

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)

COMMONWEALTH EDISON COMPANY)

(Byron Nuclear Power Station,)
Units 1 and 2))

Docket Nos. STN 50-454 OL
STN 50-455 OL

* * *

COMMONWEALTH EDISON COMPANY'S

RESPONSIVE BRIEF

* * *

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COMMONWEALTH EDISON COMPANY'S
RESPONSIVE BRIEF

I. Introduction

On January 13, 1984 the Licensing Board issued an Initial Decision denying Commonwealth Edison Company's ("Ceco's") application for operating licenses for Byron Station, Units 1 and 2. Ceco filed a timely notice of appeal and on February 13, 1984 submitted its brief, which addressed the quality assurance issues as to which Intervenors, Rockford League of Women Voters (the "League") and DAARE/SAFE had prevailed below. In their responsive brief dated March 12, 1984 Intervenors raise three unrelated issues which they characterize as "additional grounds for license denial". Intervenors contend that the Licensing Board erroneously denied Intervenors the right to litigate (A) Ceco's financial qualifications and (B) need for power and alternative energy source issues; and that (C) the Board erred in its decision on the seismic contention. (Int. Br. at 1).

Pursuant to 10 CFR § 2.762 and Appeal Board practice, this brief responds only to the "three additional grounds for license denial" raised in Intervenor's brief. Ceko notes at the outset that even if Intervenor were to prevail on these three issues, the appropriate relief would be certification to the Commission or further evidentiary hearings, rather than denial of Ceko's application for operating licenses for Byron.^{1/}

II. Financial Qualifications

Intervenor argues that the Licensing Board erred in denying their petitions^{2/} pursuant to 10 CFR § 2.758 for a waiver of or exception to NRC regulations eliminating the consideration in operating license cases of the financial

^{1/} Intervenor seems to concede as much with respect to the financial qualifications, need for power and alternative energy source petitions. (Int. Br. at 50, 55, 58). Ceko would be entitled to present evidence as to these issues, if the Commission determined they should be litigated in this proceeding. As to the seismic contention, if Intervenor were to prevail on appeal the appropriate relief would be to order further investigation of the Plum River Fault, or further investigation of what seismic safety margins exist at the Byron plant, following which further evidentiary hearings might be required. Cf. Petition Requesting Seismic Reanalysis, DD-80-1, 11 NRC 153 (1980).

^{2/} The League's petition on financial qualifications ("League FQ petition") was filed on July 6, 1982. DAARE/SAFE filed a similar petition ("DAARE/SAFE FQ petition") on July 30, 1982, which incorporated by reference "the entirety of the League's FQ petition and exhibits" and contributed several additional arguments and exhibits. On August 2, 1982, the same day its FQ petition was denied, the League filed a "Further Statement" purporting to incorporate by reference the information contained in the DAARE/SAFE FQ petition.

qualifications of electric utility applicants.^{3/} The Licensing Board decisions complained of are found in its Memorandum and Order dated August 2, 1984 and its Memorandum and Order dated August 26, 1984.^{4/}

^{3/} 10 CFR § 2.104(c)(4), 10 CFR Part 2, App. A, § VIII (b)(4); 10 CFR §§ 50.33(f), 50.40(b), 50.57(a)(4); and 10 CFR Part 50, App. M, ¶ 4(b). On February 7, 1984, the U.S. Court of Appeals for the District of Columbia Circuit found that this rule was not adequately supported by accompanying statement of basis and purpose, and remanded to the Commission. The court's mandate has apparently not yet issued, and the Commission has instructed the Appeal Board "to continue to treat the rule as valid," pending further expedited rulemaking. 49 Fed. Reg. 7981 (March 5, 1984). On March 28, 1984 the Commission issued a proposed rule continuing the prohibition on litigating financial qualifications at the operating license stage.

^{4/} Intervenors do not include a complete procedural history in their brief. At one time both DAARE/SAFE and the League had admitted financial qualifications contentions in this proceeding. DAARE/SAFE's contention 1(i) was admitted on December 19, 1980 and dismissed by the Licensing Board on April 15, 1982, shortly after the promulgation of the Commission's financial qualifications rule. On July 30, 1982 DAARE/SAFE filed a new financial qualifications contention in connection with its FQ petition. The Licensing Board's August 26 Memorandum and Order disposed of this contention along with DAARE/SAFE's FQ petition. The League's financial qualifications contentions (revised contentions 9, 114, 119, 125 and 126) were "admitted as raising the issue of whether Applicant is financially qualified to operate the Byron facility in a safe manner" in LBP-80-30, 12 NRC 683, 692 (December 19, 1980). These contentions were stricken on October 27, 1981, when the League was dismissed as a party for "the League's total failure to provide responsive answers to interrogatories," LBP-81-52, 14 NRC 901, 906 (1981). The Appeal Board reinstated the League, but directed the Licensing Board to limit the number of contentions that the League would be allowed to litigate. ALAB-678, 15 NRC 1400, 1420 (1982). On remand, the League's financial qualifications contentions were disposed of by the Licensing Board at the August 18, 1982 Pre-hearing Conference on the same basis as that set forth in its August 2, 1982 Memorandum and Order denying the League's FQ petition. (Tr. 72-73) They were never subjected to the winnowing process mandated by the Appeal Board in ALAB-678.

To satisfy the requirements of 10 CFR § 2.758, a petitioner must make a "prima facie showing" that "special circumstances with respect to the subject matter are such that application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted." The reason for the special showing required by 10 CFR § 2.758 is that administrative efficiency and consistency of decision are both furthered when an agency relies on rules of general applicability to resolve issues which frequently come before it.^{5/} This policy is undercut if exceptions or waivers to the agency's rules are too easily granted. Therefore 10 CFR § 2.758 reflects the general principle of administrative law that one who requests a waiver of a general rule "faces a high hurdle even at the starting gate." WAIT Radio v. FCC, 418 F.2d 1153, 1157 and 1157 n.9 (D.C. Cir. 1969). See also WAIT Radio v. FCC, 459 F.2d 1203 (D.C. Cir. 1972).

The NRC's purpose in adopting its financial qualifications rule was to reduce substantially the effort and resources associated with demonstrating financial qualifications of electric utilities in operating license cases. It believed this could be done without reducing the protection of the public health and safety. 47 Fed. Reg. 13750, 13753 (March 31, 1982). The Commission's reasoning was that the financial

^{5/} See, e.g. Baltimore Gas & Electric Company v. Natural Resources Defense Council, Inc., ____ U.S. ____, 103 S.Ct. 2246, 2254 (1983).

qualifications review "has done little to identify substantive health and safety problems at nuclear power plants and that the Commission's inspection and enforcement activities provide more effective protection of the public health and safety." 47 Fed. Reg. 13750, 13751. The NRC observed that:

[T]he Commission does not find any reason to consider, in a vacuum, the general ability of utilities to finance the construction of new generation facilities. Only when joined with the issue of adequate protection of the public health and safety does this issue become pertinent.

47 Fed. Reg. 13750, 13751. The Commission went on to note that the response of most utilities encountering financial difficulties has been to postpone or cancel their plants, actions clearly not inimical to the public health and safety under the Atomic Energy Act. 47 Fed. Reg. 13750, 13751.^{6/}

The Licensing Board accurately identified an essential deficiency in Intervenor's FQ petitions in its Memoranda and Orders dated August 2, 1982 and August 26, 1982: the FQ petitions failed to establish an actual causal connection between Ceko's financial circumstances in 1982^{7/} and a threat

⁶ The proposed rule published March 28, 1984 emphasizes a somewhat different premise: in the Commission's judgment, the rate regulation process assures for regulated electric utilities the ability to meet the costs of safe operation of a nuclear power facility. (Slip op. at 5, 7).

^{7/} As discussed below, Ceko's financial circumstances in 1984 are not the same as they were in 1982, because among other things Illinois Commerce Commission granted Ceko a significant rate increase on December 1, 1982.

to the public health and safety. (August 2, 1984 Memorandum and Order at 4-5). Another deficiency is that while the FQ petitions challenged Ceco's financial ability to construct, operate and decommission Byron, the attached materials which Intervenor relied on focussed primarily on Ceco's financial ability to complete construction of the plant. This is not a subject which is open to consideration at the operating license stage.^{8/}

On appeal, Intervenor relies on five enumerated "facts" in arguing the Licensing Board erred in denying their petitions. First, Intervenor claims they presented evidence that "psychological and institutional constraints" prevent Ceco from cancelling plants. (Int. Br. at 46). Actually, the testimony referred to, which was filed by Charles Komanoff with the Illinois Commerce Commission in the 1982 Ceco rate case, asserts that psychological and institutional constraints tend to discourage Ceco from fully anticipating new regulatory requirements in its cost estimates. (League FQ Petition, Exh. H, at 1 and Ex. I, at 33-35). As the Licensing Board points out, this testimony does nothing to connect Ceco's financial qualifica-

^{8/} See, e.g. Houston Lighting & Power Company (South Texas Project, Units 1 and 2) LBP-83-37, 18 NRC 52, 54 (1983); March 28, 1984 proposed rule on financial qualifications, (slip op. at 4). Most of Intervenor's materials were taken from the 1982 Ceco rate case, where Ceco's ability to finance its construction program was a hotly contested issue. See pp. 8-10, infra.

tions to public health and safety considerations. (August 2, 1982 Memorandum and Order, at pp. 5-6).

Intervenors contend that there were pressures on Zack Company, the heating ventilation and air conditioning contractors at LaSalle, to cut costs at the expense of safety. (Int. Br. at 46, ¶2 and 47, ¶4). As the Licensing Board pointed out, the petitions do not indicate that the alleged deficiencies at LaSalle were in any way related to Ceco's financial condition. (See August 2, 1982 Memorandum and Order at 6-7; August 26, 1982 Memorandum and Order at 5-6) This judgment is confirmed by reviewing the NRC Staff's final report on the allegations, which is now available. See Commonwealth Edison Company (LaSalle County Station, Units 1 and 2), DD-83-1, 17 NRC 319 (1983).^{9/}

Intervenors rely on testimony and affidavits submitted to the Illinois Commerce Commission listing various unresolved safety issues which it is claimed will inflate the cost of Byron. (Int. Br. at 47). The Licensing Board correctly observes that nothing in these documents shows that Ceco's

^{9/} The NRC Staff concluded on the basis of its own investigations and an exhaustive, independent third party review of the LaSalle HVAC system that the systems as installed at LaSalle are acceptable from a safety standpoint. Two items of noncompliance with quality assurance requirements were identified (one Level IV and one Level V noncompliance), but there is nothing in the Director's Decision or the enclosures thereto which supports Intervenors' claim that the LaSalle deficiencies were related to Ceco's financial condition. See DD-83-1, 17 NRC 319, 321-322 and Enclosure 3 at 29.

financial condition will result in any compromise in safety. (August 2, 1982 Memorandum and Order at 7).

Intervenors refer to various contractor QA failures at Byron, as documented in NRC inspection reports attached to DAARE/SAFE's FQ petition. (Int. Br. at 47). In its August 26, 1982 Memorandum and Order (at 6), the Licensing Board correctly observed that none of these items of noncompliance was linked to Ceco's financial condition.^{10/}

Finally, Intervenors repeat their irresponsible assertion that the NRC misled the Seventh Circuit into believing that Ceco's financial qualifications would be litigated in the operating license proceeding. (Int. Br. at 47-48) The NRC's attorneys advised the court of the Commission's proposed rule in their brief dated January 26, 1982, at n.25. The final rule was published on March 31, 1982 and the League's counsel referred to the final rule during the course of oral argument on April 12, 1982.

Intervenors claim that the financial qualifications allegations appear even more "special" today than in 1982. (Int. Br. at 48-50). To the contrary, circumstances today tend to confirm the Licensing Board's ruling. Most of the attachments to Intervenors' FQ petitions consisted of testimony filed

^{10/} This was the NRC Staff's view as well. See Affidavit of William L. Forney, attached to "NRC Staff Response to DAARE/SAFE Petition for Waiver of or Exception to Financial Qualifications Regulations and Related DAARE/SAFE Filings" dated August 18, 1982. See also footnote 13, infra .

with the Illinois Commerce Commission in the 1982 Ceco rate case, Ill. C.C. Docket No. 82-0026. On December 1, 1982 the Commission rendered a final decision in that case in which it found that:

[I]t is in the public interest to complete the LaSalle, Byron and Braidwood Stations in as timely and economic a manner as good management practice permits and [the Commission] hereby directs Edison to complete its present construction accordingly.

(Ill. C.C. Order at 64). The Commission also expressly found that "Edison's ability to finance the current construction program is not an obstacle to completion of that program."

(Ill.C.C. Order at 63-64). The Commission granted Ceco a rate increase of \$660,730,000.^{11/} A certified copy of the Illinois Commerce Commission's Order is enclosed with this brief, because it shows that the central premise of Intervenor's 1982 FQ petitions - the prediction that Ceco would not be allowed rate relief sufficient to allow it to finance the construction of Byron - was wrong.^{12/}

^{11/} Ill. C.C. Order at 82. This represents approximately 82% of Ceco's initial request for a \$805 million rate increase. The Illinois Commerce Commission's decision has been appealed to the Illinois courts.

^{12/} See, generally, Ill.C.C. ORDER at 41-64, esp. 63-64, 68-69, and 81-84. The Illinois Commerce Commission's ORDER also summarizes and evaluates much of the information submitted by Intervenor's in support of their FQ petitions, as shown in the list below:

(Footnote continued on next page)

The futility of relitigating the 1982 Ceco rate case before the NRC - which is essentially what Intervenor's FQ petitions seek to do - is obvious. Of course, Ceco's financial circumstances continue to be subject to Illinois Commerce Commission regulation; there is in fact a 1983 Ceco rate case pending. Ceco's need for additional rate increases, and the extent of any such increases, will continue to be controversial issues before the Illinois Commerce Commission. But nothing in Intervenor's FQ petitions or the Illinois Commerce Commission's ORDER suggests that the Illinois Commerce Commission will not allow Ceco to recover the total cost of operating Byron Station. Therefore,

(Footnote 12 continued from previous page)

Exhibits to Intervenor's Petitions

Evidence Summarized in 1982
Illinois Commerce Commission
Orders

League Exhibits

A (Schultz, Edison Ex. 1)
B (Luftig, Edison Ex. 8A)
C (Miller, A.G. Exhibit 5)
D (Miller, redirect)
E (Bupp, A.G. Exhibit 15)

{ Interim Order, pp.3-6, 18
{ Interim Order p. 10
{ Order, pp. 63-64
Order, pp. 45-46

H (Komanoff, A.G. Ex. 17)
I (Komanoff, A.G. Ex. 7)
J (Bridenbaugh, A.G. Ex. 16)
K (Bridenbaugh, A.G. Ex. 16)
L (Hurst, A.G., Ex. 8)
M (Minor, Ill.C.C. Docket 78-0646)

{ Order, pp. 47-52, 57-58
{ Order, pp. 44-45, 49, 58-59
{ Order, pp. 54-55
See Order, pp. 55-56

DAARE/SAFE Exhibits

N (Czahar, Seniors Ex. 1.0)
O (Czahar, Schedule B-1)

{ Order, p. 46-47
{

litigation of financial qualifications issues in this proceeding is properly prohibited.^{13/}

Intervenors complain that the Licensing Board was expressly put on notice that further evidence was being developed and would be available in 30 to 60 days, and that the Licensing Board should have deferred ruling on their FQ petitions pending receipt of such further evidence. (Int. Br. at 47). Intervenors FQ petitions described only in the most cursory fashion what that further evidence would be, nor did they make any effort to renew their FQ petitions at any time following the Licensing Board's denial. On appeal, they do not explain what further information they expected to have within 30 to 60 days in 1982, nor do they indicate whether that information was in fact developed and now exists. This is not the way the NRC's adjudicatory process works. Under 10 CFR

^{13/} See March 28, 1984 proposed financial qualifications rule (slip op. at 7). In fact, Intervenors' own evidence supports Ceco's position. (See League FQ petition, Exhibit F (Interim Order) at 16-17; League FQ Petition, Exhibit A, p. 8). On appeal, Intervenors cite an isolated statement from the cross-examination of Ceco's manager of quality assurance before the Licensing Board below, in which he agreed with a statement by Intervenors' counsel that Ceco's emphasis is on production and not on quality assurance. (Shewski, Tr. 2402; Int. Br. at 48-49). They fail to cite Mr. Shewski's testimony on redirect, which emphasizes Ceco's Q.A. department's independence from cost and schedule considerations and its commitment to quality. (Shewski, Tr. 2579-2581). See also Initial Decision ("ID") at pp. 6-7, ¶s D-53, D-66, D-71 and D-449. Considered in context, Mr. Shewski's testimony falls short of an admission that Ceco has cut corners at all on safety, much less cut corners for financial reasons as Intervenors suggest.

§ 2.758, petitioners must support their position with facts, not empty promises.

-III. Need For Power and Alternative Energy Sources

Intervenors' brief contends that the Licensing Board erred in denying its petitions filed pursuant to 10 CFR §§ 2.758 requesting a waiver of, or exception to, 10 CFR § 51.23(e) and 10 CFR § 51.53(c).^{14/} Those regulations, effective April 26, 1982, prohibit the admission of contentions concerning need for power or alternative energy sources in NRC operating license hearings. The Licensing Board decisions complained of are found in its Memorandum and Order dated August 5, 1982 and its Memorandum and Order dated August 26, 1982.^{15/}

^{14/} On March 12, 1984 the NRC published a final rule revising 10 CFR Part 51. The rules prohibiting litigation of need for power and alternative energy source issues at the operating license stage are now found at 10 CFR §§ 51.53 and 51.106(c). See 49 Fed. Reg. 9352 et seq. In this brief the term "NFP petitions" will be used to refer to the Petition of Rockford League of Women Voters for Waiver of or Exception to Need for Power and Alternative Energy Source Regulations 10 CFR §§ 51.23(e) and 51.53(c), dated July 6, 1982, Petition of DAARE/SAFE For Waiver of or Exception to Need For Power and Alternative Energy Source Regulations 10 CFR §§ 51.23(e) and 51.53(c), dated July 30, 1982. Intervenors' NFP petitions referenced their FQ petitions.

^{15/} Intervenors apparently do not appeal the Licensing Board's denial of DAARE/SAFE's original need for power contention on December 19, 1980. DAARE/SAFE filed a new need for power and alternative energy source contention with its NFP petition on July 6, 1982, more than 2 years late. Intervenors

(Footnote continued on next page)

The purpose of the Commission's rule barring consideration of need for power and alternative energy sources in operating license proceedings is to "avoid unnecessary consideration of issues that are not likely to tilt the cost-benefit balance by effectively eliminating need for power and alternative energy source issues from consideration at the operating license stage." 47 Fed. Reg. 12940 (March 26, 1982) The Commission reasoned that, based on past experience, the situation at the operating license stage is such that "the plant would be needed to either meet increased energy needs or replace older less economical generating activity and that no viable alternatives to the completed nuclear plant are likely to exist which could tip the NEPA cost benefit balance against issuance of the operating license." 47 Fed. Reg. 12940 (March 26, 1982).

Neither Intervenors' NFP Petitions nor its brief on appeal establish special circumstances justifying waiver of this rule. Intervenors argue that there is no need for the power to be generated at the Byron facility. (Int. Br. at 52). In their NFP Petitions, Intervenors alleged that demand projections were inflated and costs were understated. (League NFP

(Footnote 15 continued from previous page)

also fail to mention that the League's need for power and alternative energy source contentions were stricken by the Licensing Board in LBP-81-52, 14 NRC 901, 906 (1981) and were never subjected to the winnowing process contemplated by the Appeal Board in ALAB-678, 15 NRC 1400, 1420 (1982). See Tr. 72-73.

Petition at 3-4 and Appendix A, DAARE/SAFE NFP Petition at 3-4). Regardless of the merits of the Intervenor's claim, it is inconsequential for purposes of showing the "special circumstances" required by 10 CFR § 2.758 since during the course of the rulemaking the Commission assumed that "the plant is not needed to satisfy increased energy needs but rather is justified, if at all, as a substitute for other generating capacity." 46 Fed. Reg. 39441 (August 3, 1981). In this latter regard, the League's own evidence pointed out that the Byron plant "should produce relatively cheap electricity during the 1990s and the first decades of the 21st century." (Testimony of Irvin C. Bupp, Exhibit E to League FQ Petition at 8). The Illinois Commerce Commission's Interim Order in Ill. C.C. Docket 82-0026, which is attached as Exhibit F to the League's FQ Petition, shows that the Illinois Commerce Commission has determined that it is more economical for Ceco to complete its Byron and Braidwood stations in as timely a manner as possible and that substantial economic penalties are incurred if the completion of these stations is delayed.^{16/}

Intervenor's argue that the Licensing Board incorrectly assumed, in denying their NFP petitions, that alternative

^{16/} League FQ Petition, Ex. F, pp. 3, 12-13. In its Order dated December 1, 1982 in ILL.C.C. Docket 82-0026, the Illinois Commerce Commission, after carefully considering much of the same information relied upon by Intervenor's in their NFP Petition, reaffirmed this judgment. The Commission affirmatively directed Ceco to complete construction in as timely and economic a manner as possible. (See Order at 53, 59-62, 64).

energy sources would be more expensive and environmentally inferior. (Int. Br. at 53-54). However, this was the NRC's generic finding underlying the need for power rule. Intervenor failed to provide any relevant evidence indicating that, for Byron, this may not be true. Intervenor's petitions relied solely on two documents relating to other nuclear facilities owned by other utilities and located in different geographic regions (League NFP Petition, Exhibits B and C). The Licensing Board correctly held that these materials cannot possibly be deemed to establish the existence of special circumstances with respect to Byron, as required by 10 CFR § 2.758.^{17/} Moreover, Intervenor's assertion that non-operation of the Byron facility is an environmentally superior alternative is refuted by the very exhibits on which Intervenor relied. It is clear from Dr. Bupp's testimony that the operation of Byron will result in decreasing the amount of coal-produced electricity. (Testimony of Irwin C. Bupp, Exhibit E to League FQ Petition at 9-12). Without question, the environmental consequences of operating a coal generating plant are greater than for a nuclear plant. See Commonwealth Edison Company (Byron Station, Units 1 and 2) LBP-74-87, 8 AEC 1006, 1032-1033 (1974); Byron FES-CP at

^{17/} Intervenor's NFP petitions did almost nothing to indicate why these studies might validly be applied to Byron. See WAIT Radio v. FCC., 418 F.2d 1153, 1157 (D.C. Cir. 1969) ("An administrative agency need not sift pleadings and documents to identify [meritorious waiver] applications...."). See also, Vermont Yankee Nuclear Power Corporation v. Natural Resources Defense Council, Inc., 435 U.S. 519, 553-554 (1978).

9.1.2.2; 46 Fed. Reg. 39440, 39441. Thus, non-operation of Byron is an environmentally inferior alternative.

Intervenors complain that the League told the Licensing Board that "significant new studies would be available within 30 to 60 days and that it would promptly supplement the petition at that time. Again the Board did not wait." (Int. Br. at 51). Intervenors claim that "the Board barred Intervenors from presenting further evidence then under development - no matter how compelling it might be." (Int. Br. at 51). This is not a fair characterization of the Licensing Board's decision, which discouraged further consideration of the subject matter "on a piecemeal or extended basis" but did not "bar" Intervenors from presenting further evidence. (See August 5, 1982 Memorandum and Order at 11). Intervenors never tried to present such evidence to the Licensing Board, nor on appeal do they specify what evidence they would have offered in 30 to 60 days or state whether it was ever developed. In fact, they repeat the ploy by offering to provide such supplementary information "upon certification, or upon the suggestion of this Board." (Int. Br. at 55 n. 2). Mere offers to provide unspecified evidence do not, of course, satisfy the requirements of 10 CFR § 2.758.^{18/}

^{18/} Moreover, Intervenors, not the Licensing Board, are responsible for the timing and completeness of their NFP petitions. This situation is somewhat similar to that involved in

(Footnote continued on next page)

The Licensing Board's Memoranda and Orders denying Intervenor's NFP Petitions are substantially correct and should be affirmed.^{19/}

(Footnote 18 continued from previous page)

Baltimore Gas & Electric Company v. Natural Resources Defense Council, Inc., ____ U.S. ____, 103 S.Ct. 2246, 2257-58 (1983), where it was argued that certain language in Table S-3 may have improperly precluded unidentified persons from litigating certain issues in NRC licensing proceedings. The Supreme Court stated: "[We] find it totally inappropriate to cast doubt on licensing proceedings simply because of a minor ambiguity in the language of the earlier rule ... when there is no evidence that this ambiguity prevented any party from making as full a presentation as desired, or even affected the decision to license the plant." 103 S.Ct. 2246, 2258.

^{19/} The Licensing Board's August 5, 1982 Memorandum and Order may possibly contain a mistake, although it is not raised by Intervenor on appeal. The Licensing Board states at pp. 9-10:

Another reason why non-operation is not an economically superior alternative is that it does not provide a means to recover the large construction costs incurred whereas its operation does. Non-operation does not release the utility from paying these costs.

This may be inconsistent with NRC case law that "sunk costs" are not relevant for purposes of forward-looking NEPA cost/benefit analyses. Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), CL1-77-8, 5 NRC 503, 534 (1977); Consumers Power Company (Midland Plant, Units 1 and 2) LBP-82-95, 16 NRC 1401, 1405 (1982). From the context, it is clear that this is harmless error because the Licensing Board's statement is merely "another reason" for its decision, rather than an essential underpinning for the denial of Intervenor's NFP Petitions. Intervenor commits a similar mistake when they argue that ratepayers would be relieved of construction completion costs if the alternative of non-operation is chosen. (Int. Br. at 52). Construction completion is not a subject within the jurisdiction of the licensing board at the operating license stage; therefore construction completion costs should be considered "sunk costs" for purposes of the operating license proceeding. Cf. Consumers Power Company (Midland Plant, Units 1 and 2), ALAB-674, 15 NRC 1101 (1982).

IV. Seismic Issues

Intervenors' appeal from the Licensing Board's decision on Contention 106, the seismic design contention, is predicated on two factual errors allegedly committed by the Board. First, Intervenors claim that there was insufficient evidence in the record to conclude that the Plum River Fault was not capable. Second, Intervenors argue that the Applicant inappropriately relied upon a site specific response spectrum developed for the Sequoyah site and failed to consider other relevant earthquake data in selecting the operating basis earthquake ground acceleration value for Byron. Both arguments are without merit. The former simply ignores the overwhelming weight of the evidence in the record regarding the noncapability of the Plum River Fault; the latter demonstrates a misunderstanding of the analysis used in determining the appropriate operating basis earthquake ground acceleration value for Byron.

By way of a rather cryptic characterization of the record regarding the Plum River Fault (Int. Br. at 56), Intervenors suggest that the Licensing Board's conclusion that the Fault is not capable is based exclusively upon methods for dating the most recent movement on the Fault, which methods the NRC Staff experts believe to be inaccurate. The record belies this characterization, and strongly supports the Board's find-

ing that none of the faults in the Byron vicinity is capable.
(ID, ¶F-34).

The expert witness on which the Board relied primarily in reaching its conclusions regarding the Plum River Fault was Dr. Ina Alterman, the NRC Staff geologist responsible for the Byron geologic review. (ID, ¶F-34; Alterman, Staff's Prepared Testimony at 1, ff. Tr. 753). Dr. Alterman testified that she relied upon a variety of information which, without exception, led her to the same conclusion viz., the Plum River Fault is not capable. (Alterman, Tr. 818). First, to ascertain the existence and location of the fault, the Illinois State Geologic Survey (ISGS)^{20/} was required to conduct core drilling examinations and compare the bedrock on either side of the fault. This indicates that the surface materials overlying the fault had not been disturbed. (ID ¶F-17; Alterman, Tr. 762-764). Second, seismic refraction tests performed by the ISGS, as well as Dr. Alterman's visual observations of the fault, did not indicate the presence of an escarpment. (Alterman, Tr. 822-823). This indicates the lack of vertical movement on the fault since the deposit of glacial till which occurred at least 500,000-125,000 years ago. (Alterman, Staff prepared testimony at 2, ff. Tr. 753). Third, Dr. Alterman

^{20/} The geologists who testified on behalf of Applicant and Intervenor agreed that the ISGS are the recognized experts regarding the geology of the State of Illinois. (Yonk, Tr. 436, Woodward, Tr. 582).

reconfirmed that the ISGS has never observed glacial till offset along any faults in Northern Illinois. (ID ¶F-20; Alterman, Tr. 764, 860-861). Fourth, there is no seismicity associated with the Plum River Fault. (Alterman, Tr. 818). Finally, and perhaps most significantly, based on studies of regional tectonics the ISGS has concluded that movement on surface faults in Northern Illinois probably has not occurred after the Cretaceous period, which ended 65 million years ago. (ID ¶F-23, Alterman, Tr. 818).

In addition, on cross examination Intervenor's expert testified that he knew of no evidence which suggested that the Plum River Fault is capable. (Woodard, Tr. 560-562). Moreover, although Intervenor's witness stated that excavations of the Plum River Fault Zone would produce useful information regarding the date of last movement along the fault, he believed that the conclusions reached by Ceco, Staff and ISGS geologists concerning the noncapability of the fault, without this information, constituted a reasonable exercise of their professional judgment. (Woodard, Tr. 710). In short, given the cumulative weight of the information concerning the Plum River Fault and surface faulting in Northern Illinois, further geologic investigations of the Plum River Fault are simply unnecessary. The Licensing Board's decision to that effect should accordingly be upheld.

Intervenor's second challenge to the Licensing Board's decision on the seismic contention is based upon a misunder-

standing of the rationale underlying the selection of the operating basis earthquake (OBE) maximum ground acceleration value. Intervenors apparently believe that Ceko justified selecting an OBE value (.09g), which is less than one-half of the safe shutdown earthquake (SSE) maximum ground acceleration value (.2g), on the basis of a site specific response spectrum which was calculated for the Tennessee Valley Authority's Sequoyah Nuclear Power Plant. That is simply not the case.

The Sequoyah site specific response spectrum was utilized to demonstrate that the .2g SSE ground acceleration value is appropriate for the Byron site. Specifically, since the Sequoyah site specific response spectrum was based upon the same parameters (i.e. a 5.8 magnitude earthquake at a rock site at epicentral distances of less than 25 km) as would have been utilized in calculating a Byron site specific response spectrum, a comparison was made between the Sequoyah site specific spectrum and the Byron SSE response spectrum. (ID ¶F-52, Rothman, NRC Staff Prepared Testimony at 2-3, ff. Tr. 760; Singh, Applicant prepared testimony at 5-6, ff. Tr. 431). The comparison showed that the Byron SSE response spectrum corresponded to the Sequoyah site specific spectrum at the frequency range of interest (Singh, Applicant prepared testimony at 6, ff. Tr. 431), supporting the appropriateness of the SSE ground acceleration value selected for Byron. (ID ¶F-52).

The justification for the OBE ground acceleration value was based, not upon the Sequoyah site specific response spectrum, but rather upon analyses performed by Lawrence Livermore National Laboratory ("LLNL") on behalf of the Staff, and by Ceko which determined the recurrence interval for the OBE. (ID ¶¶F-59 to F-62). Ceko's analysis calculated the OBE recurrence interval to be approximately 2,150 years, while the Staff concluded the recurrence interval to be in the range of 200 to 1000 years.^{21/} (ID ¶F-60). On this basis the Licensing Board concluded that the OBE selected was conservative, in view of the fact that the OBE should represent the earthquake which can reasonably be expected to affect the plant during its operating life. (10 CFR Part 100, Appendix A §III(d)). This justified permitting Ceko to depart from the standard that the OBE ground acceleration value be no less than one-half the SSE ground acceleration value. (ID ¶F-62). See Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Unit 1 and 2), ALAB-644, 13 NRC 903, 989-994 (1981). Quite clearly then, Intervenor's assertion that Ceko improperly relied upon the Sequoyah site specific spectrum in selecting the OBE ground acceleration value is incorrect.

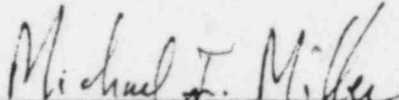
^{21/} The difference in the return periods calculated by LLN and Applicant was most probably attributable to different methods and assumptions used in the analysis. Since the return periods for the OBE under either analysis greatly exceed the expected operating life of the plant, the difference is unimportant. (Rothman, NRC Staff prepared testimony, at 5 ff. Tr. 760; Singh, Applicant prepared testimony at 6-7 ff. Tr. 431).

Intervenors' citations in their brief to their proposed findings (Int. Br. at 57) suggest that they may be challenging the appropriateness of the Byron seismic analysis because of its failure to consider information concerning a recent earthquake in Enola, Arkansas. Specifically, on July 5, 1982, a seismograph near Enola recorded a peak ground acceleration value of .59g generated by a magnitude 3.8 earthquake. The insignificance of this information to the seismic design of the Byron Station was clearly established at the hearing. (Rothman, Tr. 810-811 and Rothman, NRC Staff prepared testimony, at 6-7, ff. Tr. 760.) The uncontroverted evidence is that this small earthquake, with a relatively high peak acceleration, was a low energy event which would not affect nuclear power plants designed using a broad band response spectrum which encompasses the wider frequency range and higher energies of larger earthquakes. (Rothman, NRC Staff prepared testimony at 7, ff. Tr. 760. See also Woodard, Tr. 587-589). In short, contrary to Intervenors' claim, the record amply supports the Board's conclusions regarding the adequacy of the OBE selected for Byron.

V. Conclusion

For the reasons stated, Intervenor's "three additional grounds for license denial" are without merit.

Respectfully submitted,



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Dated: March 30, 1984

March 30, 1984

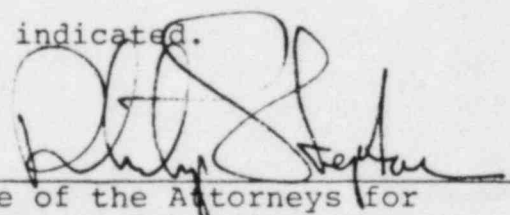
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)	
)	
COMMONWEALTH EDISON COMPANY)	Docket Nos. STN 50-454 OL
)	STN 50-455 OL
(Byron Nuclear Power Station,)	
Units 1 and 2))	

CERTIFICATE OF SERVICE

The undersigned, one of the attorneys for Commonwealth Edison Company, certifies that he filed the original and two copies of the attached "COMMONWEALTH EDISON COMPANY'S RESPONSIVE BRIEF" with the Secretary of the Nuclear Regulatory Commission and served a copy of the same on each of the persons at the addresses shown on the attached service list, by deposit in the U.S. Mail, first-class postage prepaid, this 30th day of March, 1984. Expedited means of service were used where indicated.



One of the Attorneys for
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STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

CERTIFICATE

Re: 82-0026

I, ROSE M. CLAGGETT, do hereby certify that I am Chief Clerk of the Illinois Commerce Commission of the State of Illinois and keeper of the records and seal of said Commission.

I further certify that the above and foregoing is a true, correct and complete copy of order made and entered of record by said Commission on December 1, 1982.

Given under my hand and seal of said Illinois Commerce Commission at Springfield, Illinois, on December 3, 1982.

Rose M. Claggett
Chief Clerk

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY :
 : 82-0026
Proposed general increase in :
electric rates. :

ORDER

By the Commission:

On January 8, 1982, Commonwealth Edison Company ("Respondent", "Edison", or "Company"), filed with the Illinois Commerce Commission ("Commission") certain revised tariff schedules and amendments identified as Ill. C.C. No. 4, First Revised Sheet Nos. 7, 11, 13, 15, 17, 19, 21, 50, 61, 67, 68, 69, 70, 71 and 78, Second Revised Sheet Nos. 6, 8, 72 and 81, Third Revised Sheet Nos. 1, 2, 35, 37, 57, 62, 82, 89 and 91, Fourth Revised Sheet Nos. 30, 40 and 44, Fifth Revised Sheet No. 26, Sixth Revised Sheet Nos. 47 and 59, Seventh Revised Sheet Nos. 46, 53, 84 and 92, Eighth Revised Sheet Nos. 39 and 43, Ninth Revised Sheet Nos. 32, 49 and 51, Tenth Revised Sheet Nos. 10, 12, 14, 16, 18, 20, 22, 24, 28, 33, 38, 42, 55, 77, 79 and 88, Eleventh Revised Sheet Nos. 9, 23, 29, 34 and 90, Twelfth Revised Sheet Nos. 25 and 36, Amendment to Sections 8.01, 8.02 and 8.03 of Electric Service Agreement between Edison and Chicago Transit Authority dated as of August 1, 1958, as amended, Amendment to Section 6 of Street Lighting Electric Service Agreement between Edison and the City of Chicago dated as of February 20, 1950, as amended, Amendment to Sections 7.01, 7.02, 7.03 and 10.02 of Electric Service Agreement between Edison and Illinois Central Gulf Railroad Company dated as of June 1, 1974, as amended, by which it proposed an increase in electric rates and amendments to certain electric service agreements to become effective February 8, 1982. Concurrent with the filing of said tariffs and amendments, Edison also filed its Petition for Interim Rate Increase whereby it requested that approximately half of the proposed permanent increase be allowed to go into effect, subject to refund, pending the Commission's final order in this case.

Notice of the filing was posted in a conspicuous place in the business offices of Respondent. In addition, the proposed revised tariff schedules and amendments were made available for inspection by members of the public at the Company's business offices, and a copy of the actual notice as published in newspapers of general circulation throughout the Company's service area, all in accordance with the requirements of Section 36 of the Illinois Public Utilities Act and the provisions of General Order 157 of this Commission.

The instant filing is subject to the Commission's General Order 210 concerning filing requirements for rate cases. After a series of letters of inquiry from the Examiner and answers from the Utility, Respondent's filing was found to be in compliance with the Commission's General Order by letter of February 4, 1982, from the Examiner to the Respondent, all of which correspondence was copied to the Chief Clerk of the Commission and included in the file in this matter.

An examination of the revised tariff schedules and amendments resulted in a determination by the Commission to enter upon hearings concerning the propriety and reasonableness of the proposed general increase in electric rates and that, pending hearing and decision thereon, the filed tariff schedules should

not become effective. On January 13, 1982, the Commission entered an Order suspending the proposed tariff schedules and amendments to and including June 7, 1982. An Amended Suspension Order was entered by the Commission on January 20, 1982. By Order entered May 26, 1982, the proposed tariff schedules and amendments were resuspended to and including December 7, 1982.

During the pendency of these proceedings, appearances or Petitions to Intervene were filed on behalf of certain members of the Commission's Public Utility Division, several villages and municipalities in Edison's service territory, state's attorneys from various counties, the Illinois Attorney General, certain state and federal agencies, certain state legislators and city alderman, various schools and school districts, labor unions, church groups, senior citizen organizations, community organizations, public interest groups, industrial customers, business organizations and individuals, comprising a total of fifty-nine appearances and Petitions to Intervene and ten Resolutions. A list of said appearances and parties who were granted leave to intervene in these proceedings by the Commission ("Intervenors") is presented as Appendix A, which is attached hereto and made a part hereof.

Pursuant to notice duly given in accordance with the rules and regulations of the Commission, this matter was set for hearing before a duly authorized Examiner of the Commission at its offices in Chicago, Illinois, on February 11, 1982, at which time a schedule of twenty-one hearings on Edison's request for interim relief was established. Hearings on the Company's interim request were concluded on April 13, 1982. Oral Argument relating to Edison's Petition for Interim Relief was had before the Commission, en banc on April 22, 1982.

On May 6, 1982, the Commission entered an Order on the Petition for Interim Rate Increase authorizing Edison to increase its rates \$324,000,000 on an annual basis, for an 7.8% increase in revenues, effective on filing; said increase was made subject to refund with interest in the event it is determined that Respondent is not entitled to such increase on a final determination in these proceedings. The Commission's Interim Order did not adopt any of Respondent's proposed changes in rate design, but applied the percentage increase equally to all rate classifications which are the subject of the proposed tariffs. Applications for Rehearing and Reconsideration and Responses thereto were filed by certain Intervenors and Respondent; said applications were denied by the Commission on May 26 and June 9, 1982. On June 1 and June 21, 1982, Notices of Appeal from said Order to the Circuit Court of Cook County, Illinois were filed with the Commission. On September 28, 1982, pursuant to Motions to Dismiss filed by Respondent and the Commission, the Circuit Court dismissed the appeals of the Commission's Interim Order.

Six public hearings were held at various locations in the City of Chicago on February 19, March 3, March 8, March 15 (2) and March 16, 1982. Nine similar hearings for the purpose of taking public statements were also held in East Chicago Heights, Illinois on March 2, 1982, Hoffman Estates, Illinois on March 4, 1982, Maywood, Illinois on March 9, 1982, in Belvidere, Freeport and Rockford, Illinois on March 10, 1982, Kankakee on March 11, 1982, Waukegan, Illinois on March 12, 1982, and Evanston, Illinois on March 18, 1982. These public hearings were well attended by local residents who raised such issues as the impact of the proposed rate increase under the present economic conditions, the effect of such increases on the elderly, those on fixed income and school districts, the Company's construction program, safety of nuclear power, the election of Commissioners, the need for a rate increase, and questions concerning types of procedures and investigations conducted by the Commission during rate cases.

Following presentation of evidence on Edison's petition for an interim rate increase, thirty-two additional evidentiary hearings on the proposed general increase were conducted. In addition to the testimony and exhibits of ten witnesses presented by Edison in its direct case, Edison presented twelve witnesses on rebuttal, which included evidence on the economic reasonableness of proceeding with the construction of its six nuclear units, two units at LaSalle, two at Byron and two at Braidwood, Illinois. Further discussion on the construction issue, the admission of evidence which had been excluded in the interim proceedings and certain economic engineering studies on this issue requested of Edison by members of the Commission Staff and other parties will be set forth in detail in later portions of this Order, as well as reports ordered by the Commission in its Interim Order on the subject of elasticity and implementation of budget cuts by Respondent.

In addition to cross-examination of Respondent's witnesses and testimony for or on behalf of certain Commission Staff personnel, the presentation of a comprehensive rate design study by members of the Economics and Rates Department of the Commission's Public Utility Division, the following Intervenor also participated in cross-examination of Respondent and Staff, and/or presented testimony and exhibits: United States Steel Corporation, South Austin Coalition Community Council ("SACCC"), International Minerals and Chemical Corporation and Energy Systems Engineers, Inc. ("ESE"), Building Managers Association of Chicago ("BMA"), Illinois Retail Merchants Association ("IRMA"), Abbott Laboratories, Arnold Engineering Company, Bell & Howell Company, CECO Corporation, CPC International, Inc., Ford Motor Company, General Motors Corporation, Interlake, Inc., Keystone Consolidated Industries, Inc., Northern Petrochemical Company, Northwestern Steel and Wire Company, Olin Corporation, Outboard Marine Corporation, Owens-Illinois, Inc., Reynolds Metals Company, Kitchens of Sara Lee, Sherwin-Williams Company, Stauffer Chemical Company and Travenol Laboratories, Inc. ("Industrial Intervenor"), United States Department of Energy on behalf of Federal Executive Agencies ("FEA"), City of Chicago ("Chicago"), Senior Citizens Legal Services Advisory Council of Cook County Legal Assistance Foundation, Inc., Allie Mae Jones and Ida Searls ("Seniors"), The Governor's Office of Consumer Services ("Governor's Office"), Attorney General on behalf of the People of Illinois ("AG"), Community Action for Fair Utility Practice ("CAFUP"), an association of school or school districts known as Project Cost-Conserve our School Taxes ("Project COST"), Illinois Department of Transportation ("IDOT"), Lincoln Edmands, pro se, Thomas L. Denst, pro se, Lindson P. Anderson, pro se, and the Illinois Association of Park Districts ("IAPD").

On October 28, 1982, the presentation of evidence was completed and the record marked "Heard and Taken." Briefs were filed by Respondent, various Intervenor and participating members of the Commission Staff as shown on Appendix B attached hereto and made a part hereof. Supplementary Briefs were also filed by certain of the parties on certain additional studies on the construction issue. and on November 15 and 16, 1982, Oral Argument was held before the Commission, en banc. The Commission marked the proceeding "Heard and Taken under Advisement."

REVIEW OF INTERIM ORDER

By the order entered in these proceedings on May 6, 1982, the Commission granted Edison interim rate relief, authorizing the Company to increase its rates to yield additional operating revenues of approximately \$324,000.000 on an annualized basis. The Commission's order stated that the interim relief was granted

subject to a thorough review of all relevant issues and evidence in the hearings concerning permanent rates, and that interim rates subsequently found to be inappropriate would be refunded with interest. The Commission has completed the thorough review referred to in its Interim Order and, for the reasons given below, has determined that the interim rate increase was fully justified and proper except as noted herein. Although the revenues collected under the interim rates were not excessive, we conclude, based on our review of the entire rate structure, that the interim charges for dusk to dawn street lighting under Rate 25, and the contracts with the City of Chicago and the Chicago Park District were unjust in relationship to charges in other rates to the extent that they resulted in revenues which exceed revenues obtainable under the rates authorized herein. Therefore, Edison should be directed to refund to the appropriate customers, the difference between revenues collected under rates authorized by the interim order and the amounts which would have been obtainable under rates approved in this Order, with interest in accordance with the Commission's Interim Order of May 6, 1982.

The Commission's examination of the complete record in this proceeding reveals that the interim rates were no more than just and reasonable during the period they were in effect with the exception already noted. Pursuant to General Order 210, Edison submitted detailed information about its operations, including rate base, expenses and revenues, for 1982 as well as 1983 in its original filing and later updated that material. A summary of operating results for 1982 (which reflects the interim increase to the extent it is actually realized during 1982) based on information presented in Edison Exhibit 2F, Updated August, 1982, (in millions of dollars) is as follows:

Electric Operating Revenues	\$4,202.4
Electric Operating Expenses	<u>3,546.1</u>
Electric Operating Income Total	\$ 656.3
Deduct: Allocation to Reselling Municipalities	<u>7.9</u>
Electric Operating Income-- Ultimate Customers	<u>\$ 648.4</u>
Net Electric Utility Plant and Working Capital	\$6,247.9
Rate of Return on Net Electric Utility Plant and Working Capital	10.38%

- Based on these results and the capital structure forecasted for December 31, 1982, the rate of return the Company will earn on common equity in 1982 is forecasted to be 10.74%. As discussed in a later section of this Order, the cost of common equity to Edison is approximately 17.04% and in any event was much greater than 10.74% throughout 1982. Even after making an allowance for adjustments the Commission might make to the above financial results in a conventional rate case analysis the Commission finds that the interim rates authorized on May 6, 1982, were not excessive and that Edison should not be required to refund any amounts collected thereunder except as noted. Although we need not reach the question, we note that there is nothing on the record in this case which would cause us to change our opinion that at the time of the Interim Order, the interim rate increase granted Edison was justified based on the standard set out by this Commission at

page 2 of the Interim Order.

NATURE AND LOCATION OF RESPONDENT'S OPERATIONS

Commonwealth Edison Company's energy sales for the year 1981 was 61,229 million kwh and thus it is one of the largest investor-owned electric utilities in the United States. The Company's electric service territory has an area of about 11,525 square miles and an estimated population of eight million, including the population of the City of Chicago. As of December 31, 1981, Edison had approximately three million electric customers. Edison currently has 16,658 megawatts of summer net generating capacity available to meet summer load, not including 1,048 megawatts of generation from its LaSalle Unit 1, which was placed in service on October 24, 1982, and excluding its four Ridgeland units which were retired in January and June of 1982. Respondent presently has under construction approximately 5,468 megawatts of summer net nuclear generating capacity at plant sites located near LaSalle Unit 2, Byron (2 units) and Braidwood, Illinois (2 units). A more detailed description of the nature of its plant in-service and plant under construction is set forth in subsequent sections of this Order.

PROPOSED CHANGES IN RATE SCHEDULES

The rate levels recommended by Respondent would produce an estimated increase of approximately 19.4% or \$805,000,000 additional annual revenue (including add-on revenue taxes) based on projected sales for the twelve months ended December 31, 1983. (The revenue expected to be generated from the filed tariff was revised in October, 1982 to \$772 million). Respondent contends that the full amount of increase is required to preserve its overall credit worthiness in order to continue financing its construction program and arrange for short-term financing on a reasonable basis, cover the various expenses associated with LaSalle Unit 1, and meet its operating and maintenance costs under continuing inflationary conditions.

Respondent proposes to increase rates to all classes of its customers. While the proposed increase is generally designed to increase revenue from each rate by an amount equal to the overall percentage increase, certain rates and charges vary from the overall percentage increase. No increase is proposed in the monthly customer charges. The increase proposed for dusk-to-dawn street and highway lighting is approximately half the overall increase percentage.

In Rates 6, 22, 6L and 22L, the proposed increase in stated demand charges is slightly less than the proposed increase in stated energy charges. An expansion of the applicability of Rates 6L and 22L, time-of-day ("TOD") rates, is proposed to include customers with demands between 750 and 1,000 kilowatts, affecting approximately 450 customers.

Edison also proposes to make an optional time-of-day rate available to 25,000 of its largest residential customers. In addition, an increase in charges for residential light bulb service is proposed to approximately the level of the cost of the program. Various minor changes in rates, riders and the terms and conditions of service are also proposed.

On July 27, 1981, Edison filed its Fifth Revised Sheet No. 92 and Third Revised Sheet No. 93 of Ill. C.C. No. 4 in which it proposed to revise Rider 26, Interruptible Service, applicable to Rates 6, 6L, 22 and 22L. Hearings were held in Docket 81-0598 in this matter and the Commission entered its Order on June 9, 1982, stating that the Company's proposals were premature in view of Staff's comprehensive rate study issued in January, 1982 and intended to be placed in the instant record. The proposed

revisions to Rider 26 would have eliminated the necessity of calculating the optional facilities charges by replacing those charges with demand charge blocks paralleling the demand charge blocks in the general service rates. In its Order, the Commission stated that the record made in Docket 81-0598 should be considered with those proposals on marginal cost and general rate design offered in the instant docket and, if the data is available, a conclusion should be reached as to the proper function and purpose of interruptible service and what type of rate design would encourage the proper use of this rider.

Certain experimental rates regarding TOD rates and solar energy assisted electric usage are proposed to be eliminated and the customers transferred to the associated basic rate, in order to reduce the number of rates in the Company's schedule. No effect on the bills would result from the transfer itself, other than that proposed for the associated rate. The subject tariffs would transfer service under Rates 1E1 through 1E6 to Rate 1, Rate 3E to Rate 3, Rate 14E to Rate 14, Rate 10E to Rate 10, and Rider 25E to Rider 25.

The terms and conditions provisions designated "Exclusive Electric Service" have been modified under the proposed filing to include appropriate reference to the Company's new Rider 4 under which service is provided to customers with qualified cogeneration and small power production facilities who operate those facilities in parallel with Edison's supply.

Specific changes in rate design are discussed in subsequent sections of this Order.

The percentage of increase shown below for various rates and riders represent the percentage by which estimated revenues at current rates and estimated average fuel adjustment for 1983 would be increased based on sales for calendar year 1983 as estimated in Respondent's original filing.

Rate 1	Residential	19.5%
Rate 3	Residential Water Heating	19.5%
Rate 14	Residential Space Heating	19.5%
Rates 6 and 6L	General Service and Large General Service	19.5%
Rates 22 and 22L	Government and School and Large Government and School Service	19.5%
Rate 10	Commercial Water Heating Service	19.5%
Rate 23	Municipal Street Lighting	19.4%
Rate 24	Municipal Pumping Service	19.5%
Rate 25	Street, Highway and Traffic Signal Lighting	11.8%
Rate 26	Private Outdoor Lighting	19.4%
Rate 87	Governmental Service, Certain Rockford Customers	19.5%
-		
City of Chicago, and Chicago Park District and Street Lighting	Special Contracts	11.8%
Electric Transit Service	Special Contract	19.4%

TEST YEAR

The Company proposes a forecasted test year using the twelve months ended December 31, 1983, said period corresponding to the first full year in which the proposed permanent rates would be in

effect. Edison contends that, if it is to realize the rate of return which the Commission ultimately determines to be reasonable in this case, it is imperative that the authorized revenues be based upon conditions which will exist when they are collected.

Respondent's initial filing includes financial and accounting data for the calendar year 1981, nine months actual and three months forecasted, and as forecasted for calendar years 1982 and 1983. The schedules also include certain historical data for periods 1972 through 1980. In accordance with General Order 210 ("G.O. 210"), Arthur Andersen & Company has reviewed Edison's forecasting systems and procedures and their opinion was also submitted.

In addition to the various financial and accounting schedules filed at the initiation of this case, Edison has been directed and is filing monthly schedules showing actual figures with an explanation of the significant differences between its forecasts and what was actually realized. Updated exhibits were presented by Edison reflecting actual data for the entire year of 1981, six-month actual data and six-month forecasted data for the year 1982, and a fully forecasted test year using year-end figures for 1983. All schedules have been revised to reflect a September, 1982, in-service date for Edison's nuclear generating plant, LaSalle Unit 1.

Respondent has continued to file updated exhibits as directed in the Interim Order. These reports are included in the evidentiary record and were being monitored by the Commission Staff in order to assess Edison's forecasted data.

The Commission Staff and certain Intervenor have proposed the utilization of an average 1983 rate base and capital structure instead of the end-of-year figures submitted by Edison. The Accounts and Finance Staff witness testified that, since Edison's proposed test year is fully forecast and, as such, incorporates estimates of future inflation, additional explicit attrition allowances based on the totally prospective nature of the test period are inappropriate. The Staff witness indicated that the rationale for end-of-year rate base and capital structure disappear when the test year is fully forecast and the utility may seek further rate relief for 1984 and beyond.

FEA's witness recommended that the test year be adjusted so that the capital structure and embedded cost rates are based upon an average for the entire projected 1983 test year, rather than conditions as of December 31, 1983, at the very end of the projected test year, as proposed by Edison. This witness stated that the annualized year-end embedded cost rate as of December 31, 1983 reflects a full year's interest at an assumed cost rate on \$700 million of long-term debt that Edison plans to issue during 1983. He further stated that since \$200 million of this additional debt will be outstanding for only two months of the projected 1983 test year, and since none of it will be outstanding for the entire year, the average cost of debt during calendar year 1983 is overstated by use of the annualized cost rate at December 31, 1983, rather than the average cost rate for the year as a whole. The capital structure and embedded cost rates recommended by FEA are the averages for the thirteen months from December 1, 1982 through December 31, 1983. Edison does not oppose the use of an average 1983 rate base.

* The Company did not propose to include LaSalle Unit 2 in rate base for the 1983 test year. The unit is expected to be completed in October, 1983.

The City of Chicago presented a witness who recommended that a test year of the twelve months ended December 31, 1982 be utilized. The use of a partially actual and partially forecasted test year would reduce the potential for speculation and conjecture in the calculation of rate base and operating income, and if adjusted for known changes, the witness stated would be sufficiently forward looking and consistent with Commission policy as indicated in Edison's last rate case in Docket 80-0546.

Various adjustments to Edison's projected 1983 sales forecast were proposed based on economic forecasts and weather normalization; these matters will be specifically addressed in the appropriate sections of this Order.

The Commission, in setting forth the filing data required under G.O. 210, has established certain criteria for the use of a future fully forecasted test year, and in so doing, has recognized the validity of such a test year and the importance of establishing a revenue requirement based on data and events expected to occur during the year in which the proposed rates will be in effect. Edison has complied with these filing requirements and, while recognizing the problems of forecasting changes in economic conditions while the present recession continues, the Commission is of the opinion that a 1983 test year is appropriate. The proposals of the Commission Staff and Federal Executive Agencies will be adopted in the calculation of capital structure and use of an average 1983 rate base.

RATE BASE

Respondent presented testimony and documentary evidence relating to the original cost of its depreciable utility plant in service, the accumulated provision for depreciation thereon, land and land rights, fuel inventory, construction work in progress, working capital allowance and other rate base items, based on actual figures for the twelve months ended December 31, 1981, and six months actual and six months forecasted figures for a projected period of twelve months ended December 31, 1982. A similar presentation was made for its projected future test year ending December 31, 1983. A summary of this data, as taken from Edison's Exhibit 3F-Schedules 3.1, 3.4 and B-1 and Edison Exhibit 4F-Schedule B-5, is shown as follows:

COMPARATIVE RATE BASE DATA
(In Millions)

	Actual 1981*	Current 1982**	Average Test Year 1983**
<u>ELECTRIC UTILITY PLANT AT ORIGINAL COST:</u>			
Plant in Service	\$7,885.6	\$ 9,429.5	\$ 9,753.8
Unamortized Cost of Nuclear Fuel in Reactor and Held for Reprocessing	145.4	121.6	(8.5)
Nuclear Fuel Materials and Assemblies - Stock Account	-	-	-
Property Held for Future Use	43.4	35.5	34.3
Construction Work in Progress on which AFUDC is not being capitalized (Including Dresden Unit 1 and small projects)	748.6(1)	41.1	45.5
Construction Work in Progress	-	525.0	525.0
	<u>\$8,823.0</u>	<u>\$10,152.7</u>	<u>\$10,350.1</u>

DEDUCT:

Accumulated Provision for Depreciation	\$2,485.3	\$ 2,604.6	\$ 2,924.1
Accumulated Deferred Income Taxes	1,004.1	1,016.9	1,112.8
Contributions in Aid of Construction	103.4	112.2	122.1
Customer Advances for Construction	1.9	2.0	2.1
Operating Reserves	38.4	42.5	46.6
Accrued Reclamation Expense	33.3	43.5	53.9
Other Deferred Credits - Deferred Benefits from November, 1981 Sale/Leaseback Applicable to ACRS Deductions Sold	10.8	10.1	9.3
	<u>\$3,677.2</u>	<u>\$ 3,831.8</u>	<u>\$ 4,270.9</u>
Sub-Total	<u>\$5,145.8</u>	<u>\$ 6,320.9</u>	<u>\$ 6,079.2</u>

FUEL INVENTORY & WORKING CAPITAL REQUIREMENTS:

Fossil Fuel Inventories	385.6	421.2	470.0
Materials and Supplies Inventories	91.1	99.9	108.9
Prepayment and Working Funds	13.1	13.2	13.2
Unreimbursed Operating Expense	-	-	-
	<u>\$ 489.8</u>	<u>\$ 534.3</u>	<u>\$ 592.1</u>

NET ELECTRIC UTILITY PLANT AND WORKING CAPITAL:

	<u>\$5,635.6</u>	<u>\$ 6,855.2</u>	<u>\$ 6,671.3</u>
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DEDUCT:

Allocation to Reselling Municipalities	<u>\$ 73.3</u>	<u>\$ 89.1</u>	<u>\$ 86.7</u>
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NET ELECTRIC UTILITY PLANT AND WORKING CAPITAL - ULTIMATE CONSUMERS:

	<u>\$5,562.3</u>	<u>\$ 6,766.1</u>	<u>\$ 6,584.6</u>
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* 1981 figures are based on actual data and pre-interim rates.

** 1982 and 1983 figures are based on proposed rates and differ essentially from present rate calculations due to inclusion of \$525 million proposed to be included in rate base for construction work in progress for LaSalle Unit 2, Working Capital Allowance, depreciation and taxes.

(1) As allowed in Docket 80-0546.

Edison's Adjustments to Rate Base

Edison's final projected figures for the year ended December 31, 1983, (hereinafter referred to as 1983 test year, rate base or operating income) exclude all effects of the May 6, 1982 increase, include LaSalle Unit 1, and reflect \$356,800,000 in plant additions and \$32,000,000 in plant retirements (Edison's Exhibits 3F-Schedule B-2.2(a) updated and Exhibit 3-Schedule B-2.2(b), respectively).

The Company proposes a composite depreciation rate of 4.05% for all nuclear plant. This rate includes provision for periodic chemical cleaning of the plant and for its ultimate decommissioning and disposal. Depreciation on most other utility plant was determined at 3.77% for 1981, 3.70% for 1982 and 3.75% for 1983 to provide for increased requirements resulting from significant backfitting additions to utility plant of advanced age to meet pollution control and other requirements, retirements of plant at ages earlier than previously contemplated and other factors. Edison's proposed changes in its depreciation rates are reasonable and should be approved. These rates are reflected in Edison's Accumulated Provision for Depreciation.

The line item under electric utility plant entitled "Unamortized cost of nuclear fuel in reactor and held for reprocessing" includes a provision for two mills per kwh of nuclear generation for spent nuclear fuel disposal costs. Nuclear Fuel Stock is accounted for under the Commonwealth Fuel Trust and varies with the amount to be loaded in the reactor. Edison proposes that 50% of the Company's test year Construction Work in Progress ("CWIP") associated with LaSalle Unit 2, amounting to \$525,000,000, be included in rate base; this amount represents approximately 10% of its \$5.6 billion investment in CWIP. Prepayments and Working Funds include an allowance for prepaid insurance, a significant portion of which is comprised of premium payments to Nuclear Electric Insurance Limited ("NEIL"), as well as reduction for a prepaid coal contract which is not expected to be recurring. While Edison maintains its position that all property held for future use should be included in rate base based on a determination that such property was prudently acquired and retained, Respondent has excluded from its proposed rate base all property which is expected to go into service after ten years, with the exception of its Langham County Station site. Respondent indicates that no firm commitment to construct this coal-fired generating station has been made at this time and that this station is part of the long-range construction program being investigated in the Commission's Phase II investigation in Docket 80-0706. Assuming that the Langham Station would be constructed, it is estimated that the in-service date would be 1996; its original cost of the Langham site is \$14.7 million.

Reclamation charges, which will be paid in the future to coal companies when they reclaim the land from which coal currently is being strip mined and purchased by the Company, are deducted from rate base. In accordance with the Commission's Order in Docket 81-0761, approving the transfer of investment tax credits and tax deductions for cost recovery under the sale-leaseback provisions for Accelerated Cost Recovery System ("ACRS"), the amounts allocated to cost recovery deductions that have not yet been amortized as credits to income are deducted from rate base in the same manner that Accumulated Deferred Income Taxes are deducted from rate base.

A portion of corporate Net Electric Utility Plant and Working Capital Requirements is allocated to certain reselling municipalities under rates subject to the jurisdiction of the Federal Energy Regulation Commission ("FERC"), as approved in prior rate cases.

The various proposed adjustments made to Rate Base by Respondent, Staff and certain Intervenor are reviewed below.

Staff's rate base adjustments were made to Edison Exhibit 3-Schedule 3.4, which shows the forecasted rate base at proposed rates at December 31, 1983; these adjustments were later revised to conform to Edison Updated Exhibit F-Schedule 3.4, as set forth on pages 25 and 26 of this Order.

Staff witness's proposal to use an average 1983 rate base and capital structure instead of end of year data is reasonable and should be adopted since, in the case of a fully forecasted test year, the average calculation of these items more accurately reflects the conditions which exist during the year in which the rates will be in effect.

Property Held for Future Use

One of the Staff witnesses representing the Accounts and Finance Department of the Commission's Public Utilities Division proposed that certain properties be eliminated from rate base in accordance with the Commission's Order in Docket 80-0546, which limited all properties included in rate base to those which would be in service within ten years of the test year. Based on Edison Revised Exhibit 3-Schedule B-2.5, the witness assumed that the projected in-service date would be the average of the period listed where a range of in-service dates were listed and proposed that the following sites be eliminated from Property Held for Future Use: Langham County Station (\$14,748,000), Northwest 3400 N. California (\$128,000), Skokie TSS88 (\$1,136,000), Wheatland (\$1,416,000), Burnham Taylor Right of Way (\$5,054,000) and Calumet-St. Line (\$351,000) for a total reduction of \$22,833,000.

A utility consultant representing the City of Chicago also proposed that the Langham Station site be eliminated from rate base; in addition, this witness stated that Wheatland-DuPage Township and the Burnham-Taylor Rights of Way be eliminated since they would be in service in 1993 and therefore not within the ten-year period of the 1982 rate base which he recommended.

The Commission recognizes the changes in regulation and the necessity of the development of proper engineering design which have affected the lead time required for the completion of construction of new generating plants. The Commission is currently examining the long range plans of the Company and, while acknowledging that such plans cannot be accepted as a certainty, believes that long-range planning is necessary to an efficient and integrated balance of types of generating plants which will eventually have to replace or be added to the Company's generating system. It is likely that the Langham Station would be the next generating station to come on line after the completion of Edison's nuclear plants. Presently, Respondent has eight stations which burn coal, seven using low sulphur western coal and one which burns Illinois coal; these stations range in age from 1952 to 1975. The Commission is of the opinion that inclusion of the Langham site in Property Held for Future Use is a reasonable investment and that the retention of this property by Edison should be supported by the Commission at this time. Revenues received by Edison from any rentals or use of this property should be included in operating revenues. The limited proposal made by Edison to include this plant site in rate base should be approved. The additional property sites proposed to be excluded by the Staff witness and the City of Chicago are reasonably within the ten-year period and should not be excluded from rate base.

Fossil Fuel Inventories

Edison requests that its investment in the portion of its fossil fuel inventories which corresponds to the Company's target inventory levels be included in rate base, rather than the actual inventories on hand. Respondent's target level for fossil fuel inventories is determined on a supply of coal at each of its stations to provide for 70 standard days burn in addition to the coal in transit. (A standard day is defined as the quantity of coal consumed on a typical day during a heavy load period.) Oil inventories are generally calculated in the same manner.

Edison's Exhibit 5R-Schedule 5.13, updated August, 1982, represents the Company's estimate of its fossil fuel inventories for 1982 and 1983 based on a 70 standard day supply at its stations and shows end-of-year and average-for-year quantities and costs. Edison proposes a fossil fuel inventory for 1982 and the 1983 test year, based on average-for-year figures, of \$421,168 and \$469,993, respectively.

Respondent's Manager of Fuel and Management Systems testified on rebuttal that his revised inventory costs were based on prices remaining stable for residual oil during 1982 with a 9% price escalation in 1983. Middle distillate oil was projected to increase in the second half of 1982 and a 9% escalation rate was applied to the remainder of 1982, as well as 1983. Revisions in Edison's original inventory costs were explained by the witness as due to (a) lower growth in electrical consumption than projected, (b) the deferral or cancellation of certain quantities of coal commitments for 1982 and 1983, (c) a reduction in the amount of nuclear output in the second half of 1982 and for 1983 than projected and (d) the temporary stabilization of the price of oil. The average-for-year estimated fossil fuel inventories shown on Edison's Exhibit 5R-Schedule 5.13 is summarized as follows:

<u>Fuel</u>	<u>1982</u>		<u>1983</u>	
	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
Coal (tons)	4,218,000	\$209,092,000	4,244,000	\$229,994,000
Residual Oil (gals.)	4,518,000	201,600,000	4,995,000	225,742,000
Peaker Fuel (gals.)	7,696,000	7,394,000	10,245,000	10,478,000
Ignition Oil (gals.)	3,244,000	3,082,000	3,750,000	3,779,000
Total Costs:		<u>\$421,168,000</u>		<u>\$469,993,000</u>

Edison projects its actual inventories for 1982 and 1983 to be \$521,943,000 and \$522,056,000, respectively, as shown on Edison's Exhibit 5R-Schedule 5.11, but states that it is requesting an allowance for the minimum inventory levels necessary for reliable operation of its stations. Edison's witness stated that it has developed its target inventory levels based on its actual experience with supply interruptions, and has found it desirable to maintain at least 70 standard days supply of coal at each station, indicating that it is the most prudent means of assuring coal supplies adequate to prevent station shutdowns in the event of supply interruptions.

The witness for the City of Chicago proposed that fuel inventories should represent only the Company's net cash investment and thus be reduced by accounts payable where the company has not yet paid for these charges. The witness stated such an adjustment would reflect a balance financed by investor supplied funds and thus would be properly includable in rate base. Using Edison's original 1982 test year and 17.1% for coal and 18.6% for

oil to calculate the dollar lag in payment as a percent of inventory, the reduction in pricing of fuel inventories would amount to \$28,700,000, as shown on Chicago's Schedule RB-4.

The Commission's Senior Engineer assigned to the Utility Systems Planning and Evaluation Section of the Economics and Rates Department utilized an average burn method to estimate Edison's 1983 fuel inventory allowance. The assumptions used by the Staff witness included an allowance of 75 days of average burn for railroad plants and 78.75 days of average burn for river plants; the calculations were made on an individual generating unit basis where data was available. The 78.75 day allowance for river plants reflects a nine month allowance of 75 days plus a three month allowance of 90 days because of the possibility of a river freeze. Inventory coal costs at each plant calculated from Company data and Edison's forecast of coal in transit and at the terminal were used by this witness. To calculate residual fuel oil quantities, the highest months were used to determine the average daily burn. A 90-day inventory at Collins was allowed in recognition of the fact that exact burn forecasts for cycling plants are unlikely. Reviewing the first four months of 1982 and the U.S. Department of Energy's Weekly Petroleum Status Report of May 28, 1982, this witness determined that the proper cost of oil should be the unescalated cost of oil delivered in April, 1982, and therefore projected a zero escalation from April, 1982 through the test year 1983. Staff witness's adjustment, based on Edison's initial direct testimony results in a fossil fuel inventory allowance of \$338,347,000, a reduction of \$196,225,000 from the Company's proposed initial allowance and \$131,500,000 reduction in the Edison's revised inventory allowance presented on rebuttal.

On rebuttal, Edison's witness contended that, if inventories were actually kept at the levels proposed by Staff, the Company would have been required to curtail operations at four stations during January through March of 1982, and that the oil inventory at Collins Station would have satisfied only two-thirds of the station's actual needs during the first three months. In its Brief, Respondent argues that it would be inequitable to impose Staff's "rough-and-ready" calculation of fuel inventory for rate-making purposes since it does not represent a level which is useful for planning purposes. Respondent also states that Staff's forecast of 1983 oil prices, as well as the prices in the second half of 1982 are unrealistic and unsupportable. Edison's witness also points out that Staff adjustment computation omits any undistributed handling costs applied on a system basis, which are estimated to be \$4,000,000 and should be included in the fuel inventory allowance.

The Commission adopts the average burn method proposed by Staff's witness. It is clear from cross-examination of Respondent's witness that Edison's day-to-day inventories vary depending on draw down or resupply. For purposes of ratemaking, normalization of fluctuating quantities is the appropriate method of determining the amount of inventory. The Commission finds at this time that Edison's earlier forecast for an upturn in the economic conditions in the last half of 1982 has not materialized. However, based on the 1982 inflation rate of approximately 6% as shown in government statistics, the Commission is of the opinion that oil prices should be calculated at a 6% inflation rate beginning with April, 1982. The Commission also finds that a 6% inflation rate is appropriate in determining Edison's coal inventory for all of 1982 and 1983. An apportionment of payables between the investment in fuel inventories included in rate base and the amount excluded from rate base is appropriate since current carrying charges on those inventories will not be recovered. Using Staff's methodology as shown in Staff Exhibit ERD 1.1, and allowing for undistributed handling costs of \$4,000,000, the appropriate allowance for coal would be

\$172,657,000, residual oil \$155,905,000, peaker oil \$10,206,000, ignition oil \$3,736,000 resulting in an allowance for Fossil Fuel Inventories of \$346,504,000. Apportionment for offsetting payables for inventory not in rate base will be calculated on the overall determination of Working Capital Allowance.

Calculations of Working Capital Allowance
Other than Fuel Inventories:

Edison's Supervisor of the Budget Staff testified regarding the Company's Working Capital Allowance. Included under this item is the Fossil Fuel Inventory which was separately described by a different witness, as set forth under the previous sub-heading.

Edison's witness explained his method as a formula approach which focuses exclusively on the major amounts of revenues and expenses related to current electric operations. The expenses considered were coal and fuel oil expenses, purchased power, payroll expenses included in operation and maintenance expenses, other operation and maintenance expense, revenue taxes, invested capital taxes, real estate taxes and income taxes. The amount of revenues included in the formula is equal to the amount of expenses analyzed. The witness indicated that he did not use the balance sheet method, which, if properly performed, would yield a similar result, because of the difficulty in applying it correctly. The witness indicated that the balance sheet approach requires segregation of the Company's balance sheet accounts that pertain to above-the-line operations from those that pertain to below-the-line activities.

In his direct testimony, Edison's witness estimated the 1983 test year figures for materials and supplies inventories based on an annual rate of increase of 9% from September 30, 1981 actual amount. Based on a historical average rate of increase and the effect of LaSalle Unit 1 coming into service in 1982, the witness indicated that the 9% increase was a conservative estimate. Final revised figures were given in rebuttal testimony and set forth in Edison Exhibit 4F-Schedule B-5, updated August, 1982 (based on 12 months actual data for 1981). A thirteen month average actual balance for the period ended June 30, 1982, reduced for a nonrecurring payment, was used for Prepayments and Working Funds. Based on an analysis of unreimbursed operating expenses and the minimum cash balance, the witness concluded that the accrual of operating expenses prior to payment was sufficient to reimburse the Company for services provided for which the Company had not yet received payment, and consequently, there was no request for either unreimbursed operating expenses or minimum cash balances. Edison's forecast did not include any adjustment for the increased quantities of materials and supplies which can be expected to be on hand in 1983, according to this witness.

A summary of Edison's working capital requirements, including its fossil fuel inventories forecasts, all as presented in Edison Exhibit 4F-Schedule B-5 is shown below:

Allowance for Working Capital
(In Thousands)

Item	Edison Rebuttal		
	1981 Actual	1982 Proposed	1983 Proposed
Fossil Fuel Inventories	\$385,601	\$421,168	\$469,993
Materials & Supplies Inv.	91,060	99,878	108,867
Prepayments & Working Funds	13,133	13,233	13,233
Unreimbursed Operating Expenses	-	-	-
FUEL INVENTORY & WORKING CAPITAL REQUIREMENTS	<u>\$489,794</u>	<u>\$534,279</u>	<u>\$592,093</u>

Staff's Accounts and Finance witness and an economic consultant appearing on behalf of the Federal Executive Agencies ("FEA") both propose the calculation of working capital based on the balance sheet approach. While Edison's proposed working capital allowance is based on a recent 12-month average experience adjusted to a 1983 forecast level, FEA's determination consists of an analysis of all dollar inflows and outflows experienced over a recent 12-month period, adjusted to 1983 forecast. Staff's method, which is similar to that proposed in Docket 80-0546, is based on a 12-month average. These proposals are generally similar, with the exception of certain items where there is a difference of opinion as to whether the source of the funds is investor capital or obtained at zero cost (ratepayer supplied).

The Commission is of the opinion that the balance sheet approach is preferable to the method proposed by Edison since it is a more complete statement of the data necessary for a complete and methodologically sound working capital determination. Respondent should present a balance sheet analysis of its working capital allowance, at least as an alternative, in its future rate cases.

Certain sources of capital have been argued by FEA, Staff and Edison as to their proper inclusion in the balance sheet approach. In rebuttal, Edison's witness indicated that Staff's method was appropriate in segregating the Company's balance sheet accounts that pertain to above-the-line operations from those that pertain to below-the-line operations. The principal below-the-line activity for Edison is construction of new plant and the carrying costs on that investment are recovered through Allowance for Funds Used During Construction ("AFUDC") where that investment has not been included in rate base. Edison contends that three items were incorrectly attributed to above-the-line operations by Staff's witness: (1) real estate payables associated with plant under construction, (2) interest payable associated with plant under construction, and (3) payables to fossil fuel suppliers on that amount of fossil fuel not included in rate base. The Commission agrees that a pro rata portion of the fossil fuel payables of the Company should be excluded in a working capital analysis.

However, as indicated in cross-examination of Edison's rebuttal testimony by Staff counsel, FERC's revised formula for calculating the AFUDC rate directs that the utility adjust to actual year-end balances rather than average actual book balances if the gross AFUDC rate exceeds by more than one-fourth of a percentage point the utility's actual thirteen monthly balances of CWIP and actual weighted average cost and balances for certain short-term debt outstanding during the year. In this instance the witness agreed that it was quite possible that Edison would earn as much as twenty-four basis points above its cost of capital. The Commission therefore rejects Edison's arguments that

costs related to construction costs should be exclusively below the line. Staff witness's adjustment for real estate and interest payable associated with plant under construction should be accepted.

FEA's witness identified the following items as not properly includable in a balance sheet determination of working capital: (a) temporary cash investments and unamortized debt discount and expense should be excluded from current and accrued assets and deferred debits since a return on these funds was allowed for elsewhere; (b) notes payable, current maturities of long-term debt and dividends declared, other deferred credits, injuries and damages reserve and miscellaneous operating reserves should be excluded from the determination of current liabilities as representing non-investor-supplied capital, or capital on which a return is not necessary. In its Initial Brief, Edison summarizes its rejection of FEA's analysis, indicating a failure to segregate the Company's electric operations from its below-the-line activities. Specifically, Edison contends that the FEA witness failed to (a) segregate accounts payable due to construction activities from other accounts payable; (b) exclude receivables from and payables to unconsolidated subsidiaries; (c) include unbilled revenues and hence "unbooked" receivables though corresponding expenses and payables were included and (d) recognize that Edison pays interest on customer deposits.

The City of Chicago's utility consultant recommended that Materials and Supplies Inventories included in rate base be reduced for the following reasons. The witness stated that there was no offset made to reflect applicable accounts payable. The Commission's adoption of the balance sheet approach correctly makes this adjustment. This witness, and Staff in its Position Paper filed on October 21, 1982, recommend that an annual escalation factor of 6% rather than Edison's 9% factor be used to project the Materials and Supplies Inventory balance from the latest known balance to the rate base date. Edison contends that the methodology used is the same as that employed in previous cases, and that the proposed amount of inventory is conservative since it does not include a separate increase for increases in the quantity of materials and supplies inventory. The Commission, as it has already stated in its treatment of the Fossil Fuel Inventory, will rely on the most recent forecasts of economic conditions for 1983 as shown in Data Resources, Inc. and other similar publications, and therefore finds that the proposal to adjust the 9% inflation factor to 6% for Materials and Supplies Inventories is reasonable.

The witnesses representing FEA and the City of Chicago also proposed that customer deposits in the amount of \$36.2 million be deducted from rate base, indicating that although such deposits are not cost free to Edison, the funds are non-investor provided and the net cost to the Company is substantially below the overall cost of capital. The witness stated that, consistent with this adjustment, interest on customer deposits should be included in pro forma operating expenses. The Commission is of the opinion that, with the revision of Rule 7 of General Order 172, in which the interest rates on customer deposits were adjusted so that the annual rate is based on the interest rate paid on United States Treasury notes, this adjustment is no longer appropriate. The Commission is also aware that there is a certain amount of administrative expense required in the collection and booking of customer deposits and that, in some instances, these deposits must be applied to pay arrearages.

The proper methodology in using the balance sheet approach would require (1) segregation of those items associated with

electric operations from "below the line" items and (2) association of all expenses to the respective payable item. In his analysis of the balance sheet items, the FEA witness stated on cross-examination that unamortized debt expense was excluded from deferred charges by Edison and consequently this adjustment should not be made to working capital allowance. It was also agreed that the total amount of CWIP in rate base, accepting the \$525,000,000 proposed herein, would also include that amount attributed to the Dresden Unit as well as small projects, bringing the total CWIP in rate base to approximately \$565,000,000 for purposes of calculating above and below the line allocations. FEA's proposed treatment for unbilled revenues is proper and should be reflected in the calculation of working capital to the extent that expenses lead revenues by approximately 15 days. Other adjustments proposed by this witness appear to have been either properly accounted for in Edison's calculation of working capital, or are generally offset by a comparable cost to the Company. The remainder of FEA's adjustments should not be made except to the extent that a similar adjustment proposed by the other witnesses has been accepted in the discussion under this subject heading. For purposes of determining the proper amount of Working Capital Allowance to be included in rate base, the following summary shows Edison's proposed working capital allowance adjusted as herein approved. The calculation of Fossil Fuel Inventories allowable reflects an adjustment for that amount of fuel purchased but not included in inventory.

Allowance for Working Capital

<u>Item</u>	<u>Edison</u>	<u>Adjustments</u>	<u>As Adjusted</u>
Fossil Fuel Inventories	\$469,993,000	\$(123,489,000)	\$346,504,000
Materials & Supplies	108,867,000	(9,448,000)	99,419,000
Other Net Working Capital:			
Liabilities Over Assets		\$(214,790,000)	\$(214,790,000)
Prepayments	13,233,000	(13,233,000)*	-
Accounts Payables on CWIP		24,611,000	24,611,000
Working Capital Related to Unconsolidated Subsidiaries		15,364,000	15,364,000
Customer Deposits		26,706,000	26,706,000
Pro Rata Accounts Payable Related to Fuel not in Rate Base		41,230,000	41,230,000
Overall 12.36% inflation adjustment on other Net Working Capital**		(11,510,000)	(11,510,000)
FUEL INVENTORY & WORKING CAPITAL REQUIREMENTS	\$592,093,000	\$(264,559,000)	\$327,534,000

* - Included in Liabilities over Assets.

** Effective rate of 10.77%, using 6% for balance of 1982 - starting with April, 1982, as proposed by FEA witness.

The amount of Fuel Inventories and Working Capital Requirements to be included in rate base should be indicated as \$327,534,000.

Deferred Investment Tax Credit

The City of Chicago proposed that the pre-1971 accumulated deferred investment tax credits be deducted from rate base, said reduction amounting to \$18.9 million. This proposal is not consistent with the accounting used by Edison and approved by the Commission for ratemaking purposes in previous cases. In regard to those investment tax credits ("ITC's") booked after 1970, the

federal tax law requires that amortization of deferred credits to the cost of service should be made ratably over the life of the property and prohibits a deduction of the unamortized portion of deferred ITC's from rate base. The intent of Congress in establishing this rule was to assure that the benefits of ITC's are shared by both the utility and its customers. The Commission finds that this rationale for not excluding deferred ITC's from rate base is equally applicable to ITC's booked prior to 1971. The City of Chicago's proposal should not be accepted.

Construction Work in Progress

Respondent proposes that \$525,000,000 of construction work in progress related to LaSalle Unit 2 be included in rate base; said proposal would automatically cause a cessation of Allowance for Funds Used During Construction ("AFUDC") on that portion of CWIP added to rate base. The amount proposed represents approximately the same percentage (50%) as was allowed by the Commission with respect to construction work in progress for LaSalle Unit 1 and would be about 10% of the total CWIP estimated to be \$5,631,000,000 at December 31, 1983, without giving effect to the expected completion of LaSalle Unit 2. With LaSalle Unit 1 officially placed in service on October 24, 1982, all CWIP associated with that unit is now included in plant in service for 1983. Edison's Exhibit 3F-Schedule 3.4 also lists \$44,200,000 of CWIP on which interest has not been capitalized and is comprised of \$18,700,000 of short-term projects and \$25,500,000 attributed to Dresden Unit 1 at December 31, 1983.

Edison's Financial Vice President testified in support of the proposed inclusion of 10% of CWIP in rate base, as did other of Edison's witnesses. In its Brief, Edison states that inclusion in rate base of a portion of the Company's investment in CWIP is an important part of the permanent relief required, particularly in view of the magnitude of its investment in CWIP and its continuing external financing requirements throughout 1983. Edison's Exhibit 1F-Schedule 1.6, summarized below, indicates its five year forecasted financing requirements from 1982 through 1986:

1982	\$1,407,000,000* (\$734,000,000 completed as of August 4, 1982).
1983	1,070,000,000
1984	380,000,000
1985	-
1986	95,000,000

*Includes the amount needed to reduce commercial paper balances by \$608,000,000 in 1982.

Edison's Vice President emphasized the importance of quality of earnings on the Company's ability to attract capital. The witness stated that, under pre-interim rates, AFUDC comprises 86% of earnings per common share in 1981, 100% in 1982 and 143% in 1983. (Edison's Brief shows AFUDC levels at 82% and 105% in 1982 and 1983, respectively, under interim rates.) The witness also stated that the inclusion of at least a portion of the construction work in progress associated with large projects in the rate base serves to "feather in" the necessary increases and avoids sudden and dramatic increases in rates, adding that, when CWIP is included in rate base, no AFUDC is charged, the book cost of completed projects is lower and future rates are lower than they would have been if AFUDC had accumulated.

This witness explained that, during the construction period, the amount of the utility's reported earnings is not significantly affected by the change in treatment, but the quality of earnings

improves. The cash earnings resulting from rate base treatment are included in indenture coverage computations, thus increasing financing capability while at the same time reducing reliance on external financing, improving the utility's overall health and reducing its capital costs.

The City of Chicago's consultant or utility regulation testified that the most important factor to focus on in determining the proper level of CWIP to be included in rate base is that such level is a "cash flow" issue, not an earnings issue, and that, as long as the net of tax AFUDC rate approximates the net of tax rate of return allowed by the Commission, the level of CWIP included in rate base will not affect the Company's reported earnings, but will affect cash flow and the level of outside financing necessary. The witness selected the ratio of "Internal Generation as a percent of Construction Expenditures" as most relevant in determining the adequacy of cash flow, choosing 39.6% based on utility averages over the past several years. The witness calculated that, based on construction expenditures of \$1,109,300,000 exclusive of AFUDC, the Company would have to improve its internally generated cash flow by \$432,100,000 in 1983 to achieve a 35% ratio, before the effects of reduced financing resulting from the rate increase, concluding that an increase of \$528,000,000 would be necessary to increase internally generated cash flow by \$432,100,000. After examining other financial ratios, the witness concluded that there should be no inclusion of CWIP in rate base if a revenue increase of over \$530,000,000 were granted and that the entire amount of \$525,000,000 should be included if the revenue increase granted were less than \$400,000,000.

Cross-examination of Chicago's witness by Edison suggests that, if the Commission adopts his method in evaluating how much CWIP should be included in rate base, it should at least consider how much would be necessary to bring Edison's Internal Generation ratio in line with that experienced by single A rated companies, rather than averaging this ratio for all companies. Using this criteria and more recent financial data, the resulting ratio to be considered would be closer to 50%.

In Edison's last two rate cases, as well as other cases, the Commission determined that inclusion of CWIP in rate base is appropriate where the ratio of CWIP investment to total assets has become so great that it could impair financing. The methodology for calculating what amount, if any, CWIP should be included in rate base, as proposed by the City of Chicago, has merit, but should not be used as the single determinant in arriving at this decision. The Commission is of the opinion that its present standard encompasses the criteria proposed by the City of Chicago without precluding other factors which should be considered.

Staff witness representing the Commission's Accounts and Finance Department presented a proposal concerning CWIP in rate base, which shall be referred to hereafter as the "Negative CWIP Plan." This proposal is intended to provide a possible alternative solution to certain regulatory and economic implications arising from Edison's huge construction program and the present standard methods of providing for the cost of capital incurred during the construction period, i.e. a portion of CWIP included in rate base vs. AFUDC.

In an analysis of this issue, five criteria were established to evaluate alternative methods of financing and accounting for Edison's current construction program: (1) the cost of each alternative; (2) the equity of each alternative (from an inter-generational standpoint); (3) the effects of each alternative on financial integrity; (4) the effects of each alternative on

accounting principles and (5) other criteria. The witness concluded that his proposal would (1) minimize the intergenerational inequities resulting under either (a) CWIP in rate base or (b) allowance for funds used during construction (AFUDC); (2) provide a more efficient mechanism for preserving Edison's financial ratios in addition to the traditional adjustments to rate of return by allowing Edison to recover certain construction costs as cash during heavy financing periods; (3) present the least costly alternative to ratepayers and Edison; (4) more properly reflect the plant's cost over time and (5) provide an optimal solution of the problems inherent in either CWIP in rate base or AFUDC policies by including certain accumulated construction costs in rate base while symmetrically removing equal amounts once plants become operational.

In commenting on the shortcomings of both CWIP in rate base and the AFUDC method, the witness stated that AFUDC generally fails to provide sufficient cash earnings to meet financing requirements and does a poor job of providing ratepayers with adequate price signals; the CWIP method, while usually less costly than the AFUDC method, raises the rates during the construction period and distorts the cost of assets downward because, once the plant becomes operational, cash flow and utility prices are lower than if CWIP had not been included in rate base, thus requiring higher rates in succeeding rate requests.

The witness's proposal would remove amounts of CWIP previously allowed in rate base and "restores" AFUDC once plants become operational. To explain, the witness identified the periods of lower rates throughout the life of the plant as the CWIP in rate base "payback period." Past allowances of CWIP in rate base would be removed from rate base for periods corresponding to the length of time that specific amount of CWIP was originally included in rate base during construction; during this same time period, AFUDC is "restored" on that amount of CWIP excluded. After the "Negative CWIP" has been removed from rate base, for the appropriate length of time, the rate base should be increased by both the "Negative CWIP" and the "restored" AFUDC. The plant is then depreciated in the normal manner for the rest of its useful life. To insure proper functioning of this program, Edison would be required to record, as memorandum accounting entries, "Foregone AFUDC on CWIP in Rate Base." When all of the CWIP is finally restored to rate base, the cost of Edison's plants should correspond to the cost had CWIP never been included in rate base (as though AFUDC had been used exclusively).

The exact timing of the proposed plan is dependent on a utility's financial integrity and price signals. Based on Edison's present program of the construction of six nuclear plants concurrently, the following schedule was proposed by the witness:

1. Allow a certain amount of CWIP in rate base in the present case. This amount could be more or less than what has been requested and should reflect cash flows sufficient for financial integrity and an equity (and/or AFUDC) reflecting such decreased risk.
2. In the next rate case, when Edison's LaSalle Unit 2 and Byron Unit 1 should come into service, no CWIP should be allowed in rate base.
3. In the case where Byron Unit 2 comes into service, begin deducting previously allowed CWIP from rate base and restoring AFUDC.

Various models and graphs prepared by this witness show that

the principal effect of this proposal is the removal of the sharp peak in rates that exist when plants become operational under either CWIP in rate base or AFUDC accounting. The witness concludes that the smoothing of rates under this plan produces results which are both economically efficient and equitable.

Respondent asks that the Commission refrain at this time from addressing the merits of the Negative CWIP Plan with respect to future cases, contending that the proposal raises questions which cannot be definitively answered on the record now before the Commission. In its brief, Edison states that announcement of the Commission's intent with respect to future cases can have an important impact on the credit worthiness of the Company, depending on the answers to those questions. Among some of the issues raised by Edison are (1) whether revenues resulting from CWIP in rate base would not be reclassified as a "repayment" to customers under the Negative CWIP Plan and therefore treated as proceeds of a loan rather than as current revenues; (2) the risk of a large negative adjustment of earnings could seriously affect the quality of earnings as perceived by the financial community; and (3) the recording of AFUDC as "Negative CWIP" may not be possible under generally accepted accounting principles because such accounting principles provide that AFUDC capitalization shall end when an asset is substantially complete and ready for its intended use. Edison concludes that, because of the potential for significant adverse consequences which may not have been contemplated or intended, the proposal should be given a considerable amount of additional study.

The Commission, in reviewing the Negative CWIP Plan, is of the opinion that it addresses some of the serious objections raised by various parties in this and other rate cases. This specific proposal does raise some as yet unanswered questions. It also, however, does clearly provide some solutions to such issues as cash flow and financing needs which occur during extended periods of construction and plant additions, avoidance of extraordinary changes in rate base and rates, correct pricing signals and a more reasonable representation and procedure for accounting for plant costs. The Commission is of the opinion that the Negative CWIP Plan has more, on balance, to recommend it than the possible deficiencies raised by Edison. Respondent is hereby directed to research the applicability of the Negative CWIP Plan in future cases and resolve the issues raised herein, together with any other problems which such a proposal may present, this study to be conducted in conjunction with the Commission Staff with the expectation of producing a positive and workable proposal. This project should be completed and a report filed with the Chief Clerk's Office not later than six months from the date of this Order; copies of the report should also be served on the Manager of the Commission's Public Utility Division and the Examiner in this case, with copies made available to all parties on request.

The Commission's standard for allowing the inclusion of CWIP in rate base has been enunciated in prior cases and is restated here:

The Commission views the investment of funds in CWIP as used and useful to the benefit of the customer which may be included as a component of the rate base when, pursuant to a certificate of convenience and necessity granted by the Commission for construction of such plant, the investment grows to a point where its significance is so great that it could impair financing.

The record in this case establishes that Edison's dependence on noncash AFUDC as a source of income is unreasonably great, particularly when compared with A-rated electric utilities. Cash

earnings resulting from the inclusion of CWIP in rate base are included in indenture coverage computations, thus enhancing Edison's ability to issue first mortgage bonds, its lowest cost financing, as well as reducing reliance on external financing from added cash generation. Edison's external financing requirements will continue to be significant through 1983, as indicated on page 41 of this Order. The Commission is of the opinion that \$525 million in CWIP associated with LaSalle Unit 2 should be included in rate base, as requested, based on the necessity of Edison maintaining its ability to secure this financing at the lowest possible cost to the Company and its ratepayers. This level of CWIP, combined with the Company's expenses and cost of capital recognized in this Order, is intended to achieve a quality of earnings which will enable the Company to finance at the most reasonable costs.

In the instant case, the Commission finds that the high percentage of AFUDC in Edison's total earnings is adversely affecting Respondent's financial integrity. By including a portion of construction work in progress in rate base, interest on funds used during construction cease to accrue on that portion of CWIP, the replaced portion of AFUDC will not continue to be capitalized as cost of plant in service, additional cash return provided by the inclusion of a portion of the investment in CWIP in rate base is available to service outstanding capital, and the need to sell additional securities for the payment of interest and dividends is reduced. The record made in this case clearly establishes that both present and future customers will share in the benefits resulting from the reduction in these financing costs. The Commission's decision to include CWIP in rate base and its rationale for doing so, has been upheld by Illinois courts.* In the Illinois Power case, the court also stated that it was not necessary that the Commission demonstrate its mathematical calculations as to the amount of CWIP to be included in rate base, noting that the Commission had broad discretion in such decisions.

Fair Value

Edison's Comptroller testified that proper consideration should be given to the impact of inflation in the determination of fair and reasonable rates. Edison's Exhibit 3F-Schedule B-1, updated August, 1982, presents a basis for determining the fair value of the Company's net electric utility plant and working capital. No adjustments were made in arriving at the current costs of construction work in progress and property held for future use for inflation. Edison's fair value is determined by giving 67% weighting to historical dollars and 33% weighting to current cost dollars based on a capital structure of 67% long-term debt and nonconvertible preference stock and 33% convertible preferred stock and common stock.

The current cost of nuclear generating equipment was based on the cost of constructing new capacity at forecasted price levels at December 31, 1983. The current cost of all other plant and equipment was measured by using the Handy-Whitman Index of Public Utility Construction Costs applied to plant accounts by vintage years forecasted to December 31, 1983.

* Citizens for Better Environment, Plaintiff-Appellant v. Illinois Commerce Commission, Defendant-Appellee, Illinois Power Company, Plaintiff-Cross Appellant v. Illinois Commerce Commission, Defendant-Cross Appellee, American Steel Foundries, Division of Armsted Industries, Inc. et al, Plaintiffs v. Illinois Commerce Commission, Defendant-Appellee (Illinois Power Company, Defendant-Appellee and Cross-Appellant). Georgia Hampton, et al., Plaintiffs-Appellants v. Illinois Commerce Commission et al., Defendant-Appellees. 103 Ill. App. 3d 133 (1981)

The accumulated provision for depreciation of plant and equipment in service was estimated for each major class of plant and equipment - nuclear production, fossil production, other production, transmission, distribution and general plant. The method used was to multiply the current cost of each class by a percentage representing the ratio of historical accumulated book depreciation to the historical cost of existing nuclear fuel, with an appropriate deduction for accumulated provisions for amortization and for spent fuel disposal costs. The accumulated amortization was calculated by multiplying the current cost data by a percentage representing the ratio of historical accumulated amortization to the historical cost of nuclear fuel.

Edison's Exhibit 3F-Schedule B-1, referred to above, indicates the Company's Jurisdictional Rate Base Summary showing original cost and fair value rate base for net electric utility plant and working capital for retail customers at proposed rates for the year ended December 31, 1983, and is summarized as follows:

Historical Dollars	\$ 6,854,530,000
Restated to Current Cost	18,554,100,000
Minimum Fair Value	10,534,600,000

A utility engineer in the Engineering Department of the Commission's Public Utilities Division presented the results of a study conducted of the Current Cost New Less Depreciation ("CCNLD") of Respondent's electric plant in service as of December 31, 1982 and December 31, 1983. Current Costs New, as developed by the Company were found to be acceptable, with the exception of Land and Land Rights Accounts, where the witness applied original cost. This treatment has been accorded in the past where current land appraisals were unavailable. The witness selected the straight line method of depreciation to develop Respondent's Current Cost New Less Depreciation, stating that this method is fairer in that it allocates depreciation equally over the life of the property. For the years ending December 31, 1982 and December 31, 1983, the witness explained that CCNLD was developed by trending the years 1981 and 1982, respectively, using the Handy-Whitman indices of cost trends of electric utility construction. Plant additions in 1982 were trended for one year in 1983. 1983 plant additions were added at original cost. The additional depreciation for each year was calculated by use of the applicable depreciation rates for the major accounts.

The general principles used by the Staff witness have been adopted by the Commission in previous rate cases, involving Northern Illinois Gas Company, Peoples Gas Light and Coke Company, North Shore Gas Company and Central Illinois Public Service Company (see particularly the Commission's Order in Docket 80-0318).

In developing fair value of Respondent's rate base, the methodology proposed by the Staff witness should be adopted. Edison's proposed weighting factor of 67%/33% based on a ratio of fixed obligations and current costs as determined by its capital structure is inappropriate. Other sources of capital, i.e., accumulated deferred income taxes, customer deposits and investment tax credits, are not reflected in the 67%/33% weighting. As the Commission indicated in Dockets 79-0214 and 80-0546, consideration should be given to the fact that the original dollars collected for deferred income taxes and investment tax credits are amortized to income without regard to the time value of the sums collected. In view of these factors, the Commission concludes that a weighting of 33% for current cost is too high and that net plant and working capital restated to current dollars should be given a 76%/24% weighting for fair value purposes.

Summary of Rate Base

Giving consideration to all of the foregoing related to rate base, the Commission concludes that Respondent's original cost rate base using a 1983 test year and based on an average rate base, is \$6,418.91 million. Adopting the current cost value proposed by Edison, as modified by Staff adjustments, and giving a weighting of 76%/24%, Respondent's fair value rate base is \$8,204.83 million. Edison's original cost rate base, adjustments approved by the Commission and restatement in terms of fair value, are summarized as follows:

PRO FORMA RATE BASE
(In Millions)

	Forecasted Proposed Rates 1983 Test Year	Adjustments Averaging Adjustments	Other	As Adjusted
<u>ELECTRIC UTILITY PLANT AT ORIGINAL COST</u>				
Plant in Service	\$9,753.77	\$(162.13)	-	\$9,591.64
Deduct:				
Accumulated Provision for Depreciation	\$2,924.10	\$(159.77)	-	\$2,764.33
Accumulated Deferred Income Taxes	1,112.77	(23.57)	-	1,089.20
Contributions in Aid of Construction	122.09	(4.94)	-	117.15
Customer Advances for Construction	2.10	(.06)	-	2.04
Accrued Reclamation Expense	53.94	(5.20)	-	48.74
Other Deferred Credits - Deferred Benefits from November, 1981 to Sale/Lease- back Applicable to ACRS Deductions Sold	9.32	.37		9.69
Net Electric Utility Plant at Original Cost	\$5,529.45	\$ 31.04		\$5,560.49
<u>Weighted Value of Net Electric Plant:</u>				
Net Electric Utility Plant at Original Cost Weighted 76%				\$4,225.99
Net Plant Restated to Current Value Weighted 24%				3,144.18
				<u>TOTAL \$7,370.17</u>

OTHER RATE BASE ITEMS

Additions:				
Unamortized Cost of Nuclear Fuel in Reactor, Held for Reprocessing, & Stock Account	\$(8.46)	\$ 65.04	-	\$ 56.58
Property Held for Future Use	34.35	0.55		34.90
Construction Work in Progress on which AFUDC is not being Capitalized (including Dresden Unit I and small projects)	45.47	(2.18)	-	43.29
Construction Work in Progress	525.00	-	-	525.00
Working Capital Requirements				
Fossil Fuel Inventories	469.99	-	(123.49)	346.50
Materials and Supplies				
Inventories	108.87	-	(9.45)	99.42
Other Net Working Capital	13.23	-	(131.62)	(118.39)
Deduct:				
Operating Reserves	46.64	(2.07)	-	44.57
Total Other Rate Base Items	<u>\$ 1,141.81</u>	<u>\$ 65.48</u>	<u>\$(264.56)</u>	<u>\$ 942.73</u>

PRO FORMA RATE BASE
(In Millions)

	<u>Forecasted</u> <u>Proposed Rates</u> <u>1983 Test Year</u>	<u>Adjustments</u> <u>Averaging</u> <u>Adjustments</u>	<u>Other</u>	<u>As</u> <u>Adjusted</u>
<u>ORIGINAL COST RATE BASE</u>				
Net Electric Utility Plant at Original Cost				\$5,560.49
Other Rate Base Items				942.73
				<u>\$6,503.22</u>
*Less Allocation of Sales to Reselling Municipalities (1.3% of above)				84.54
				<u>TOTAL \$6,418.68</u>

FAIR VALUE RATE BASE

Weighted Value of Net Electric Utility Plant				\$7,370.17
Other Rate Base Items				942.73
				<u>\$8,312.90</u>
*Less Allocation of Sales to Reselling Municipalities				108.07
				<u>TOTAL \$8,204.83</u>

*Represents 1.3% of total Net Electric Utility Plant and Working Capital

REVENUES, EXPENSES AND ELECTRIC OPERATING INCOME

The following summarizes Edison's actual revenues, expenses and electric operating income for 1981 as shown on Edison's Exhibit 2AB-Schedule C-13, Page 1 and its forecasts for the year ending December 31, 1983, under present and proposed rates as shown on Edison's Exhibit 2F-Schedule C-13, Page 1, updated August, 1982, together with the rate of return on the original rate base approved by the Commission in this Order.

PRESENT-PERMANENT RATES
(In Millions)

	(A) ACTUAL 12/31/81	(B) FORECASTED 12/31/83
Electric Operating Revenues	\$ 3,735.0	\$ 3,945.8
Electric Operating Expenses:		
Operation and Maintenance Fuel	\$ 1,180.6	\$ 1,376.0
Purchased and Interchanged Power	281.0	270.4
Under Recoveries of Fuel Cost	-	(97.5)
Other Operations and Maintenance		
Production	330.5	468.4
Transmission and Distribution	139.1	172.4
Customer Accounts	76.1	97.6
Sales	4.5	5.8
Administrative and General	191.0	235.5
Depreciation	278.3	359.0
Taxes Other Than Income Taxes	429.8	477.8
Income Taxes - Federal	112.0	128.9
Income Taxes - State	19.0	(.2)
Investment Tax Credits - Deferred	23.2	(130.6)
Amortization of Investment Tax Credits		
- Credit	(7.2)	(10.0)
Provision for Deferred Income Taxes	71.2	162.5
Income Taxes Deferred in Prior Years		
- Credit	17.7	(33.3)
Total Electric Operating Expenses	\$ 3,146.8	\$ 3,482.7
Electric Operating Income - Total	\$ 588.2	\$ 463.1
Deduct:		
Allocation to Reselling Municipalities (1.2%)	\$ 7.1	\$ 5.6
Electric Operating Income - Ultimate Consumers	\$ 581.1	\$ 457.5
Net Electric Utility Plant and Working Capital*		\$ 5,900.51
Rate of Return - Ultimate Consumer (Present Permanent Rates)		7.754%

* This rate base figure is calculated based on Respondent's present permanent rates, adjusting Edison's Exhibit 3F-Schedule 3.1, in the same manner as set forth on pages 25 and 26.

Forecasted present-permanent rates for 1983 exclude all effects of the interim increase permitted in this docket and are based on July 9, 1982 forecasts as shown in Edison's Exhibit 10R. The updated output forecasts for 1983 have been revised from 69,300 gigawatthours ("gwh") as originally filed to 66,900 gwh; the corresponding sales forecast was reduced from 63,411 gwh to 60,890 gwh.

PROPOSED RATES***
(In Millions)

	(C) FORECASTED 12/31/83****	(D) REVISED FORECAST 12/31/83*****
Electric Operating Revenues	\$ 4,750.7	\$ 4,718.2
Electric Operating Expenses:		
Operation and Maintenance Fuel	\$ 1,376.0	1,376.0
Purchased and Interchanged Power	270.4	270.4
Under Recoveries of Fuel Costs	(97.5)	97.5
Other Operation and Maintenance		
Production	468.4	468.4
Transmission and Distribution	172.4	172.4
Customer Accounts	97.6	97.6
Sales	5.8	5.8
Administrative and General	235.5	235.5
Depreciation	359.0	359.0
Taxes Other Than Income Taxes	542.2	539.6
Income Taxes - Federal	142.8	142.6
Income Taxes - State	45.5	43.6
Investment Tax Credits - Deferred	173.9	161.3
Amortization of Investment Tax		
Credits - Credit	(15.3)	(15.3)
Provision for Deferred Income Taxes	162.5	162.5
Income Taxes Deferred in Prior		
Years - Credit	(33.3)	(33.3)
Total Electric Operating Expenses	\$ 3,905.9	\$ 3,888.6
Electric Operating Income - Total	\$ 844.8	\$ 829.6
Deduct:		
Allocation to Reselling Municipal-		
ities (1.2%)	\$ 5.7	\$ 5.7
Electric Operating Income -		
Ultimate Consumers	\$ 839.1	\$ 823.9
Net Electric Utility Plant and		
Working Capital**	\$6,418.68	\$6,418.68
Rate of Return - Ultimate Con-		
sumer (Proposed Rates)	<u>13.073%</u>	<u>12.836%</u>

** This rate base figure is calculated on Respondent's proposed rates and is set forth on pages 25 and 26.

*** All accounts show adjusted balance gross of all taxes.

**** Revenues, expenses and operating income in this column represent a revenue increase of \$804.9 million as projected under the filed tariffs based on the initial output and sales forecasts of 69,300 gwh and 63,411 gwh, respectively.

***** Revenues, expenses and operating income in this column represent a revenue increase of \$772.4 million as projected under the filed tariffs based on the revised output and sales forecasts of 66,900 gwh and 60,890 gwh, respectively (Edison Additional Exhibit 1).

Staff Exhibits AF-2 and AF-15 summarize various adjustments to Edison's income statement and rate base; updated Staff Late Filed Exhibit 7 reflects those adjustments as they apply to Edison's updated exhibits presented on rebuttal.

Normalizing and forecasting Adjustments

Edison's testimony and exhibits, as initially filed on January 8, 1982, are based on nine months actual and three months estimated data for 1981 and assume that LaSalle Unit 1 would go into service in June, 1982, with LaSalle Unit 2 placed in service in October, 1983. This initial evidence shows 1981, 1982 and 1983 data, and specifically indicates 1981 and 1983 jurisdictional sales estimated at 60,613 million kwh and 63,411 million kwh, respectively, (Edison's Exhibit 2-Schedule C-14.4). At that time, the testimony presented by Edison's Comptroller assumed an increase in sales of about 2% in 1982 and a further increase of 2.5% in 1983. These estimates were based on an upturn in the economy in the second half of 1982 and a continuing recovery in 1983. In a series of exhibits filed in March, 1982, actual data was presented for 1981, as shown for example, in the income statement, Column A, present-permanent rates. At that time, expenses and revenues were also adjusted to reflect an in-service date for LaSalle Unit 1 of September, 1982. Although the projected in-service date for LaSalle Unit 2 was late in 1983, none of the rate base or income statements submitted by Edison included LaSalle Unit 2, other than Respondent's request to include \$525 million of construction work in progress associated with LaSalle Unit 2 in 1983 rate base. Updated exhibits reflecting forecasted data for 1982 and 1983 were filed by Edison on rebuttal based on 6-months actual and 6-months estimated data for 1982 and forecasted data for 1983. Edison's forecast assumes that weather, equipment and other major factors are relatively normal. To the extent that certain improvements in efficiency and productivity are expected to be realized in 1982 and 1983, Edison's Comptroller stated that the effects of such improvements are reflected in the forecasts.

An economic analyst in the Commission's Policy Analysis and Research ("PAR") Division presented his review of Edison's kilowatt hours sales and forecasts for the test year ending December 31, 1983 to illustrate the sensitivity of the 1983 forecasted test year operating income and rate of return to sales forecasts. This witness also provided an overview of Edison's forecasts of operation and maintenance (excluding fuel and purchased power) expenses, with the objective of evaluating the reasonableness of Edison's expenses forecasts by comparing the Company's historical levels of productivity with the forecasted levels.

In his review the Staff witness indicated that he had independently examined the peak load forecasts covering the ten year period of 1982 through 1991, the minutes of Edison's Load Estimates Committee ("LEC") meetings and various econometric models used by Edison to project gross energy output including separately forecast sales to residential class, small commercial and industrial ("C&I") class and large C&I class (Model A), Model 4 which measures weather sensitive and base load and Model 5 which measures forecasts of total peak loads. Each of these three models use variables designed to track changes in economic activity, price and weather conditions, as well as other variables. (Also included in this record are FEA exhibits of Edison's kwh output forecasts for 1981, 1982 and 1983.) The LEC on October 30, 1981, approved a ten year output growth rate of 2.25%, applying the weather adjusted 1981 output as the base. The 1982 and 1983 sales forecast assumed an economic slowdown in 1982 and an economic recovery in 1983. The witness criticized the documentation filed by Edison with its pre-filing requirements, indicating that there was no description or adequate summary of the sales forecasting process contained in any of the Company's written testimony or in the worksheet commentary. G.O. 210 requires that a utility selecting a current or future Test Year must present information indicating compliance with the "Guidelines for Systems for the Preparation of Financial Forecasts," as amended

("Guidelines") by the American Institute of Certified Public Accountants ("AICPA") and an opinion from an independent certified public accountant that the utility has complied with the guidelines. Edison's forecasting procedures were reviewed by Arthur Andersen & Co. whose opinion indicating conformance with the Guidelines has been made part of this record.

Several conclusions were drawn by the Commission's PAR witness: (1) there is a relationship between sales and peak load, (2) a very stable relationship exists between growth of gross state product and growth of electricity sales/consumption, (3) if sales in the test period are greater than the forecasted level, the earned rate of return on net electric plant and working capital would exceed the allowed rate of return; whereas, conversely, the utility's earned rate of return would be less than the allowed level when sales fall below the forecasted level. The witness indicated that particular scrutiny is given to determine whether the sales forecasts of a utility are too low. In this case, as in most instances in the past, the Company's forecasts are too high rather than too low, thus lowering the risk of the Company overrecovering revenues from its rate-payers.

In reviewing his analysis of Edison's forecasts of Operation & Maintenance ("O&M") expenses forecasts, the PAR witness stated that approximately 70 percent of the annual growth in total O&M expenses are explained by changes in input prices. A 10 percent escalation rate for all of the costs was assumed by the Company for the forecasted period. Edison assumed for budget purposes that payroll increases would be 10 percent annually and nonpayroll expenses would escalate from 9 percent to 10 percent annually.

At the direction of the Examiner, Edison filed certain updated exhibits, i.e., income statements, rate base and rate of return to reflect a reduction in revenues which would be realized from its proposed tariffs based on the July, 1982 revised output and sales forecasts for 1983 (Edison Exhibit 10R). As originally proposed, the increase in revenue is stated as \$804.9 million; this revenue increase is reduced to \$772.4 million based on the most recent forecasts of the Company, as detailed in the preceding footnotes to the Income Statements as shown on pages 27 and 28 of this Order. For the purposes of this Order, the actual energy sales of 61,229 gwh for 1981 correspond to Column A of the Income Statement showing revenues and expenses under present-permanent rates; Respondent's projected energy sales of 60,890 gwh for 1983 form the basis for present-permanent rates under Column B; Column D indicates proposed rates and are likewise based on Respondent's revised energy output and sales forecast for 1983.

The revenue and expense effects of Edison's proposed rates, assuming a revenue increase of \$804.9 million, are reflected in Column C of the Income Statement shown on page 28 of this Order. In its Reply Brief and in Oral Argument, counsel for Edison argued the propriety of a rate increase which exceeds the amount of revenue which its tariffs are expected to produce, citing Institute of Shortening and Edible Oils, Inc. v. Illinois Commerce Commission, 45 Ill. App. 3d 98 (1977). The Commission is of the opinion that, in exercising its authority to establish reasonable rates, it may increase or decrease the amount of revenue required from each of the classes of customers or types of service provided under the filed tariffs. Such adjustments by the Commission may properly result in an overall increase in revenue requirements in excess of the total revenue increase requested by the utility. In this instance, however, it is appropriate to recognize the

Company's revised sales forecast for 1983 and the resulting revenue which would result from its filed tariffs. In so doing, proper consideration is given to the projected state of the economy in the test year. This consideration is reflected in utilizing a projected revenue increase of \$772.4 million under the filed tariffs in the statement of operating income on page 28, Column D, as well as the income statement under proposed rates, as adjusted in this Order, shown on page 40.

For purposes of this Order, detailed data will not be presented for 1982; comparison will be made between 1981 actual figures and 1983 figures for present and permanent rates using the July 2, 1982 energy output and sales forecasts for 1983. All adjustments proposed by Intervenor and Staff members, if accepted by this Commission, will be modified accordingly.

A comparison of 1981 actual data with Respondent's estimated 1982 income statement indicates a general increase of 9% as to most expenses. Respondent's pro forma income statement for 1983 as compared to 1982 also indicates an approximate 9% increase in expenses. This represents approximately an 18.8% increase in expenses as projected by Respondent from 1981 actual data to its 1983 forecasted income statement. However, when a comparison is made between Respondent's actual 1981 income statement and the first six months of actual data for 1982, expenses increase at a rate of approximately 6%, with the exception of payroll expenses. It appears from actual information now available for 1982 as shown in Data Resources, Inc. and other similar publications, that cost increases leveled off in the second half of 1982 and the actual increase for the entire year is closer to 6%. The outlook for inflation increases for 1983, as reflected in these same publications, is shown to be approximately 6%. Using an inflation rate of 6% for 1982 and for 1983 would result in an increase of 12.36% from 1981 to 1983.

The Commission has established rules and filing requirements for various types of test years in its General Order 210, and, in so doing, may accept the use of a future test year where appropriate and justifiable data has been filed by the utility and reviewed by the Commission. The evaluation of such a future test year by the Commission must be subject to reasonable interpretation and acknowledgement of events as they occur during the course of its investigation. As this record indicates, recovery from the recession which is reflected in the 1982 data has not materialized, nor do the current economic forecasts for 1983 indicate such a recovery. For these reasons, the Commission will apply a 6% inflation rate for each of the years 1982 and 1983, or a 12.36% inflation factor to Respondent's 1981 actual income statement to arrive at a 1983 income statement for present and proposed rates. Where specific adjustments are adopted for individual expenses, the general inflation factor will be adjusted accordingly.

FEA's public utility economist recommended that Edison's sales forecast for 1983 be increased to reflect the 2.25% per year long-term trend growth rate as forecasted by Edison. Based on a comparison of 1982 and 1983 revenues and sales, this witness recommended a net adjustment to operating income at present rates of \$16.8 million, reflecting a reduction of Edison's revenue deficiency of \$36.0 million.

The City of Chicago's utility consultant proposed a normalization adjustment to the 1981 test period to reflect normal weather and normal economic conditions. This witness indicated that sales to customers, as presented by Edison, were substantially depressed due to the effects of the severe recession and

mild weather in 1980, which conditions continued into 1981 and the first quarter of 1982. Based on a five year average for the years 1975 through 1979, which time period is offered as representative a pre-recession condition and therefore normal economic conditions, the witness concluded that Edison's 1981 sales were depressed by the effects of the recession and weather by 7,343,372,000 kilowatthours. The revenue effect of the understatement of sales due to recession and weather in 1981 was calculated to result in an operating income adjustment before income taxes of \$219,692,000 and \$20,509,000, respectively.

The Commission is of the opinion that Edison's long-term growth rate is not applicable in forecasting short-term conditions expected to occur in 1983, particularly for the purpose of determining projected revenue and expenses. Similarly, the use of an historical period such as a five year average for 1975 through 1979 to adjust the 1981 test period to represent normal economic conditions assumes a future economic norm which is speculative at best. Such theoretical norms, while useful for long-periods of time which encompass cyclical economic and weather conditions, are inappropriate in the present case for short-term purposes.

Gains on Reacquired Debt

One of FEA's witnesses proposed that the reacquisition by the Company of a portion of its outstanding debt during 1981, which reacquisition resulted in a net of tax gain of \$2,106,000 should be recognized as an offset to test year costs of services. The witness contends that such gains are recurring experiences and that, since ratepayers have serviced this reacquired debt while it was part of Edison's capitalization, and additionally will bear the burden of the refinancing costs of the reacquired debt, the ratepayers should receive the benefit of the gain. FEA Exhibit 1 demonstrates a \$4,283,000 revenue impact of this adjustment. The Commission finds that this proposal is fair and reasonable and should be accepted.

Off-System Sales

Another FEA witness recommended that an adjustment be made in recognition of the predicted excess capacity which he indicates will result when LaSalle Unit 2 comes into service. Such an adjustment would be made by projecting the sale of some of this capacity to other utilities. The witness indicated that these off-system sales of generating capacity could be treated in either one of two ways: (a) estimate the off-system sales revenue that Edison can reasonably be expected to achieve and impute this revenue as an offset to the jurisdictional revenue requirement or (b) modify the fuel adjustment rider so that revenues from off-system sales, including demand charge revenues as well as fuel revenues, are credited to the fuel adjustment account as an offset against the fuel costs charged to the retail ratepayers.

The existence of a level of capacity, standing alone, does not justify a finding that some part of that capacity may be classified as "excess capacity." No testimony was presented by the FEA witness to suggest the proper reserve margins which Edison will in fact require when LaSalle Unit 2 is placed in service, nor was any data provided to indicate the quantities of generating capacity which could be sold or the revenues that would be received therefrom. Further, LaSalle Unit 2 will be used to reduce Edison's use of high cost oil fired generation and the consequent fuel costs to jurisdictional ratepayers. The Commission is of the opinion that the proposed adjustment should be rejected.

Reversal of Deferred Taxes

The City of Chicago makes a proposal similar to that proposed in Edison's last rate case in Docket 80-0546, i.e., to reverse those deferred taxes recorded prior to 1979 which were assessed at a rate of 48% at the same rate at which the deferred income tax provisions were originally recorded rather than at the current rate of 46%. The City's witness cited Illinois Bell Telephone Company as a utility which computes the amounts of reversals based on the average income rate at which the deferrals were accumulated. He also cited the New York and Alabama Public Service Commissions as directing such a reversal of the excess accumulated deferred income tax balance over a three year period. The witness indicated that, in his knowledge, none of these instances caused adverse tax consequences or Internal Revenue Service ("IRS") actions to the utilities involved. The proposed adjustment is calculated to reduce the revenue deficiency by \$3.2 million, increasing the operating income by approximately \$1.5 million.

Edison reverses deferred taxes on the basis of the average tax rate at which deferrals are accumulated and computes reversals in that manner for deferred federal taxes associated with tax benefits for which federal law does not restrict the accounting treatment. Where federal law requires normalization, Edison takes a conservative view of IRS regulations, interpreting them to require reversal at current tax rates. Pursuant to the Commission direction in Docket 80-0546, Respondent sought a ruling from the IRS as to the consequences of reversing all deferred taxes at the same rate that those taxes were accumulated rather than current tax rates. In a letter to Edison, the IRS declines to issue a private ruling for Edison on this question because the regulations in question are currently being reviewed for possible revisions.

The Commission, at this time, will not accept this adjustment. Such tax benefits provide benefits to the Company in maintaining its financial integrity and the risk of potential loss of such benefits would not be in the public interest. In contrast, it should be recognized that there is minimal loss in delaying this decision since there is no risk of permanent loss to the ratepayer; if the Internal Revenue Service finds at a future date that the tax reversal process can be accelerated, the ratepayers would not have suffered in the interim since the accumulated deferred taxes are being amortized presently over time and the unamortized amount is being deducted from rate base.

Reduction of Expenditures as Directed in the Commission's Interim Order

In its Interim Order of May 6, 1982 in this docket, the Commission stated under Finding (5):

- (c) the Company should file an initial report within thirty days from the date of this Order outlining its proposal for implementing further budget cuts for 1982 and responding to those proposals made by the Commission; monthly reports should be filed during the course of these proceedings showing the actual amount saved under each of Edison's proposed budget cuts; this report should be undertaken having in view those purposes heretofore described in this Order;

Respondent has complied and filed the reports as requested. It appears from these reports that the majority of the expenditure reductions were effected by deferring the expenditures to 1983 rather than making permanent reductions. During the proceedings, Respondent appeared to take the position that the Commission's Order was limited to budget reductions for 1982. Such an

interpretation was neither the intention of the Commission, nor is such an interpretation reasonable when placed in context with the entire Order. The Commission states on page 17 of its Interim Order:

....Edison's response (budget proposals) should not consider reductions in areas of operations and maintenance which would impair the reliability of its service. The Company's management should approach this task with a clear realization of its present financial position, that this condition is expected to improve after 1983 and that, in the interim, it cannot conduct its affairs on a 'business as usual' basis.

It is the position of the Commission now, as it was then, that "...an unreasonable or unacceptable expense can no longer be shifted from the ratepayer to the shareholder and that the traditional accounting line dividing such expenses must be disregarded in this case. Where possible, cash expenditures must be stopped or reduced for the balance of 1982 and for 1983, thereby effectively minimizing Edison's need to issue long-term debt." (Interim Order, page 15).

The City of Chicago's expert proposed that the budget reductions of \$42 million which the Company was directed to make in the Interim Order for 1982 should also be made for 1983. The witness stated that, to the extent Edison could achieve such reductions, its calculation of revenue deficiency should be reduced accordingly. Assuming a reduction of \$42 million in 1983, this would result in a reduction in revenue requirements of approximately \$5.7 million including the effects of revenue taxes.

On cross-examination, Edison's Comptroller confirmed that, for the most part, the expenditure reductions made in 1982 were deferrals; specifically \$9 million in operation and maintenance was deferred from 1982 and is included in Edison's 1983 income statements. The witness stated that, if these expenses were deferred from one year to another and then not accepted as a proper expense, Edison would not recover those costs. In the Commission's opinion, it is inappropriate and ineffective to direct that certain reductions be made and adjust the test year expenses to include such deferrals. While the Commission recognizes that there may be a number of deferred activities that will eventually have to be performed and paid for when the Company is back on a sounder financial basis, short-term deferrals, such as the \$9 million in operation and maintenance expense referred to above are not appropriate additions to test year expenses. Maintenance and operation expenses should be reduced accordingly on Edison's 1983 income statement.

Edison witnesses explained that it has made a concerted effort to hold the line on budgets for at least the last five years. While this is commendable and even to be expected in efficient management, it does not necessarily constitute a response to the Commission's Interim Order issued on May 6 of this year. The Commission intended that Edison again review its budgets with the specific purpose of making further detailed reductions, taking note of some of the areas which the Commission had identified in its Interim Order. While such reductions should not interfere with its service to the public, as the Interim Order indicated, the Commission believes that there are areas in which temporary reductions in expenditures can be made which would be responsive to the current economic conditions and Edison's financing needs during 1983.

The Commission agrees with the proposed revenue adjustment

made by the City of Chicago for the same reasons as those stated in its Interim Order of May 6, 1982. This revenue adjustment is not intended to force certain expenditures "below the line" to the shareholder since such a result would be counter to the purpose of the budget cuts, i.e., maintaining Edison's financial integrity. By this Order, the Commission intends that such expenditures be eliminated. Nor should Edison's program for budget cuts for 1983 consider reductions in areas of operations and maintenance which would impair reliability of service. Respondent is hereby directed to submit quarterly reports during 1983 similar to those described in the Commission's Interim Order setting forth its proposed and achieved budget reductions for 1983. The revenue increase proposed by Edison should be reduced by \$42.0 million accordingly.

A representative of the Commission's Accounts and Finance Department recommended certain maintenance and operation expense adjustments to Edison's Income Statement as presented in its Exhibit 2-Schedule C-1. Some of these adjustments have already been addressed in this Order. The remaining are set forth below.

Payroll Expenses

The Accounts & Finance Staff witness, as well as one of the FEA witnesses proposed an adjustment to 1983 expenses concerning payroll costs. During the course of the interim proceedings in this docket, the Company and union negotiated a contract for 1982. Although the Commission Interim Order indicated that renegotiation of this agreement might be in order, such a renegotiation was not able to be accomplished. The terms of this agreement are set forth in the "Memorandum of Agreement Reached in Collective Bargaining" dated April 24, 1982 and admitted in evidence as Edison Cross-examination Exhibit 1 (Gorniak). The total increases in wages and/or benefits amounted to an increase of approximately 9.4%. The terms of the new agreement are from April 1, 1982 to March 31, 1984, with the provision that either the Company or Union would have the right, upon sixty days notice, to reopen the Agreements as of March 31, 1983 for the negotiation of changes in wage rates set forth therein.

According to the testimony of FEA's witness, Edison has projected a 10 percent increase in wages for 1983; however, since the renegotiation would not affect wages until after April 1, the witness indicates that the 1983 wages would only be increased by six percent on an annual basis. FEA's witness proposed that one-half of Edison's proposed increase for 1983, approximately \$12.7 million, be granted and that the balance or difference in the actual wage settlement could be applied for when they become known, apparently in a separate proceeding. The witness made this proposal, suggesting that if the Commission were to set a firm figure, this would establish either a floor or ceiling and would interfere with the bargaining process.

The Staff witness proposed that no additional increase be allowed for ratemaking purposes over the 1982 level; this would result in an approximate increase of 9 percent over the 1981 actual figures.

Edison presented evidence to show that its wage scale is comparable to other utilities and that continued reliability of service is dependent on its offering a competitive wage.

The Commission is of the opinion that its projected inflation factor of 12.36% (or an annual 6% rate, compounded) to cover the period from the end of 1981 through 1983 be applied to establish a reasonable allowance for this item for the test year. Such an adjustment is proper in view of current and projected economic conditions. This adjustment would reduce expenses by \$24,500,000.

Certain budget cuts were implemented by Edison for 1982 according to its April 21, 1982 letter discussed in the Commission's Interim Order. It appears to the Commission that implementation of the 1983 budget cuts could properly include the area of nonunion wages as well as consideration of a policy of a reasonable employment freeze for 1983.

Additional Employees - Fossil Fuel Division

The Staff witness testified that he had reviewed the increase of the number of employees at Edison nine fossil fuel stations, stating that this number had increased 32% during the period of 1978 to 1983 and specifically were projected to increase 12% for 1983 over 1981. Allowing for certain new positions used to reduce overtime and additional personnel for the three-shift maintenance program, the witness proposed that expenses be reduced by \$13,344,000, stating that such an increase in personnel at these locations and implementation of new management techniques were unwarranted at this time. On rebuttal, Edison's witness testified as to the need for both the additional personnel and management techniques. The Commission is of the opinion that this specific adjustment should not be made, but considers that specific budget cuts of this kind should be management decisions made in response to the 1983 budget cuts directed herein.

Capitalization of Certain Expenses

The Accounts and Finance witness proposed that training costs at the Byron and Braidwood plants amounting to approximately \$31,200,000 in 1983 be capitalized rather than expensed. This witness also offered a similar adjustment regarding the invested capital tax for that portion of the capital structure which supports CWIP, an adjustment which would reduce expenses by \$38,697,215 and similar to the first adjustment, would be amortized over a prescribed number of years. While such adjustments would usually be theoretically sound and would reduce expenses on the income statement and consequently improve certain financial ratios of the Company, the proposals should be rejected at this time in order that the cash flow that Edison should currently maintain is not impaired.

Memberships, Charitable Contributions and Advertising Expenses

Staff witness testified that Edison has budgeted \$2,244,600 for Memberships and Related Business Expenses in 1983, which would be a 59 percent increase over 1981 expenditures. The witness proposed that this amount be reduced to the 1981 level of expenditures of \$1,412,172, stating that the proposed level would be a more reasonable amount for a company which professes a need for interim and permanent rate relief and intends to make additional security offerings in the near future. The Commission is of the opinion that such an adjustment is reasonable and should be accepted.

It was also recommended that Charitable Contributions be reduced from Edison's proposed 1983 expenditure of \$2,155,000 to \$500,000. Similarly, the Staff witness proposed that advertising expenses included for ratemaking purposes be reduced from \$1,026,000 to \$500,000. The Company's total advertising expense projected for 1983 is \$3,664,000, of which 72 percent or \$2,638,000 is not charged to ratepayers (based on Commission policies regarding the type of advertising which may properly be considered as a rate case expense). The Commission believes that an appropriate amount for inclusion in rate expense should be \$750,000. However, the \$2.6 million of advertising expenses which will become a below-the-line expense is a prime area for further budget cuts by Edison. The Commission is of the opinion that charitable contributions should be reduced as proposed by the Staff witness.

Three Mile Island ("TMI") Clean Up Activities and
Contributions to Utility Nuclear Power Oversight Committee

The Accounts and Finance witness has proposed two adjustments, first, elimination of \$600,000 as a contribution to the Utility Nuclear Power Oversight Committee for TMI activities for 1983 and, second, elimination of \$1,200,000 for decontamination costs of clean-up activities at the Three Mile Island nuclear plant, which represents an estimate of Edison's share of such costs under a bill now pending in Congress proposing the sharing of such costs among electric utilities depending upon the amount of energy generated by nuclear plants. Edison concurs with the Staff witness as to the first adjustment, agreeing that a determination has been reached by Edison that no payment will be made to that group in 1983. The second adjustment is opposed by Edison on the grounds that it is expected that such a law will be passed by Congress and that Edison will be required to make such a payment.

The Commission is of the opinion that the proposed adjustment is appropriate insofar as such payments under proposed Congressional action are at best speculative. The Commission is further of the opinion that such payments are not in the public interest and will continue to oppose legislation of this type which requires such payments.

Proposed Adjustments to Taxes Other than Income Taxes

The Staff witness proposes to remove property taxes on Property Held for Future Use from operating expenses for property excluded from rate base by Edison as shown on its Exhibit 3-Schedule B-2.6, in the amount of \$1,957,672; a similar adjustment was proposed for the six properties which the Staff witness proposed be eliminated from Property Held for Future Use To Be Included in Rate Base, this adjustment amounting to \$529,306. The Commission agrees that this type of adjustment is proper for plant not included in rate base and therefore accepts the first adjustment regarding expenses relating to property not in rate base. Because the Commission has determined that certain specific property sites, including the Langham County property, are properly includable in rate base, the second proposed adjustment should be rejected.

The witness also testified that Edison has successfully protested certain property tax assessment over the last three years, recovering an average of \$1,038,335 during that period. Edison's exhibits indicate that it expected to recover only \$500,000. The Staff witness therefore recommends that property tax expense be reduced by the remaining amount of recovery, which adjustment would amount to \$538,335. In its Brief, Edison agrees that this adjustment is appropriate for ratemaking purposes. The proposed adjustment should be made.

Nonpayroll Adjustment for Inflation Rate

Both the FEA witness and Commission Staff witnesses agree that nonpayroll expenses should reflect an inflation rate to cover the period from the end of 1981 through 1983, in order to establish an increase in costs for the test year which reasonably represents such an increase. Edison has used an annual rate of approximately 9% for 1982 and for 1983, contending that this projection is conservative when compared to historical data. Edison's witness also testified that, while the 9% escalation factor is only an estimate, it does not account for the increased quantities of materials and supplies needed to maintain and operate LaSalle Unit 1, which is now generating electricity, and LaSalle Unit 2, which is projected to go into service in October,

1983. Staff witnesses, both in their testimony and brief have proposed an annual rate of 6% (12.36% over the two-year period).

The Commission concurs with Staff's position on two particular points: (a) forecasting inflation is a difficult undertaking and (b) Edison's initial projection of 9-10% inflation and its continuing reliance on this projection is neither sufficiently supported in the evidence Respondent has presented or the most recent published statistics. For these reasons, the Commission is of the opinion that the actual inflation rate for 1982, as it is known at this time, and a projected inflation rate of 6% for 1983 are reasonable and should be adopted to estimate an appropriate escalation rate for the test year expenses. Using an inflation rate of 6% for 1982 and 1983, respectively, nonpayroll expenses should reflect an escalation rate of 12.36% from 1981 through 1983, said adjustment resulting in a reduction of \$33.70 million for nonpayroll expenses.

Resulting Tax Adjustments

The appropriate adjustments to income tax expense resulting from adopted adjustments to revenues and expenses, as well as those resulting from the adoption of an average capital structure for 1983, are reflected in the Summary of Revenues, Expenses and Electric Operating Income.

The City of Chicago witness stated that Edison's interest deduction for income taxes should be consistent with the cost of debt and the amount of debt supporting Edison's rate base, and recommended that a "synchronization" be done similar to Edison's practice of normalizing tax deductions related to that interest component of AFUDC. The witness indicated that Edison calculated its interest deduction for the test year without such synchronization. The witness also noted that, in its pro-forma operating income calculation, Edison did synchronize the interest deduction for income taxes with the cost of debt. The witness merely recommends a different presentation. The Commission is of the opinion that its present policy adequately addresses these questions through the presentation of capital structure, but recommends that both Edison and Staff examine this issue in any subsequent general increase in rates when filed by the Company.

Revenue Conversion Factor

The adjustment proposed by the Commission's Accounts and Finance witness to reduce Edison's revenue conversion factor from 2.14 to 2.119 should not be adopted. The Staff witness correctly pointed out that, as Edison's revenues increase, the level of investment tax credit ("ITC") and ITC amortization also increases. This adjustment is reflected on the pro forma income statements.

Forecasting by Function

An Accounts and Finance witness suggested that, if Edison chooses to submit a forecasted test year in future cases, it should budget according to function in order to facilitate Staff review. Currently, Edison prepares budgets on a departmental basis with the exception of approximately 200 general Company functions, such as pensions, nuclear insurance and other general categories, which are budgeted separately. There are approximately 2,000 functions in Edison's accounting system compared to approximately 290 departmental budgets and the approximately 200 general Company functions. The Commission is of the opinion that Edison's present system of budgeting on a departmental basis does not impair the ability to compare historical and forecasted accounts, particularly since the method of budgeting permits a comparison of budgeted and actual data by reviewing such input

factors as number of employees, rate of pay, overtime hours and quantities of materials, supplies and services. For the reasons given above and because of the additional expense which would be required, the Commission does not accept the suggestion made by this Staff witness. The Commission does, however, believe that the topic of forecasting does deserve continuing debate.

Determination of Revenues based on
Most Recent Sales Forecast for 1983

As Edison points out in its Initial Brief, the forecast of the level of kilowatthour sales that will be experienced in the test year is necessary to determine appropriate rate levels. As earlier stated, Edison's most recent LEC forecasted sales for 1983 has been reduced to 60,890 kilowatthours. This reduction assumes that the recession will continue longer than previously anticipated. In view of this revision in sales, the Commission is of the opinion that the pro forma income statement should reflect only that amount of revenue increase which is expected to be generated under the proposed tariffs; consequently the data summarized below is based on a proposed revenue increase of \$772.4 million using the current estimated level of sales (Edison's Additional Exhibit 1).

Summary of Revenues, Expenses and Electric Operating Income

Giving effect to the foregoing adjustments, the following summarizes the Commission's determination of the revenues, expenses, operating income and rate of return on rate base under Edison's present and proposed rates:

PRO FORMA OPERATING INCOME, 1983
(In Millions)

	Present (Excluding Interim)	Proposed (Latest Sales Forecast)
ELECTRIC OPERATING REVENUES:	<u>\$3,945.80</u>	<u>\$4,718.20</u>
ELECTRIC OPERATING EXPENSES:		
Operation and Maintenance:		
Fuel	\$1,278.50	\$1,278.50
Purchased Power (Net)	270.40	270.40
Other O&M Expenses:		
Production	468.40	468.40
Transmission	172.40	172.40
Customer Accounts	97.60	97.60
Sales	5.80	5.80
Administrative & General	235.50	235.50
Total Adjustments to O&M Exp.	(117.84)	(117.84)
Total O&M Expenses	<u>2,410.76 (A)</u>	<u>2,410.76 (A)</u>
Depreciation & Amortization	359.00	359.00
Taxes Other than Income Taxes	477.26	539.05
Income Taxes - Federal	200.62	494.75
Income Taxes - State	10.11	52.37
Investment Tax Credits -		
Deferred	(130.60)	(130.60)
Amortization of ITC - Credit	(15.30)	(15.30)
Provision for Deferred Income		
Taxes	162.50	162.50
Income Taxes Deferred in Prior		
Years - Credit	(33.30)	(33.30)
Total Electric Operating Expenses	<u>\$3,441.05</u>	<u>\$3,839.23</u>
TOTAL ELECTRIC OPERATING INCOME:\$	504.75	\$ 878.97
Deduct:		
Allocation to Reselling Municipalities (1.2%)	<u>6.06</u>	<u>10.55</u>
ELECTRIC OPERATING INCOME - Ultimate Customer	<u>\$ 498.69</u>	<u>\$ 868.42</u>
NET ELECTRIC UTILITY PLANT & WORKING CAPITAL****	<u>\$5,900.51</u>	<u>\$6,418.68</u>
RATE OF RETURN	<u>8.451%</u>	<u>13.530%</u>

(A) This entry reflects the adjustments to revenues and expenses discussed and approved in this section amounting to a reduction of \$117.84 million, which are itemized as follows:

Gains on Reacquired Debt	\$ 4.11
Budget Cutbacks	42.00
Memberships	0.80
Contributions	1.65
Advertising	0.25
TMI Bill	0.60
Nuclear Oversight Committee	1.20
Deferral of 1982 Budget Cuts	9.00
Payroll Adjusted to 12.36%	24.50
Nonpayroll Adjusted to 12.36%	33.70
Total Other O&M Reductions	\$ 117.84

EDISON'S CONSTRUCTION PROGRAM

Edison's current construction program involves the building of six nuclear units, two at LaSalle, two at Braidwood and two at Byron, Illinois. LaSalle Unit 1 was completed and placed in commercial service on October 24, 1982. The construction schedule of these six plants, as shown on Edison's Exhibits 10D and 12.16, is summarized below:

<u>Unit</u>	<u>In-Service Date</u>	<u>Capacity (Winter/Summer)</u>	<u>Total Cost*</u>	<u>Cost/KW</u>
LaSalle Unit 1	October, 1982	1078/1048 MW	\$1,330,355,000)	\$1,099/KW
LaSalle Unit 2	October, 1983	1078/1048 MW	1,039,933,000)	
Byron Unit 1	February, 1984	1120/1120 MW	1,641,137,000)	\$1,224/KW
Byron Unit 2	February, 1985	1120/1120 MW	1,102,225,000)	
Braidwood Unit 1	October, 1985	1120/1090 MW	1,643,725,000)	\$1,217/KW
Braidwood Unit 2	October, 1986	1120/1090 MW	1,083,779,000)	

*The expenditures shown above exclude certain land and lake development costs and include indirect costs which are principally due to AFUDC charges and amount to \$257,996,000, \$355,129,000, \$542,292,000, \$393,057,000, \$632,387,000 and \$447,377,000, respectively, for each of the above units as listed.

The external financing requirements forecasted by Edison's Vice President in charge of financial matters is summarized on Exhibit 1F-Schedule 1.6 and includes refinancing of short-term commercial paper and outstanding debt, as well as new financing for construction expenditures:

<u>Year</u>	<u>Amount</u>
1982	\$1,407,000,000**
1983	1,070,000,000
1984	380,000,000
1985	-
1986	95,000,000
Total Financing Requirements	\$2,952,000,000

**As of the date of this order, Edison had completed \$734 million of its planned 1982 financing schedule.

Given the above construction and financing programs, the following issues were raised by Staff members, the Attorney General and the Seniors through the presentation of a number of witnesses and economic studies. Edison also presented a variety of witnesses responding to these questions and prepared 34 engineering economic studies, some based on variables determined and measured by the Company and others using variables proposed by Staff members and other intervenors.

1. Are there significant costs which have not been incorporated in Edison's estimates of its construction program which would alter the economic benefit of proceeding with the completion of its present construction program?
2. Is Edison capable of continuing its present financing program at reasonable costs and without impairing its financial integrity?
3. Given Edison's contractual commitments for the purchase

of coal and oil, is it economically reasonable for Edison to complete the nuclear units now under construction?

4. What reasonable alternatives and/or supplementary actions should be taken by Edison in regard to its present construction program, i.e., deferring completion, cancellation of certain units, consideration of conservation programs, off-system sales of power, sales of generating plants?
5. If there are differences in the cost/benefit analysis where, or to whom, are these costs and benefits allocated?

To answer these and other questions raised during these proceedings on the issue of whether Edison should complete its present construction program, it is first necessary to step back and examine the purpose of the regulation of public utilities and this Commission's mandate under the Public Utilities Act. The principle upon which this statute is based is that when private property is "affected with a public interest" it ceases to be a matter which can be determined only as a question of private right. It has been determined that the provision of certain services can be done more effectively and efficiently if the service is provided by a single entity; because of the nature of the production and distribution facilities needed to provide such services as telephone, electric and gas service to the public, the private companies which elect to sell this product are given a monopoly status and regulated in the public interest. Under the Public Utilities Act ("Act"), public utilities are required to charge just and reasonable rates, to desist from unjust discrimination and preferential treatment, to furnish adequate, safe and efficient service and facilities and to provide for interchange of service and joint use of facilities as specified in the Act. As a part of its authority over the rendition of utility service, the Commission has effective control over the commencement, extension and furnishing of such service, as well as the discontinuance and abandonment thereof.

On first impression, it would appear that the Commission is faced with two competing interests in its task of regulating, i.e., the ratepayer (consumer of the service) vs. the shareholder (the provider of the service). It is critical in the solution of the issues before the Commission to recognize that while these interests must be balanced, the interests of both the ratepayers and shareholders are interdependent. The consumer needs the service; the provider of the service needs the consumer. With these principles in mind, the Commission's obligation then is to ensure that efficient and effective service is provided to the ratepayer at a price which is fair and reasonable and sufficient to maintain the financial integrity of the utility.

In making its determination, the Commission is also aware that the factors upon which its decision is based may vary over time. Thus, while the initial decision to construct the six nuclear units was founded on circumstances then reasonably expected to occur, those circumstances or conditions may have sufficiently changed or varied so that the original decision must be reconsidered and affirmed or altered. Accepting that a considerable lead time is necessary to complete such a program (the current estimate of the time interval between the initial planning stage and the actual placing of such a plant in service is approximately seventeen years), the Commission, on its own motion, initiated an investigation into the propriety of Edison's plant construction program in Docket 78-0646, dividing this proceeding into an examination of the economies of completing the Byron and

Braidwood Units ("Phase I") currently under construction and Phase II to address more long range topics, including additional plants which might be coming on line in the mid 1990's.

After a thorough analysis in Phase I which included evidence presented by Edison, certain Commission Staff representatives and Community Thrift Clubs, Inc. ("CTC"), briefs filed by Edison, CTC, City of Chicago, Seniors and others not in this proceeding and intervention by the Attorney General of the State of Illinois, the State's Attorney of Cook County and certain Industrial Inter-venors, the Commission entered its order on October 15, 1980, finding that it was more economical to complete the Byron and Braidwood Stations in as timely a manner as possible and directing Edison to complete the construction in as timely and economic a manner as possible and to remain attentive to opportunities to sell a portion of its capacity at a proper price without affecting reliability of service. Phase II of the investigation of Edison's construction program is currently in progress.

It is appropriate to observe that, even while the Phase I investigation was proceeding, events were occurring which affected the final determination, in particular the nuclear accident on March 28, 1979, at the Three Mile Island nuclear power plant - Unit 2, located near Middletown, Pennsylvania. For this reason, and other associated causes, Edison delayed the planned in-service dates of both the Byron and Braidwood Stations each by one year. In the Commission's Order in Phase I, it was evident that substantial cost penalties are incurred for delayed construction. The evidence in the instant case, as will be discussed hereafter, also establishes increased substantial costs of delaying construction. It becomes obvious therefore that, given the serious and substantial costs of such delays the Commission's decision must be made while construction continues.

During the interim proceedings in this case, the Attorney General offered the testimony and exhibits of four witnesses; the Commission excluded the testimony of three of these witnesses for purposes of making its interim decision, indicating that the limited scope and emergency nature of interim proceedings did not provide an adequate or fair forum for consideration of matters concerning certain aspects of Edison's construction program. The evidence proffered addressed a wide variety of issues which were highly technical in nature and related to circumstances which would allegedly shorten the service life of the nuclear plants, additional costs related to outages and possible retrofitting requirements, the escalating costs of completing said plants given the need for redesign and Edison's alleged underestimation of the costs necessary to complete its construction program. By its Interim Order entered on May 6, 1982, the Commission advised the parties that the subject of Edison's continuing ability to finance and complete the construction of LaSalle Unit 2, Byron Units 1 and 2 and Braidwood Units 1 and 2 would be considered in this docket in hearings on the permanent rates. This excluded evidence, together with additional testimony and exhibits offered by Edison, Seniors, certain Commission Staff members and the Attorney General, is now part of the record which the Commission will consider.

The Section Chief of the Commission's Utility System Planning and Evaluation Section of the Economics and Rates Department presented a review of the production cost savings of the Company's Braidwood Station, including the effects of long term fuel supply contract constraints. The witness stated that Edison's projected fuel burn was below minimums for all of the Company's major fuel contracts, since the operation of a nuclear unit, with its lower fuel costs, usually reduces the operation of coal and oil plants. Because Edison would still be obligated under its fossil fuel contracts, the witness concluded that the economic benefit of the

operation of the nuclear units would be completely altered. This Staff witness conducted several engineering economy studies, which were similar in nature to those performed in Phase I of the construction case, but which in this instance were defined as quick, rough studies to determine if further studies should be made. (An engineering economy study may be defined as a comparison between alternatives in which the differences between the alternatives are expressed so far as practicable in dollar terms.) The purpose of such a study is to determine whether any proposed course of action will prove to be economical in the long run, as compared to other possible alternatives. As a result of this Staff witness's recommendation, Edison prepared and presented a series of studies to determine the economic costs or benefits of cancellation (and deferral) of Braidwood, i.e., whether it is more economical to complete the Braidwood Station and obtain the benefits associated with its operation or to cancel it in an effort to avoid certain costs.

The issue of Edison's present construction program was addressed by Respondent, the Attorney General of Illinois, Seniors and certain members of the Commission Staff and has been separately briefed by these parties. Other parties filing briefs on this issue include Business and Professional People for the Public Interest and M&M/Mars.

Testimony Presented By Attorney General And Seniors

The first of the witnesses presented by the Attorney General, whose testimony (AG Exhibit 5) related to Edison's ability to finance or continue to finance its construction program, was accepted into the record and addressed by the Commission in its Interim Order. No further testimony was offered by this witness in the case on the permanent rates. The Commission is still of the opinion that this testimony was unconvincing.

The Attorney General's second witness is a professional nuclear engineer in the State of California and a technical consultant. This witness offered testimony and exhibits in the interim case (AG Exhibit 6) and in the permanent rate hearings (AG Exhibit 16). The witness testified regarding the expected lifetimes of nuclear units on Edison's system, the magnitude of the cost and productivity impacts that plant modification programs need to maintain nuclear units in a licensable and operable condition may have, and his conclusions concerning the effect of the costs of Edison's operating and proposed nuclear generation may have on the desirability of continuing current construction in the face of any financial difficulties. The testimony indicates that, based on the length of the licensing period for nuclear plants as well as other data, the expected life of a nuclear plant is between 30 to 40 years, although no commercial plant has been in service for a long enough period to demonstrate that this projected life is possible; the witness' estimate was 32.5 years. Several possibilities were cited by this witness as being potential causes of foreshortening the useful lives of Edison's nuclear plants: (1) changing regulatory requirements and the associated licensability of a plant; (2) pressurized water reactor ("PWR") steam generator performance; (3) failure of primary system components not intended to be replaced during the life of the plant; (4) Three Mile Island ("TMI") accident generated changes; (5) radiation level buildup; (6) future requirements that may be imposed to mitigate or prevent nuclear accidents; (7) serious failure or degradation of nonsafety related components. The witness estimated that the modification costs of Items 1, 3, 5 and 6 could range from \$165 million to \$1.95 billion, with outage time running from three to eleven years.

This same witness offered an update of the aforesaid testimony in the permanent hearings, emphasizing that additional regulatory data and continuing experience indicate that these factors would result in increased cost effects as well as long outage periods, ultimately reducing the life of the nuclear plants. Table 1-A of AG Exhibit 16 has been revised to recognize that certain items, particularly the primary system costs and outages, were already specifically budgeted for by Edison, thus reducing the initial estimate from a range of \$75 million-\$1,400 million to a range of \$75 million-\$1,150 million for each of the Byron and Braidwood units, with resulting total outage ranging from 6 months to 8 years. The witness proposed that, since these potential costs and early shutdowns do not appear to have been factored into budget and construction cost estimates, such costs should be incorporated in Edison's decision process where new construction plans are considered in that they play a decisive role in the choice between alternative types of generation and/or that the depreciation rate be accelerated (recognizing the shorter plant life), creating a contingency cash requirement (by the establishment of a protected sinking fund), thus avoiding serious disruptions of budget and generating capacity in the future. The witness recommended that the Commission direct Edison to perform detailed and serious studies of such risks and to proceed with the creation of a contingency fund.

A third witness was offered by the Attorney General during the permanent rate hearings, whose testimony is identified as AG Exhibit 15. This witness is an associate professor of business administration, a consultant and a former employee of the Atomic Energy Commission (now known as the U.S. Nuclear Regulatory Commission). The witness assessed the financial impact of Edison's current nuclear construction program upon the Company's stockholders and ratepayers. This analysis was performed by examining the financial risks caused by the construction program, examining the benefits and comparing these risks and benefits. To perform this analysis, the witness used a computer program ("ELFIN") to project Edison's financial condition during the period 1982-1989. The witness projected an increase in price increases between 55% and 110% during the 1982-1989 period as the necessary cost of completing the company's construction program, as well as a cost to the shareholders since dividend requirements would exceed cash available for dividends. The witness indicated that he did not rely on the financial analysis made by the witness offered by the Attorney General in the interim proceedings (AG Exhibit 5). The factors which could conceivably preclude Edison's ability to finance its entire construction program at reasonable costs included (1) low or zero demand growth, (2) higher interest rates and weaker than expected common stock prices, (3) delays by licensing authorities, (4) another Three Mile Island ("TMI") incident in this country or abroad and (5) large cost overruns in construction of multi-year in-service date delays. This witness stressed that delays in construction are certain to increase costs and could defer benefits. Another alternative would be partial or complete sale of some or all of the six nuclear units. If sale of the units are impossible, the witness states that the best solution would be a combination of expedited completions of some units combined with cancellation of some other unit or units.

The Attorney General's third witness stated that there would appear to be two major consequences, aside from the financial stress incurred during construction, which would follow from completion of the current construction program: (1) Edison would be forced to "load follow" with nuclear units and (2) Edison would substantially back out of its existing coal capacity. (As a result of load-following, there would be a reduction of nuclear output and consequent partial or entire shutdowns of certain

plants.) The witness testified that Edison's nuclear construction program beyond LaSalle is basically a coal back-out program, indicating that, under present contracts, Edison's coal stockpile would be projected to a four-to-five year supply by the late 1980's. The witness stated that he could not establish the cost of breaking or renegotiating the coal contracts or of reselling the excess coal, but that Edison must eliminate about 4 million tons of coal annually from its supplies for the next decade. The best solution, according to this witness, would be to sell off total or joint ownership in one or more of the PWR's under construction. He further stated that Edison has made no effort in recent years to sell ownership (as opposed to entitlements, short-term entitlements or firm capacity) in any unit, nor has the Company attempted to sell any power past 1986. Such a sale would relieve the financial pressures on Edison, reduce the unusable nuclear potential, increase the utilization of Edison's coal capacity and ameliorate the accumulation of surplus coal, and would be preferable to delays or cancellation of the construction program.

At the request of the Attorney General's third witness, a financial analyst employed by the California Public Utilities Commission was presented by Seniors to document several computer-based simulations of Edison's financial conditions. The first simulation reproduced financial projections in this docket, including operating income calculations, and then changing certain data and assumptions specifically requested by the Attorney General's third witness to create the scenarios discussed in his testimony. Seniors' Exhibit 1.2 shows some of the assumptions for these scenarios and includes cost of money, load growth, in-service dates of nuclear plants under construction and variations with and without CWIP in rate base. The time period covers 1982 through 1989. The variables which were changed included market-to-book ratio and attrition factor on earnings. Future cost were estimated assuming that the general inflation rate continued at 9% annually and the cost of fossil fuel to Edison increased by 12% annually. Edison contends that this would cause a very large increase in price by 1989 regardless of what kind of construction program Edison had.

The Attorney General's third witness stated that he did not look at the exhibits prepared by Seniors' witness to try to isolate those cost increases which may not be directly attributable to the nuclear construction program or the operation of the nuclear plant or to evaluate which costs could be avoided by an immediate halt in the construction program or by the alternative recommendations made in the testimony or exhibits offered on behalf of the Attorney General.

Edison's cross-examination Exhibits 1 through 6 (Czahar) were confirmed by Seniors' witness as correctly showing the results of Edison's computer runs. Edison presented a senior staff accountant of the Company's Budget Staff who testified that the cost increases shown in the analysis made by the Attorney General's third witness are not caused solely by the construction and operation of the six new nuclear power plants. The model used by Seniors' witness determines the average price of electricity for each year by dividing total electric revenues by annual system sales. In order to arrive at total electric revenues, Seniors' model adds all expenses and net electric utility operating income. The results of Edison's analysis are shown on Schedules 13R.1 through 13R.4 and, according to Edison's witness, show that of the \$3,609 billion increase in revenues from year-end 1982 to 1989, not more than \$220 million are attributable to the construction and operation of the six new nuclear plants. The witness concludes that 57% of the increase in average price of electricity calculated by the Attorney General's third witness over that

period is dominated by factors unrelated to the construction and operation of the six new nuclear plants. Edison's Exhibit 13R.4 indicates that increase in revenue requirements due to placing the six nuclear units in rate base, and the increase in required return due to financing is being almost entirely offset by fuel cost savings over the period 1982-1989.

Edison's Vice President responsible for activities related to the purchase and delivery of the fuel required to generate electricity, testified about certain settlements Edison has made with its coal suppliers and oil suppliers, providing terms which are more economic than taking the fuel. The witness stated that, as part of the settlement, Edison can either defer or terminate coal for a fixed charge. The termination charges represent about 28% of the delivered cost of coal and somewhat less than 20% with respect to oil. This witness also stated that termination is the preferred alternative only if the coal is not needed within 10 years of its originally scheduled delivery date; he also indicated that it is reasonable to expect that similar arrangements can be made with respect to larger quantities of fuel than currently provided for under the settlements. The testimony of this witness indicated that, because it would be physically impossible to store the quantities of coal and that costs of receiving and storing excess fuel in the quantities assumed by the Commission's Staff witness were the highest cost alternatives, such costs were not reasonable assumptions in the engineering economy studies performed by Edison and for these reasons, termination charges were used to establish its fuel costs. The Commission has initiated and is currently examining Edison's fuel contracts, its fuel procurement practices and whether it is economically dispatching its generating units as required under the fuel adjustment clause in Dockets 82-0269 and 82-0347.

The fourth witness presented by the Attorney General, an energy and economic consultant, also presented evidence in the interim proceedings (A.G. Exhibit 7) and the permanent rate proceedings (A.G. Exhibit 17). The general purpose of the testimony in the interim proceedings was to indicate, through various measuring techniques, the extent of Edison's past underestimates of its nuclear projects' completion costs. The witness states that the estimates are based on a quantitative analysis of Edison's past underestimates and assume that Edison is continuing to underestimate construction costs, reduced somewhat on the basis of Edison's "learning" over time. According to this witness, the actual underestimate implied in the current budget would be in the range of \$0.5 to \$1.3 billion. The causes contributing to these underestimates are similar to those raised by other witnesses, i.e., higher than expected inflation and interest rates, licensing delays and changes in regulatory requirements, design changes including those necessitated by investigation of the TMI accident. The witness states that Edison's recent estimates in 1981 and 1982 do not show a rapid reduction of its past estimating errors. Using an error coefficient comparing Edison's cost estimates with percent-completion of the various units, the witness pointed out that Edison's estimate for Braidwood appears to be inconsistent with its estimate of percentage of construction completion, indicating that Edison had spent 68% of its current total Braidwood budget as of the end of 1981, yet considered Braidwood's construction to be only 56% complete. The witness indicated that the sources of Edison's continued estimating error would be due to (1) design and regulatory issues currently in flux, (2) other major costs which could easily arise during the remaining construction of Edison's nuclear stations and (3) present energy and economic climate which is likely to weigh in the direction of a slow rather than a rapid resolution of safety issues affecting design and construction of Edison's nuclear units.

In the permanent hearings, the Attorney General's fourth witness presented various cost estimates of the three projects, using the ratios between costs and percent complete to develop estimates of the total costs of the nuclear projects. The witness concludes that the total cost of the three projects will exceed Edison's current estimate by 13 percent. Schedule 3 of AG Exhibit 17 presents alternate cost estimates for the nuclear plants and compares them to both Edison's January, 1982 estimate and the estimate made by this witness in this interim hearing.

The witness indicated that Method 3, which is based on 1980-81 expenditure, is probably more accurate. The conclusion drawn was that his range of \$2,070 million to \$2,664 million, as compared to Edison's estimate of \$1,585 million to complete Braidwood, was reasonable, suggesting the lower half of the range. The witness indicated that his original estimate of \$1,850 million for Braidwood increased significantly due to the apparent stretch-out of Braidwood's construction schedule. The witness concluded that the contingency allowances made by Edison appeared to be not so much deliberate error corrections as allowances for anticipated but not fully known items and therefore, netting them from Edison's estimates produces artificially low cost estimates of questionable use for discerning trends.

Edison presented its Executive Vice President responsible for nuclear plant construction to answer certain statements made by the Attorney General's fourth witness regarding Edison's underestimation of its costs to complete its construction program. Edison's witness also discussed the activities related to and current possibilities of selling a portion of its Braidwood plant.

Edison's witness testified that he disagreed with the Attorney General's witness contending that an extrapolation of historical experiences of 1979, and 1980 was not an accurate basis for projecting similar increases in construction costs in the future. The witness stated that the construction program is now much further along, the experience gained during that period is presently being applied in its current work and many of the cost increases during that period were nonrecurring situations which have already had all or most of their impact. With the completion and licensing of LaSalle 1, more accurate estimates are possible for the engineering quantities and manhours needed for LaSalle 2; in addition, many of the common facilities for each of the LaSalle units have already been completed. The witness discussed the current status of Byron 1, which is the lead unit for all four units at Byron and Braidwood. As with the LaSalle units, the experience gained from Byron 1 is applicable to the other three units and much of the engineering work will not need to be repeated for Braidwood. The witness indicated that final design analysis and installation of large pipe hangers has been slowed purposely and is dependent on an iterative process as the work progresses.

This same witness discussed the sale of a portion of the Braidwood Station, stating that such a sale is improbable in view of the present and expected reserve margins exceeding 15%-20% of utilities in local power pools. He also responded to one of the Attorney General's witness's proposal that a utility which has a project under construction which would be included in its reserve calculations for 1986 has already made a large enough commitment to make it highly unlikely that cancellation would be economically justified, since the utility would have to add the cost of its cancelled plant to whatever payment was made to Edison. The witness also stated that, under the Company's present load forecast, additional capacity of 500 MW will be needed by 1996; a sale of both Braidwood units would create a shortfall of 412 MW

in 1991 and a sale of one unit would result in a shortfall of 530 MW in 1994. In addition, to sell nuclear capacity to relieve Edison's coal reserve problems as proposed by the Attorney General's witness, would be selling the lowest fuel cost capacity and generating with much higher priced low sulphur coal or oil. The witness concluded that, to preserve the benefit of the nuclear units of its customers, the units would have to be sold for more than Edison's current investment.

Another Edison witness, the Station Nuclear Engineering Department Manager responsible for all design activities for nuclear plants, responded to testimony heretofore described concerning the length of outages of Edison's nuclear units and the budgeting process provided for the expense and outages associated with possible future modification and repairs to its nuclear power plants. (See testimony of Attorney General's third and fourth witnesses described herein.) Edison's Exhibit 17R.1 is a summary prepared by this witness showing budgeted costs, unbudgeted costs and outage times associated with issues concerning plant life, including regulatory requirements, steam generators, primary system failure, TMI issues, radiation buildup and future safety requirements. This witness determined that total unbudgeted costs of not more than \$12 million may occur over the next five years for each nuclear unit, with possible unplanned outages of up to 1-1/4 months (except Dresden 2). While he stated that such costs were not expected to be incurred, his estimate represented a reasonable figure for a major unanticipated expense. The witness concluded that his estimated costs were lower than those shown in AG Exhibit 16 because virtually every item discussed has either been specifically budgeted for or is so unlikely to occur that no provision for the expense associated with such items is warranted; he further indicated that budgeting for anticipated future costs requires more than establishing the maximum possible cost to resolve any item; to be a useful financial planning tool, the witness contended that the process requires establishing a program or modification which will reasonably resolve the problem, and estimating the cost on the basis of that identified program or modification.

In response to Staff witness's preliminary studies, Edison prepared a series of engineering economic studies to evaluate the timely completion of Edison's Braidwood and Byron projects. The methodology used in an engineering economic study is a comparison of a base case (in the delay scenarios, no-delay is the base case) with a change case (delay), assuming various measurements for certain significant factors. In the scenarios comparing the benefits/costs of completion versus cancellation, the base case portrays completion of the unit(s) and the change case portrays cancellation.

Comparison between the alternatives being studied is measured by a computation of future revenue requirements expected to occur under the base case and the change case; the revenue requirements are expressed in terms of present value for purposes of comparison and the difference between each alternative in each scenario will show a positive or negative figure. In Edison's Exhibit 14R2A, set forth on page 51 of this order, a summary of all the cancellation scenarios is presented, indicating in each column the factors which were varied and the value assigned to each of the factors under the various scenarios or comparisons. The column entitled "Full Life Cum. PVRR Cost to Cancel" indicates the cumulative difference of the present-valued revenue requirements between the base case and the change case over the full life of the subject unit(s). A positive number indicates the difference in (additional) revenue requirements estimated to occur if Edison were to change its present construction schedule,

i.e., cancel certain units now under construction. A negative number indicates the difference in revenue requirements estimated to occur if Edison completed certain units as compared to canceling said units.

The studies performed by Edison evaluate the cost of canceling Braidwood or delaying Byron and/or Braidwood at various levels of load growth from 0% annually to 2.5% annually. The studies were performed using various inflation rates and current estimates of the construction costs which are 39% higher for Byron and 61% higher for Braidwood. Other variable factors were used to test the sensitivity of the construction studies; these include fuel escalation rates, the discount rate used in determining present value, and type of replacement capacity. For the completion scenarios, the demolition costs at the end of the useful life of the plant are included as part of the decommissioning costs in operation and maintenance expense, but are not included as a penalty to cancellation even though these demolition costs are expected to be significantly higher than the salvage value of the various plant components.

The first set of studies analyzes one and three year delays of one or both of Braidwood and Byron, assuming Edison's current 2% load forecast as well as an alternate 0% load forecast. The delay studies, according to Edison's Director of Economic Research, are similar to those presented in Phase I, updating the original and incorporating the latest changes in Federal Income Tax Law. The service dates for the units studied in the base case are each delayed one year from Edison's currently planned service dates so that recognition is given to the contention that Edison's projected in-service dates for these units are overly optimistic. Edison's witness indicates that, with this assumption, the results of the study would not be invalidated if some unavoidable delay at one or more of the four Braidwood and Byron units should occur. All of the studies use 1991 as the first year when investment tax credits could be utilized because, according to Edison's witness, in 1991 the tax credits are certain to be utilized under the longest delay scenario. The witness explained that this assumption creates a bias favoring delay since ITC's in the non-delay base cases would be available sooner than in the delay cases. Table 1 of Respondent's Construction Brief summarizes these delay studies and shows that delays would increase cost, the cost would increase as the delay is longer, and the cost is greater if both Byron and Braidwood rather than Braidwood alone were delayed. The cancellation studies were focused on the Braidwood Station since it is the last to be completed and it is the least completed plant. The Commission's Staff witness testified that if it were not appropriate to cancel or delay Braidwood, it would follow that it would also not be economical to cancel either Byron or LaSalle.

A review of Edison's Exhibit 14R2A indicates what parties defined the parameters for each scenario, as well as the input in and range of inputs for each of the factors. All of the studies differ from the rough studies originally submitted by the Staff witness; these changes and the reasons therefor were described by Edison's Director of Economic Research as follows: (1) the time period for each of the scenarios shown on the subject exhibit was extended from 1999, the year in which the Staff witness determined that the contract constraints would be resolved, to 2022, the year in which the Braidwood plant would be expected to be retired; use of the later date assumes a 35-year life for Braidwood and permits a comparison of the full cost/benefits of that plant as opposed to the truncated method where only the revenue requirements during the period of the contract constraints were in effect; (2) the economic cost of replacing the Braidwood Station

in the event it was cancelled was included in the scenarios; most of the studies show low sulphur coal generating plant as the replacement capacity rather than nuclear because, as Edison's witness stated, it would seem illogical to cancel a nuclear unit and replace it with another such unit; (3) the economic cost of Edison's not taking minimum quantities of fuel under existing fuel contracts was determined by two alternate methods, referred to as "Coal Deferred" and "Coal Cancelled". Under the deferral method, it is assumed that Edison could make a payment equal to 28% of the delivered cost of the coal to provide for deferral of the mining and taking of this coal until needed by the Company in the future. The same 28% penalty is utilized in the "Coal Cancelled" scenarios with adjustments for tax deductions and production cost credits.

Edison's Exhibit 14R2A is shown below. As can be seen in the "Full Life Cum. PVRR Cost to Cancel" column, twenty-one of the twenty-two engineering economy studies show that substantial increased total costs would result from cancellation; nineteen of the twenty-one favoring completion show savings of over \$1 billion. Only the third study indicates that completion is the more costly alternative, i.e., shows negative revenue requirements; this study assumes that the real cost of fuel will be decreasing 3% every year throughout the 35-year study period, that there will be no growth in load or sales during that period and that Braidwood will cost 61% more to construct than Edison currently estimates.

SUMMARY
BRAIDWOOD CANCELLATION STUDIES

STUDIES FOR:	LOAD GROWTH	INFL RATE	FUEL ESCL.	DISCOUNT RATE	BOTH UNITS				REPLACED BY	COAL PENALTY TREATMENT		FULL LIFE CUM. PVRR COST TO CANCEL *** (MILLIONS)	EDISON EXHIBIT
					BASE CASE SERVICE DATES	BASE CASE	CANCEL CASE**	UNITS CAN- CELLED		BASE CASE	CHANGE CASE		
						(\$/KW)	(\$/KW)						
Edison	0.0	9.0	9.0	13.117	86 & 87	1453	--	11 & 12	LS Coal	Cancel	Cancel	1556	14R.11
Edison	0.0	9.0	9.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Cancel	751	14R.15
ICC Staff	0.0	9.0	6.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Cancel	-71	14R.17
ICC Staff	0.0	9.0	12.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Cancel	2251	14R.18
ICC Staff	0.0*	6.8	9.5	10.836	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Defer	2591	10R4.3
Atty. Gen.	0.0*	6.8	6.8	10.836	85 & 86	1171	--	11 & 12	Nuclear	Cancel	Cancel	1775	10R4.6
Edison	1.0	9.0	9.0	13.117	86 & 87	1453	--	11 & 12	LS Coal	Cancel	Cancel	3025	14R.10
Edison	1.0	9.0	9.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Cancel	2220	14R.14
ICC Staff	1.0	9.0	6.0	13.117	86 & 87	1453	--	11 & 12	LS Coal	Cancel	Cancel	1761	14R.19
ICC Staff	1.0	9.0	9.0	13.117	86 & 87	1453	--	11 & 12	Nuclear	Cancel	Cancel	2139	14R.21
Edison	2.0	9.0	9.0	13.117	86 & 87	1453	--	11 & 12	LS Coal	Cancel	Cancel	3620	14R.8
Edison	2.0	9.0	9.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Cancel	Cancel	2814	14R.12
Edison	2.0	9.0	9.0	13.117	86 & 87	1453	--	11 & 12	LS Coal	Defer	Defer	3564	14R.9
Edison	2.0	9.0	9.0	13.117	86 & 87	1974	--	11 & 12	LS Coal	Defer	Defer	2759	14R.13
ICC Staff	2.0	6.8	9.5	10.836	86 & 87	1974	--	11 & 12	LS Coal	Defer	Defer	3222	10R4.4
Atty. Gen.	2.0	6.8	6.8	10.836	85 & 86	1171	--	11 & 12	Nuclear	Cancel	Defer	2422	10R4.7
ICC Staff	2.5	6.8	9.5	10.836	86 & 87	1974	--	11 & 12	LS Coal	Defer	Defer	3178	10R4.5
UNIT 2 ONLY													
Edison	0.0*	9.0	9.0	13.117	86 & 87	1974	2597	12	LS Coal	Cancel	Cancel	780	10R4.10
Seniors	0.0*	6.8	6.8	10.836	85 & 86	1171	1647	12	Nuclear	Cancel	Cancel	1248	10R4.8
Edison	2.0	9.0	9.0	13.117	86 & 87	1974	2597	12	LS Coal	Cancel	Defer	1899	10R4.11
Edison	2.0	6.8	9.5	10.836	86 & 87	1974	2533	12	LS Coal	Defer	Defer	2261	10R4.12
Seniors	2.0	6.8	6.8	10.836	85 & 86	1171	1647	12	Nuclear	Cancel	Cancel	1821	10R4.9

* Peak load is 14575 MW in all years of study. All other 0% cases are at 14228 MW.

** Installed cost of Braidwood Unit #1.

*** Cumulative PVRR shown is for Braidwood's retirement date of 2022. The summary in Exhibit 14R2 shows amounts for 2031 which is slightly different than the amounts shown in this summary.

When all of the studies had been presented, Seniors and the Attorney General presented additional witnesses who further criticized the methodology, reliability, credibility and usefulness of the studies performed. Seniors' second witness (Seniors' Exhibit 2.0) contended that the studies were not reliable because Edison had only considered nuclear, compressed air energy storage ("CAES") plants and cycling fossil units as replacement for the cancellation of Braidwood; the witness suggested that other alternatives would include, but not be limited to, small coal cycling plants, cogeneration or district heating, municipal solid waste plants, energy conservation programs, load management programs, sale of one or both of the Braidwood units.

Seniors also presented a third witness (Seniors' Exhibit 3.0), a research scientist with a consulting firm and assistant professor of mathematics and economics. This witness assisted in the preparation of the load forecast (Seniors' Exhibit 3.1) submitted by Seniors in June of this year in Phase II of the Construction Cases, Docket 80-0706 now pending before this Commission. The load forecast projected by Seniors is 0.5% and this witness recommends a 0.5% annual growth rate forecast be adopted based on his analysis and evaluation of Edison's historic load growth. He testified that the projected load growths used in Edison's studies were inadequate, and criticized the particular methodologies advocated by Edison and the Staff witness. This witness recommends an approach to forecasting employing end-use forecasting and particularly rejects the scenarios using a 2.5% long-term annual increase in peak load, which is calculated using a 2% growth in Gross State Product ("GSP") as projected by Data Resources, Inc. ("DRI"). Seniors' third witness testified that the projections based on relationship between growth in electricity and increased economic activity do not take account of conservation or other substitutions for electricity. The DRI long range statistics were chosen by Staff witnesses as being a recognized source independent of those projected by the parties.

The Attorney General offered three additional witnesses opposing the results of the studies performed herein and addressing various positions which favor the prompt completion of Edison's present construction program. The Attorney General's fifth witness, a mathematician and research associate with a consulting firm (AG Exhibit 27), testified that the issue of Edison's continuing construction of Braidwood 1 and 2 is important enough to justify a major investment of effort by this Commission Staff and other major parties in this case to conduct a comprehensive and professional investigation leading to an order by the Commission to cancel or continue construction of Braidwood. He stated that it is less risky from the point of view of Edison's stockholders to complete questionable construction programs than it is to cancel or defer them. The witness recommended that this Commission indicate in its decision that recovery by Edison of continued Braidwood investments in the return portion of Edison's future base rates is conditional or partly conditional upon Edison's optimistic Braidwood predictions being confirmed by future experience; specifically, he stated that capital cost overruns beyond the capital cost estimates put forward by Edison in this case should not be guaranteed to be collected in future base rates, and that future Braidwood investments above and beyond current levels of actual expenditures should not be guaranteed to be collected in future base rates, even if Edison's total capital cost estimates prove accurate, unless such investments are (in hindsight) justified by the total system operating cost savings actually caused by Braidwood's generation. This proposal, according to the witness, should be carried out by an intensive investigation into the cost-effectiveness of Edison's continued investments in Braidwood, including formal presentations on proposed ratemaking treatments for past and future Braidwood investments.

The Attorney General's sixth witness is a research analyst with a degree in civil engineering, and a background in utility related projects. His testimony (AG Exhibit 28) questions the validity of the present value revenue requirements studies. The witness states that he does not know why this Commission should "care about revenue requirements", since this type of study does not identify whether the revenue requirement is a cost to the ratepayer or to Edison's shareholders. The witness proposes that the discount rate used in the studies should not be a measure of Edison's cost of capital but rather the ratepayers' cost of capital, which he assumes to be in a range of 20%-90%, depending on the individual situation. He further contends that a sizeable fraction of the projected benefits of completing Braidwood is erased because Edison's projected capacity factor is too high; the witness indicated an appropriate range would be 51%-55% as compared to a 58% figure used by Edison and calculates that the present value of this difference over 35 years would be about \$350 million. His testimony indicates that a 20-year life measure is appropriate for Edison's nuclear plants based on comparison with earlier smaller units. This statement is in direct contradiction with another of the Attorney General's witnesses who projected a 32.5-year life. The witness also appears to suggest that the possibility of falling interest rates and inflation rates does not favor prompt completion of Braidwood at much higher rates and that the Commission might consider whether Edison should make its own decision whether Braidwood should be completed at its own risk. It is also recommended that the Commission conduct follow-up proceedings to determine the feasibility of such options as mothballing the Braidwood units to approximately the turn of the century, abandonment, mothballing with writeoff of some investment or continued construction at Edison's own risk. The witness also discusses intergenerational inequities regarding the costs and benefits of Edison's Braidwood plant.

Of the many issues raised by this witness, the Commission is of the opinion that three specific items should be addressed; conservation and intergenerational inequities were subjects raised in more detail by other parties and will be discussed hereafter, as well as projected capacity factors. Of the remaining, at best they appear speculative and, in some cases, either contradictory to the position taken by the Attorney General in his brief or without sufficient basis in fact. Regarding the proposal to mothball one or both of the Braidwood units, this would be tantamount to deferring completion, a position clearly contrary to that advanced by one of the Attorney General's other witnesses in the permanent hearings. Referring to AG Exhibit 26, which was an Edison data response to the Attorney General for use in the economic engineering studies, concerning projected long-range retirement of plants on line, this data was incorporated in the Edison studies prepared for the Attorney General. The Attorney General's brief not only contends that these costs were not accounted for, thus producing unreliable studies, but appears to argue that a significant amount of replacement generation will be required between 1999 and 2021. This position does not seem to square with the proposition that the Braidwood plants, which would be in service during that period, should be cancelled.

A seventh witness was also presented by the Attorney General, an economist who testified in the interim proceedings asking that the Commission give serious reconsideration of the decision not to delay the construction program and to recognize that nuclear power in many ways is an experiment with a great deal unknown about it. This witness reviewed the testimony of the other three witnesses offered by the Attorney General in the interim proceedings in order to show the effect on the present value cost of the nuclear power plants, assuming \$200 million in fuel savings

during a full year operation over a period of 17 years. The witness, using analyses made in AG Exhibit 6, which he described as the best estimate of what could occur in the worse case, apparently determined that projected events such as regulatory requirements, problems with steam generators, primary system failures, TMI issues, radiation levels, future safety failures, all of which would shorten the life of a nuclear plant, would happen sequentially, resulting in an 8-1/2 year outage period.

BPI, on September 8, 1982, filed an Appeal from the Schedule for Further Studies of Braidwood Cancellation and a Petition to Open Separate Docket, contending that conservation alternatives had not been analyzed in the cancellation studies introduced in the record and further that there was not enough time to conduct and complete such studies. (BPI has attached to its motion a copy of an order by the Pennsylvania Public Utility Commission dated May 7, 1982 concerning the cancellation of the Limerick Nuclear Generating Station, which investigation was initiated October 10, 1980.) Seniors and the Attorney General filed similar motions, stating that they could not adequately address additional economic studies. The Commission notes that, as Staff counsel represented in its motion for additional studies, the Attorney General's own witness confirmed that the additional studies were no more than variations of the same studies already performed. The Commission confirmed the Examiner's denial of the motions of the Attorney General and Seniors, but indicated that, without more information, it could not act on BPI's motion but would take the question of a separate docket with the case after it had reviewed the record herein. BPI argues in its Brief that a separate investigation should be initiated by this Commission to ensure that the conservation alternatives are sufficiently specific and detailed and to address all major issues bearing on cost-effectiveness so as to permit comparison on economic grounds with continued construction of Byron Unit 2 and Braidwood Units 1 and 2.

Review of the Issues Raised

The record in this case contains 11,129 pages of transcript as well as the testimony and exhibits of fifteen witnesses on behalf of Respondent, ten members of various Commission Staff departments and twenty-four Intervenor witnesses. A substantial portion of the record has addressed Edison's on-going construction program and includes the filing of the 10-year load forecast of Edison and the summary and review of Seniors' independent load forecast. A separate briefing schedule was established for those parties participating in the evidentiary proceedings on said issue as well as any other party who wished to address the question. Initial and Responding Briefs on this subject were filed by Edison, the Attorney General and Seniors; Initial and Responding Memoranda of the Staff Position were also filed. Included under the construction issue was the possible sale of some part of Edison's nuclear plants now under construction; this subject was addressed in the aforesaid briefs and separately addressed by M&M/Mars in its brief.

Edison's construction program has been the specific subject of two separate dockets, referred to herein as Phase I and Phase II, concerned with Respondent's current construction and long range construction, respectively. The question arose in this case in the interim proceedings, but it was determined that the limited scope of interim hearings was not an adequate forum for this complex issue. All parties were put on notice by the Commission's Interim Order of May 6, 1982, that the issue would be taken up in the hearings on permanent rates. The Commission determined that such a record was necessary not only for its decision in this case and the parties thereto, but even more significantly, that it had an obligation and responsibility to

re-examine its prior decision of October 15, 1980 in Docket 78-0646, particularly in view of the concerns expressed by the public at the public hearings and in the media.

Listed below are the findings of fact on the evidence presented herein and the Commission's conclusions in regard to Edison's current construction program. Each caption represents a particular issue or group of related issues concerning this subject.

1. Limitation of the Issue:

Some of the participants in this proceeding have expressed a lack of confidence in and a concern regarding the propriety of generating electricity by nuclear power, as opposed to the use of fossil fuels or other sources. This concern cannot be addressed directly by the Commission. The Commission, however, has considered the effects of fuel costs, cost of capital in construction of such nuclear plants and costs of operating and maintaining such plants. Proponents and opponents of nuclear generation of energy have the forum of the Nuclear Regulatory Commission ("NRC") and other related federal agencies which regulate with primary jurisdiction the issues of licensing, construction requirements, safety and operation of nuclear generating plants.

This order addresses the costs and benefits related to the completion, operation and maintenance of the nuclear units Edison is now constructing and the financing related thereto. Deferral and/or cancellation of some part of this program, in consideration of the projected load growth and the costs of construction, inflation rates, alternate fuels, replacement capacity and existing fuel contracts constraints, is analyzed and compared to the costs and benefits of completion.

2. Methodology and Usefulness of Engineering Economic Studies Performed Herein;

The Attorney General and Seniors have contended that the Net Present Value Analysis of Revenue Requirements calculated to occur under various alternatives, such as completion, deferral or cancellation of certain of the nuclear units, is not a useful analytical tool to resolve the issues raised. Seniors and the Attorney General argue that engineering economic analysis cannot be the sole determinant in resolving such an issue. This contention is not opposed by the Commission, Edison or Staff representatives. The Commission agrees that, while engineering economics is perhaps the major analytical tool, it is an aid to judgment, not a substitute for it.

Secondly, it is argued that Edison's studies are of limited value because they do not accurately demonstrate the costs to ratepayers. Citing the Attorney General's Brief, the Commission agrees that "The question of reasonableness (of the costs) must be considered in the light of its effect on the cost of rendering service." The contention is that in calculating revenue requirements associated with an investment alternative from the ratepayers' perspective, net revenue requirements should reflect cost to be recovered through the ratemaking process, and that this must be done by using the discount rate of the ratepayer. As the Attorney General points out in his brief, the Commission has already recognized in prior Edison orders that Edison's construction program and related financing affects the rates charged to the customer. Since it is the utility's costs

which are incorporated in the ratemaking process, it is obvious that the utility's discount rate (opportunity cost of capital) is the cost which is to be measured to reach investment decisions which minimize costs. Expert sources cited by the Attorney General's witness confirm this theory:

"If a regulated utility can borrow money at a given rate, the market interest rate seems the appropriate basis on which to make its investment decision rather than discount rates implicitly used by its customers. The margin on which the regulated utility operates is given by its opportunity cost of capital, and it cannot affect the borrowing-lending margin of its customers. The two margins differ. But there exists no reason for the regulated utility to attempt to operate on the intertemporal margin used by its customers." (Edison's Cross of Chernick Ex. 8; The Bell Journal of Economics, Spring 1979, p. 54)."

As Edison's witness pointed out, the term "revenue requirements" refers to the revenues needed to defray costs incurred; under perfect regulation these costs would be recovered through rates and thus, revenue requirements would be equated with rates. Regardless of whether the costs are borne by ratepayers or investors, they remain costs; consequently, minimizing the present value of Company's "revenue requirements" necessarily minimizes the costs that must be borne.

The net present value studies performed by Edison in the present case and utilized in the Phase I Construction Docket, match the behavior of a competitive firm in making an investment decision. Such a decision making process will identify the most cost effective investment alternatives for Edison as well as produce the most efficient allocation of resources for society as a whole.

The Commission is of the opinion that the engineering economic analysis performed herein is a proper and useful analytical tool to be used in the Commission's determination.

3. Accuracy in Determining the Value of the Various Factors Utilized in the Studies:

The Intervenor presented a considerable amount of evidence intended to show that Edison's past record of estimating its construction costs was unreliable. Based on a projection of this historical underestimation, calculation of ratios comparing cost estimates with percentage of construction complete, as well as other future costs such as additional safety requirements and other factors enumerated in the testimony set forth herein, it is contended by the Attorney General and Seniors that the construction, maintenance, operation and decommissioning costs projected in the studies are either inaccurate or insufficiently representative of the worse case scenario for purposes of these studies.

- a. Past underestimates used as a basis for determining the accuracy of current or future estimates. The methodology used by the Attorney General's witness is not reliable in that such an extrapolation of historical trends would necessarily show that any current construction is low, including that made by the witness. Nor does it recognize that the margin of estimating error is reduced significantly as each unit is completed or approaches completion, nor the fact that both LaSalle 1 which is now in service and Byron 1 have functioned as a prototype for LaSalle 2 and the Byron

2 and Braidwood units, respectively, thus reducing the likelihood of repetition of past error and increasing useful experience.

The Attorney General's analysis of construction costs based on a ratio of dollars spent to date and percent of on-site construction labor completed fails to recognize that significant expenditures for materials and supplies have been made, and included in amounts expended to date, which have not yet been put in place. This was particularly true when there was a work stoppage at Braidwood in 1979. In a normal construction schedule, construction labor activities lag expenditures for purchases of major equipment and engineering work, and a comparison of such figures will therefore always overstate the total cost of plant.

- b. Failure to incorporate possible future modification costs. These costs were primarily discussed by the Attorney General's second witness who described them as plant life issues affecting costs and resulting in extended outages. The witness recommended that further study be made of these risks and that a sinking fund to cover such costs be established by Edison.

The analysis made by the Attorney General's witness is seriously flawed in several respects. The unanticipated expenditures and extended outages predicted in the case were offered without any estimation of the likelihood that such events would occur, nor was there any attempt to give balance to the discussion by including a consideration of the prospect that events more optimistic than those assumed by the Company might prevail. The cost figures presented represent estimates of the total costs and outages possible, not the costs and outages over and above those already anticipated and budgeted for by Edison. A large number of the modification deemed possible have either been specifically budgeted for, or appear extremely unlikely. The cost and outage figures are summed assuming that all events would occur successively and that none would occur simultaneously.

In regard to decommissioning costs, Edison used an estimate of \$95 million per unit in its studies. This figure compares favorably with published studies showing engineering estimates of \$50 million to \$100 million. Edison's backfitting costs made an allowance for annual backfitting costs at Braidwood of 1% of the original total plant cost, escalated at 9% per year; the Attorney General's witness appeared to be unaware that such costs had been incorporated in the studies. Edison also offered testimony indicating that many of the design changes due to backfitting requirements had already been incorporated at Braidwood.

The Commission is of the opinion that the studies as performed, by assuming a year delay for each of the plants considered and construction costs of \$1,924/kw for Braidwood, which are 61% higher than the current estimates made by Edison, have adequately addressed the subject of unanticipated costs and outages.

- c. Capacity factors of plants under construction. The Attorney General's sixth witness presented testimony concerning estimated capacity factors for the plants under construction, contending that a sizeable fraction of the projected benefits of completing Braidwood is eliminated because Edison's projected capacity factor is too high. The capacity factor used by Edison in its studies is 58% using a design electrical rating ("DER") and an equivalent availability factor of 61%. The source used by the witness for the Attorney General shows higher availability factors than that used by the witness and, in fact, indicates that the capacity factor for large pressure water reactors ("PWR's") like Braidwood is 58%, which number must be multiplied by a factor of 1.07 to be comparable to DER ratings. This calculation produces a capacity factor of 62.02% and therefore is higher than the factor used by Edison. The Commission also concurs with the argument made in Staff's Position Memorandum, i.e., that even assuming the lower capacity factors, declining capacity factors at Edison's other generating stations would only mean that it would be even more cost effective to have Braidwood's capacity available in the future.
- d. Load growth. As can be seen from the Summary of Studies shown on page 51 of this Order, the load growth factor used in these studies has varied to show projected growth in demand at annual levels of 0.0%, 1.0%, 2.0% and 2.5%. Two ten-year load forecasting studies were placed in this record, Edison's projection of 2.0% and Seniors' projection of 0.5%. Each of the studies performed by Edison assume the indicated load growth over a period ending in the year 2022.

Seniors and the Attorney General object to the use of the 2.5% load growth, yet the calculation of this figure is developed based on the relationship between Illinois Gross State Product ("GSP") using DRI independent long-range forecasts and consumption of electricity in Edison's service territory. The Commission believes that the use of an independent source for long-range forecasts is reasonable when making a comparison between Seniors' and Edison's load forecasts.

Seniors' witnesses have contended that the use of a no-growth load forecast does not take into consideration a "Comprehensive Conservation Plan." However, Seniors could not supply evidence as to how much it would cost to save a kilowatthour of electricity and consequently no conservation/load management assumptions could be specifically included in the studies. While Seniors asked Edison to assume a reduction of 1100 MW in capacity requirements through conservation and load management, one of Edison's witnesses indicated that Seniors had stated in another Commission docket that 1/2% annual growth would result in 1529 additional MW of demand over that used in the 0.0% study. This exceeds the 1100 MW of capacity Seniors asked Edison to assume would be replaced by conservation. The Commission agrees, that for purposes of considering conservation factors in the load growth factor the no-growth scenario can be viewed as a surrogate for a conservation scenario. This

conclusion is reinforced when considering that the no-growth scenario ignores the costs of achieving conservation, a bias which would favor conservation over constructing generating capacity.

Finally, the Commission agrees with the conclusion made in the Memorandum of Position of Staff that a load management conservation program of the type described by Seniors would shift large amounts of load off peak, thus increasing load factor, an assumption not taken into account by Seniors. Any increase in load factor from that assumed in the no-growth study would increase production costs savings and therefore the benefits of completing Braidwood.

The Commission is of the opinion that the range of load growth factors utilized in the studies is reasonable and provides a valid basis on which such an analysis may be made.

- e. Fuel contract restraints. The Commission is of the opinion that the concerns expressed by the Commission Staff witness and by the witness presented by the Attorney General regarding the impact of Edison's current fossil fuel contracts are significant and bear directly on the previous cost-benefit study conducted in the Commission's Phase I proceeding. The methodology used by Edison in this case to estimate the impacts of these contract constraints, i.e., the use of penalty clause charges and termination costs, is a reasonable estimation of such costs for purposes of this study. It is not certain, as Edison contends in its Brief, that the fuel penalties are overstated; Edison contends that the assumption that the market for coal and oil will be depressed throughout the time period of the study is highly improbable.
- f. Replacement capacity. Seniors' proposal that all studies are invalid in that they do not consider a proper range of replacement capacity under the cancellation studies is not convincing. The Commission is of the opinion that certain of the substitutes proposed by Seniors have no measurable cost and further, that the use of low sulphur coal units represents the most realistic substitute for Braidwood, since it seems counter-intuitive to cancel nuclear power plants and then begin constructing another nuclear plant only a short time later.
- g. Proposal that studies be truncated. The Attorney General contends that the studies should be truncated in the years 1996 or 2000, because of the difficulty of predicting events in the more distant future. The result of such a forecast would result in a study which would include all the costs related to Edison's current fuel contracts and effectively assign a zero benefit to more than half of the productive life of the Braidwood units, assuming a 32.5 year useful life as estimated by the Attorney General's own witness. The Commission notes the Memorandum of Position for Staff in which the various scenarios made in the cancellation studies were truncated as proposed, 17 of the 22 studies for the year 1996 and 16 of

the 22 studies for the year 2000 show a benefit for completing Braidwood. Staff Memorandum points out that under the truncated studies, there is great risk attached to the possibility of the Attorney General being wrong in his recommendation to cancel Braidwood. The truncated studies show that, if the Attorney General is right, the ratepayers may save at the most approximately \$636 million by the year 2000. If the Attorney General is wrong, ratepayers stand to lose as much as \$2.4 billion. The Commission is of the opinion that the truncated forecasts proposed by the Attorney General are unreasonable and, accordingly, rejects the Attorney General's proposal.

- h. Escalation factors. In its initial studies, Edison used an escalation factor of 9% for operation and maintenance costs related to the generation of electricity at its nuclear plants. Staff witnesses contended that this figure was too high, while the Attorney General argued that the escalation factor was too low. Edison cites in its Brief an article offered by one of the Attorney General's witnesses which indicates that the operation and maintenance expense is a small ongoing expense which, despite recent increases, remains a relatively small percentage of total generation costs once a plant is on line.

Various scenarios were made using a 9.0% and 6.9% inflation rate. The data of an independent forecasting group, Data Resources, Inc., was used for the final studies and utilizes the following values: 3% growth in gross national product, 6.8% inflation, and 9.5% fuel escalation. The consistent discount rate of 10.836% and a marginal cost of capital of 13.275% (debt at 11.5%, preferred at 11.9% and common at 16.4%) was used for those scenarios. It should be understood that though various factors are inflated, the effects of inflation are removed through discounting at a higher rate than the inflation rate. Therefore, the studies would produce comparable figures regardless of what inflation rate had been used, as long as it is consistent with the discount rate.

- i. Conservation - Proposal for additional hearings on Edison's current construction program. Testimony and exhibits were presented by the Attorney General, Seniors, Edison and Commission Staff members on the subject of Edison's current construction program. One of Seniors' witnesses (Seniors' Exhibit 2.0) specifically raised the question of whether the studies concerning the cancellation of Braidwood correctly account for potential load management and conservation opportunities. This witness concluded that, because Edison has not examined a full range of options available to it, its investigation of Braidwood remains inadequate and incomplete. This evidence has been reviewed heretofore and the Commission has determined that the 0.0% load growth scenarios are a reasonable surrogate for conservation and load management for purposes of the engineering economic studies.

Business and Professional People for the Public Interest and Dick Simpson have filed a Brief concluding that the Commission should not determine

on this record whether completion of Byron 2 and Braidwood is economically superior to conservation alternatives. BPI asks that this Commission grant its pending petition and open a separate docket, to investigate this question, or incorporate such investigation in a pending docket, indicating that the scope of said docket should include the issues addressed in the order issued by the Pennsylvania Public Utility Commission regarding the cancellation of the Limerick Nuclear Generating Station; the Pennsylvania Commission ordered a conservation docket applicable to all utilities, taking note of a conservation study presented by the City of Philadelphia and "modeled after programs undertaken by the Tennessee Valley Authority and several west coast electric utilities." A second decision, made by the New York Public Service Commission determined that construction of the Nine Mile 2 Nuclear Station should not be cancelled but that generic hearings should be initiated on the subject of conservation.

In Oral Argument before this Commission, counsel for BPI indicated that it would take approximately a year to complete a study concerning whether the completion of Byron 2 and Braidwood is economically superior to conservation alternatives. BPI's counsel recommended that construction not be halted for any of the plants during the interim. (AG Exhibit 17-Schedule 1 indicates that, as of January, 1982, Braidwood Unit 1 was 61% complete and Unit 2 was 48% complete.) Edison's counsel, responding in Oral Argument, opposed BPI's position that the record made herein was inadequate for the Commission to conclusively determine whether completion of the plants under construction is the best economic alternative. Edison's counsel stated that consideration be given to the difficult situation in which Edison's Board of Directors is placed considering that they will be authorizing large construction expenditures in 1983. In the Memorandum of the Position for Staff, it is argued that the evidence presented in the studies overwhelmingly favors a timely completion of the Braidwood Station. Staff's Memorandum also points out that other issues must be actively pursued in relation to the completion of the current construction program. These issues would include capital recovery mechanisms to mitigate intergenerational inequities, the sale of generating capacity and incentives to promote construction efficiency. Staff Memorandum concludes that the most efficient allocation of its resources would be to study the opportunity for innovation in each of these areas and actively seek solutions to the questions they pose.

4. Intergenerational Inequities

A witness presented by the Attorney General testified that, under some assumptions, Braidwood completion would have rate effects much like CWIP, contending that the ratepayers who "paid for" Braidwood would not be the same ratepayers who benefit from its construction. Three specific observations should be made in response to this statement:

1. Use of the term "intergenerational inequities" does not imply that any or all such transfers between generations are necessarily "inequitable."

2. The Illinois Appellate Court, in its decision in the Illinois Power case discussed herein, reviewed this subject and found that CWIP was a proper and reasonable method of providing for the financing needs of a utility when it has a plant under construction.
3. As a generalization, it is not correct to observe that the ratepayers "pay for" the construction costs of a plant. Ratepayers are required to pay a reasonable rate of return on the capital invested in such plants and the depreciation costs associated with such plants. This generalization should not be read to say that current ratepayers are not affected at all by construction expenses. If construction costs require heavier than normal external financing, borrowing rates may result which are higher than they would otherwise be. Similarly, if construction programs require lower than normal amounts of external financing, borrowing rates may result which are lower than normal. To insist, therefore, that these deviations in borrowing rates are significant departures from intergenerational equities is to require a precision in ratemaking beyond practicality.

The Commission recognizes that rates do, in fact, peak when new units come into service under the traditional capital recovery mechanisms and therefore adopts the proposal in the Memorandum of Position for Staff, i.e., the development of alternative ratemaking practices should be further analyzed by Staff, including such proposals as inflation adjusted (economic) depreciation rates tied to reserve margins, Staff member's Negative CWIP proposal or other mechanisms which would tend to levelize carrying charges through time.

5. Sales of a Portion of the Generating Capacity of the Plants under Construction:

The Commission concurs with the criticism of Staff witnesses and the argument made in Staff's Memorandum of Position, as well as the position taken by M&M/Mars in its Brief, regarding the failure of Edison to aggressively seek out and pursue prospects for the sale of some part of its generating capacity. The Commission hereby directs Edison to file quarterly reports with the Commission detailing such efforts and the likelihood of the success of same.

The Staff is directed to incorporate the results of these reports in their studies of the development of alternative ratemaking practices as described in Paragraph 4 above. The analysis made by Staff should take account of Edison's argument that nuclear generated energy is lower in cost of fuel than that generated by coal generating units. Detailed analysis of the economies associated with such a sale should be presented to the Commission by the Commission Staff and Edison before any commitments for such a sale are made by Edison.

6. Edison's Ability to Finance the Current Construction Program:

The Commission is of the opinion, after reviewing the evidence presented herein, that Edison's ability to finance the current construction program is not an obstacle to its completion of that program. The evidence presented by the Attorney General's first witness in the interim proceedings was considered in the Commission's Interim Order and found

to be unconvincing for the reasons stated therein. Further, the remaining balance of requisite financing for these plants will be substantially reduced after 1983. During 1980, 1981 and 1982, Edison will have completed approximately \$4,125 million of its financing requirements; approximately \$1,455 million is expected to be raised over the four year period of 1983 through 1986.

The Commission recognizes that, while Edison's financing requirements are great, they do not constitute a basis for cancelling any of the plants now under construction.

Conclusion:

The Commission concludes, after considering the evidence, briefs, and arguments of all the parties, that it is in the public interest to complete the LaSalle, Byron and Braidwood Stations in as timely and economic a manner as good management practice permits and hereby directs Edison to complete its present construction accordingly. In coming to this conclusion, the Commission finds that the engineering economic studies submitted herein provide a comprehensive and proper analytical tool to be utilized by the Commission in reaching its decision.

These studies, together with all the evidence, establish that the benefits to be derived from the completion of construction far outweighs the costs, and therefore, it is in the public interest to complete Edison's current construction program in as timely and economic a manner as possible.

The Commission further concludes that based on the record in this case such a decision can be reasonably and properly made at this time and need not be deferred to determine if additional studies would show whether defined conservation alternatives and the costs associated therewith are economically superior to the completion of Byron Unit 2 and the Braidwood Station. Given this conclusion, the pending motion by BPI in this docket should be denied.

However, the Commission is further of the opinion that, while such conservation alternatives may be speculative as to specificity and cost, this should not act as a bar to investigation of such conservation proposals. BPI, as well as other concerned parties, are encouraged to file a proposal describing such conservation measures and the costs associated therewith so that the Commission may provide a forum for an expeditious investigation. Such a proposal need not be limited to Edison's service territory, but could properly contemplate statewide application. The proposal put forth by interested parties should also clarify the scope and definition of "conservation."

Further, the Commission is of the opinion that quarterly reports should be filed by Edison, as heretofore described, concerning their efforts to sell any portion of its nuclear generating capacity. An analysis of these reports and studies on the development of alternative ratemaking practices as described in Paragraph 4 in this subsection should be conducted by the Commission Staff.

RATE OF RETURN AND CAPITAL STRUCTURE

In its originally filed schedules, Edison's calculated overall rate of return based on proposed rates was 13.16% and a return on common equity of 17.5% for the test year ending December 31, 1983 (Edison's Exhibit 1-Schedule D1.1). Updated exhibits were submitted reflecting the actual results for the first six months of 1982; in Edison's Exhibit 1F-Schedule D1.1, the cost of equity was shown to be 16.30% with an overall cost of capital of

12.74%. In its initial Brief of September 31, 1982, Edison states that a fair return on equity is no less than the 17.5%.

Capital Structure

Respondent proposed that its allowed rate of return be based on the capital structure that it forecasted would exist as of December 31, 1983, the end of the test year. Staff witnesses and those presented by FEA proposed use of an average capital structure; Edison did not oppose these suggestions. As stated earlier, this proposal was adopted by the Commission. Edison's Additional Exhibit 4 (based on Edison current sales forecast), showing Edison's projected capital structure for the period ending December 31, 1981, under present and proposed rates is set forth as follows:

<u>Class of Capital</u>	<u>Amount (in Thousands)</u>	<u>% of Total</u>	<u>Cost of Earnings</u>	
			<u>Embedded</u>	<u>Weighted</u>
<u>Present Rates</u>				
Long Term Debt	\$ 6,267,996	53.56%	10.86%	5.82%
Preference Stock	1,176,141	10.05	9.86	.99
Preferred Stock	29,168	.25	4.48	.01
Common Equity	4,229,964	36.14	1.99	.72
	<u>\$11,703,269</u>	<u>100.00%</u>		<u>7.54%</u>
<u>Proposed Rates</u>				
Long Term Debt	\$ 6,267,996	53.11%	10.86%	5.77%
Preference Stock	1,176,141	9.96	9.86	0.98
Preferred Stock	29,168	.25	4.48	0.01
Common Equity	4,329,394	36.68	15.68	5.75
	<u>\$11,802,699</u>	<u>100.00%</u>		<u>12.51%</u>

As can be seen from the above data, Edison is projecting a return on equity of 1.99% under its present rates (not including interim rates) with an overall return of 7.54%. Proposed rates under the current sales forecast reflects a return on equity of 15.68% and an overall return of 12.51%. Using the average capital structure shown in Edison's proposed order, present rates would produce a rate of return on common equity during the test year of 1.19%; proposed rates designed to produce additional annual revenues of \$805 million would produce a rate of return on equity during the test year of 16.32%.

Edison and Commission Staff witnesses presented testimony regarding a fair return on equity capital. No other parties offered testimony on this subject. Edison's Vice President responsible for financial affairs testified as to the Company's external financing schedule for 1982 and 1983, indicating that \$1,070,000,000 would need to be raised in 1983. Various financial ratios under present and proposed rates, later updated, were presented by this witness, comparing said ratios to the same indicators for the average of A rated Utilities (as of December, 1981 as shown in First Boston's "Electric Utility Industry Credit and Equity Analysis.") Table A-Revised as shown in Edison's Reply Brief is a compilation of these various indicators and is set forth in part as follows:

	1983 Test Year			1981
	Pre-Interim Rates (1983 Test Year)	Interim Rates*	Proposed Rate Levels	Average of A Rated Utili- ties (as of December, 1981)
1. Pre-tax coverage including AFUDC (SEC method)	1.47x	1.95x	2.63x	2.87x
2. Pre-tax coverage excluding AFUDC	.83x	1.28x	2.00x	2.51x
3. Indenture method	1.15x	1.87x	3.23x	N/A
4. Interest and pre- ferred dividend coverage	1.13x	1.48x	1.97x	1.84x
5. AFUDC as % of earn- ings available to common	160%	105%	66%	37.5%

* If \$525 million CWIP is included in rate base, rate of return and coverages would be even less at interim rates.

The coverages and ratios shown above are reflected in Edison's updated Exhibits 1F-Schedule 1.10 and 1.11 and 2F-Schedule 2.1.

Edison presented a vice president of an investment banking firm to present his analysis of an appropriate return on equity capital. This witness utilized three analytic approaches to measure the return investors must anticipate if they are to invest in Edison's stock--a discounted cash flow ("DCF") analysis, a bond yield plus equity risk premium analysis and an analysis based on a model developed by him. The witness's DCF analysis was based on dividend yield of 13.3% and a long-term expected dividend growth rate of 4-1/2%. He calculated said dividend yield on the basis of the average price of Edison's stock over a three month period and used the most recent dividend rate of \$2.80 per share. Based on both published projections and a calculation based on the earnings retention ratio and expected realized earnings, he concluded that expected dividend growth rate is 4-1/2%. The required market return, as calculated by this witness using the DCF formula, is 17-3/4%.

Edison's witness also applied a bond yield plus equity risk premium approach; this methodology assumes that equity investors require a premium over the return available from investment in a company's senior long-term debt in order to induce them to invest in that company's more risky stock. Based on long-term interest rate levels prevailing in May and an estimated risk premium of 1-1/2%, this method also resulted in a 17-3/4% cost of equity. The witness also reported the latest results of a complex industry-wide model which the witness had developed and used for several years, the analysis takes into consideration more than 600 variables. In May, the Model indicated 17.6-17.7%, confirming the estimate he had developed from his two more traditional approaches.

Edison's witness also testified that the 17-3/4% return investors require is not equal to a fair return on equity for Edison, since it would be insufficient to enable the Company to issue new common stock without causing the dilution of the investment of existing shareholders that results when the Company realizes less than book value per share from an issue of new stock. The witness emphasized that this return to investors must

be adjusted to recognize market pressure and issuance costs of 10% of the proceeds of new stock sales, the witness calculated that an earned return on equity of 19.1% would be necessary to support the price of Edison's stock at least 10% above book value and provide a fair return on equity.

The Chief Financial Analyst and member of the Commission's Economics and Rates Department presented his analysis of the required rate of return for Respondent, which he stated was determined on the Company's weighted average cost of capital. The witness stated that, since this rate proceeding will determine rates to be charged for service in future periods, the cost of service components should be based upon the best available estimates for the period of time in which the rates will be in effect, using an average test year and average capital structure for 1983. The ratios used in the capitalization elements include forecasted issues and retirements of each type of security, recognizing the additions and reductions of each component for 1982 and time weighted for the year 1983. The witness noted that the forecasted decline in Edison's debt ratio for the period 1981-1982 and for 1982-1986 is greater than the decline forecasted for the electric utility industry for the same periods. The forecasted 1984-1986 ratios are improved and are fairly consistent with forecasted industry averages.

The technique used by the Commission's Staff witness to determine the cost of equity is the DCF model, which he indicated is preferable because it establishes a cost of equity based upon investors' required rate of return rather than historical returns of comparable companies. The DCF method is determined using the current price, the current quarterly dividend and the expected growth rate. The witness stated that he used a stock price of \$22.00 as representative of recent prices and a current quarterly dividend of \$.70 per share. He indicated that updating such an analysis, where the utility stock price had increased, may result in a smaller dividend yield or it could be reflecting an increase in expected growth rate. The witness explained that the DCF methodology requires an estimate of market expectation of growth for all periods into the future; two methods can be used to analyze growth rate, a review of historical growth rate and an examination of the actual components of growth. Emphasizing the second method, the witness determined that Edison's expected retention ratio could be as high as 25% with a minimum of 20%; the expected earned return on equity would range from 12.8% to 15.0% and expected growth rates of 2.56% to 3.75%. Given these factors, the witness recommended that a reasonable range of required return on equity would be from 16.25% to 17.60%. Using the midpoint of 16.95% and adding an .11% flotation adjustment, the witness recommended a return on equity of 17.04%. The Staff witness explained that, while a market-to-book ratio of unity compensates investors with the return they require, current investors are not expecting book returns to equal market returns and accordingly recommends that given a proper evaluation of cost of service items and a proper allowance for flotation costs, investors would be properly compensated for the risk which they bear.

Edison contends that Staff witness's proposal is understated because his growth rates were low, the retention ratios of electric utilities overall now average 26% and those of utilities rated A by Moody's averaged 27.64% and projections of Edison's earnings are now generally well above 12.8% with the Company itself forecasting earnings of 14.3% for 1982. Edison also contends that the Staff witness made no provision for market pressure and that the 11 basis point allowance for issuance cost and underwriting spread is low. If these adjustments were considered appropriate, Staff witness's recommendation would range from 16.47% to 17.82%.

Edison and Staff witnesses have presented evidence concerning various factors which should be considered by the Commission in its determination of an appropriate and fair rate of return. Although the factors or principles remain constant, the Commission must take notice of the present recession and the prospects for some economy recovery in 1983. The cost of debt to Edison in its most recent issuance of First Mortgage Bonds in August of this year was 15-3/8%; the cost of its next issuance in December of this year is estimated to be 15% by Staff and 16% by Edison.

The United States Supreme Court set forth the following principles to be considered in the determination of a reasonable rate of return to be earned by a public utility in Bluefield Co. v. Public Service Commission, 262 U.S. 679, 693 (1923):

The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

In order to provide efficient and economical service, this Commission has determined in Docket 78-0646 that certain plants under construction should be completed. The Commission has again reviewed this question in this case, and after reviewing the substantial evidentiary record made in these proceedings, has confirmed its original decision in Docket 78-0646, that is, that Edison is directed to complete the construction program in as timely and economic a manner as possible. Taking this into consideration, it is necessary that financing for these plants must be raised by Edison through the internal generation of funds and/or from the capital market. It is expected that LaSalle 2 and Byron 1 will be completed during the 1983-1984 period and that Edison will have to look to the financial markets for over \$1.3 billion in the next two year period. It is essential to the Company and its ratepayers that the cost of external financing be kept at a minimum, to the extent that such control can be reasonably and fairly maintained. In its most recent credit rating, Edison was classified as a A2/BBB+ company in the financial market, although most of its indicators were marginal for that classification. At the very least, the Commission believes that this credit rating should be preserved. An examination of these financial indicators based on the current costs of capital indicates that a 17.04% return on equity should result in a pre-tax interest coverage, including AFUDC of approximately 2.56 times. Edison's pro forma average capital structure for the test year 1983, using 15% cost of long-term debt for 1983 and 17.04% return on equity, would be summarized as follows:

Class of Capital	Amount (In Thousands)	% of Total	Cost of Earnings	
			Embedded	Weighted
Long-Term Debt	\$ 5,994,018	53.13%	10.51%	5.58%
Preferred Stock	1,156,668	10.25	9.74	1.00
Preference Stock	32,368	0.29	4.48	0.01
Common Stock	4,099,197	36.33	17.04	6.20
	<u>\$11,282,251</u>	<u>100.00%</u>		<u>12.79%</u>

As stated by the Commission in prior orders, the Commission's decision regarding a fair rate of return must be one based on reasoned judgment. The Commission, in reaching its decision on a fair rate of return, has considered the present economy, present trends in the market and interest rates, the generally depressed condition of the electric utility common stocks, the deratings of the Company's debt over the past year, the limitations of current regulatory tools and the decision to include certain construction work in progress in rate base.

In view of the Company's intention to raise additional capital in 1983 and 1984, the capital structure shown on this page should be used for purposes of this Order. Respondent should be allowed a rate of return which provides a return on fair value rate base of 10.0%. To provide such a return, rates will have to be increased to provide Respondent an additional \$336,730,000 in revenues on an annualized basis.

ELASTICITY STUDIES

A representative of the Commission's Economics and Rates Department recommended that the Commission direct Respondent to proceed with studies of the price elasticity of demand for electric energy in the Company's service area, and expresses concern over Respondent's failure to present evidence on the subject in the filing in this proceeding. The Commission, its Staff and Respondent are aware of the difficulty of undertaking such studies. However, in light of importance of elasticity to the Commission's decisions regarding Respondent, and the continuing development in the economic theory regarding measurement of elasticity particularly for the electric utility industry, Edison is directed to coordinate with members of the Commission's Economics and Rates Department in preparing studies attempting to estimate such elasticity prior to its next general rate increase filing.

ECONOMIC RECOVERY TAX ACT

Respondent presented evidence for the test period reflecting the tax law changes under the Economic Recovery Tax Act of 1981 ("ERTA"). Any utility which wishes to avail itself of certain tax benefits in ERTA must be permitted to fully normalize Investment Tax Credits and the deductions under the Accelerated Cost Recovery System ("ACRS"). Any other accounting and ratemaking treatment will result in the loss of these benefits to Respondent and, ultimately to its ratepayers. Respondent has utilized the proper accounting in this proceeding and has been permitted to recover in the rates authorized herein the full amount necessary to comply with this normalization requirements. Respondent should continue to conform to all applicable accounting requirements of ERTA, including the normalization of ITC and ACRS benefits so as to minimize its tax liability.

RATE STRUCTURE

In prior rate proceedings involving the Respondent the Commission has found it appropriate to implement various PURPA ratemaking standards. Specifically, cost-based declining block rates, seasonal rates, time-of-day rates, interruptible rates and load management techniques were addressed in Docket 79-0214. Cost of service, time-of-day rates and load management were also addressed in Docket 80-0546, the Company's most recent major rate case, which was consolidated with the then pending PURPA investigation. In that Order, the Commission determined that cost of service is to be considered the prime and controlling factor in determination of rate design, and directed the Commission Staff to prepare a comprehensive study of Applicant's rates from the point of view of cost of service, which study was directed to include consideration of the various ratemaking standards.

Members of the Economics and Rates Department of the Commission Staff presented the rate study as required by the Commission's Order in Docket 80-0546, in this proceeding in addition to certain other recommendations. The key conclusions of the rate study are that certain of Respondent's rates are now, inappropriately, below short run marginal costs, which costs will, however, decline during the period 1983-1986 with the addition of nuclear base-load capacity; that the rate structure should be simplified with a reduced number of available tariffs and a reduced number of blocks within any given tariff; end use rates should be eliminated and replaced with cost-based seasonal and time-of-day rates; interruptible service is now the most effective available form of load management; and, management and control of air-conditioning loads could provide an effective cost control technique.

On June 1, 1982, the Commission issued its Order in Docket 81-0598 addressing various revisions to Edison's tariffs for interruptible service, Rider 26. It was determined at that time that implementation of those proposals should properly be addressed in the context of a full rate proceeding and the record in Docket 81-0598 was consolidated into this proceeding for consideration. Edison continues to urge implementation of the revised interruptible tariff provisions.

The Company proposes to increase rates for almost all services by the overall increase of 19.4% with the following exceptions. The proposed increase for the lowest use residential and commercial and industrial customers is somewhat less than the overall increase and rates proposed for dusk to dawn lighting services are almost one-half the proposed overall increase. The proposed increase for commercial and industrial customers with demands in excess of 10,000 KW is somewhat greater than average and the largest increases are proposed for customers in the range of 1,000 to 10,000 KW. Supporting its Application, Respondent presented nine variations of marginal cost studies and four variations of embedded cost studies. Respondent alleges that it bases its proposed rate design primarily on marginal cost analysis.

COST OF SERVICE ANALYSIS

There is no disagreement among the parties regarding the principle that cost of service should be the primary consideration in the Commission's rate design determinations in this proceeding. There remains substantial disagreement and debate, however, regarding the appropriate cost allocation theory to be applied and the proper implementation of such theories. Some dispute also exists regarding the appropriate recognition of expected future variations in cost causation and the effect of non-cost mitigating factors the Commission should use to temper the effect of immediate implementation of fully cost-based rates.

Edison's short run marginal cost study (called Method 5 by Respondent) places emphasis on marginal energy costs and tends to indicate a higher level of cost recovery from low load factor customers and customer classes than that received from higher load factor customers and customer classes. This method ignores both customer costs and capacity costs but does indicate the variable cost of serving a particular class. The long run studies, on the other hand, which consider capacity costs as well as energy costs, indicate a higher level of cost recovery from higher load factor customers. The residential customer class generally has a lower load factor than the commercial and industrial class (including governmental) and, therefore, the allocation of the proposed revenue increase between major classes is affected by the relative importance placed on long versus short run cost causation relationships.

One serious question which has arisen regarding cost allocation is the proper recognition of the expected introduction of additional generating capacity on Edison's system over the next few years. This will clearly result in declining marginal energy costs (and embedded energy costs) as nuclear generation replaces fossil-fuel fired production. In the near future, when additional capacity will not be needed due to unexpectedly low load growth, the parties concede that the primary value of the nuclear capacity will be a reduction in energy costs over those which would have been required to meet the same load absent the nuclear plants. Industrial Intervenor continue to maintain, however, that the proper allocation of capacity cost are made on the basis of demand and allege that timely completion of the nuclear plants would be the most economical course even without consideration of the effect on energy costs. Respondent, to some extent, takes the position that the various cost studies are best understood when some recognition is made of the advantages of the nuclear capacity in terms of energy cost.

Intervenor who represent customers taking service under commercial and industrial rates challenge this conclusion citing particularly the fact that the costs of the nuclear plants coming onto Respondent's system should properly be considered capacity costs and the expected future reductions in energy costs make reliance on an energy only cost allocation method particularly inappropriate at this time. These customers and the Commission staff witnesses also challenge any method which does not recover customer costs through a customer charge.

Industrial Intervenor presented two embedded cost studies and argue that the rate design should be based primarily on embedded costs, but they also prepared marginal cost studies which they maintain support their proposed modification of Edison's rate design.

The Federal Executive Agencies presented a witness who challenged Edison's reliance on the short-term marginal cost (energy only) study citing the disparity in results between that and all the other marginal cost studies and questioned the present ratchet provisions in the commercial, industrial and governmental tariffs. The Federal Executive Agencies also took exception to the Company's failure to propose a greater increase to the residential class in light of the results of all the cost of service studies except the short-term study. Along with the Industrial Intervenor, the Federal Executive Agencies stress the introduction of nuclear capacity in that it will cause marginal energy costs to decline markedly over the next few years, and argue that less emphasis should be placed on the short-term marginal cost study for this reason.

In its Memorandum filed in this proceeding, the members of the Commission staff participating in this proceeding object to the filing of such a variety of cost of service studies by Respondent, alleging that the diversity of the studies unnecessarily complicates the record, many of the studies are either variations of other studies, are meaningless, or are based on very shallow analysis. The memorandum concludes that the variety of the studies is the basis of the Respondent's failure to propose any progress in the area of cost allocation in this proceeding.

The Staff Memorandum specifically objects to the first five marginal cost studies in that they do not include traditional demand, energy and customer cost components concluding that cost studies that do not include all relevant costs are of no particular value. In that the Commission has consistently recognized marginal costs as those most relevant for ratemaking purposes there would appear to be little need for the embedded cost studies included in the filing.

The Memorandum considers Respondent's marginal cost method 8 to be the most appropriate. This study utilizes the cost of "peaking" units as a proxy for marginal demand costs. Staff utilized its own 1983 short-run marginal energy cost study because it was felt that it more reasonably reflects the marginal energy costs during the period in which rates from this order will be in effect.

The Commission shares its Staff members' concern regarding the multiplicity of studies filed in this proceeding, especially by Respondent. Respondent is directed in future rate filing to base its cost allocation and rate design determinations on marginal cost analysis which specifically recognizes marginal demand, energy and customer costs.

The area of customer costs presents particular problems in this proceeding. Although the customer charge is apparently the least price elastic of the various charges, this does not provide a sufficient basis to ignore such costs in the cost studies. Respondent is directed to include in future cost of service studies customer costs which recognize the customer related portion of the distribution system.

Although the Commission's position in the recent past has been in no way ambiguous, the record in this proceeding shows it to be again necessary to address the question of marginal and embedded costs. The Economics and Rates Department of the Commission's Staff has appropriately based both its rate study and its testimony in this proceeding on marginal cost analysis. Industrial Intervenors, United States Steel and Illinois Retail Merchants Association, continue to argue for reliance on embedded cost analysis and, as noted above, Respondent chose to include five embedded cost analyses in its filing. Although those who pursue embedded cost arguments are to be praised for their tenacity, this Commission, again, specifically directs Respondent to base all future cost allocation and rate design recommendations on marginal and not embedded costs. Although the Commission will, of course, base its future decisions on the entire record in the proceeding, parties should understand that it is the clear and repeatedly expressed position of this Commission that marginal costs are the primary relevant factors in cost allocation and rate design determinations.

In light of the evidence presented herein the Commission considers Staff-presented marginal cost of service study utilizing the peaking capacity analysis the most accurate and appropriate class cost of service analysis presented in the proceeding

considering the current circumstances. The following are the results of this study presented as Staff Exhibit ERD 3.

COMMONWEALTH EDISON COMPANY & IOC STAFF PROPOSED
TOTAL REVENUES AND MARGINAL COSTS BY RATE CLASSIFICATIONS
METHOD 8 - SINGLE ANNUAL SYSTEM PEAK RESPONSIBILITY WITH PEAKER CAPACITY
12 MONTHS ENDED SEPTEMBER 30, 1981

<u>Class of Customers</u>	<u>Edison Proposed Rates</u>	<u>Staff Proposed Rates</u>
	Class Cost Recovery as a Percent of System Average	Class Cost Recovery as a Percent of System Average
Residential		
Rate 1	85.95	89.08
Space Heating	99.97	98.63
Commercial & Industrial		
Rate 6	111.37	109.29
Rate 6L	105.04	103.68
Street Lighting		
Rates 23 & 26	87.22	85.94
All Others	101.46	98.74
Certain Water/Sewer Pumping	82.93	89.08
Railways	83.04	89.08

As this Exhibit shows, the Staff recommended class revenue requirement responsibility results in a significantly improved class revenue recovery as a percent of system average. Also, it is clear that complete movement to full cost recovery from each class (as recommended by Industrial Intervenors) would result in a dramatic increase to the residential class which the Commission considers to be unjustified at this time. As the record shows, introduction of the nuclear capacity over the next few years will result in significant variation from present cost relationships. Therefore, the Commission will adopt the Staff recommendation to limit the increase to the residential class. For purposes of this rate case, the Staff's proposed class revenue allocation should be implemented to the extent of and in accordance with the revenue increase granted herein.

The Commission particularly notes the condition of the economy in Respondent's service area, and, especially in light of the continuing high unemployment considers it inappropriate to continue to recover substantially higher than average return from the commercial and industrial classes. The Commission is also aware of the need for Respondent to develop a higher load factor than at present to more efficiently utilize the proposed additions of nuclear generating capacity.

TIME OF DAY SEASONAL RATE VARIATION

Various parties have made suggestions regarding modifications of the structure of Edison's time of use and seasonal rates. The Illinois Retail Merchants Association and Project COST requests a shortening of the summer on peak period. Project COST proposes a noon to five p.m. "super-peak", optional meter reading on the 15th of the month and an increased differential

between summer and winter rates. These recommendations are made in regard only to the rate classes under which these customers now take service with no analysis of the effect of the changes on other rate classes or the cost (e.g., additional metering) which adoption of the proposals could involve. Although implementation of the recommendations could aid the customers proposing them, there is insufficient evidence in the record for the Commission to consider the impact of the changes on the Edison system and its other customers, and they will not be implemented at this time.

RESIDENTIAL SERVICE

Respondent proposes to increase summer and winter kwh charges by an equal percentage leaving the customer charge at its present \$1.00/month level. Community Action for Fair Utility Practice supports no increase in the customer charge, but would recommend a lower increase in the winter energy charge. As support for this position, CAFUP cites the fact that Edison's marginal cost method 8 (considered by the Staff to be the most accurate cost study) show a higher return from low use residential customers than the class average. Alternatively, CAFUP urges consideration of a minimum charge in lieu of the present customer charge which would rectify the higher return from the lower use customers.

Although the Staff Report recommends total elimination of the customer charge in its testimony in this proceeding, members of the Economic and Rates Department now advocate an increase in the customer charge from \$1.00 to \$2.80, citing the cost analysis which shows a customer cost of \$4.17 for low use and \$7.52 for large use residential customers. Furthermore, it is noted that Respondent's cost analysis fails to include the cost of a minimum distribution system in the determination of customer costs. This the Staff members argue understates the customer costs to Edison and causes the cost study to indicate a higher than actual return from low use customers.

The Commission finds the Staff proposal to have merit and believes the record in this proceeding supports an increase to the residential customer charge at this time. Raising the customer charge to \$2.00 moves this charge closer to the marginal customer cost as evidenced in this record, but still reflects a concern for the overall cost recovery of the small residential class and limits the impact of this modification to a level which the Commission considers appropriate. The energy charges of the Company's residential rates should be reduced proportionately from their proposed levels.

The marginal cost studies filed in this proceeding and the Staff Rate Study show a significantly broader variance in costs to serve summer versus winter residential loads than is reflected in present or Edison's proposed rates. The Commission considers it appropriate at this time to direct Respondent to widen the seasonal rate differential from approximately 1.5¢ per kilowatt-hour to 2¢ per kilowatthour to better reflect this cost variance.

Respondent proposed to incorporate all six experimental time-of-day (TOD) rates into one rate and offer such rate to its 25,000 largest residential customers. A Staff witness from the Economics and Rates Department objected to the optional plan and instead urged that a program be developed encompassing a mandatory TOD rate for large residential customers.

While the Commission supports the extension of TOD rates for customer classes where it can be shown to be cost-beneficial, the evidence in this record does not enumerate such benefits. Respondent is hereby directed to present in its next rate filing a cost/benefit study comparing the cost of time-of-use meters for such

customers with any quantifiable benefits including the potential for switching of customer loads from on-peak to off-peak periods expected from high use residential customers. The Company should work with the Commission Staff to develop the parameters for this study.

Respondent's optional proposal is denied at this time. Respondent should combine the current six experimental rates into one rate in accordance with its proposal as modified during the hearings in this case. The customer charge for the new combined rate should be increased by the same amount as the residential customer charge is increased. Any provisions pertaining to offering this rate to the largest 25,000 residential customers are not approved.

Rates 3 and 3E - Residential Water Heating Service

Edison proposes to increase the charge for all water heating service including residential by approximately the average percentage increase with a merger of the experimental solar assisted rate into the rate for other customers in this category. These proposals are reasonable and Rate 3 (including the present Rate 3E) will be adjusted proportionately to reflect the overall increase granted herein.

Rates 14 and 14E - Residential Space Heating

Edison proposes increasing the charges for all space heating including residential, by approximately the average percentage increase with a merger of the experimental solar assisted rate into the rate for other customers in this category. This proposal is reasonable and Rate 14 (including the present Rate 14E) will be adjusted proportionately to reflect the overall increase granted herein. The effects of the Staff's proposed increase in the residential customer charge should be offset by a reduction in the Rate 14 winter energy charge for usage over 350 kwh.

COMMERCIAL AND INDUSTRIAL RATES

Rates 6 and 6L

The Respondent proposes raising energy charges by approximately 22% and demand charges by approximately 17% with flattening of the declining blocks in both areas. Edison also proposes a less than average increase in the off-peak credit and the credit for high load factor use in Rate 6, to encourage shifting of load to off-peak periods increasing the usefulness of additional nuclear capacity.

The Illinois Retail Merchant's Association opposes any further flattening of the rates and Industrial Intervenor challenge any such flattening unless coupled with adoption of their proposed revisions to the high voltage credit.

The members of the Commission's Economics and Rates Department who participated in the proceeding propose an increase in the customer charge for Rate 6 from \$1.68 to \$6.50 citing marginal customer costs of \$10-\$22, elimination of three demand blocks and three energy blocks. The Staff witness also proposed that Rider 22, an optional provision for on-peak demand measurement, be incorporated into Rate 6, and be eliminated as a separate Rider. The Commission considers these recommendations of its Staff to be cost based and orders them to be implemented by Respondent at this time.

The members of the Commission's Economics and Rate Department participating in this proceeding propose replacing the

current and Respondent's proposed Rate 6L with a standard seasonal TOD rate implementing a recommendation in the rate study. The Commission finds that this recommendation of the Staff is cost based and will be adopted with the exception of the winter energy rate which would be higher than the energy charge in the summer (peak) period. As noted by Respondent, this cost variation is caused by the scheduling of the generating plants for maintenance in the winter period. In that this cost is not substantial and implementation of such a proposal would weaken the effect of seasonal rate variation, its recognition in rates is not now appropriate. With this exception the demand and energy charges should be reduced proportionately to adjust Staff's proposed Rates 6 and 6L to achieve the revenues granted in this order and the customer charge as proposed by Staff is implemented. The charge in-lieu-of demand charge should be increased proportionately by the increase in the Rate 6 demand charge.

In Rate 6L Respondent proposes extension of mandatory TOD rates downward to 750 KW and the members of the Commission Staff concur. The Illinois Retail Merchant's Association oppose extension of mandatory TOD rates in the commercial and industrial class. The Commission finds the proposed extension to be appropriate and orders its implementation. The Illinois Retail Merchant's Association also urge a shortened summer on-peak period, but do not provide sufficient cost verification for it to be implemented.

Industrial Intervenors recommend an increase in the credit to high voltage delivery to be increased from 10¢/KW to \$2.50/KW, based on embedded cost analysis. Respondent concurs that an increase in the high voltage credit may be justified but considers the proposed credit to not be justified by cost. Also, Respondent has noted potential implementation problems with the proposal in that certain customers in the Chicago area may desire the credit but it would be infeasible to deliver their energy needs at the voltage level required for the credit. The Commission Staff members participating in the proceeding recognize the deficiency of the present credit and urge Respondent to perform a study to quantify the variance in costs by voltage level.

The record indicates that the present credit for high voltage service is insufficient. Edison is directed to perform within 180 days a complete analysis of the cost variation in delivery of energy at various available voltages recognizing both the reduced capacity cost caused by customers who make no use of the distribution system and the savings in line losses associated with delivery at higher voltages. The study should include information on the present recognition of such cost variation in the declining block rate structure and recommendations regarding the appropriate high voltage credit.

Various Intervenors recommend elimination of the ratchet provisions in Respondent's tariffs the operation of which are now suspended pursuant to Commission Order. Federal Executive Agencies urge abolition of the ratchet as an outdated rate mechanism which once performed a function, now better performed by cost-based seasonal demand charges. The Commission finds that these minimum demand charge provisions are no longer useful and their abolition at this time is appropriate.

Rates 10 and 10E - Commercial Water Heating

Edison proposes increasing the charges for all water heating including commercial by approximately the average percentage increase with a merger of the experimental solar assisted rate into the rate for other customers in this category. This proposal is

reasonable and is adopted. Rate 10 (including Rate 10E) will be adjusted proportionately by the overall increase granted herein.

Rider 25 - General Service Space Heating

Edison proposes increasing the charges for all space heating, including general service, by approximately the average percentage increase. Consistent with the recommendation of the Commission Staff witness, the charges under Rider 25 will be adjusted proportionately by the overall increase granted herein.

RATES CHARGED GOVERNMENTAL ENTITIES

The members of the Commission's Economics and Rates Department participating in this proceeding propose incorporation of Rates 22 and 22L into Rates 6 and 6L. Respondent's witness concedes that this rate distinction is not based on cost. The proposal is opposed by Intervenor who represent entities taking service under the present favorable provisions. This Commission has clearly expressed its opposition to end-use rate distinctions not based on demonstrated variations in cost causation and considers the recommendation of its Staff in this regard to be cost supported and appropriate for adoption at this time.

The General Service Billing Adjustment Rider proposed by the Staff witness to moderate the immediate impact of the proposal on the customers involved is appropriate and will permit the governmental bodies involved to recognize the rate change in their budgeting processes.

Rates 23 and 26 - Municipal Street and Private Outdoor Lighting

Edison proposes realignment of the various lighting rates to recognize the marginal costs of equipment provided under the tariffs. The proposed rate also includes approximately the same energy rate as that proposed for dusk-to-dawn service (Rate 25). Respondent also proposes certain changes and corrections in the service conditions. The proposed rate design changes for this rate are reasonable and will be adopted as adjusted to reflect the revenue requirement determination in this Order.

Rate 24 - Pumping and Street Lighting for Municipalities Which Do Not Charge a Franchise Fee

Edison has proposed increasing the rates for service to municipalities which have granted it a franchise without charging a franchise fee by the average percentage increase maintaining the present advantage of this rate on the basis that the benefit of the lack of a franchise fee runs to all customer classes. Respondent also proposes modification of service conditions making the rate no longer available for dusk-to-dawn street lighting service. The Staff witness testifying on class revenue levels recommended increasing this rate by greater than the average increase to the commercial and industrial class due to its relatively low cost recovery under present rates. This recommendation of the Commission Staff will be adopted and Respondent is directed to present evidence supporting the rate advantage to this class in its next rate increase application.

Rate 25 and Street Lighting Contracts

Edison proposes to increase charges for dusk-to-dawn lighting provided under Rate 25 and contracts with the City of Chicago and the Chicago Park District by approximately one-half the average percentage increase because of the favorable load characteristics of such service. The City of Chicago objects to any increase in the rates for such service due to the present high return provided.

Respondent also proposes to consolidate the rate charged for "other services" offered in the present Rate 22 (traffic signal lighting, dusk-to-10:00 P.M. and "all other lighting") which would be increased by the average percentage increase because it operates twenty-four hours a day and therefore contributes to on-peak loads. The City of Chicago objects to these increases due to the favorable load characteristics of this load. Upon consideration of the record the Commission considers the Respondents proposed increases to be reasonable and they will be implemented as modified proportionately by the increase granted by this order.

INTERRUPTIBLE SERVICE

In an earlier proceeding incorporated for decision with this matter Respondent proposed major revision to its rates for interruptible service, the two most important of which are the addition of a customer charge and a small declining block demand charge. Intervenor Energy Systems Engineers, et al., oppose all Respondent's proposed rate modifications, but raise no objection to certain service restrictions modifications.

Energy Systems Engineers also recommend a novel proposal to permit customers taking interruptible service to elect at the time of interruption to continue to receive service by paying incremental energy costs. Respondent opposes this recommendation in that it would impose substantial administrative burdens on the system and provide only certain customers firm service at an unduly favorable rate. The Commission considers Edison's concerns to be well-founded and denies Energy Systems Engineers's recommendation.

Respondent proposes a small demand charge in lieu of the present optional facilities charge now determined on a customer-by-customer basis. Energy Systems Engineers considers only a small demand charge based on an allocation of general administrative expenses to be appropriate. Industrial intervenors suggest a demand charge of 40% of the charge for firm service. The Commission Staff witness took exception to the declining block nature of the demand charge proposal and in its Memorandum supported a flat demand charge. In that the limitations on interruptions make interruptible service a surrogate for peaking capacity, it would appear that a credit for interruptibility should not exceed the value of peaking capacity. No parties in the proceeding have provided a complete cost analysis indicating the appropriate allocation of demand costs to interruptible customers. Respondent's proposed small demand charge in lieu of the optional facilities charge appears to be a minimum demand charge indicated for such customers. A flat demand charge of \$1.00 per KW is appropriate and should be implemented at this time.

Edison proposes a \$100/month customer charge associated with the specialized equipment needed to provide for necessary interruptions. Although opposed by Energy Systems Engineers, the Staff testimony indicates it is to be appropriate and it will be adopted.

Project COST recommends modifications to the rate to make it more favorable for customers with air conditioning loads. The interruptible rate should be based on cost and should be available for use by any customer who finds it useful. The Project COST recommendations are not based on cost analysis and will not be adopted. Respondent proposed other minor changes to this Rider which should be adopted as proposed.

The Commission finds that Respondent has failed to approach the concept of interruptible service with the creativity and flexibility that is required given the unique cost and operational characteristics of the Edison system. Respondent is directed to present in its next rate filing a full and complete analysis of cost based interruptible service cognizant of both short and long run capacity and energy cost savings associated with load interruption.

OTHER MINOR RATE CHANGES

Respondent proposed increases to Rider 7 - Meter Lease, both in the initial filing and as modified in the hearings, and increases to light bulb service charges in Rates 1 and 14, and in the concessional bulb charges in Rider 10. A Staff witness recommended during testimony that these proposed charges, since they reflect actual costs of an optional service, not be reduced proportionately, but left at their proposed levels. The Commission concurs with this proposal.

The same Staff witness also proposed that Rider 16, Temporary Service for Buildings under Construction, be frozen to existing customers. Since those customers are temporary, this would have the effect of eliminating this Rider within a short period of time. Respondent offered no objection to this proposal, and the Commission concurs with this proposal.

CONSERVATION AND LOAD MANAGEMENT

This Commission's adoption and implementation of the various PURPA ratemaking standards is expressly intended to result in "increased conservation of electric energy, increased efficiency in the use of facilities and resources by electric utilities, and equitable retail rates for electric consumers" which was the intention of the United States Congress in passing PURPA, 16 USC 2601. In this Order, the Commission is directing Respondent to take significant strides toward that implementation and hereby directs Respondent, in future rate filings to continue to modify its rate structure to encourage efficient utilization of planned and existing generating capacity and minimize the need to add capacity beyond that now under construction. Recognition of marginal costs causation in the rate structure implemented through adoption of the Commission Staff members recommended class cost allocation, the increase in the seasonal rate differential in Rate 1, increased flattening of the declining block rates, extension of mandatory time-of-day rates and elimination of the ratchet in Rates 6 and 6L, and the direction to eliminate rate distinctions based on end use not related to cost are expressly intended to remove inappropriate rate discrimination and achieve the benefits suggested in PURPA. Similarly, the direction that Respondent and members of the Economic and Rates Department of the Commission Staff address, the proper rate recognition of cost variance associated with delivery voltages, the appropriate form of the interruptible tariff, and study the potential advantages of controlled air conditioning and mandatory time-of-day rates in Rate 1, are expected to lead to additional proposals in future rate filings resulting in an increasingly efficient rate design. Respondent is expected to include in future filings, analysis and recommendations regarding potential benefits including improvements in system load factor which can be expected to result from implementation of these and whichever other rate design modifications it considers useful.

CONCLUSION TO RATE DESIGN

As otherwise provided herein, Respondent should be required to file new electric rate schedules, incorporating the changes

directed herein by the Commission and otherwise conforming in all respects with the filed tariff schedules and amendments filed on January 8, 1982. To the extent that the changes in rate design ordered herein make appropriate changes in these filed tariff schedules and amendments to make them internally consistent or administratively feasible, Respondent should also incorporate such appropriate changes in the new electric rate schedules to be filed pursuant to this Order. The Commission is of the opinion that the increase in electric operating revenues, allowed by virtue of this Order, be applied to the various customer classes in the manner proposed by the Commission's Staff members.

FINDINGS

The Commission, having considered the entire record in this proceeding and being fully advised in the premises, is of the opinion and finds that:

- (1) Commonwealth Edison Company, an Illinois corporation, is engaged in the business of supplying electricity to the public in the State of Illinois, and is a public utility within the meaning of an Act entitled "An Act concerning public utilities," as amended;
- (2) the Commission has jurisdiction of the parties hereto and of the subject matter of this proceeding;
- (3) this proceeding was initiated by Respondent on January 8, 1982, by filing with the Commission certain tariff schedules by which Respondent proposed an increase in certain electric rates and changes in certain electric service agreements to become effective February 8, 1982;
- (4) on January 8, 1982, Respondent also filed a petition for interim rate increase;
- (5) due notice of the filing of said tariff schedules was given pursuant to law and the rules and regulations of this Commission;
- (6) on January 13, 1982, the Commission suspended the proposed tariff filing until June 7, 1982, pending hearing and investigation, and subsequently on May 26, 1982, resuspended the said tariff filing to and including December 7, 1982;
- (7) notice of the initial hearing held in this case was mailed by the Clerk of the Commission to the Company, the Mayor, Attorney and Clerk of the municipalities located within the service area of Respondent and other persons and/or entities as shown by the docket sheets maintained by the Clerk of the Commission in this docket, all in accordance with the rules and regulations of this Commission;
- (8) on May 6, 1982, the Commission entered an Order on the petition for interim rate increase authorizing Edison to increase its rates on an interim basis by approximately \$324,000,000 on an annual basis, said rate to become effective upon filing;
- (9) on May 7, 1982, Edison filed rate schedules and changes in contract rates as directed by the May 6, 1982, Interim Order;
- (10) statements of fact and conclusions reached in the prefatory portion of this Order by the Commission are amply supported by the evidence in the record and are hereby adopted as findings of fact;
- (11) the test year adopted for the purpose of this proceeding is the twelve-month period ending December 31, 1983, calculated on an average basis;
- (12) for purposes of this proceeding, Respondent's original cost rate base under present permanent rates for electric operations for the test year is \$5,900,510,000; Respondent's original cost rate base under proposed rates for the same period is \$6,418,680,000;

- (13) Respondent's fair value rate base under present permanent rates for electric operations for the test year is \$7,686,660,000; Respondent's fair value rate base under proposed rates for the same period is \$8,204,830,000, which is the "value" of Respondent's electric properties for purposes of determining a reasonable rate of return in this proceeding;
- (14) a reasonable rate of return for Respondent to earn on its fair value rate base is 10.0% this is the equivalent of a return of 12.79% on Respondent's original cost rate base;
- (15) Respondent's pro forma electric operating revenues under present permanent rates for the test year, as adjusted are \$3,945,800,000, its adjusted operating expenses are \$3,441,040,000 and its pro forma operating income is \$498,700,000;
- (16) Respondent's present permanent rates and the existing interim rates which are in effect for electric service furnished to the customers of Respondent are inadequate, unjust and unreasonable in that they do not produce a fair and reasonable return to Respondent on its investment in electric plant used and useful in its operations and recovery of its operating costs of electric service furnished to its customers; therefore, Respondent's existing rates should be permanently cancelled and annulled when rates allowed to become effective by virtue of this Order become effective;
- (17) the rates proposed by Respondent in its tariff filing would produce a rate of return in excess of a return that is fair and reasonable; the proposed rates and contract amendments should be permanently cancelled and annulled;
- (18) Respondent should be directed to file rate schedules and contract amendments to produce the additional revenues found necessary herein to provide a fair rate of return, namely \$660,730,000, which amount includes add-on taxes and the interim increase; said revised rate schedules and contract amendments should become effective five (5) calendar days after filing same with this Commission for service rendered after the effective date of the tariff, with individual rate sheets to be corrected within that time period, if necessary;
- (19) Respondent should be directed to file rate schedules and contract amendments allocating the total authorized increase in revenues among customer classes under said rate schedules and contracts in such a way that the total increase (including add-on taxes and interim increase) is allocated in accordance with the provisions of this Order;
- (20) the interim rates authorized by the Commission on May 6, 1982, were not excessive while they were in effect, and are not excessive; however, the interim charges for dusk-to-dawn street lighting under Rate 25, and the contracts with the City of Chicago and the Chicago Park District were unjust in relationship to charges in other rates to the extent that they resulted in revenues which exceed revenues obtainable under the rates authorized herein;
- (21) Respondent should be directed to refund the difference in revenues collected under the Interim Order in this

proceeding and those revenues authorized in the instant Order for dusk-to-dawn street lighting charges within Rate 25 and under contracts with the City of Chicago and the Chicago Park District, said refund to be made with interest in accordance with the terms set forth in the Commission's Interim Order of May 6, 1982;

- (22) Respondent was found to be in compliance with the normalization of (i) the tax benefits associated with the use of the Accelerated Cost Recovery System ("ACRS") as required by Section 168(e)(3) of the Internal Revenue Code ("CODE"), and (ii) the tax credits provided in Section 38 of the Code in accordance with the provisions of Section 46(f)(2) of the Code;
- (23) this Order is intended to comply with the requirements of Section 209(d) of the Economic Recovery Tax Act of 1981 ("ERTA") so as to insure that Respondent will be allowed to utilize ACRS and the perceived tax credits provided in Section 38 of the Code by recognizing prior to January 1, 1983, that the tax benefits associated with the use of ACRS and the credits provided in Section 38 of the Code should be normalized for rate-making purposes;
- (24) the evidence presented herein concerning the investigation of Edison's current construction program for LaSalle Unit 2, Byron Units 1 and 2 and Braidwood Units 1 and 2, including the engineering economic studies performed and described herein, show that it is more reasonable to complete said units in as timely and economic a manner as possible; the evidence further shows that substantial additional costs are incurred if completion of these units is delayed;
- (25) Edison has a duty to its ratepayers to complete the aforesaid units in as timely and economic a manner as possible;
- (26) because such a decision concerning Edison's construction program can be reasonably and properly made at this time and need not be deferred to determine if additional studies would show whether defined conservation alternatives and the costs associated therewith are economically superior to the completion of Byron Unit 2 and the Braidwood Units, the motion made by Business and Professional People for the Public Interest and Dick Simpson to defer said decision and open a separate docket to investigate this question, or incorporate such investigation in a pending docket, should be denied;
- (27) BPI, as well as other concerned parties are encouraged to file a proposal describing such alternative conservation measures and the costs associated therewith, so that the Commission may provide a forum for an expeditious investigation of defined conservation alternatives and the associated cost;
- (28) certain reports, analyses and studies as described in the prefatory portion of this Order, including but not limited to the following, should be performed by Edison and/or Staff and filed as heretofore stated;
 - (a) a study of the applicability of the Negative CWIP Plan should be made by Edison and Staff and submitted within six months of the date of this Order (See page 21);

- (b) quarterly budget reports should be filed by Edison for the calendar year 1983 (See page 35);
 - (c) alternative ratemaking practices should be analyzed and filed by Edison and Staff (See page 64);
 - (d) quarterly reports detailing efforts and likelihood of success of prospects for sale of generating capacity, together with detailed analysis of economics associated with such prospective sale, should be filed by Edison (See page 63);
 - (e) price elasticity studies should be prepared by Edison in coordination with Staff prior to its next rate filing (See page 69);
 - (f) a cost-benefit study comparing the cost of time-of-use meters for residential customers with any TOD quantifiable benefits including the potential for switching of customer loads from on-peak to off-peak periods expected from high use residential customers should be developed by Edison, in conjunction with Staff (See page 75);
 - (g) a complete analysis of cost variation in delivery of energy at various available voltages related to the proposal to increase credit to high voltage delivery should be made by Edison within 180 days of the date of this Order;
 - (h) a full analysis of interruptible service as described in the prefatory portion of this Order should be presented by Edison in its next rate case (See page 79);
- (29) any objections, petitions or motions in this proceeding that remain undisposed of should be disposed of in a manner consistent with the ultimate conclusions contained herein.

IT IS THEREFORE ORDERED that Commonwealth Edison Company's presently effective rate schedules which are replaced by the schedules filed in this proceeding be, and are hereby, permanently canceled and annulled.

IT IS FURTHER ORDERED that Commonwealth Edison Company's tariffs and amendments filed with this Commission January 8, 1982, be, and are hereby, permanently canceled and annulled.

IT IS FURTHER ORDERED that Commonwealth Edison Company be, and is hereby, authorized and directed to file with this Commission revised tariff schedules and contract amendments which will provide additional electric operating revenue, inclusive of add-on taxes and the interim increase, of \$660,730,000 annually, applicable to electric service furnished on and after the effective date of said rates, in accordance with Findings (14), (18), and (19) of this Order.

IT IS FURTHER ORDERED that Commonwealth Edison Company refund to the appropriate customers, the differences between revenues collected under rates authorized by the Interim Order for dusk to dawn street lighting under Rate 25 and the contracts

with the City of Chicago and the Chicago Park District, and the amounts which would have been obtainable under rates approved in this Order, with interest in accordance with the Commission's Interim Order of May 6, 1982.

IT IS FURTHER ORDERED that Commonwealth Edison Company be, and is hereby, authorized to take all steps necessary to obtain all tax benefits pursuant to all appropriate and relevant accounting and normalization requirements of the Economic Recovery Tax Act of 1981, Accelerated Cost Recovery System Section 168(e)(3) and Section 46(f).

IT IS FURTHER ORDERED that the Commonwealth Edison Company be, and is hereby directed to complete construction of its LaSalle, Byron and Braidwood Stations in as timely and economic a manner as possible.

IT IS FURTHER ORDERED that the reports, analyses and studies described in the prefatory portion of this Order, including but not limited to those set forth in Finding (28) herein, be performed by and filed or submitted by Commonwealth Edison Company and/or the Commission Staff as directed therein.

IT IS FURTHER ORDERED that any objections, petitions, or motions that remain undisposed of be, and are hereby disposed of consistent with the ultimate conclusions herein contained.

By Order of the Commission this 1st day of December, 1982.

(SIGNED) MICHAEL V. HASTEN

Chairman

(S E A L)

Commissioner Andrew C. Barrett dissents.

Commissioner Daniel W. Rosenblum dissents in part; a written opinion will be filed.

APPENDIX "A"

LIST OF INTERVENORS

1. 49TH WARD UTILITY ACTION COMMITTEE AND ALDERMAN DAVID D. ORR
2. SENATOR JAMES L. GITZ
3. UNITED STATES STEEL CORPORATION
4. SOUTH AUSTIN COALITION COMMUNITY COUNCIL
5. SINNISSIPPI ALLIANCE FOR THE ENVIRONMENT
6. ORGANIZATION OF THE NORTH EAST
7. INTERNATIONAL MINERALS AND CHEMICAL CORPORATION AND ENERGY SYSTEMS ENGINEERS, INC.
8. ILLINOIS RETAIL MERCHANTS ASSOCIATION
9. BUILDING MANAGERS ASSOCIATION OF CHICAGO ("BMA")
10. CITY OF ROCKFORD, A MUNICIPAL CORPORATION
11. THE CHICAGO SENIORS SENATE
12. ABBOTT LABORATORIES
13. THE ARNOLD ENGINEERING CO.
14. BELL & HOWELL CO.
15. THE CECO CORP.
16. CPC INTERNATIONAL, INC.
17. FORD MOTOR CO.
18. GENERAL MOTORS CORP.
19. INTERLAKE, INC.
20. KEYSTONE CONSOLIDATED INDUSTRIES, INC.
21. NORTHERN PETRO CHEMICAL CO.
22. NORTHWESTERN STEEL & WIRE CO.
23. OLIN CORP.
24. OUTBOARD MARINE CORP.
25. OWEN-ILLINOIS INC.
26. REYNOLDS METALS CO.
27. KITCHENS OF SARA LEE
28. THE SHERWIN-WILLIAMS CO.
29. STAUFFER CHEMICAL CO.
30. TRAVENOL LABORATORIES, INC.

APPENDIX "A"

31. UNITED STATES DEPARTMENT OF ENERGY
32. M & M MARS, INC.
33. SENIOR CITIZENS LEGAL SERVICES ADVISORY COUNCIL OF COOK COUNTY LEGAL ASSISTANCE FOUNDATION, INC. AND ALLIE MAE JONES AND IDA SEARLS ("SENIORS")
34. GOVERNOR'S OFFICE OF CONSUMER SERVICES
35. STATE'S ATTORNEY OF COOK COUNTY
36. ATTORNEY GENERAL OF THE STATE OF ILLINOIS
37. JOHN K. LANGUM
38. LAWRENCE F. BLANCHETTE
39. COMMUNITY ACTION FOR FAIR UTILITY PRACTICE
40. NORTHWEST AUSTIN COUNCIL
41. UAW LOCAL #1268
42. LEE CENTER COMMUNITY UNIT SCHOOL DISTRICT #271
43. LINCOLN EDMANDS
44. ILLINOIS ASSOCIATION OF COMMUNITY ACTION AGENCIES
45. NUCLEAR ENERGY INFORMATION SERVICE
46. ROCKFORD AREA UAW CAP COUNCIL
47. PROJECT C.O.S.T.-CONSERVE OUR SCHOOL TAXES
48. BUSINESS AND PROFESSIONAL PEOPLE FOR THE PUBLIC INTEREST AND DICK SIMPSON
49. ROGER McAULIFF, REPRESENTATIVE 16TH DISTRICT
50. THE ILLINOIS DEPARTMENT OF TRANSPORTATION ("IDOT")
51. STUDENT ASSOCIATION OF NORTHERN ILLINOIS UNIVERSITY
52. THOMAS L. DENST
53. LINDSON P. ANDERSON
54. METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO
55. ILLINOIS PUBLIC ACTION COUNCIL
56. ILLINOIS ASSOCIATION OF PARK DISTRICTS
57. ILLINOIS RESTAURANT ASSOCIATION
58. NORTHWEST MUNICIPAL CONFERENCE ON BEHALF OF ARLINGTON HEIGHTS, BUFFALO GROVE, DES PLAINES, ELK GROVE VILLAGE, EVANSTON, HANOVER PARK, HOFFMAN ESTATES, MOUNT PROSPECT, NILES, NORTHBROOK, NORTHFIELD, PALATINE, PARK RIDGE, PROSPECT HEIGHTS, ROLLING MEADOWS, SCHAUMBURG, WHEELING, AND PALATINE TOWNSHIP

APPENDIX "A"

LIST OF RESOLUTIONS

1. VILLAGE OF NEW LENOX
2. VILLAGE OF MCCOOK
3. CITY OF MENDOTA
4. VILLAGE OF MT. PROSPECT
5. CITY OF WILMINGTON
6. CITY OF GENOA
7. VILLAGE OF WONDER LAKE
8. CITY OF DeKALB
9. COUNTY BOARD OF KANKAKEE COUNTY
10. VILLAGE OF BOURBONNAIS

APPEARANCES

1. CITY OF CHICAGO

APPENDIX B

PARTIES WHO FILED GENERAL BRIEFS

BUSINESS FOR THE PUBLIC INTEREST AND DICK SIMPSON

COMMONWEALTH EDISON COMPANY

LABOR COALITION ON PUBLIC UTILITIES

U.S. STEEL CORP.

M&M/MARS, INC.

ILLINOIS RETAIL MERCHANTS ASSOCIATION,
BUILDING MANAGERS ASSOCIATION OF CHICAGO, AND
ILLINOIS RESTAURANT ASSOCIATION

ILLINOIS DEPARTMENT OF TRANSPORTATION

ILLINOIS ASSOCIATION OF PARK DISTRICTS

CITY OF CHICAGO

THE ASSOCIATION OF PROJECT C.O.S.T-CONSERVE OUR SCHOOL TAXES

FEDERAL EXECUTIVE AGENCIES

COMMUNITY ACTION FOR FAIR UTILITY PRACTICE

INDUSTRIAL INTERVENORS ABBOTT LABORATORIES, THE ARNOLD
ENGINEERING CO., BELL & HOWELL CO., THE CECO CORP., CHERRY
ELECTRICAL PRODUCTS CORP. POP INTERNATIONAL, INC., FANSTEEL
INC., FORD MOTOR CO., GENERAL MOTORS CORP., INTERLAKE, INC.,
KEYSTONE CONSOLIDATED INDUSTRIES, INC., NABISCO, INC.,
NORTHERN PETROCHEMICAL CO., NORTHWESTERN STEEL AND WIRE CO.,
OLIN CORP., OUTBOARD MARINE CORP., OWENS-ILLINOIS, INC.,
REYNOLDS, METALS CO., KITCHENS OF SARA LEE, THE SHERWIN-WILLIAMS
CO., STRUFFER CHEMICAL CO., TRAVENOL LABS, INC.

ENERGY SYSTEMS ENGINEERS, INC. AND
INTERNATIONAL MINERALS AND CHEMICALS CORP.

RICHARD M. DALEY, ON BEHALF OF THE PEOPLE OF COOK COUNTY

LINCOLN EDMANDS, PRO SE

SINNISSIPPI ALLIANCE FOR THE ENVIRONMENT

ILLINOIS PUBLIC ACTION COUNCIL