clinton plant is going to look pretty good."

Libbra predicted that if the board continued to be "unresponsive" to its members, the situation would get worse.

"The rhetoric is going to get pretty tough on the membership's side," Libbra said.

The board will meet again Wednesday and is expected to discuss the issues again.

Trying to sort out what happens if a public utility goes bankrupt

By David Clark Scott
Staff writer of The Christian Science Monitor

Boston

The clock is winding down on Public Service Company of New Hampshire (PSNH).

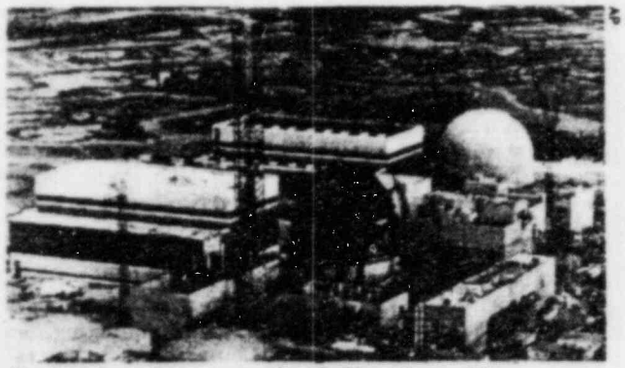
Not since the 1930's has a regulated public utility gone bankrupt. But two-and-a-half weeks ago, the lead partner in the Seabrook nuclear power project was given three weeks to come up with a new $300 million line of credit. If it could not, "the company would be forced to seek protection from its creditors under the Bankruptcy Code," stated the accounting firm of Peat, Marwick, Mitchell & Co. in PSNH's annual audit. (Related story, Page 8.)

PSNH is not alone. Long Island Lighting Company (Lilco) and Public Service Company of Indiana have also indicated that their financial straits could force them into bankruptcy to seek protection from creditors.

What happens when a regulated utility goes into bankruptcy? No one is certain. There is no provision for it in the Bankruptcy Act of 1978.

"If a utility goes bankrupt, there is no short-term noticeable effect on service to customers. Bankruptcy may not seem like such a bad idea, which would raise the level of risk for utilities [and their stocks] across the country," says Doug Randall of the Standard & Poors, a Wall Street bond-rating service.

Typically, when a company files for bankruptcy under Chapter 11, the court protects the firm from creditors and litigation while it adjusts its business operations in order to pay off creditors. But for a utility, the scenario is muddled by a third power — the state utility regulators. This body is charged with setting the utility's rates and protecting the consumer from company excesses. If a company wants a rate increase, it must prove to the commission that it warrants it.


Seabrook nuclear power plant in New Hampshire

If bankruptcy occurs, a conflict may arise over the court's charge to rehabilitate the company and the state regulator's charge to protect the consumer.

In PSNH's case, an nuclear power plant is worth relatively little unless complete. "If the bankruptcy court is persuaded that Seabrook I [nuclear power plant] is essential to PSNH's continuance, [PSNH] may seek to direct revenue toward the completion of the plant," says Robert Viles, dean of the Franklin Pierce Law Center in Concord, N.H.

If state regulators refused to raise electric rates when asked by the court, it's not clear what would happen.

In New Hampshire, the problem is further exacerbated by a law passed in 1979 that prohibits charging ratepayers for construction work in progress.

Would the bankruptcy court be able to overrule that law to save the utility? "The public utility commission's authority would remain intact. Bankruptcy laws don't abrogate state laws," says Mike Holmes, a lawyer and consumers' utility advocate for New Hampshire.

Vernan Countryman, a professor at Harvard Law School, agrees: "They won't be able to get around the cost-of-work-in-progress law. And it doesn't seem to me that PSNH is going to get away from state regulation." Mr. Countryman cites two sections of the Bankruptcy Code that give preeminence to state laws.

Mr. Holmes says he sees other conflicts arising between the court and state regulators. For instance, if the commission sees the need to invest in upgrading service while the court is trying to preserve the utility's assets, "we may end up with a problem," he says.

What happens to the utility's investors? As in most bankruptcy cases, the outcome is not promising. "Typically, stockholders interests are diluted to as low as 2 percent of the company," says Stephen Gordon, senior partner of McCabe-Gordon, a Boston law firm specializing in bankruptcy. Common-stock holders are left with watered-down shares, while bond and preferred-stock holders trade a supposedly secure investment for a "basket of [less valuable] securities," he says.

The securities market for utilities mired in nuclear-plant construction has not exactly flourished since the Washington Public Power Supply System defaulted on its bonds last summer. A bankruptcy would send utilities' stock and bond prices even lower, say New England utility executives working to save Seabrook I.

This is why Indiana regulators chose rate increases. "For now, it would be more cost-effective to the consumer if Public Service of Indiana didn't go bankrupt," says Charles Mercer of the state's Office of Utility Consumer Counselor.

The Washington Spectator®

and

BETWEEN THE LINES

April 1, 1984 Tristram Coffin, Editor (ISSN: 0145-160X) Volume 10, No. 6

Energy: A Revolution in the Making

A little-noticed war in an area famous in Biblical lore may set off a revolution that will touch almost every corner of the planet Earth. The first phase will be an increase in oil prices and a wild scramble to develop cheap, effective alternative energy.

The nation to win the race—and Japan is in the lead today—will get first grabs at an estimated trillion-dollar market.

The war between Iraq (Mesopotamia) and Iran (Persia) is a showdown between the militant Shi'a Muslims and the rest of the Arab world. The Islamic Republic of Iran under Ayatollah Khomeini has an ardent following of Shi'a Muslims which "dreams of an Anschluss of Muslim peoples, a great holy war spreading out east and west, driving out the pernicious materialism of capitalism and communism. This is a prospect more dangerous to world stability than anything happening in Lebanon." (*New York Review*)

Al-Thawra of Baghdad claims, "Since its assumption of power, the suspect ruling gang of Iran has openly declared its intention to export anarchy and destruction" to nations of the Arabian Peninsula.

Iraq happens to be the first target because it is next door, but the hope of the Shi'a "crusade" is to take over the oil states, including Saudi Arabia, drive out the Jews from Israel, and control the bank of Arab states in the Soviet Union.

Iraq, with some of the largest oil reserves in the world, has been fighting a losing battle and appealed for help to an unlikely alliance of France, the Soviet Union and the U.S., picturing itself as "the front line of defense against this messianic crusade."

Aid is coming to Iraq in the form of sophisticated arms, which Baghdad threatens to use to knock out Iran's oil refineries and storage on Khark Island. In retaliation, Iran says it will close the 20-mile-wide Straits of Hormuz between the Persian Gulf and the Arabian Sea, a vital oil transport lane, and strike at oil centers in Kuwait and Saudi Arabia.

The Arab world takes this seriously. Saudi Arabia has loaded and shipped out of the Arabian Gulf a floating reserve of 50 million barrels of oil. The Reagan Administration, by contrast, has ignored the Strategic Petroleum Reserve Act, passed after the 1973 oil embargo. It calls for a 90-day supply. Today the reserve holds about a 16-day supply and the program is five years behind schedule.

The *Manchester Guardian* warns that "the next ME powderkeg to explode could be Kuwait, the Gulf region's richest and most politically sophisticated country. Recent terrorist bombings attributed to Iranian fundamentalists . . . have underscored its vulnerability."

PRICE RISE EXPECTED—The instability in the area and the threat of closing the Straits of Hormuz has impelled Lloyds of London to increase insurance rates for oil transport out of the ME. A Congressional study sees the cost rising considerably above OPEC's present $29 a barrel.

The shock of another oil price jump could stagger the U.S. economy by "adding 3 to 11% to the current inflation rate, reducing real GNP growth between 3 and 13 percent and increasing the unemployment rate for American workers by an additional one to six points, over six million jobs in a worst-case scenario" predicted by the General Accounting Office, Congressional Research Service and International Energy Agency. (*Texas Observer*)

The *Observer* points out that "an economic shock in the form of higher prices followed each of the two major disruptions—the Arab oil embargo of 1973-74 and the Iranian revolution of 1979—which nearly tripled the rate of inflation and almost doubled the unemployment in the U.S."

Fortunately, there has been "extraordinary progress in harnessing the inexhaustible flows of energy that come from the sun, the wind, the water, living plants and the earth itself." (*Renewable Energy*, by Daniel Deudney and Christopher Flavin)

Energy Sources Throughout the World

"Almost every place on earth has an abundance of either strong wind, intense sunlight, rich plant growth, heavy rainfall, or geothermal heat. In the future, differences in climate, natural resources, economic systems, and social outlook will determine which energy sources are used in which regions."

"Renewable energy, though no panacea, can help revitalize rural areas of developing countries where the high price of oil has become an unbearable burden."

—*Renewable Energy: The Power to Choose*

THE SOLAR CELL—The most promising of the alternative energy devices is the solar or photovoltaic cell. The *Economist* explains: "They are made from large (e.g., four-inch diameter) single crystals of silicon sliced into thin wafers. These wafers are then 'doped' with chemicals." The *New York Times* tells how the solar cell works: "Made of highly purified and specially treated silicon, solar cells generate a small electric current when exposed to sunlight. Photons of light literally knock electrons loose from each solar cell. Electrons are collected, run through wires and returned to the backside of the cell after being put to work. Nothing is consumed. There is no combustion."

Japan, with a government research subsidy, Project Sunshine, saw both the need and the potential market, and is far ahead. This year, a Japanese company plans to market mass-produced photovoltaic roofing tiles. By contrast, the Reagan Administration cut the budget for solar research by 67%, despite a warning in *Energy Strategy for National Security* that our oil imports "hang by a thread" and can be "easily disrupted by accident, natural disaster or terrorism."

The photovoltaic cell, if its promise is realized, will create radical

changes in the economy and the way we live. The *Christian Science Monitor* explains: "Individual homes will generate the bulk of their electrical power needs. . . . Solar cells are energy efficient. Little, if any, of the electricity generated on the roof of your house will be lost before it is used to power your appliance. In contrast, only 29% of the energy in fossil fuel reaches your home as usable energy. Solar cells are pollution free. They are durable . . . (with) a life expectancy of 20 years."

They may be used also in areas remote from power lines, bringing new promise to the Third World. If ways can be found to store energy, locations with only partial sunlight can use photovoltaics, too. Research at Carleton University, Ottawa, underwritten by the Canadian National Research Council, suggests that the answer may be zeolite, a clay-like mineral. One cubic meter will hold the heat of a half million BTUs.

Saudi Arabia is moving rapidly ahead in solar, and its Center for Technology has some $300 million worth of solar projects. One village of 3,000 has been equipped with a photovoltaic system which supplies 350 kilowatts, using optical concentrators.

U.S. SOLAR PROJECTS—These tend to be large and expensive. A classic case is a home in Carlisle, Mass., with 1,850 square feet of living space, including a dining room, living room, kitchen, den, three bedrooms and two and a half baths. A 1,000-foot array of solar cells mounted on racks and set on the roof will provide 86% of the home's total electricity.

The photovoltaic system, valued at $100,000, is a mosaic of luminous blue crystalline cells across the roof. The designer believes "the ultimate solution is to combine photovoltaic cells and thermal collectors into an integrated unit that actually replaces the roof." (*Solar Age*) The estimated cost of the system to the user, if mass produced, would be $10,000 to $15,000.

Arco Solar, a subsidiary of Atlantic Richfield, is building a huge photovoltaic apparatus in the Carrizo Plain highlands, northeast of Los Angeles. It will supply enough power for 2,000 homes; the electric output will be sold to Pacific Gas & Electric.

This plant will have about four million solar cells displayed on 756 trackers which follow the sun across the sky. Cells will always point directly at the sun. The sun's heat will be intensified by a series of large mirrors.

"To get useful power," the *New York Times* reports, "cells are packaged into panels and wired up to deliver their direct-current electricity into inverters that produce the alternate used by Pacific Gas & Electric."

BIG OIL MOVES INTO SOLAR—This California venture shows how Big Oil is moving into solar energy. By early last year, almost 80% of the U.S. photovoltaic manufacture was controlled by Arco Solar, Solarex (Amoco) and Solar Power Construction (Exxon). Standard Oil of Ohio has also entered the field and will mass-produce photovoltaics with Energy Conversion Devices, Inc. An announcement stated, "Solar modules to be sold by Sovonics (the new partnership) will convert sunlight directly into electricity for power sources on consumer and industrial products, such as battery chargers, outdoor lighting and irrigation pumps, and [later on] homes and factories in remote areas and utility grid systems."

General Atomic, a Gulf subsidiary, has announced "a project underway to extract hydrogen from water for use as a fuel for heating, cooking, or anything that now uses petroleum or natural gas. The extraction process is called thermochemical water-splitting. We know it works because we've done it. There are 326 million cubic miles of water on earth, and hydrogen in every drop—a natural energy response that won't run out."

In the process, temperatures of around 1,600° F., are used to split hydrogen from water; the product is then used as a fuel.

Two other corporate ventures in solar energy are reported. In the California desert near Barstow, McDonnell Douglas, a major military contractor, has a giant project, Solar One. Some 1,800 mirrors, each 23-feet square, focus the sun's rays on a water tank raised 300 feet in the air. The object is to make steam for electricity and provide energy for a town of 6,000.

At Rosemead, a suburb of Los Angeles, Southern California Edison is building a solar-pond power plant. The sun will heat pools of salt water to 200 degrees F. This is hot enough to generate electricity with a special turbine, producing 48,000 kilowatts for 30,000 users. The cost is estimated at $20 million. Assisting the utility is Ormat Turbines, Ltd., an Israeli company that has pioneered with this technology.

Closer to the grass roots, 34% of some 356 California communities are using or testing solar energy. More than 10% have alcohol fuel projects, 13% small-scale hydro power, 13% wind energy projects, and 14% cogeneration.

NUCLEAR POWER DREAM FADES—For a generation, the U.S. has pushed nuclear power as the most promising alternative to oil. Some $12 billion in Federal subsidy has been poured into nuclear power plants. The epitaph on this venture was written in Cincinnati in January when three utilities announced that they will convert the Zimmer nuclear power plant to a coal-fired facility.

The companies, Cincinnati Gas & Electric, Dayton Power & Light, and Columbus & Southern Ohio Electric, made the decision after hearing that the nuclear plant would cost from $2.8 billion to $3.5 billion to complete. The original cost estimate was $240 million.

The *Christian Science Monitor* notes: "It is the decreasing creditworthiness of utilities and the fact that investment capital is drying up that are combining to foreclose nuclear power's future in the U.S."

Between 1972 and 1982, 100 nuclear units were canceled. Recently, the Nuclear Regulatory Commission denied a license for a virtually completed $3.5 billion nuclear plant in Rockford, Illinois. The three-judge panel decided unanimously that it had "no confidence" that the twin reactors were safe.

Worldwatch Institute in a report, "The Economics of Nuclear Power," states that its "economic viability has steadily eroded during the past decade. . . . The 30-odd nuclear plants completed in the mid-80s will generate electricity that costs 65¢ more than new coal-fired plants, and 35¢ more than oil-fired power. The construction bills for these plants will average over $2 billion, or five to ten times their original budgets. If all the electricity used by Americans cost as

The Washington Spectator * & BETWEEN THE LINES

Address subscription correspondence to P.O. Box 442 Merrifield, VA 22116 703/691-1271

Address editorial correspondence to P.O. Box 70023 Washington, D.C. 20088

The *Washington Spectator* (ISSN 0145-160X) is published the 1st and 15th of each month (except July 15 and December 15) by the Public Concern Foundation, 9208 Christopher Street, Fairfax, VA 22031 for $10 per year. Second-Class postage paid at Fairfax, VA.

Your dues payment to The Public Concern Foundation is used entirely to forward the task of sharing information and stimulating discussion. Your $10 dues are used for publishing the *Washington Spectator* and sponsoring research, symposia and other Foundation activities. The *Spectator* is available only to members of the Foundation.

The *Spectator* is available on microfilm from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

much as this nuclear electricity, the nation's utility bills would more than double.

"The Indian Point 3 reactor in New York operated for only 10 days in 1983 because of mechanical problems, and for only three months in the last two years."

Cost of the fuel, enriched uranium, has risen steadily.

THE SAFETY FACTOR IN NUCLEAR ENERGY—The real bugaboo is safety. Dr. John W. Gofman, co-discoverer of uranium-233, professor emeritus of medical physics at the University of California, states: "Nuclear power represents a giant experiment upon the entire population . . . finding out whether or not the nuclear power industry can contain its radioactive poisons with virtual perfection, year in and year out, regardless of mechanical errors, carelessness, malice, insanity, and natural disasters. . . . If 200 gigawatt nukes operate in the U.S. at 70% capacity, and if operators contain their poisons at all steps, starting with uranium mining, through perpetual storage, with 99% perfection—which sounds good—the number of extra cancer deaths in the U.S. each year will reach about 400,000."

The fourth annual Nuclear Power Safety Report, issued last year, listed 253 significant mishaps during 1982; they occurred at 75 nuclear stations.

Another favorite energy project of the politicians is syn-fuel. The government's Synthetic Fuel's Corp. chairman, Edward Noble, issued a "letter of intent" for a subsidy of up to $465 million for a project sponsored by Peat Methanol Associates. He did this despite a staff opinion that the venture is "unpromising" and would not add significantly to the nation's energy supply. Several prominent politicians have invested in the project.

TWO IMPORTANT QUESTIONS—How much time is there left to develop a cheap, efficient alternative energy before a new Middle East crisis pushes up the price of oil? What is the most effective way to cut down oil use, pending a major break-through in alternative energy?

A reassuring view comes from the book *Our Energy: Regaining Control*: "The opportunities for improving energy efficiency are so great that total energy demand could actually decrease over several decades without seriously affecting the economy."

A House committee agrees: "Conservation measures offer the fastest, cheapest energy savings and can be used to buy time for the development and installation of renewable energy systems. . . . Although the studies indicate the great potential of solar and conservation technologies, the Reagan Administration has continued to slash funding for energy efficiency and renewable energy programs at the expense of nuclear power."

The director of a Carnegie-Mellon study, Roger Sant, adds, "The Administration shows no comprehension of the fact that such an immense opportunity exists to improve the way we use energy."

Examples:

• "If all large industrial steam boilers were involved in cogeneration, the electricity produced would be equivalent to that generated by up to 200 large nuclear power plants." (*Our Energy*, by Marc Ross and Robert Williams) Cogeneration is the use of waste steam to produce electricity or to heat buildings and housing. It is a popular technique in Western Europe.

• "The amount of energy used in the world's buildings could be cut by 25% by the end of the century . . . [through] a new generation of energy-efficient homes and office buildings, [and] could save the nation the equivalent of five million barrels a day." (*Energy and Architecture*, by Christopher Flavin)

• *Development Forum* reports that a British electrical engineer, Ray Barstow, "has put the finishing touches to an invention which may have as much impact on the world as Archimedes' discovery of the principle of the screw pump had on Egypt and other centers of ancient civilization."

The device is "a single chip microcomputer that substantially reduces the amount of energy consumed by electric motors." It is "a silicon chip containing the logic necessary to regulate the power applied to an induction motor according to the phase lag between the supply voltage and the current. By linking the power input to its load requirement, energy can be saved." The cost is about $45.

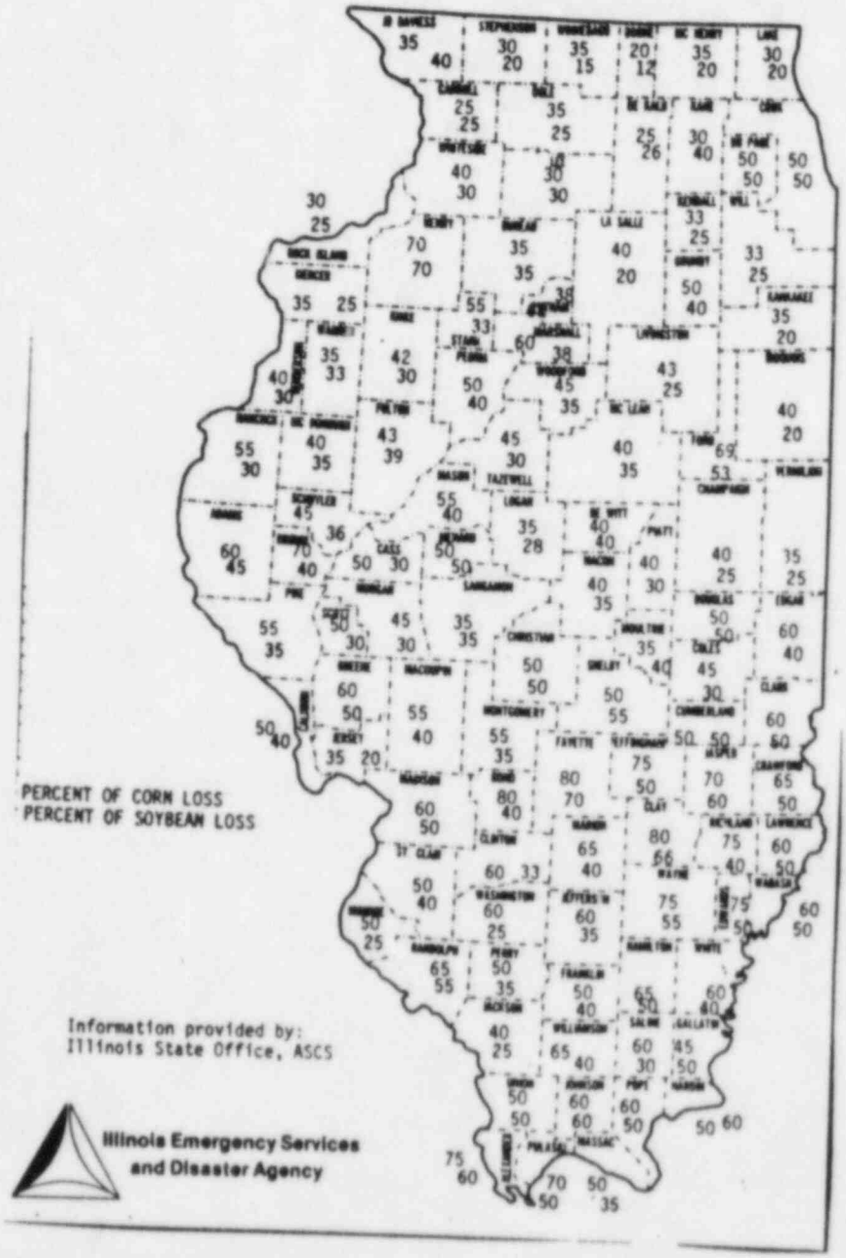
CAR MAKERS PLAN ENERGY SAVER—At least four auto makers, Fiat, Ford, GM and Volvo, are seeking fuel savings of up to 20% and a much smoother and quieter drive with a "continuous transmission." (*The Economist*) The system continuously adjusts the force (torque) and speed of the engine "to what is actually needed to drive it along."

• The fuel-stingy Z stove could save millions of acres of forests, particularly in Third World areas. The *Christian Science Monitor* states: "Its secret lies in the short chimney that is built into the stove to provide a self-induced draft. Preheated air boosts secondary combustion, while an insulating sleeve shields the burner bowl. The effect is to concentrate the heat beneath the pot or pan so that very little energy escapes unused. The point is, the Z stove can extract an abundance of heat from almost insignificant amounts of fuel." In many Third World countries, the common fuel is wood. "The annual consumption of 750 million tons of fuel wood for cooking alone is devastating the forests of the Third World." The design is so simple that the Z stove can be mass-produced by workers with only moderate training, using a tinsnip and a hammer.

The opportunities for creating energy are almost limitless. The Swiss are said to be 20 years ahead of the U.S. in producing heat and fuel out of garbage, and hot steam from household and human refuse. By 1985, Brazil will power a million cars from "green gas," made chiefly from sugarcane. Livingston, Montana, has a bank of wind machines to provide electricity for its residents and for sale to utilities. Mayor Chuck Nicholson says, "Cities can get into wind energy by direct ownership or joint venturing, using land they got for taxes or abandoned airports" and by installing wind-electric generators. Canada's vast areas of muskeg represent a huge energy reserve. This peat equals the energy of 26 billion barrels of oil.

How many nations will have the foresight to plan ahead?

ILLINOIS: PERCENT CORN AND SOYBEAN LOSS: 1983



ALTON TELEGRAPH Tues., March 20, 1984 C-5

U.S. farmer has too much capacity to produce

By Don Kendall
AP Farm Writer

WASHINGTON (AP) — So great is the American farmer's capacity to produce that periodically, unless bad weather steps in first, the government must perform radical surgery to trim it down to size.

Last year was such a time. On the heels of two record harvest seasons and a depressed world economy, farmers idled 77 million acres to try to cut production and boost depressed prices. It's the equivalent of the combined cropland of France, Greece, Norway, Sweden, Denmark and Ireland.

But as it often does, nature dealt farmers a devastating blow. A drought, said to be the worst in nearly half a century in the Corn Belt, burned through most of the eastern half of the nation, riddling crop yields.

In all, between the government acreage curbs and the drought, U.S. crop production plummeted 26 percent from the 1982 record.

The centerpiece was PIK — a payment-in-kind program that funneled $9.7 billion worth of surplus wheat, corn, sorghum, rice and cotton to farmers who reduced plantings of those crops in 1983.

To the extent that surplus grain stockpiles are being reduced and market prices boosted, PIK was a success. Critics, however, say it was a costly bandage and that fundamental policy changes are needed to help American farmers escape a roller-coaster of surplus and scarcity, boom and bust.

The PIK concept has been laid aside this year, except for a scaled-down version for wheat. But it and other wide-ranging farm programs of recent years reflect the turmoil that affects American agriculture from time to time.

In the early 1980s, the farmers were additionally burdened by the economic recession in the United States and abroad.

But many forecasters say the tide is slowly turning in favor of the farmer. The U.S. Department of Agriculture says farm income may actually increase modestly this year, due in part to billions of dollars in federal payments. As the world economy improves, so will demand for American products.

Problems persist, of course. Farm debt is creeping to new records, and foreclosures are up sharply. Even for those getting by, big debts and high interest rates have hurt.

In 1983, the equity which farmers had in their holdings dropped for the second straight year, the first time that has happened since 1953. As equity declines, farmers have less to use as security when they seek loans to pay debts and operating expenses. When that becomes too severe, they have to sell out.

But other statistics impress in a more optimistic way.

Agriculture is the largest U.S. industry. Farm assets at almost $1.1 trillion last year were equal to about 70 percent of the capital assets of all manufacturing corporations in the nation.

The agribusiness pipeline, from farmers to retail stores, is also the largest employer, with about 23 million workers. Farming itself uses 3.4 million workers — as many as the combined work forces of transportion and of the steel and auto industries.

Agriculture and the system required to get food to consumers add up to approximately one out of every five jobs in private enterprise.

The numbers spill from government archives and computers, cold and prosaic when seen alone, but solid indication of the evolution in American agriculture. They show how well the American farmer has combined land, weather, talent and technology to become awesome providers of food and fiber.

In 1820, one American farm worker produced enough crops and livestock to meet the needs of 4.1 people. It took a century, until 1920, for U.S. farm productiviy to double so that one worker could feed an average of 8.3 people.

It was a revolutionary century. Horsepower replaced hand labor. Railroads and the onrush of immigrants sped the development of the great sweep of land that was to become a foodbasket for much of the world.

The agriculture revolution has never stopped. After 1920, horses gave way to tractors, and fertilizer and new hybrid seeds boosted yields. Cattle and hogs produced more meat, and cows more milk.

In 1953, a single farmer would feed 17.2 people, with the average rising to 37 people in 1965 and to 75 now.

Simply, the American farmer has been one of the most efficient producers in the history of the human race. And it has been a blessing, however mixed at times, for the United States and much of the world.

Today, farmers are going through another of their periodic trials caused, in part, by an ability to produce surpluses that depress prices and reduce incomes. In 1982, the most recent year for which USDA figures are available, farmers had a net income of approximately $22.1 billion, an average of less than $9,200 per farm.

Agriculture Secretary John R. Block has said repeatedly that he is optimistic for the future of farming and that the vast land-idling venture to reduce 1983 crop output was "the largest, most successful farm program in the history of American agriculture."

The government figures speak only in averages, while the structure of American agriculture is complex and varied, with a framework laid generations ago.

Above all, it was the abundance of rich land in the New World, blessed by temperate growing seasons and adequate rainfall, that provided American agriculture with its distinctive character.

"Everyone may have a mental image of the 'typical' farm, but it is certain to be wrong if only because there scarcely is such a farm," say two agricultural economists, Harold F. Breimyer of the University of Missouri and Lyle P. Schertz of the USDA's Economic Research Service.

"The only accurate picture is of an agriculture of extreme diversity."

Breimyer and Schertz contend that the traditional family farm "is fading slowly from the scene as many part-time farms and a relatively few large units replace it."

While farm acreage has remained fairly stable since the mid-1930s, and was about 1.04 billion acres in 1983, the number of farms generally has declined — from a record 6.8 million in the '30s to fewer than 2.4 million in 1983.

That means the size of the average farm has has almost tripled, from 154 acres in the mid-1930s to 437 acres last year. Farm population has declined from about 32.4 million people in 1933 to about 7.2 million in 1980.

"The 'good old days' on the farm are gone, and there are those who lament this change," said Deputy Secretary Richard E. Lyng, the No. 2 official in USDA. "But the ability of one farmer to feed more than his or her family and a neighbor or two is worth a lot.

"It freed a work force for the Industrial Revolution — the Wright brothers could tinker with a flying machine rather than feed the hogs or plant the wheat, Dr. Jonas Salk could cultivate microbes rather than maize, so polio is no longer the scourge of children. And the list goes on."

Government's PIK plan a mixed blessing in area

By Ande Yakstis
Telegraph Farm Writer

Farmers in the *Telegraph* area have a mixed reaction to last year's payment-in-kind (PIK) program, designed by the U.S. Department of Agriculture to reduce surpluses of grain.

Farmers in the program did not plant crops on portions of their land. The government funneled $9.7 billion worth of surplus wheat, corn, sorghum and other grains to farmers who reduced plantings.

Many area farmers were helped by the surplus grain from PIK because the severe drought devastated corn and soybean crops in area counties.

The PIK program has been laid aside this year, and farmers plan to plant the land left idle last year. The cost of planting PIK acreage will be higher this year because of an increased cost of corn and soybean seed.

And the land left idle last year under PIK, has an abundance of weeds. Farmers will have to spend more money for chemicals for weed control.

Alan Libbra, a Madison County farmer, said PIK was a "Godsend" but not necessarily a good program.

"In light of last year's drought I wish I'd gone entirely with PIK," Libbra said. "In general, I'd say it wasn't a bad program for farmers."

Grain received from PIK by the Libbra farm is stored in an elevator at Girard.

"We'll use the corn for our own feed," he said.

PIK was hastilly put together by the government which didn't anticipate as many farmers participating in the program, he said.

The government had to buy grain because it didn't have the large reserves to distribute, he said.

Ross Gates, a Macoupin County pork producer, said PIK helped because of the dry weather but "it's probably a hit and miss program."

"It helped get rid of the surplus," Gates said, but the government-stored corn in the PIK payout is not very good in his area.

The corn may be less than No. 2 grade, the quality he needs to prevent breeding problems with his pigs if he uses it as feed, he said.

Gates said he will not get involved in a PIK program again because he may be money ahead by growing his own corn, thereby insuring the No. 2 quality.

"Everything in the farm program isn't as rosy as you read about," he said. "We had to keep the weeds off the set-aside land by mowing or spraying. I had permission to spread hog manure. But I had to pay the cost of putting it on."

Max and June Griffith participated in PIK on a Jersey County farm.

"With the weather like it was, I'm tickled to death (about PIK)," Griffith said.

The $20 billion spent by the government on the program was not a "drop in the bucket" compared to the cost of storing grain, he said.

The government had paid for storage for years on surplus grain, much of which is now in "terrible shape," he said.

Herschel Fritz, another Jersey County farmer, said he "partially participated."

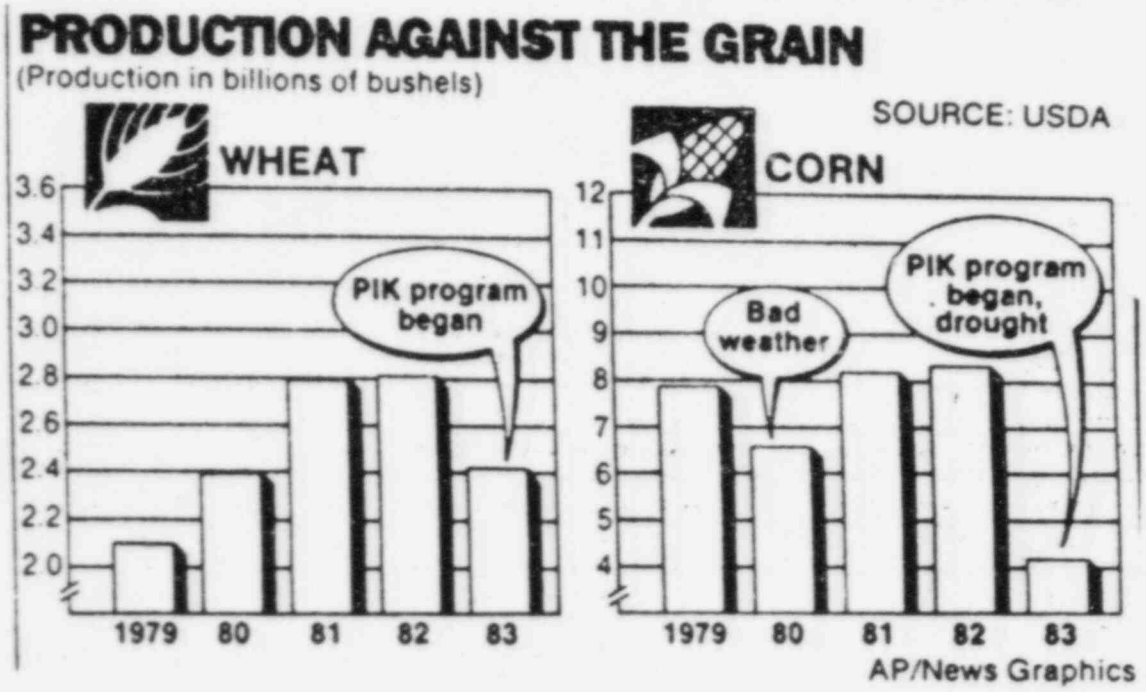
"It's helpful to some but it's about like all the other programs we had," Fritz said. "If you raise crops and have livestock that need grain, then PIK doesn't help you. But if you're strictly a grain farmer it can help."

Fritz said he had a 20 percent involvement in PIK, which amounted to less than five percent of his total income for 1983.

Ken and Warren Edwards, Greene County farmers, set aside about 20 percent of their acreage in the program, but figure it's "about six of one and half dozen of the other" on the benefits of the program.

"With such bad weather we might just as well have laid aside all of it," said Ken Edwards.

Calhoun County livestock farmer Robert Weilmuenster did not participate, primarily because he does not farm row crops; only hay for his cattle, sheep and hogs.



Appendix J:3

ALTON TELEGRAPH Tues., March 20, 1984 C-23

Larger corn crop to be planted in area

Farmers in the Telegraph area will plant more corn this spring on land left idle in last year's payment-in-kind (PIK) program.

More acreage will be planted in corn to try and recover financial losses from the severe drouth last summer, farm advisers report.

UNDER PIK, farmers didn't plant crops on portions of their land last year. In return they were paid in surplus grain from the U.S. Department of Agriculture.

"Much of the PIK land will probably go into corn this year," said John Pero, agriculture extension adviser in Jersey County. "They want to try and make up some of the loss from last summer."

Farmers planted more wheat last fall to get a cash crop available early this summer, he said.

"There is a 10 to 15 percent increase in wheat planted," Pero said.

FARMERS WILL HARVEST wheat late in June, or early July, and sell it to pay for chemicals, fertilizers and other costs of planting soybeans and corn, he said.

In Greene County, Ken and Warren Edwards plan to plant about 300 acres of corn and 400 acres of soybeans this spring. The Edwards set aside about 20 percent of their farm in PIK last year.

On the Herschel Fritz farm, a two-family opearation, northeast of Jerseyville, half of the 388 acres will be planted in corn. The remainder of the land will be planted in soybeans, and 20 percent in wheat and alfalfa. Most of the crops will be used to feed 50 cattle and 200 hogs.

ACROSS THE STATE, corn planting is expected to increase from 8.2 million acres in 1983 to 11.7 million acres, said Fred Barrett, statistician with the Illinois Crop Reporting Service.

The PIK program plus the hot, dry weather cut yields of corn and sobyeans in the area last year.

In Madison County, farmers harvested a total of 3,413,000 bushels of corn last year, a sharp drop from the 8,946,000 bushels in 1982, Barrett said.

The drought hurt the corn yield per bushel in the county. Farmers produced an average yield of 56.9 bushels per acre, compared to 118.7 bushels per acre in 1982, he said.

SOYBEAN PRODUCTION in Madison County fell from 4,556,500 bushels in 1982 to 2,809,000 bushels in 1983.

In Macoupin County, the harvest of corn decreased from 18,191,600 bushels in 1982 to 6,121,000 bushels last year, Barrett said.

The drought devastated the corn yields per acre last summer in Macoupin. The yield was only 57.9 bushels per acre, as compared to 131.7 bushels per acre in 1982.

Soybeans yielded an average of 21 bushels per acre in 1983, as compared to 39.2 bushels in the previous year.

The corn crop in Jersey County also suffered last summer.

FARMERS in the county got an average yield of 58.9 bushels per acre, a big decrease from the 132.7 bushels per acre in 1982, Barrett said.

Soybeans yielded 22.6 bushels per acre, compared to 42.8 bushels per acre the previous year.

In Greene County, farmers last year harvested 85,000 acress of corn, 12,000 acres less than the 97,800 acres in 1982. Much of the land was left idle in the PIK program.

Yields, however, were drastically cut by hot, dry weather. Farmers got only 65 bushels of corn per acre last fall, a drop from the 122.7 bushels per acre in 1982, Barrett said.

LIKEWISE IN SOYBEANS, yields per acre fell from 39.2 bushels in 1982 to 23.6 bushels last summer. The total amount harvested was 1,878,000 bushels, also a decrease from the 3,333,600 bushels in 1982.

In Calhoun County, farmers harvested 15,600 acres of corn, lower than the 23,700 acres in 1982. The yield per acre reached only 39.7 bushels, less than the 127.7 bushels in 1982. Soybean yields were 28 bushels per acre, as compared to 39.7 bushels, in the previous year.

—Anda Yakstis

C-4 Tues., March 20, 1984 ALTON TELEGRAPH

Huge corn, wheat harvest could cripple farmers

Prospect of bin-busting production is feared

By Robert Lee Zimmer
Associated Press Writer

CHAMPAIGN, Ill. (AP) — The 1984 corn and wheat crops are ticking time bombs set to explode into a huge harvest that could cripple farmers economically, experts fear.

Only a last-minute change of plans by farmers or another drought will prevent them from rebuilding the corn surplus that was wiped out in 1983 and adding to the wheat surplus, the experts say.

The prospect of bin-busting grain production worries farmers.

"We could have disastrous prices this fall and even worse prices in 1985," said farmer John Stevenson of Circleville, Ohio, president of the National Corn Growers Association.

"It's the pits because it means the price is going to drop even more," said farmer Earl Pryor of Condon, Ore., president of the National Association of Wheat Growers.

THEY SPEAK from experience. Massive planting and ideal weather led to record grain production in 1982, creating a huge surplus and low prices. Farm income dropped from $30 billion to $22 billion, and the cost of government price-support programs soared to $18.8 billion.

The U.S. Department of Agriculture responded with its payment-in-kind program. Farmers who enrolled in PIK were given surplus government grain; in return they cut planting dramatically in 1983.

But good growing weather led to another big wheat harvest.

"THE PRICE of wheat has been going down ever since the harvest," said Pryor. "If you have your farm and equipment paid for you can survive, but other guys cannot meet their cost of production. We could have more bankruptcies."

The situation for the corn farmer was much different. The PIK program got a big boost from the scorching summer, production dropped dramatically, and prices shot up.

Net farm income rose to about $24 billion in 1983 and is expected to be $29 billion to $34 billion this year.

But both groups of farmers took the same approach to 1984 — wheat producers planted one of the largest crops in history, and corn growers said they would do the same. There was little early interest in a more modest agriculture department acreage-reduction program for 1984.

"IF WE CONTINUE with the kind of voluntary government program we have now, and if demand continues to be weak, and if we have normal weather in 1984, those grain stocks will accumulate pretty rapidly," said Bob Jones, an agricultural economist at Purdue University.

Stevenson said "farmers have to blame themselves" if they plant a lot, the grain surplus grows, and prices fall. He said mandatory production controls "certainly will be discussed if farmers don't take care of the problem themselves."

Analysts say there are several reasons why farmers plant a lot of grain, even in the face of low prices:

• Some just don't believe in acreage controls and government interference in agriculture.

• Some figure they can make more money by raising as much grain as possible and taking advantage of market strategies to sell it at a profit. Their large, expensive equipment is designed for full production.

• Some believe they will plant fence-row to fence-row and harvest a big crop, while other farmers reduce acreage or have a crop failure. They think prices will rise and they will have the grain to sell.

• Some need the all the cash they can get from grain sales to meet financial obligations. Though they do not earn enough for a return to their investment in land and labor, at full production they make a few cents a bushel more than basic production costs.

• Some, particularly those whose land and equipment is paid for, love raising crops and do not like to see a field idle.

One key factor affecting 1984 grain planting is the USDA acreage reduction program. Farmers were asked to cut wheat planting by 30 percent and corn planting by 10 percent. No payment was offered, but those who agree will be eligible for price-supports that protect them from low market prices. In addition, wheat farmers will receive PIK grain if they take another 20 percent of their land out of production.

Tom Dorr, who farms 1,500 acres at Marcus, Iowa, said such programs "give all our competitors a chance to gear up production" but feels he must participate.

"FOR 50 YEARS, government programs have been designed to increase farm income and keep farmers on the farm, but they've lowered farm income and chased farmers off the farm," said Dorr. "Supply management doesn't work, but we're all so strapped for cash that we can't live without these government programs right now."

Still, participation is not expected to be nearly as large as last year when farmers were paid $9.4 billion in PIK grain and some took entire farms out of production.

"If everybody would take out the 30 percent (this year) it would be all right, but they won't," said wheat farmer Robert Huser of Syracuse, Kan., who will participate in the USDA program. "The farmer is in a self-destruct mode — as the price goes down, he has to produce more to survive, but as he produces more the price goes down; it's a vicious circle."

PRICE AND WEATHER also will affect 1984 planting. If corn prices fall and soybean prices rise, farmers will switch some acres into soybeans. If early spring weather is poor, farmers will give up some corn acres and plant soybeans.

Ultimately, weather will determine how many bushels of grain are harvested. Will there be a repeat of the scorching summer of 1983?

"Climatic records don't show any two years that produced the drought pattern that we saw last year," said USDA meteorologist Norton Strommen. "I would say the chances are extremely small, but when you're dealing with the weather, it's not impossible."

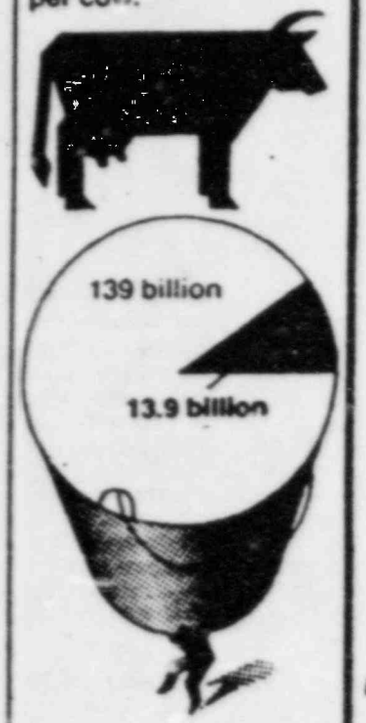
Regardless of the size of the 1984 harvest, Congress still must write a new federal farm bill in 1985 — one that defines the government's role in agriculture and outlines the kind of help farmers can expect from Washington.

Some dairymen may be out of business

New goverment program pays not to produce milk

FARM FACTS

The nation's 11 million dairy cows produced 139 billion pounds of milk or 12,636 pounds per cow.



The government buys the surplus milk—10%—at a cost to the taxpayers of more than $2.5 billion.

AP/News Graphics

Government Program May Put Some Dairymen Out of Work

By Mary Esch
Associated Press Writer

SCHAGHTICOKE, N.Y. (AP) — These are lean years for dairy farmers. Grain costs are up, milk prices are down, and the government, determined to stop bailing out the flooded market at a cost of more than $2.5 billion a year, has enacted a program expected to put some farmers out of business.

"It's kind of ironic," said Dave Ryan, 53, who milks 25 Holsteins on his 200-year-old farm here in the Rensselaer County hills of upstate New York. "For years, all the experts have been telling us how to increase production — feed this, feed that, milk three times a day. Now they're telling us we're producing too much, we have to cut back."

LATELY, SAID RYAN, talk at the county extension meetings has centered on the new goverment program that pays participating farmers not to produce milk. A few neighbors have decided to sell out and quit.

"A lot of farmers are in a bad way," Ryan said. "But as I see it, they have no one to blame but themselves. I bought this place from my father, raised seven sons, sent five of them to college so far, never owed anybody a nickel. I never bought anything without paying for it. I raise my own feed. The people who have gone into debt and now have to buy feed at these high prices are going to be squeezed out."

The nation's 11 million dairy cows produced nearly 139 billion pounds of milk last year. Through the price support program, the government buys the surplus that won't sell on the market. That was about 10 percent of the total output last year and cost taxpayers more than $2.5 billion. The government has hundreds of millions of pounds of dried milk, cheese and butter in storage.

IN AN ATTEMPT to curb production and help defray the cost of the dairy support program last year, the government charged farmers a penalty of $1 per hundred pounds (about 11.6 gallons) of milk produced.

This year, the new diversion program enacted by Congress reduces the penalty to 50 cents per hundred pounds, lowers the price support 50 cents to $12.60 per hundred pounds and pays participating dairymen $10 per hundred pounds for milk they do not produce, compared to their normal output.

HOWEVER, only 12 percent of the nation's farmers signed up for the program, and the Agriculture Department estimates production will be cut only 5.5 percent or less.

"There could be an increase in production by those not in the program, and that may offset any reductions," said Richard Zimmerman, a dairy specialist with the New York Farm Bureau.

"There's a lot of talk that if the diversion program doesn't work — and it looks like it won't — the government will have to take more drastic steps to curb production," said Zimmerman.

"One bright spot in the new dairy bill," he added, "is that farmers will contribute 15 cents per hundredweight of milk sold for a national promotional program to boost milk consumption."

IN ADDITION to production penalties, dairy farmers have also been hit with increased grain prices because drought and the federal payment-in-kind program cut the grain supply in 1983.

In New York — the nation's third largest milk producer behind Wisconsin and California — economists at Cornell University's agricultural school are working on a "knowledge base" to see what other businesses dairy farmers might go into.

"But when you think about it," said Cornell dairy economist Robert Boynton, "an industry is in an area because, over the years, that industry turned out to be the most profitable for that region. It seems unlikely that some university professor will come up with some new and exciting possibility that hasn't been considered by the marketplace.

"IT'S GOING TO BE TOUGH for the next year or two," Boynton added. "Some will go out of business — those that remain have to be better managers in order to survive."

The effect of the new dairy program on consumer prices is uncertain.

The 50-cent decrease in the support price (the minimum price to farmers) in December was reflected in a 4½-cent-per-pound drop in the retail price of cheese, Boynton said, while fresh milk stayed about the same. "There hasn't been much effect yet at the retail level," he said, "but prices should come down a little in 1985."

HOWEVER, a U.S. Department of Agriculture analysis in December said retail milk prices would increase at least 4 percent in 1984 and again in 1985 if the diversion program succeeded in cutting production by 10 percent.

Pork price increase predicted

By Carol Zuegner
Associated Press Writer

OMAHA, Neb. (AP) — Fewer little piggies will be going to market in 1984, and that means ham and sausage and ribs are likely to cost more.

"My rough guess would be that retail prices could be in the neighborhood of an average of 5 to 7 percent higher this year, with that increase primarily in the last half of the year," said Gene Futrell, an agriculture economist at Iowa State University in Ames. That would put the price of pork at about $1.80 a pound in the supermarket, he said.

Low hog prices, high feed costs and disastrous weather last year prompted many producers to cut their losses by liquidating breeding stock. This will help drive up prices by reducing the number of hogs available for slaughter in 1984, Futrell said. Last fall hog prices went as low as $38 per 100 pounds, but current market prices hover around $46 per 100 pounds.

At present prices many hog producers aren't even breaking even, Futrell said.

"Though the cost varies from one operation to another, we estimated it costs $52 a hundredweight to bring the hog to market," Futrell said. "Right now, the producers probably are not covering their total costs."

Bob Fritschen, a swine specialist at the University of Nebraska-Lincoln, and Futrell said producers who had planned cutbacks didn't count on the hot summer and frigid December that impaired breeding and raised production costs even more.

"The cold weather added unplanned maintenance costs and plain misery," Fritschen said.

Hog numbers will be down about 3 percent for the year, said Glenn Grimes, livestock market specialist at the University of Missouri-Columbia. Though consumer prices for pork don't vary as widely as market prices for live hogs, Grimes said even a 3 percent decrease in numbers will mean higher supermarket prices.

That predicted downturn is one of two major factors that have pig farmers talking about a "bright" outlook for 1984, Fritschen said. The other is that the cost of feeding hogs should drop because farmers are expected to increase corn and soybean harvests after last year's tight supplies caused by drought and by PIK, the government's payment-in-kind program.

"Profitability will be there this year if the weather is fairly normal," Futrell said. "We expect corn prices to be quite a bit lower and that will reduce production costs."

Futrell said last year's PIK program, in which farmers were paid in surplus government grains to keep acres idle, wouldn't have affected hog production costs that much except for the drought that scorched acres of corn and soybeans in the Midwest in August.

While hog producer Jim Ryan Jr. of Delaware County, Iowa, hadn't planned to cut back production this year, a lower birth rate caused by the excessive heat of last summer will reduce the usual 3,600 hogs he raises a year.

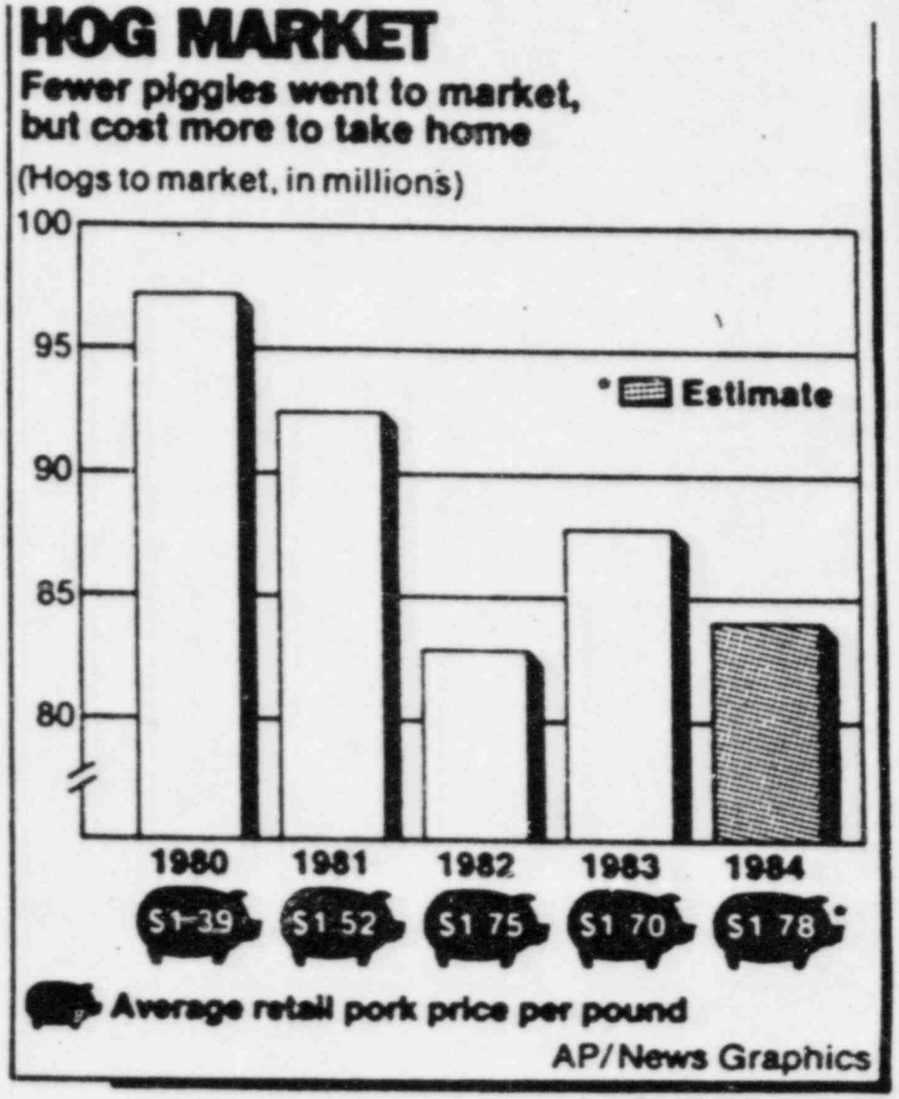
Ryan raises his own feed for the hogs, but the drought cut his grain yields 40 percent. He said he might have to buy some feed this year, adding to the cost of production.

"Right now, the prices for hogs fall about $3 below my break-even price," he said.

The unknown factor in hog production is the demand, he said. "If the economy stays good enough, consumers will retain their demand, but you don't know."

The National Pork Producers Council has begun a three-year advertising campaign to try to increase the demand for pork by changing some consumer attitudes that pork is not healthy, said Reed Sanders, assistant vice president of the council.

Sanders said up to 40 percent of Americans eat little or no pork for health reasons.



SOURCE: USDA

Slumping farm economy may cause some trouble for Reagan

By Jim Drinkard
Associated Press Writer

WASHINGTON (AP) — From their wedding day in 1970 Pat and Dennis Eddy of Stuart, Iowa, were registered Republicans. They voted for Ronald Reagan in 1980, hoping to see changes in the nation's farm policy that would help their corn and hog operation west of Des Moines.

They were disappointed. "We've lived through what Reagan's done, and it hasn't improved agriculture one bit," Mrs. Eddy said. "We've had some poor farm programs. The PIK (payment-in-kind) program, no matter what you hear, was disastrous unless you were a big farmer."

So the Eddys, looking for new hope, changed their registration to Democratic on Feb. 10 and backed George McGovern in the state's caucuses 10 days later.

NO ONE CAN PREDICT whether farmers across the country, who gave Reagan strong support in 1980, will desert him this year. But agriculture and political experts in both parties agree the slumping farm economy holds the seeds of trouble for the administration.

The value of farm exports, the backbone of Reagan's agricultural policy the past three years, has fallen sharply. Net farm income has fluctuated. From $21.5 billion in 1980 it jumped to $30.1 billion in '81, fell to $22.1 billion in '82 and climbed to about $24 billion last year. USDA forecasters predict $29 billion to $34 billion this year.

MORE GRAPHIC has been the increase in farm debt, foreclosures and bankruptcies. The Farmers Home Administration, the government's farm lender of last resort, says 15,756 of its farmer debtors — about 5.6 percent — went out of business in the fiscal years 1982 and 1983. While comparable figures are not available for previous years, that is viewed as far higher than normal. Tens of thousands more — including the Eddys — are behind on repayment of their loans.

"We've seen more neighbors just dropping out of sight," said Mrs. Eddy, who farms 520 acres with her husband, 360 of them rented.

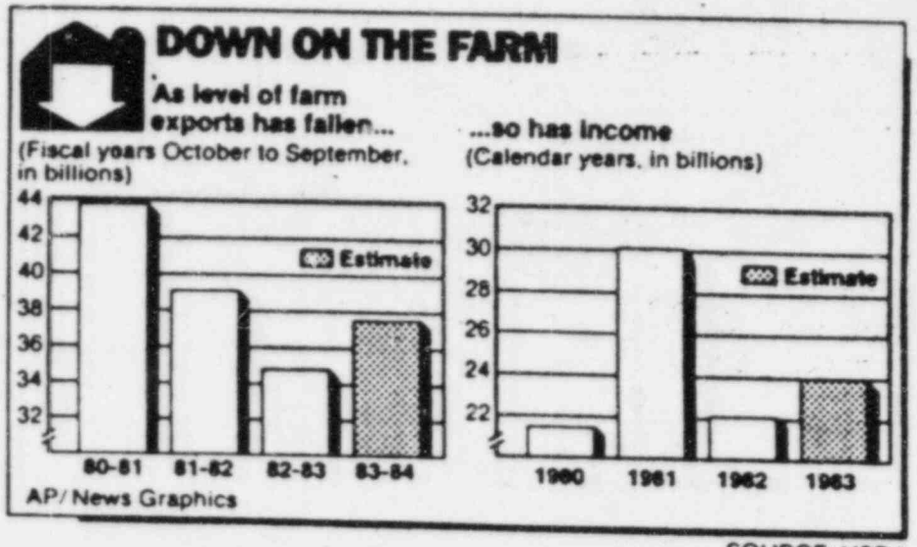
Reagan's chief farm spokesman, Agriculture Secretary John Block, has become so unpopular in some areas that many Republican members of Congress up for re-election don't want him campaigning for them this year. It's not unusual for agriculture secretaries to become unpopular after several years of mediating between warring commodity groups, but criticism of Block, centered in wheat-growing areas, has been particularly harsh.

WHILE ONLY 2.5 percent of Americans live on farms, experts say the "farm vote" is far broader. Farming and allied industries make up one-fifth of the nation's economic activity. And the plight of farmers has a romantic appeal even to city dwellers, many of whose grandparents tilled the soil.

"The farm economy can come nearer to dragging down the national economy than any other single industry," asserted Walt Graber, a Pretty Prairie, Kan., farmer and former executive secretary of the Kansas Wheat Commission.

"I don't think Ronald Reagan or Secretary Block is aware of the seriousness of the farm situation."

REAGAN'S MESSAGE to farmers this



SOURCE: USDA

election year is that "the most important thing is a strong domestic economy, and the recovery in progress will catch up with them," said James Lake, a spokesman for the Reagan-Bush campaign.

Administration spokesmen blame many of their agrarian problems on President Jimmy Carter's 1980 Soviet grain embargo and on the global recession and high value of the dollar, both of which slowed export recovery after Reagan lifted the embargo in 1981.

One key to how well Reagan will do in rural America will be how much weight voters there give to farm policy or how much they lean on more general issues — the economy, war and peace — in making up their minds.

"In farm country, what Ronald Reagan says on his Saturday radio broadcasts still makes sense at the coffee klatch," said Rep. Pat Roberts, a Republican who represents sparsely populated, wheat-growing western Kansas

IN LINE with that philosophical agreement with Reagan's rhetoric, farmers have directed much of their anger at Block, and Roberts lately has been among the secretary's toughest critics.

Another potential problem for the administration is the prospect of bin-busting harvests this year in wheat and corn, which could depress prices just before the election.

ALSO OPEN TO CRITICISM, especially from the non-farming public, is Reagan's spending record in agriculture. Price supports in the fiscal year 1983 totaled nearly $19 billion, more than three times the level of any previous year. And that did not include the $9.7 billion cost of the PIK surplus-reducing program.

"There are always some disappointments people have with an incumbent," conceded Richard E. Lyng, Block's chief deputy at USDA. "But in no way is there anything comparable to the (Carter) embargo in terms of a negative political influence."

Democrats want to make farm policy an issue this year and are at work on alternatives to present to the voters, choices that lean heavily on continued price support and subsidy help for farmers.