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DONAHUE TRANSCRIPT #08302

APPEARANCES: Mr. Phil Donahue
E. Linn Draper
Richard Udell
Amelia Doherty
Kathy McCaughin

Phil Donahue: What do you think?

Audience: I think solar is the only practical, realistic, and healthful alternative.

Phil Donahue: If it's so good how come we don't have it?

Audience: The government hasn't been willing to put money into it and also the petroleum companies aren't going to make a profit off of it.

Audience: (Applause)

Phil Donahue: You can't put a meter on the sun.

Audience: That's right.

Phil Donahue: But we need a combination. We need the conventional and we also need nuclear capacity because it makes us independent of OPEC and then we're not out there on a limb.

Audience: I don't agree with that at all. I think solar, hydro power and wind power would also give us those alternatives.

Phil Donahue: But we are already very much into nuclear.

Audience: Unfortunately, yes.

Phil Donahue: Where were you? What do you mean unfortunately? Are we too late?

Audience: No, I don't think we're too late but I don't think we should spend all the money on nuclear either.

Phil Donahue: Meet E. Linn Draper. He is Senior Vice-President Gulf State Utilites and you are here to say among other things that nobody was ever killed at Three Mile Island.

E. Linn Draper: I certainly would say that. I would say that a variety of other important things about nuclear power such as the fact that it's the second largest generator of electricity in this country.

Phil Donahue: And it's so far working and light bulbs go on and the toaster works and you're proud of it are you.

E. Linn Draper: I think it's a very good way to generate electricity. It certainly is not risk free but nothing is. But, Phil, we've been running nuclear plants for twenty-five years. We have eighty of them in operation and they generate about 13% of our electricity. They do it more cheaply than the alternatives and I think it's a technology that we can't afford to abandon.



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Audience: (Applause and some boos)

Phil Donahue: To which Richard Udell, Nuclear Safety Analyst for Citizens Critical Mass Energy Project replies.

Richard Udell: Wrong. Nuclear power is unsafe, too expensive. There are seventy-four plants. Last year in 1981 according to a study we just finished there were over 4000 mishaps in one year. One hundred forty of them, according to documents by the nuclear regulatory commission, were especially serious and it doesn't save us from OPEC. Of the oil that we get from foreign countries only 6% goes to electricity, only 6%. The rest of it goes to other industries, transportation. Nuclear power is not going to relieve our dependence on foreign oil. In fact the thing that is going to save us is conservation and solar.

Audience: (Applause)

E. Linn Draper: But the documents that you quote say there are 19,000 events in the last eleven years that have been worth looking at. That is five a day and yet the nuclear plants have continued to operate, the public health and safety has been protected. They produce electricity economically.

Audience: (No)

E. Linn Draper: How can you say that nuclear plants are too expensive and too unreliable to operate.

Audience: I want to challenge your statement about nuclear power being too expensive. In the Chicago area, and I have the statistics, I just got them yesterday, the nuclear---

Phil Donahue: I should say that there are several people in the audience who have been especially invited for our program in addition to the regular ticketholders. You have a special interest.

Audience: Nuclear is one half the expense of coal in the Chicago area. Now this includes all of the expense of nuclear even shutting down the plant and deactivating it. It includes everything: fuel---

Richard Udell: One important qualifier---

Audience: One half all over the United States it is 15% lower than coal and I got these statistics from the---

Richard Udell: Let's look at the statistics, okay. Chicago is an important qualifier. There are a couple of areas in the country that have an unusually high dependence on nuclear power. Chicago, parts of Florida, parts of New England. Wrong, it means that you are dependent on it and that is a very serious problem.

Audience: (unintelligible)

Phil Donahue: Madam, you will not deny that the cost of building these plants is considerably greater than originally estimated and if it's so economical why have there been no plants started and even the TVA has decided not to complete any.

Richard Udell: Nuclear power is the most expensive way to boil out water ever designed.

E. Linn Draper: No, that is simply not true.

Phil Donahue: How would you respond to that, Mr. Draper? You'll give us that there are a number of plants in varying states of completion for which construction has been entirely halted.

E. Linn Draper: I think that almost every utility in the country would say that the cheapest way to provide future electricity for its customers is with the nuclear plant. Having said that they are not building, they are not ordering new nuclear plants because they are so hideously expensive to build and the utilities are in bad financial condition. In the long run even with the high first cost nuclear power is cheaper. But if you don't have the money, if you're a utility in financial difficulty, the thing you forego now is the thing that is most expensive. It does a great disservice to future rate payers in this country not to be able to build nuclear plants.

Phil Donahue: But there are a number of high payers in this country at the moment who believe they are being victimized by the service of the utility companies that have to raise their rates because of the exorbitant costs of the nuclear installation.

E. Linn Draper: When they really have to raise their rates is when they don't have the nuclear plants in operation, when they have to burn expensive oil, when they have to burn the fuels that are scarce.

Phil Donahue: To which you would say?

Richard Udell: Wrong.

Phil Donahue: All right.

Richard Udell: Let me explain why.

Phil Donahue: Briefly, please.

Richard Udell: Nuclear power plants cost more than other plants. It used to be ten years ago in the early 70's, a quarter of a million dollars. It now costs two, three, four other plants that are even more million dollars.

Phil Donahue: The nuclear industry wants you to know---

Richard Udell:

Phil Donahue: But the nuclear industry wants you to know that it's not their fault that the cost of construction has increased.

Richard Udell: That's a tenfold increase. Inflation didn't increase that 150 times that nuclear power plants did. 150% figure is the nuclear power plants.

Amelia Doherty: Let's talk about some of the hidden costs.

Phil Donahue: Let's get some women in this act. Meet Amelia Doherty. Mrs. Doherty lives at Two Mile Island. You're actually two miles from Three Mile Island. Can you see the plant from your backyard? You're two and a half miles from Three Mile Island and you actually when the scare came I understand you went out and got yourself smart like I guess anybody would in a situation like that. You've come to the conclusion that---

Amelia Doherty: Nuclear power is the safest energy that we have. Most of these people here I don't believe have looked at other energies to see how unsafe they are. If they did they would know that the residue and the ash from coal if it were regulated like nuclear power it would have to be buried as low level waste.

Phil Donahue: Meet Kathy McCaughin. You also live in Three Mile Island. Did you put the kids in the car and all that?

Kathy McCaughin: Sure. Ran away.

Phil Donahue: And you backed out of the driveway. You have a nice nuclear family with sis and Junior and a dog.

Kathy McCaughin: At that time it was a nuclear family. It's not now.

Phil Donahue: As you can see we're going to have an awful lot of folks get in this thing but you had the nightmare then of getting in the car and backing out---what were you thinking?

Kathy McCaughin: That's not had, that's have. That is present tense. I have the nightmare. When the accident happened unfortunately like most of the people in the area I left too late. We didn't leave until Friday. That is because of the horrible---

Phil Donahue: The accident was when?

Kathy McCaughin: The releases were on Wednesday night. We all stayed and then we left to make ourselves safe and six months later found out that we left two days too late. That has to do with---

E. Linn Draper: Two days late for what?

Kathy McCaughin: We don't know.

Amelia Doherty: How do you know it's too late then?

Kathy McCaughin: I think this is a very important issue---

Amelia Doherty: I left too but I came back and studied.

Kathy McCaughin: So did I. We started this show---you started the show with nobody died at Three Mile Island. I resent that, I hear it everywhere I go, particularly from my industry friends.

Phil Donahue: Why do you resent it?

Kathy McCaughin: I resent it because there are meters at that plant and those meters peaked. In other words, they went as far as they could go on the scale. We may have received that or we may have received five times that or ten times that.

Phil Donahue: So you want to say nobody died at Three Mile Island yet.

Kathy McCaughin: Nobody died yet. Okay. I have a fifteen year old I'm deeply worried about.

Phil Donahue: Do you see physical manifestations?

Kathy McCaughin: Not yet. It has only been three years.

Phil Donahue: You're worried about genetic damage, etc.?

Kathy McCaughin: I have a daughter who was going into puberty at the time of the accident and I have no idea what that did to her.

Amelia Doherty: I have six children and two grandchildren.

Kathy McCaughin: I have a concern.

Phil Donahue: She's not worried. Mrs. McCaughin, could you sell your house or did you.

Kathy McCaughin: Yes, I have. I have sold a house since Three Mile Island. It was on the market almost a year and a half. At the time I bought the house it had been on the market two months when we bought it. I will not say that that is a part of the accident. We have a serious economic problem. I'm ten miles away; I have friends that are two miles away and would give their houses away and can't get rid of them.

Amelia Doherty: Why don't they?

Audience: I think the overriding issue is radiation. I don't care if nuclear power is more expensive than coal or solar power. The fact is that nuclear plants create immense quantities of radioactive long lasting poisons. Radiation causes cancer---

Audience: (Applause)

Audience: Radiation causes leukemia, it causes birth defects, it causes genetic diseases---

Phil Donahue: So does a television set, so does---

Audience: No, not the same longlasting stuff. The radiation from nuclear power and from atomic bombs has already killed thousands of people. This new book KILLING OUR OWN really documents it.

Phil Donahue: All right. Sir. Briefly.

Audience: Well, you said that nuclear power causes cancer and that but what about the waste from coal? What about acid rain and things like that?

Phil Donahue: Good point.

Audience: I think it's important that we not only think about what we're doing today but we think about the future and not just our generation but our grandchildren.

Phil Donahue: But the nuclear industry wants you to know that they are thinking about our future and that many of the people that are running around saying "the sky is falling, the sky is falling" are shortsighted, don't appreciate the contribution economic as well as in terms of power that nuclear can make, certainly in the case of getting separated from OPEC and all the other good things that will accrue.

Audience: Well, all I can say is that when you have something that has so much potential for violence like it does have---

Phil Donahue: But that's what they said about the DC3. It will seat fourteen people and what if it crashes.

Amelia Doherty: What type of violence are you talking about?

Audience: There is a difference in this.

Phil Donahue: What?

Amelia Doherty: What kind of violence?

Phil Donahue: You think this is different?

Audience: I think it's different.

Phil Donahue: Yes.

Audience: I think we are thinking about the future with nuclear power. Oil, coal, everything else is going to run out. Nuclear is the only alternative.

Audience: We're having nuclear accidents when the medical profession and the people out in the public we are not ready to handle those nuclear accidents. We don't know how to take care of these people or what to do for them. We are not prepared for nuclear energy.

Phil Donahue: Let me just show you a map which gives you some idea of where the nuclear plants are located in the United States and it will help you. All the dots represent the placement of a nuclear facility and obviously with the population skewed eastward most of the plants are similarly located. Illinois---Commonwealth Edison, incidentally the utility that services our own station here and environs is I think proud of the fact that it is one, if not the leading, nuclear generating publically held utility in the country. We should also say for the record that a number of the bigshots in the financial world have raised some eyebrows about the efficiency of this particular company policy in terms of its future financial well-being. Who is going to pay for the insurance on these plants?

Kathy McCaughin: The citizens are! We're talking about nuclear warfare.

Audience: If nuclear plants are as safe as they would have us believe then why in every homeowners policy is there a nuclear exclusion clause. You're covered for earthquakes but you're not covered if anything happens because of a nuclear accident and they legislated the Price Anderson Act to limit liability to a matter of million of dollars when an accident could cost billions of dollars.

Phil Donahue: Mr. Draper, sir.

E. Linn Draper: The reason that you aren't covered in your homeowners policy is because of the insurance that exists on the units. Not only does the insurance exist---

Audience: (Oh!)

E. Linn Draper: You don't have to show---

Audience: The is \$560 million and the accident could be in the tens of billions of dollars.

Kathy McCaughin: Just look at Three Mile Island. We have no idea in the world how we are going to clean that mess up. The utility is spending all this time in Washington crying and crying.

E. Linn Draper: But you don't think your homeowners policy should cover that do you.

Kathy McCaughin: If in fact I had left and not come back they would have been fine but I would not. \$580 million of that I pay as a taxpayer. I have to pay to blow myself up.

Phil Donahue: Con Ed may not be able to open LaSalle on target and the estimate of the company is that it could cost as much \$600,000 a day just for the delay. Why would a smart businessman like yourself want to even set yourself up for a kind of business disaster?

E. Linn Draper: Because people in the utility industry believe they have an obligation to supply electricity as cheaply as possible and in the long run---

Audience: (Murmuring)

E. Linn Draper: ---in the long run nuclear power will do exactly that.

Audience: Why do we pay for construction work in progress?

E. Linn Draper: If you want the utilities to take a posture at which they are not at risk and you don't have the opportunity to have these costs go up they can take a strategy that is risk free. They will build oil firing plants. We know we can get those on line. We'll burn expensive fuel from abroad and your electric rates will go up but there

won't be any risks.

Richard Udell: Hold on a minute, what kind of risks are we talking about?

E. Linn Draper: The risk of not opening the plant on time.

Richard Udell: We're talking about risks of thousands of deaths from a nuclear plant accident.

Kathy McCaughin: Hundred of thousands.

E. Linn Draper: I thought we were talking about the financial risks. That was the question.

Richard Udell: Let's talk about all the risks.

E. Linn Draper: Let's do!

Richard Udell: If you want to talk about risks you have to talk about everything. Earlier we mentioned that there were over 19,000 accidents in an eleven year period---

E. Linn Draper: And no fatalities.

Richard Udell: ---and a new study by the government shows that one hundred sixty-nine of them were near missers, precursors to a core melt down.

E. Linn Draper: Not a meltdown; fuel damage.

Audience: Con Edison is allowed to base its profits as a percentage of the amount of capital not only invested---

Phil Donahue: As it true of most utilities.

Audience: ---but borrowed and by building a more capital intensive nuclear plant---

Phil Donahue: They are allowed then to make more money.

Audience: To make more money to generate the same amount of---

E. Linn Draper: It's not a valid point.

Phil Donahue: Mr. Draper, that's a fact. As long as they public utilities commissions of states determine the profit permission for utilities on the basis of capital investment you are always going to be rewarded by capital investments---

E. Linn Draper: That's exactly wrong.

Phil Donahue: Explain to me.

E. Linn Draper: Because you borrow money or sell stock at a rate that costs you more than you get back from the rate payers. So every time you build anything you lose more money.

Phil Donahue: And you have the opportunity to make more money because the rules allow---

E. Linn Draper: You lose money because the stocks are selling below book value.

Phil Donahue: All right.

E. Linn Draper: That's what's the problem with utilities.

Phil Donahue: Okay, let me just try one more question and everybody just stay calm for a second. Given Three Mile Island---let's for the moment put aside all the emotion on this thing and give you your due and you're clearly an honest guy who wants to make a living and all those other good things and we certainly want to be independent and all that. Given Three Mile Island the enormous delay of fixing it, the enormous costs that is accrued to those who are responsible for its construction and liable for any potential damage, why would you set yourself up for this many times over at other plants like this around the country. It looks like we're always on the edge of this kind of public relations nightmare.

E. Linn Draper: So what we try to do is learn from the lesson at Three Mile Island so that won't recur. But let me reiterate the motive for building nuclear plants is to make cheap electricity. If we didn't want to make electricity cheaply there are alternatives that don't have the financial exposure that nuclear does. Oil plants for example. We don't build them because we want to provide customers electricity as cheaply as possible.

Audience: What if the utilities go bankrupt when the problems have to be faced and they are not there anymore?

E. Linn Draper: Well, we---

Audience: We live in Zion, Illinois, which has got the two largest reactors in Illinois which are run by the largest utility in Illinois, Commonwealth Edison, which runs more nuclear reactors than any other utility in the country. So from an experience base in theory they have the greatest experience in all. I would like to differ with a few points that have been made. First of all, there has now been a death attributed to nuclear power. The Canadian government has recognized and paid benefits to the family of a nuclear power plant worker. This occurred approximately three months ago. I was in Winnipeg and it was in the papers.

Phil Donahue: Running out of time.

Audience: Okay, that's number one. There has been a death attributed. Number two,---

E. Linn Draper: You know that simply paying the claim doesn't mean the death occurred that way.

Audience: They acknowledged the death.

Audience: Number two, contrary to what this lady has said back there when she gave her statistics at the time Three Mile Island occurred that accident really should have occurred in my town, the only city in the country with a nuclear power plant within the city limits. We had at the time at Zion one and two reactors about seventy-five violations against each reactor. Commonwealth Edison has paid hundreds of thousands of dollars in fines which again the rate payers really pay at the end.

Audience: Absolutely.

Audience: But we have paid---

Kathy McCaughin: The taxpayer always pays.

Audience: But we had a worker up there in the past couple of months receive several lifetime dosages for which Commonwealth Edison is being fined \$100,000. The point is this: there are many problems with nuclear power. It is not totally safe and what somebody said for the---

E. Linn Draper: Of course it's not totally safe. Nothing is totally safe.

Phil Donahue: Yes, ma'am.

Audience: Okay, first of all, hopefully I will not get booed, but I do not believe it's wrong for the companies to want to make some money.

Audience: (Applause)

Audience: That's the capitalistic way and I'm for that.

Phil Donahue: Are you confident that the blue suits in all those air conditioned offices, high up in the high rises of office buildings of utility companies, businessmen that they are, do you want to trust them with the collective wisdom of deciding what is in our best long term interests. These are the same people who predicted certain costs for nuclear facilities that have been wrong by 600% and 700%.

Audience: I would like to know is what are the alternatives? What is the cost of the alternatives and what are the long range safety plants? The same kinds of things for nuclear power and I would like to hear it without people just shouting.

Phil Donahue: Want to take your first swing at that? Mr. Udell, sir.

Richard Udell: First of all, the long term implications among others is radioactive wastes which we're piling up---

E. Linn Draper: She wants to hear about the alternatives.

Richard Udell: ---millions of gallons of that. The alternative which you don't hear about---one reason you don't hear about them is because money isn't going into them. The new Reagan budget has 87% of it that is not going to the military and the Department of Energy going to nuclear power fission and fusion. The conservation budget---

E. Linn Draper: That has nothing to do with it.

Richard Udell: ---let me finish the sentence just for a second.

Kathy McCaughin: It has everything to do with it.

Richard Udell: Every part of the budget of this country that was going to alternatives, even to oil and gas is being cut and given to nuclear power. If there is one difference between the Reagan Administration and the one that came before it is that while the Carter Administration was somewhat committed to developing nuclear power the Reagan Administration is seeking to make us dependent on it and that's why you don't hear about the alternatives.

Phil Donahue: Let me just introduce three other folks here. You're Sharon Mareello. You're a former Zack employee. Meaning?

Sharon Mareello: I worked in documentation department at Zack Co. and they are a subcontractor for LaSalle nuclear site.

Phil Donahue: What does Zack provide?

Sharon Mareello: H-back system, heating, ventilating, air conditioning.

Phil Donahue: You say you're a former. What happened?

Sharon Mareello: When we had seen all the problems that the company had with the documentation. There was a lot of it that was way out of line. My supervisor, which was at the time Mr. Howard made allegations to Consumers Power which is up in Midland Nuclear site and within a week we were all fired.

Terry Howard: Absolutely true. We identified in particular three sites here in Illinois. What we were concerned in their records---

Phil Donahue: Explain it so that a layman understands it.

Terry Howard: That is the verification that the materials that they put in those plants is actually what they say they are.

Phil Donahue: We're not talking about nuclear materials; we're talking about the ventilation and other ancillary equipment that accomodates the nuclear---

Terry Howard: We're talking about the construction material, yes.

Phil Donahue: All right.

Terry Howard: And in fact this plant LaSalle did say that the materials in that plant were safe and we took that issue and said they weren't safe and you better not get this out that it is and in two weeks we were gone.

Phil Donahue: What was unsafe about it?

Audience: They said that they had assurances that it was safe, that the material that was actually in there was the material. We did not have the documents for it and we pointed this out to them.

Sharon Mareello: Any material that is used in the nuclear site has to be documented from the original point all the way through fabrication.

Phil Donahue: Right.

Sharon Mareello: And in the papers at Zack there was all kinds of problems with them and they could not actually trace down all this material, so it leaves a big question in your mind as to whether it's safe or it is not safe.

Phil Donahue: All right, but we may have just a faulty or perhaps not altogether precise reporting system.

Sharon Mareello: That's very possible but if they don't have the documentation on this now it has to be checked out because of the fact that the tests aren't done on the material. If they were the documents were lost so we don't know.

Phil Donahue: We got to break here. Let's see if we understand our dilemma here. We do have certainly energy needs in the future. We are not altogether comfortable with our dependence on OPEC and the amount of energy resource that we get from outside this country. What are the consequences of the multi-billion domestic nuclear industry? Does the NRC really work and how about the government monitoring system and how much are we funding it? Would you buy a house at Three Mile Island or at Zion? And if you wouldn't then isn't it a little hypocritical to stand up and say well, let's give them a chance? Are businessmen making decisions about what kind of facilities will be generating our energy in the future and let's get this in. Plutonium is apparently also being used or is---isn't Clinch River---

Richard Udell: Clinch River is a breeder reactor that would breed plutonium, make more than it uses of that fuel. Plutonium has a life of about a quarter of a million years.

Phil Donahue: Plutonium also can be converted into nuclear detonation for---

Richard Udell: Nuclear bombs.

Phil Donahue: ---we call them bombs here in Chicago. Now if we there is geographically in this country a number of places with this kind of material who is handling this material? What are the politics of the person handling this material? And does it enhance the chances of a terrorist getting a hold of this material and calling up---

E. Linn Draper: You should point out that there are no such reactors currently in operation.

Phil Donahue: Okay, and where will Illinois send its waste? And what outgoing benevolent community of citizens is going to say, "we'll take it."

Audience: (We are)

Phil Donahue: And how much are we taking?

Audience: How about the midwest contact?

Phil Donahue: And just because it's new does that mean it's bad. That's what they said about aviation, the steam engine and just about every other development in science throughout the history of man and we hope you'll join us.

*****STATION BREAK*****

Phil Donahue: Let me just take you to school here for just a second. We hope we can make some sense in this and we appreciate very much the energy, no pun, that you bring into this discussion. First of all, you should know that there are eighty-three nuclear reactors licensed in the United States. I think we can argue about how many there are operating at full capacity, whether it's a temporary shutdowns, etc. The projection is one hundred-sixteen in 1985 and one hundred thirty-nine for 1990. But we have not started a nuclear facility, in terms of construction since when?

E. Linn Draper: Oh, about 1977 was the last time.

Phil Donahue: Why?

E. Linn Draper: I think we talked just briefly about that earlier. It had to do with the financial condition of the electric utilities.

Phil Donahue: It also has to do with a business decision which says, hey, man, do we want to get ourselves in---

E. Linn Draper: If you don't have the money you don't have the most expensive thing. You do the best you can with what you have and that happens not to be nuclear if you don't have money.

Richard Udell: Also something you can't face up to.

E. Linn Draper: If you don't have the money you don't buy it.

Kathy McCaughin: It also has to do with an enlightened public that the utility was finally forced to talk about things in normal generation of electricity.

E. Linn Draper: I don't think you can point to a single case at which a reactor that was contemplated went away because of public concern. They went away because the utilities can't afford to pay for them.

Kathy McCaughin: I think it has a great deal to do with that, absolutely.

Audience: I want to get back if we can to the health issue surrounding TMI. I lived in Pennsylvania during that time, the western part of the state, and I've been following the reports and the good work being done by the Pennsylvania Department of Health. They have a leading Epidemiologist who has shown that there have been no effects to this point on infant mortality rates. As a matter of fact they went down in the year after TMI. They are following it closely. I think we're talking about a lot of fear, we're implanting fear. There doesn't seem to be a reason for it.

Phil Donahue: Kind of a buzz word and uninformed people get hysterical and that's one of the problems.

Audience: It's very easy to frighten people. It's harder to bring them back from their fear.

Phil Donahue: Sir.

Tom Devine: I have a challenge for Mr. Draper. I'm a lawyer who represents whistle blowers from the nuclear industry. Every one of our clients has been vindicated on their charges. Every one of them has been fired from their plants and branded as anti-nuclear communist puppets. I would like to challenge Mr. Draper to start a campaign within the nuclear industry to listen to whistle blowers instead of smearing them, firing them and blacklisting them.

Audience: (Light applause)

E. Linn Draper: I'm not aware that people have been branded communist puppets because they are whistle blowers. It seems to me that if there are legitimate concerns they ought to be fully ventilated. An investigation should be made and we ought to clean up whatever is wrong in the nuclear business, but to say that everyone has been branded as a communist puppet I think is a disservice.

Audience: I would like to ask Mr. Draper with the obvious potential of solar energy what percent of your R&D budget is going into the development of solar energy?

E. Linn Draper: Of whose R&D budget?

Audience: Your utility's.

E. Linn Draper: My utility about a third of our R&D budget goes for what I call alternative technologies. Not all solar but some wind, some of that sort of thing. About one third goes for load management and the remaining one third goes for fairly conventional things.

Audience: My question---

E. Linn Draper: Most people would lump the alternatives together as solar.

Audience: My question would be solar.

E. Linn Draper: A third.

Kathy McCaughin: A better question is how much of our dollars, our tax dollars willfully and generously given to our federal government are being used for solar and how much are being used for nuclear---

Richard Udell: Only a couple of percent.

Phil Donahue: Yeah.

Audience: I don't see how that when there is such a great risk, a potential risk, how that you can take the liberty to take into account all the lives of so many people.

E. Linn Draper: Do you think it's a great risk to kill a coal miner in this country every other day? I think that's a great risk.

Audience: How many coal miners could be killed?

E. Linn Draper: Those are real deaths, not something that might happen.

Audience: If this would happen in a nuclear plant how many people could be killed?

Kathy McCaughin: One of the bottom lines on this issue from my perspective at Three Mile Island is that it always comes back to the same question anytime there is a nuclear discussion and that is the economics of nuclear power is always discussed well ahead of the health and safety and it always will be because that is the nature of business.

E. Linn Draper: And in the health and safety area we always talk about what if instead of what is. Let's talk about the realities.

Richard Udell: Let's talk about the what is. Let's talk about some of the accidents.

Phil Donahue: Excuse me, Mr. Udell, but here from the Mass Energy--the Critical Mass report the organization which is represented by Mr. Udell provided for us the following statistics with which I'm sure Mr. Draper may take exception. These are 1981 nuclear plant safety stats. 4,000 accidents is your own figure of which you say more than one hundred were especially serious. 13% due to construction errors, 19% due to human error and with the Zack report from these former employees recently in our minds, 62% due to equipment failure. Of the seventy-four reactors operating with steam generators forty-one have leaks, it is your view or is the result of your own survey. Fourteen of the seventy-four reactors have what are called brittle reactor vessels. This is the vessel in which the core is placed and following prolonged use apparently the metallurgists are telling us that they become brittle and can crack like glass if that happens you get what is called a meltdown. The July NRC study found one hundred sixty-nine accidents between sixty-nine and seventy-nine that could have resulted in a meltdown.

E. Linn Draper: The reason for that is the very careful reporting of events. We've had one hundred sixty-nine things that were thought to be important and nothing happened. No lives have been lost.

Kathy McCaughin: Therefore, they should not be held accountable because they have confessed their mistakes.

Phil Donahue: And we'll be back in just a moment.

*****STATION BREAK*****

Phil Donahue: Those dots represent the nuclear facilities placed in the United States, a total of eighty-three. Yes, sir.

Audience: I think I look into this dimension of nuclear waste more. I live near Sheffield, Illinois, which is right near one of famous nuclear dump sites which happens to be leaking onto private property at this time. When we talked about cost Mr. Draper keeps talking about the cost but how about the cost of the tax burdens on the people of devaluation. I happen to be a farmer myself and its devaluing our property along with the health consequences and the tax burden of the whole nuclear waste---

Phil Donahue: It's hard to imagine somebody buying your property and knowing that there is a nuclear dump adjacent to it.

Audience: That's right. I live in Bureau County which happens to be one of the best farmland in the world---

E. Linn Draper: There isn't any doubt about it. Whatever costs are associated with nuclear power should be paid in the cost of generating electricity at a nuclear plant. That is absolutely correct.

Audience: On the subject of nuclear waste and on the process of reprocessing spent fuel, the last commercial operation was in West Bailey, New York, which closed down in 1972. They left behind 600,000 gallons of high level waste. It's going to cost \$1 billion to clean up and the nuclear industry is looking to the State of New York and the federal government to pay for that burden. That's one more example.

Amelia Doherty: Phil, don't these people want to be energy independent. What are they going to use in the meantime while they are developing other energies.

Kathy McCaughin: Conservation.

Phil Donahue: Over here, please.

Audience: Okay, she was saying something about putting fear into people's minds. I think about the bombing of Hiroshima and Nagasaki, the long term effects, and I am really frightened.

Audience: (Applause)

Audience: We keep talking about costs and we're not concerned about the human problems that are going to exist from generation to generation.

Amelia Doherty: Nuclear power has nothing to do with nuclear bombs.

Phil Donahue: Yes, but Mr. Draper also wants you to know that the Japanese are in the forefront in their application of nuclear---

E. Linn Draper: They sure are.

Phil Donahue: ---energy for their---

E. Linn Draper: Japanese, French, most of the developed countries in the world have a major commitment to nuclear power.

Phil Donahue: But Mr. Udell wants you to know that the French and the British are the same people who gave us the Concorde.

Audience: I would like to ask these pro-nuclear people with their big money behind them---

Amelia Doherty: I have no big money behind me.

Audience: ---what is your plan for the waste? Is your plan to continue to pollute our environment?

Phil Donahue: Hand her the mike. You'll stand please.

Audience: I'm really going to respond to the beginning of your statement when you said with all the money behind us. Every once in awhile I wonder if the anti-nuclear people have oil money behind them so that when the oil runs out and we are not prepared with nuclear energy---well, you see how ridiculous it sounded when you asked your question.

Phil Donahue: What would you do about waste? Are you concerned about that?

Audience: No, I'm not at all concerned about that.

Richard Udell: You should be! You should be very concerned about it!

Audience: Hold on just a minute. Let me say something, please. I'm not concerned about it in the general sense anymore than I'm concerned about the fact that driving here this morning five cars were beside the road with flat tires. They were concerned about it but they fixed their flat tires. Now the point is of course I'm concerned about it, we're all concerned, and that's why the industry is as safe as it is. Concern is built in. In 1979, you people, do you remember when Indiana and Ohio had to close shop. They had no energy. Their hospitals had no heat. We had nuclear power here. Keep it in mind. One more thing as long as I have this mike. Phil, you brought up a very important thing and I cannot let it get away.

Phil Donahue: The longer you speak the less likely it is others will have a chance.

Audience: Good.

Audience: (Boo)

Kathy McCaughin: Typical industry response.

Audience: This happens to be something I think both sides will agree to. Phil gave you a wonderful list of questions before the last break. He asked you a lot of questions and many of you on the other side, this side, can respond emotionally. Please, people, do yourselves a favor and get the answers to those questions, get the facts. Phil is doing you a favor today.

Phil Donahue: Tell me what will happen if we don't adopt the kind of---what's your biggest concern. Briefly.

Audience: My biggest concern is that when this country does get itself turned around and it has to work with obsolete equipment, when there is no power for us because of the lack of oil because that is going to run out. Coal forget it. I'm from coal country and there is no way I would like to live with that again. I cannot see why nuclear power which is all over this world, with our technology all over this world, why this country is not going to be ready for an industrial---

Kathy McCaughin: That's scary.

Phil Donahue: This gentleman here with the farm wants you to know that you didn't answer the question about waste.

Audience: About the waste. There are many forms now which waste can be treated. It has been treated. It has been buried in Canada.

Richard Udell: That's completely untrue.

Kathy McCaughin: Tell us about it.

Richard Udell: That is incorrect.

Audience: Landfills twenty feet under the ground leaking onto property. Now is that the best technology that we have.

Audience: In the city of Chicago there are chemical dumps, there is all sorts of wastes.

Audience: Is that your answer? Is that the responsible answer?

E. Linn Draper: Of course not. There is good technology.

Audience: That is exactly my point.

Phil Donahue: Be back in just a moment.

*****STATION BREAK*****

Phil Donahue: In the hope of making sense out of clearly a very diverse collection of views, Richard Udell, sir, Nuclear Safety Analyst, Public Citizens Critical Mass Energy Project, your briefest speech. What is bothering you?

Richard Udell: The safety of operating plants first and foremost. What we did in this book that is just coming out now---you can order it by writing to us in Washington---is it explains that there were over 4000 mishaps last year. Over a hundred of them were especially serious. The plants that we are operating in this country today are potential time bombs.

Phil Donahue: You have an NRC which is overseeing this.

Richard Udell: The government is not doing an adequate job of protecting the public. There are many problems that have surfaced. The industry has not learned its lesson and these accidents are reoccurring each year.

Phil Donahue: E. Linn Draper, Senior Vice President, Gulf States Utilities.

E. Linn Draper: I think that it would be tremendous mistake to abandon our second most important source of generating electricity. Sure, the technology has had and will continue to have problems, but if you compare nuclear plants to the alternative ways to do the same job, namely make electricity, I think in any dispassionate evaluation you'll find that they are as safe as the alternatives, the wastes are benign as the alternatives---

Audience: (Murmuring)

E. Linn Draper: ---and the economics are better than the alternatives.

Audience: Realistically it appears that we have nuclear energy and it's an important source of energy. Shouldn't our anti-nuclear efforts be devoted to safety measures, having Mr. Udell and Mr. Draper get together. Mr. Udell telling Mr. Draper what we could do to make our nuclear plants safer.

Audience: (Applause)

Richard Udell: Our organization deals regularly with the Nuclear Regulatory Commission. We try to call their attention to problems. We have been unsuccessful in convincing them that some problems need solutions.

Amelia Doherty: You've said all these accidents have happened and yet there has been no big problems. They have been contained.

Richard Udell: There have been big problems. Last year alone---

Amelia Doherty: But they've been handled.

Richard Udell: One little example. An accident at a brand new reactor in Tennessee 110,000 of radioactive coolant leaked. Eight workers were contaminated. The worker that did it it was his first day on the job and he wasn't adequately trained. And even an industry report---

E. Linn Draper: Look at a counter example. Look what happened at the plant near Rochester. There was a serious malfunction and everybody had learned what to do and the systems worked.

Phil Donahue: Give other point that should be made is there is an awful lot of power within the nuclear lobby. We are talking about some gigantic corporations some of whom proudly sponsor their waste and services on this program without which I might be parking cars. So it doesn't mean that because they are big they are necessarily bad but the point has to be made they've got the ear of the Congressmen a lot faster than the folks who are here protesting.

Audience: (Applause)

Phil Donahue: And there is money in this. We also have utility vice presidents and chairman of the board who are out there on the nuclear limb having made their commitment, six, eight, ten, twelve years ago and their egos won't allow them---

Kathy McCaughin: There is a tremendous double standard---

E. Linn Draper: If the nuclear industry as you say can run roughshod over the country I don't think we would have seen the dirth of orders for nuclear plants we've had in the last five years.

Phil Donahue: But we haven't begun construction on one since 1976.

Kathy McCaughin: There is a double standard---

E. Linn Draper: That's the point. We are clearly not ramming nuclear power down people's throats.

Kathy McCaughin: I'm held accountable for my personal life. The risk inflicted by nuclear power when that error---to say that nothing has happened yet, we've been on the verge. How lucky can we be?

Audience: We haven't begun construction on these plants because this industry is based on assumptions, not fact. All through the NRC reports the Safety Commission, everything is engineering, designing.

E. Linn Draper: You're assuming accidents that we haven't had!

Audience: Take into perspective the damage done by your admission---

E. Linn Draper: Which damage? The hypothetical damage?

Audience: No, your waste---I'm a biologist, sir, and I want to speak to you about scientific fact! I'm not talking about assumptions and I'm not talking about---

Phil Donahue: Okay, you'll pardon me. The last thing I want to do is interrupt a biologist. We will be back in just a moment. I'm really sorry.

*****STATION BREAK*****

Phil Donahue: You'll agree with us I think, Mr. Draper, that in the event of a meltdown you've got to have evacuation of the area.

E. Linn Draper: Sure.

Phil Donahue: Are you really satisfied that we are prepared to do that and how do I know when I'm backing out of my driveway that I'm not going to run into all those other cars backed out of their driveways into the streets and into the intersections---

E. Linn Draper: Phil, I can describe to you the plans for any given plant but I think your reliance as a citizen on my information should come from confidence that you have in the Nuclear Regulatory Commission.

Phil Donahue: Are you confident?

E. Linn Draper: It's their job to approve the plants. They have 4000 employees whose only job is to worry about the safety of nuclear plants.

Audience: I just have a real concern that we are sitting on---

E. Linn Draper: I can't hear.

Phil Donahue: Just one second.

Audience: I just have a real concern that we are sitting on a time bomb and that people from Commonwealth Edison are waiting until there is an accident first then react instead of the other way around.

Audience: (Applause)

Richard Udell: Phil, how many people here have ever heard of this.

Audience: Mr. Draper, has your company attempted to send out a questionnaire or take a survey of the customer to see what they prefer?

E. Linn Draper: Yeah, and you're not going to like the answer I have a feeling from the tone of your question. In the Baton Rouge area where our nuclear plant is, 78% of the people favor nuclear power.

Kathy McCaughin: At Three Mile Island we had a referendum and three counties voted on whether or not they wanted Three Mile Island reopened and they all voted no.

Phil Donahue: When you---

Kathy McCaughin: I don't think it will have any effect on the utility or the NRC.

Phil Donahue: Mrs. McCaughin when you and your family backed out of the driveway you actually have been there. Where did you go?

Kathy McCaughin: I went away for the weekend which we were going away. Then we left my daughter for ten days at my mother's and that is about seventy-five miles away.

Audience: A lot of emotion has come across here. Why can't we just have a straight comparison between nuclear power and the alternative.

E. Linn Draper: You bet. Compare the safety, compare the economics, compare the environmental impact and nuclear plants will look good.

Audience: Is it possible for a professional terrorist to destroy a plant and if so how many people would die?

Richard Udell: Yes, it is.

E. Linn Draper: It's possible for a professional terrorist to do darn near anything.

Audience: I have challenge to all the anti-nuclear, pro-solar people. Why don't you funnel all your energy instead of trying to tear down the nuclear industry and build up the solar energy and make it a reality.

Kathy McCaughin: If we had available the resources from the federal government---

Audience: It's important to realize that the NRC has complicity with Commonwealth Edison and the Zack Company for instance in hiding some very bad defects in quality assurance documents at that plant. Now what I think is important to remember here is that they are showing a lot of contempt for the very rules and regulations which supposedly are taking care of our health and safety and that of our children!!

Phil Donahue: Briefly, sir.

Audience: Yes. You've asked the question several times, Phil, what's being done with high level radioactive waste. The French have been routinely disposing of such wastes since 1957 with American technology that we have developed and have sold to other countries.

Phil Donahue: You're satisfied that we are able to do this without---

E. Linn Draper: Absolutely.

Phil Donahue: And there's no going to be a bulldozer at some future date going to unearth anything?

E. Linn Draper: No.

Richard Udell: Untrue.

Audience: I have very deep concern for this naturally with children and all that but my children are never even going to make it there. The finances today and everything we're not going to make it there. We're not going to have food because the electrical prices keep going up. I don't know how---

E. Linn Draper: The way to bring electric prices down is to build nuclear plants.

Audience: I'm not even worrying about a meltdown because we'll never make it.

Audience: Are we burying other countries wastes too?

Phil Donahue: Are we accepting waste from other countries?

E. Linn Draper: No, we are not.

Phil Donahue: Sir, briefly.

Audience: Okay, Phil, what I started to say awhile ago that we worry about all this money being spent for safety but what about everyday when we go out in our car. How much money---

Kathy McCaughin: That is an individual decision. That is not taking out the state of Pennsylvania.

Amelia Doherty: It's going to be an individual decision when you can't go to work too.

Audience: I have a comment for Mr. Draper. I think that Three Mile Island---you said you learned from your mistake with Three Mile Island. I think that was too big a mistake to make.

E. Linn Draper: It was certainly a costly mistake, there is no doubt about it.

Audience: (Applause)

Kathy McCaughin: Why were there 4000 accidents?

*****STATION BREAK*****

Phil Donahue: Well, we didn't say we were going to solve all the problems but it's your country. You've got eighty-three plants now licensed. What are the questions you want to ask? When was the last time you were at a public utility hearing? Will your rate go up? Is it true that in the long run this is in our best interest?

END OF SHOW

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La Salle power plant to get 2d NRC probe

By Casey Bukro

Environment editor

THE NUCLEAR REGULATORY Commission is launching a second special investigation into possible construction defects at the \$2.5 billion La Salle nuclear power plant, The Tribune learned Wednesday.

This time, the probe focuses on heating, ventilation and air conditioning work performed by Zack Co., 4610 12th Pl., Cicero.

Jan Strasma, an NRC spokesman, said the investigation beginning this week will examine quality assurance documents, welding and materials used in a multimillion-dollar heating and cooling system installed at the Commonwealth Edison Co. plant near Seneca, Ill. Special attention will be given to any defects in ventilating systems in the control room, which is supposed to function even during an accident.

"EVEN IF there is an accident at the plant," said Strasma, "the ventilation system of the control room has to be able to provide acceptable working conditions for people working there." Also, he noted that ventilation systems must be strong enough to withstand a serious shock, such as an earthquake.

Earlier this week, the NRC ruled after a special investigation that it found construction defects in the plant's concrete and in bolt-tightening techniques, but that the plant was safe for low-power operation.

The first reactor at the La Salle plant began operating June 21 for testing. A second reactor is expected to go into operation next year.

AN EDISON vice president, Cordell Reed, told The Tribune that the utility has inspected 100 percent of Zack's work since 1979 because of faulty work discovered that year. Typically, only about 10 percent of such work would be inspected to ensure compliance with quality assurance standards.

"We stopped work on the project for two months in 1979," Reed said, because of concerns over the quality of Zack's work, involving welding and certain records on the quality of the welding and materials used on the job.

"So much of its work did not pass our initial inspection that we just stopped it," said Reed. "We made them get their records in order, requalify their welders and, at one point, they replaced their quality assurance manager. If the welds were not up to our standards, we would ask them to do it again." The cost of redoing the work was borne by Zack, he said.

REED SAID IT is unusual for a utility to maintain vigilance over a contractor for such a long time, but added that Zack's work had improved since 1979 and is now considered acceptable.

"It has been acceptable; but not only that, work prior to 1979 was made right. We had them redo work that was not acceptable."

Paperwork for LaSalle nuclear plant probed

By George Estep

FEDERAL REGULATORS are probing "discrepancies" in a Cicero contractor's paperwork pertaining to components of the Commonwealth Edison Co. nuclear power plant in LaSalle County, a Nuclear Regulatory Commission spokesman confirmed Monday.

The NRC has withheld an operating license for the \$2.5 billion plant until the commission reviews the discrepancies and allegations of faulty welding in the plant's heating, ventilation and air-conditioning systems.

"We have not been able to determine that this

is a hardware problem," said Russell Marabito, regional NRC spokesman. "What we do want straightened out is the paperwork problem."

MARABITO EXPLAINED that the contractor, the Zack Co., 4600 W. 12th Pl., Cicero, keeps two sets of records on welding jobs: a quality-control report on welding work and a "shop copy."

"There are discrepancies in about 300 of 400 welding records," Marabito said, because jobs signed off by one person in one set of records are signed off by different persons in the other.

The commission noted the discrepancies in a document described as an "early notice of

events of possible safety significance."

Some of the jobs might have been done by one person and supervised by another, Marabito said. "Or there may be some other plausible explanation for it," he said. "Whatever it is, we want to hear more about it."

LAST TUESDAY the NRC voted not to grant the LaSalle plant an operating license pending a quality-control review by the commission. Marabito said the commissioners planned to review records that Zack officials promised to submit for review before this Thursday, when the com-

mission is to vote on licensing.

Meanwhile, Edison has said the delay in licensing will cost customers "millions of dollars" because of the higher cost of alternative power.

Questions about the plant's heating, ventilation and air conditioning were raised by two former Zack employees. They gave the NRC some company documents indicating that quality control had been deficient at the LaSalle plant and at two plants still under construction: an Illinois Power Co. plant at Clinton, Ill., and a Consumer Power Co. plant in Midland, Mich.

NRC delays license for Illinois nuclear plant

By LORIE SHANE
Daily News staff writer

The U.S. Nuclear Regulatory Commission Tuesday refused to grant a full power operating license to the LaSalle County Nuclear Station in Illinois until an investigation into alleged problems with a plant subcontractor is finished.

In a 2-2 informal vote, the NRC postponed until Aug. 5 a decision on letting Commonwealth Edison Co. begin full-power operation at the \$2.4 billion plant 60 miles south of Chicago.

The decision was called an "incredible victory" by an employee of the Governmental Accountability Project (GAP), the organization which has

Nuclear

charged there is "evidence of criminal falsification and quality assurance breakdown" at the LaSalle plant, the Consumers Power Co. nuclear plant in Midland and the Clinton nuclear plant, also in Illinois.

The claims involve the Zack Corp., a firm specializing in heating, ventilation and air conditioning systems, which supplied equipment to the three nuclear power plants.

NRC's Harold Denton, director of the Office of Nuclear Reactor Regulation, and James G. Keppler, director of the NRC Region III office in Illinois, had recommended to the five commissioners that a full power operating license be granted pending resolution of the Zack charges, according to Russell Arabito, an NRC Region III spokesman.

That would mean Commonwealth Edison would be granted the license now, but would not be able to move to 100 percent power until the Zack issues were resolved, Arabito explained Tuesday. The plant currently is authorized to move to five percent power.

Denton said chemical analyses of strut, brace and sheet steel samples used for the ventilation system should be completed before LaSalle is ready to go beyond five percent power in the next seven to 10 days.

NRC CHAIRMAN Nunzio Palladino and Commissioner Thomas Roberts supported Denton's recommendation to grant the license on the condition that the lab analyses are satisfactory to the agency's staff.

But Commissioners John Ahearne and James Asselstine said they wanted to review the analyses of the components before assuring that the plant poses no health or safety risk. Commissioner Victor Gilinsky did not attend Tuesday's

meeting.

"They're awaiting the results of our investigation into the HVAC (heating, ventilation and air conditioning) allegations. They want more information," Arabito said.

"GAP views that as an incredible victory," GAP employee Billie Garde said in a telephone interview Tuesday. "We took evidence from these little whistleblowers ... and brought it to commissioners on the eve of a plant being turned on ... It really talks about the power of telling the truth."

The whistleblowers Ms. Garde is referring to are four former Zack Corp. employees who have made claims that Zack officials attempted to cover up documentation problems related to safety-related materials sent to the three nuclear plants.

The workers have charged they discovered documentation deficiencies at Zack headquarters in Chicago, including missing and altered documents. They also have said they were

fired after reporting their findings to Consumers Power Co. officials at the Midland Project Quality Assurance Department.

GAP has offered legal representation to the four workers.

The NRC last week, after prodding by GAP, began an investigation of the ductwork supplied by Zack to the LaSalle plant. NRC officials have said the investigation may spread to the Midland plant.

MIDLAND PLANT SPOKESMAN Norm Saari of Consumers Power Co. declined comment on the LaSalle decision this morning, saying the company does not have details on the Zack case as it relates to the LaSalle or Clinton plants.

Consumers has said its internal investigation of the Zack Co. has so far shown that 81 percent of purchase orders made by Zack for materials used in the Midland plant are in proper order.

Saari also pointed out that the NRC's

April 20 Systematic Assessment Licensee Performance report gauges Consumers a "Category I" rating I support systems, which includes NVA Category I indicates "high level performance." The high rating was issued after the NRC had been told Consumers of its in-house investigation and problems with Zack documentation.

Asked how the commission's action relates to the Midland plant, Ms. Garde said "I think, ultimately, whatever happens at LaSalle, the biggest issue the Zack case is going to be Midland. What I see is trickle-down effect ... (I) we're going to have some real serious questions for the NRC."

Cordell Reed, a Commonwealth Edison vice president, complained that each day of delay is costing the utility electric customers about \$600,000 in higher fuel costs associated with burning coal as an alternative.

"We have no reservations in saying the plant is safe and should be licensed now," Reed said.

Calendar

TONIGHT

TEEN VOLLEYBALL, 6:30 p.m., West County Community Center, 4011 West Isabella.

FREE HEARING SCREENING, until 7 p.m., Orchard Drive Auditorium, Midland Hospital Center.

ROLLER SKATING, 7-9 p.m., Roll Arena, 2509 Bay City.

COMMUNITY CENTER, 2001 George: 7:30 p.m., Recovery Inc.; 7:30 p.m., VNA Couples.

MUSIC SOCIETY Presents, "The Sorcerer," 8:15 p.m., Little Theatre, Center for the Arts, 1801 West St. Andrews.

CHAIN SAW Safety Program, 7:10 p.m., 116 Conference Room, Dow Corning Corp., Saginaw Road.

YOUNG BUSINESS Peoples Group, Beat the Clock Night, until midnight, 316 Fournie.

PARENTS WITHOUT Partners Meeting, 8 p.m., K of C Hall, 228½ East Main.

GRACE A. DOW Memorial Gardens, 1710 West St. Andrews, Movie, "Unsinkable Molly Brown," 7 p.m., Auditorium.

PLANNING and DEVELOPMENT Committee, 7:30 p.m., Commissioners Boardroom, Courthouse, 301 West Main.

A.A. GROUPS, 8 p.m., Unitarian Fellowship Church, 6220 Jefferson, Averill School, Hope Road, Averill, and room 161, Western High School, 500 West Midland, Auburn.



Auburn woman sues government officials

By JAMES ISLER
Daily News staff writer

An Auburn woman, who said she was left with "no other choice," filed suit Tuesday against the city charging it with violations of the state Open Meetings Act.

Louise Adrian, 113 Grant, filed the suit in Bay County Circuit Court seeking a declaratory judgement against the Auburn City Commission and its Board of Zoning Appeals as well as exemplary damages of \$500 each from three appeals board members.

Mrs. Adrian said her attorney, William Street of Saginaw, had copies of the suit served on the appeals board chairman Joseph Vaillencourt and members Arthur Machelski and Raymond Kehrer Tuesday.

The suit is the latest round in a dispute ongoing since May 12, when Mrs. Adrian alleged the appeals board approved a zoning ordinance variance for her neighbor Lawrence Bannan, 111 Grant, at an illegal meeting.

member board at the meeting. The signed a letter delivered to them by Machelski's wife, city commissioner Anne Machelski, approving the variance.

The suit also alleges Vaillencourt told Mrs. Adrian, who was at the meeting that the variance issue would be "a hold." She said she later found out the variance was approved after she left the meeting and claims the letter from Machelski was not a legal vote.

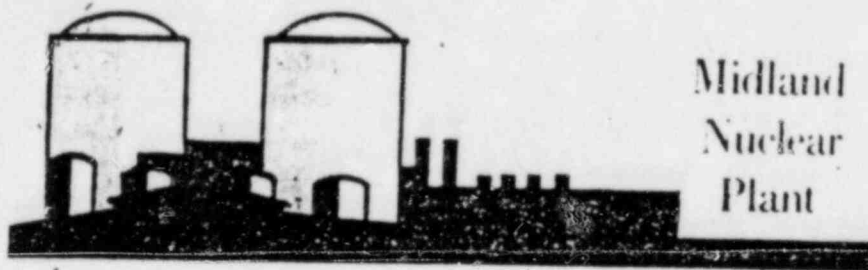
Such actions "were done willfully and with the knowledge that the manner in which the 'vote' was taken violated the rights of the plaintiff," the suit alleges.

A special hearing before the commission to investigate Mrs. Adrian's complaints ended with a vote of confidence for the appeals board members.

At that meeting, "the defendant further attempted to disclaim their involvement and their knowledge of the Open Meetings Act provisions, indicating a willful effort to cover up the

have been resolved. NRC spokesman Jan Strasma said many of the allegations made through Fahner and GAP were substantiated. "The affidavits they submitted contained information which was true, but it did not, with the possible exception of the torquing of bolts,

OH GAP and the Illinois attorney general, Tuscias said. "They haven't achieved any of their objectives of halting the plant or making it safer. All they have succeeded in doing is costing us money, which we'll pass along to our ratepayers.



Midland Nuclear Plant

Consumers Power Co., which is building the Midland nuclear plant, suggested that GAP's failure to have its LaSalle allegations proven is an indication of the effectiveness of GAP. But GAP says it may have lost a battle but not the war.

NRC launches new probe into Zack quality control practices

By PAUL RAU
Daily News staff writer

The U.S. Nuclear Regulatory Commission is beginning a new investigation today into allegations that the Zack Corp. falsified documents for safety-related equipment supplied to three nuclear plants, including the Midland nuclear plant.

Although the investigation will begin at the LaSalle nuclear plant in Illinois, it may spread to the Midland plant if warranted, according to NRC Region III spokesman Jan Strasma.

Consumers Power Co., which owns the Midland plant, today had no comment on the new investigation, which is the second probe of Zack's activities in two years. The utility said that it is aware of the allegations, but has received no notification from the NRC of an investigation.

A third plant, the Clinton nuclear plant in Illinois, also is involved. Zack, based in Chicago, supplied ductwork for heating, ventilating and air conditioning (HVAC) systems at those three nuclear plants in the NRC's multi-state Region III.

STRASMA SAID NRC investigators would visit Zack headquarters in Chicago today to study documents, and that other investigators would take samples of Zack-supplied ductwork and supports which have been installed at the LaSalle plant.

He said the samples would be analyzed to see if the metal they are made from meets NRC specifications for safety-grade nuclear plant components.

"There will be an investigation as it applies to Midland," Strasma said.

The NRC received allegations in May from a former Zack employee that Zack records were incomplete and inaccurate, Strasma said, but did nothing about the charges until now because other, higher-priority investigations were under way.

The allegations "were, frankly, placed on hold because we didn't have the

bodies to look at them," Strasma said.

He said the NRC also believed the charges involved only the Midland nuclear plant, and did not learn that the LaSalle and Clinton plants are involved until the Government Accountability Project (GAP) mentioned that fact recently.

"(GAP official) Billie Garde's comment caused us to go back and look at the information," Strasma said.

He said the new probe is beginning at the LaSalle plant because it is loaded with nuclear fuel and nearly ready to operate.

An NRC investigation of Zack in 1980 resulted in a finding of multiple violations and a \$38,000 fine for Consumers, which is responsible for all work done by subcontractors. Zack was prohibited from working on safety-related systems at the Midland plant until its work was inspected and its welders retrained.

STRASMA SAID the new allegations add to Zack's spotty record as a nuclear equipment vendor.

"It is quite clear that Zack is at three construction sites in Region III, and that there have been problems with their work at all three sites," he said.

But he said it is not yet clear whether anything is wrong with the material Zack has supplied to the three nuclear plants. He said it could be only a paperwork problem.

Nuclear plant ductwork in many cases is made of the same commercial-grade metal used elsewhere in the construction industry. But if the ducts are meant for safety-related nuclear plant systems — such as ventilation for control room operators — then federal codes require that vendors certify that the materials meet specifications.

Control room ductwork is especially critical at the Midland plant, where operators may have to be protected from accidental releases of toxic materials from the nearby Dow Chemical Co. plant.

"The fact that you have records which on their face are questionable does not mean the system is going to fail," Strasma said, noting ductwork is not subjected to high pressures.

CONSUMERS SAID its reviews show no problems with ductwork in the Midland plant supplied by Zack. "We're confident that HVAC systems at this plant will be built to the necessary specifications and will be operated safely," said plant spokesman Norman Saari.

He noted that the NRC's latest evaluation of construction quality at the Midland plant gave Consumers high marks for work on the HVAC systems.

Blind man killed after shooting

KALAMAZOO (AP) — A man who was blinded by a shotgun blast four years ago shot and wounded a female bank employee before being slain by police, authorities reported today.

Kerry Lorenzo Little, 21, of Kalamazoo, on Wednesday stepped into the bank with the aid of a white walking cane and asked for Patricia Shipley, 27, a supervisor at a branch of the American National Bank in Kalamazoo.

Authorities say he went into Ms. Shipley's office and shot her once in the abdomen.

Two police officers answering a silent alarm spotted Ms. Shipley, bound and gagged, lying on the floor of her office with Little standing nearby with a gun in his hand.

He fired at the police officers when they told him to surrender. The officers fired three shots at Little, striking him once in the chest. He died at Borgess Medical Center in Kalamazoo.

Police say he was blinded by a shotgun blast in 1978 in a case of mistaken identity.

GAP charges dismissed at Illinois nuclear plant

By PAUL RAU
Daily News staff writer

Allegations made by the Government Accountability Project (GAP) and others about unsafe conditions at the LaSalle County Nuclear Station in Illinois were dismissed by the Nuclear Regulatory Commission Monday.

Although a three-month NRC investigation substantiated some of the charges, particularly those made by GAP, the agency decided none had the potential to compromise the plant's safety.

LaSalle Unit 1, the first to be completed, can now be tested up to 5 percent of full power, the NRC said.

Commonwealth Edison Co., the utility building the LaSalle units, said GAP's involvement at the nuclear plant has not made the plant any safer and has succeeded only in costing Illinois ratepayers more money.

"As far as we're concerned, GAP has a credibility gap," said Commonwealth spokesman James Toscas.

And Consumers Power Co., which is building the Midland nuclear plant where GAP also has sparked an NRC investigation into construction problems, suggested that GAP's failure to have its LaSalle allegations proven is an indication of the effectiveness of the whistleblower protection group.

Consumers spokesman Norman Saari said GAP was "blown out of the water" at LaSalle, and that Midland residents should be aware of the LaSalle story while the NRC's investigation gets underway into GAP's allegations about the Midland nuclear plant.

But GAP says it may have lost a battle but not the war, and that other GAP nuclear plant investigations have hit similar snags before the group's allegations were substantiated.

"Consumers should understand the significance of a temporary setback because they've suffered so many," said Louis Clark, GAP's executive director. "No one here has a sense of defeat."

THE FIRST allegations of unsafe conditions at LaSalle were made March 25 by Illinois Attorney General Tyrone Fahner, who contended — based on allegations made by former LaSalle workers — that extensive drilling into the concrete containment structures had severed so many steel reinforcing bars (rebars) that the containments were seriously weakened.

Then on April 27, GAP entered the case by disclosing a new series of allegations in notarized affidavits from plant workers. The NRC, which already had given approval for 5 percent operation at LaSalle Unit 1, rescinded that approval pending resolution of both sets of allegations.

Monday, the NRC said all the charges have been resolved. NRC spokesman Jan Strasma said many of the allegations made through Fahner and GAP were substantiated. "The affidavits they submitted contained information which was true, but it did not, with the possible exception of the torquing of bolts,

represent any serious technical or safety problems," he said.

After the NRC verified that a subcontractor had falsified records of torque wrench calibrations, 6,000 bolts on safety-related valves in the LaSalle containment building were checked for tightness. Five were not tightened properly, including some that could be turned by hand, Strasma said.

Other than that, none of the allegations resulted in work that would make the plant safer, Strasma said. He said the NRC found one non-compliance in the LaSalle security program, but that it would not result in a fine.

Examples of allegations that were found to be true but discounted included charges that the LaSalle reactor building had settled, voids existed in concrete reactor pedestals, concrete contains debris, the plant's auxiliary building wall is leaking, and that instruments were sabotaged in 1979.

GAP officials said the NRC admitted at a Monday meeting in Illinois that drilling into the concrete LaSalle containment apparently had severed or damaged 3,898 steel reinforcing rods in the concrete — more than half of the rebar in the Unit 1 containment.

Rebar is intended to strengthen the concrete containment buildings which house reactors at nuclear plants, and to provide protection from wind-driven objects during a tornado.

"They substantiated that 50 percent of the rebars were severed. To us, that's significant; to them (the NRC), it's not," said GAP's Clark.

The NRC's Strasma, who attended the meeting Monday but was not present when the rebar numbers were discussed, questioned whether the Unit 1 containment has only 7,600 steel reinforcing bars. "But whatever the numbers are, they're acceptable," Strasma said of the damaged rebars.

COMMONWEALTH EDISON'S
Toscas was bitter about GAP's involvement in precipitating the NRC investigation at LaSalle.

He said CE was ready on June 2 to test LaSalle Unit 1 past the zero power level, but couldn't because of the NRC probe. The resulting 18-day delay in the testing schedule will cost CE \$10 million in replacement power costs if they delay cannot be made up between now and September, when full operation is expected, Toscas said.

And he said the Illinois utility incurred \$300,000 to \$500,000 in expenses while complying with the NRC investigation, including running a computer analysis, drilling into concrete and in one case tearing a wall down.

"We actually damaged the plant to prove to them it was built right. It was ludicrous," Toscas said.

Of GAP and the Illinois attorney general, Toscas said, "They haven't achieved any of their objectives of halting the plant or making it safer. All they have succeeded in doing is costing us money, which we'll pass along to our ratepayers."

"If we're fortunate, we might be able to make up that 18-day delay. But if there was no delay, that would have been money in the bank for us," Toscas added.

Toscas also told a reporter to "be aware" that GAP is an arm of the Institute for Policy Studies. "IPS is a left-wing, radical think-tank that has sponsored anti-corporate activities, so they have objectives beyond a concern for the safety of the plant," he said.

Toscas said he does not believe that the LaSalle workers who made the allegations had ulterior motives such as halting the project. "They saw things, and didn't understand what they were looking at. But as you go up the ladder, you get a better perspective of the motives. (GAP) is not just a little, innocent group concerned with the safety of the plant," he added.

While individual GAP officials have admitted to having an anti-nuclear bias, the group says its sole aim is to see that the NRC enforces the Atomic Energy Act properly. GAP and IPS both insist that the parent organization exerts little control over GAP's activities.

"It's just a red herring," Clark said of Toscas' charge that GAP is controlled by ideologies espoused by IPS. He said the Washington School, an educational program run by IPS, "has taught corporate officials how to lobby. The course was taught by a Reagan supporter, a supply-sider."

"The institute is a diverse place. It's not possible to put a fix on the institute," GAP's Clark said.

Clark said GAP's goal is not to increase the cost of the LaSalle plant, but to make it safer. "I don't know that the plant is any safer as a result of what happened, but we're not done yet," he said.

Clark and Billie Garde, a GAP employee who is involved with both the Midland and LaSalle probes, said GAP is convinced the NRC's LaSalle investigation was not thorough enough and thus GAP may object to some of the conclusions. "Believe me, we're not done with that at all," Clark said.

Strasma said the NRC now has "greater assurance" that the LaSalle plant is safe. "It withstood a great deal of inspection and surveillance over the last several months without finding much of anything," he said.

The LaSalle plant, 80 miles southwest of Chicago, was supposed to cost \$670 million when work began in late 1973. Its cost is now projected at \$2.37 billion.

Consumers Power Co., which is building the Midland nuclear plant, suggested that GAP's failure to have

Fired Zack workers claim coverup in quality control

By PAUL RAU
Daily News staff writer

Four former employees of the Zack Corp. have charged that the nuclear plant vendor attempted to cover up a widespread breakdown in documentation for safety-related components supplied to three nuclear plants, among them the Midland nuclear plant.

The four, who went public with their allegations on a Chicago television station Thursday night, claim they were fired from their jobs in Zack's Quality Assurance (QA) documentation section after they reported the breakdown to Consumers Power Co. officials at the Midland plant.

Documents indicate Consumers became aware of the QA breakdown in an October 1981 report from Zack, but decided against reporting the problems to the U.S. Nuclear Regulatory Commission.

The NRC, which became aware of the problems at Zack in May of this year, took no action until this week after being prodded by an official for the Government Accountability Project (GAP), which has offered legal representation to the four former Zack employees.

The NRC began an investigation Thursday at the LaSalle nuclear plant in Illinois to see if ductwork supplied by Zack meets federal codes, and the agency said the probe may spread to the Midland plant.

THE FOUR persons, all of them new in the nuclear field, were hired by Zack around October 1981 to clean up, as one of the four put it, a "horrendous mess" of documents at Zack's headquarters in Chicago. Specifically, they said they were to create a filing system and to group purchase orders with certifications showing that the materials sold by Zack to the three utilities were suitable for use in nuclear plants.

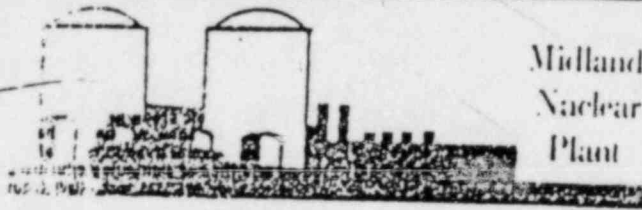
What they found, two of the four said, was that many documents were missing and that thousands more had been altered, retyped, whited-out or otherwise falsified by other Zack employees before the QA documentation section was created to deal with the problem.

Shortly after the persons reported the problems to Consumers through the Midland Project Quality Assurance Department (MPQAD), the entire four-person documentation team was dismissed by Zack on April 23.

The official reason was "departmental reorganization," but the four claim they were fired in reprisal for attempting to correct Zack's massive paperwork problems. At least one of them, the father of 10 children who is now out of work, said he is considering filing suit against Zack.

The four are Albert T. (Terry) Howard, Sharon Morello, Mark Cioioni and Charles Grant. All live in the Chicago area and were featured in a special television report broadcast Thursday night by Chicago's channel 3, an affiliate of NBC. The report, broadcast only in the Chicago area, is to be continued tonight. A producer at the station said the report may be picked up by NBC for national airing.

The information in this article was



Midland Nuclear Plant

compiled from a notarized affidavit sworn to by one of the four employees. Daily News telephone interviews with that person and some of the others in the group and a variety of documents that apparently passed between Zack, Consumers, Bechtel Power Corp. and vendors that supplied materials to Zack. Copies of the latter documents were obtained by the four whistleblowers and given to the Daily News by GAP.

GAP, which protects and represents persons who blow the whistle on fraud and abuses, said it cautioned the four that going public with their allegations could jeopardize their careers. But GAP said they decided to speak out due to the magnitude of the problems they found at Zack.

HOWARD, 48, the father of 10, said in his affidavit, "It is intolerable to my conscience as a father, a citizen and an employee to let problems of this magnitude go unexposed."

He said that because some materials ordered by Zack did not meet federal specifications, the installation of ductwork in the three nuclear plants may have "critical implications for the health and safety of residents in the surrounding three communities." Those are Midland, Geneva, Ill., in the case of LaSalle and Clinton, Ill., for the Clinton nuclear plant.

"I am committed to exposing the full extent of this fiasco until these nuclear plants are entirely rechecked and certified as safe by trustworthy, independent third parties," he said.

Shortly after the QA documentation section was formed, Howard said, he was installed as its supervisor. He said that at best, the activities of his group were a "paperwork shuffle" to keep the NRC from realizing the "horrible extent" of Zack's documentation breakdown. At the worst, he said the falsified documents may represent a criminal coverup by Zack.

Submitting falsified documents to a federal agency, such as the NRC, is a violation of federal law. Neither the NRC nor any other law enforcement or regulatory agency has concluded that such violations were committed by Zack.

In 1981, a similar case involving Zack was nearly sent to the U.S. Department

of Justice for criminal prosecution. NRC officials said then that paperwork violations had been committed, but that the case was not strong enough to warrant the Justice Department's attention.

Howard said in his sworn statement, which is to be sent to the NRC, "It is a fact that the history of the Zack Corp. in nuclear contracting is full of mistakes, bungle and felonious misstatements related to material traceability, material certification, vendor certification, qualification of quality control personnel and most importantly, the purchase and supply of hardware used in the construction of nuclear facilities."

HOWARD SAID the first step in the Zack "coverup" began in-house before the QA documentation section was formed, and in addition to other alterations included forged "stickers" applied to material certifications.

In a telephone interview, Howard refused to name the Zack personnel who did the forging and alterations other than to say the persons are in "upper management." He said, "We know who it is, but we did not find it necessary to put a finger on them. The Justice Department will take care of that."

The next step in the coverup, Howard said, was an effort to correct altered or missing documents by sending letters to various vendors asking them to certify that materials they supplied to Zack were suitable for safety-grade nuclear plant systems.

Some vendors never answered. One which did said Zack had not ordered safety-grade components in the first place.

In a letter dated Sept. 21, 1981, U.S. Steel Supply, a division of the U.S. Steel Corp., gave this reply to Zack: "These orders were not called in to our salesperson as 'Safety Related.' Therefore, they were handled in our normal procedure and not run through our V&T (verification and testing) program. Please advise us what is meant by the term 'Safety Related' and what obligation if any does this impose on the supplier."

The letter indicated U.S. Steel Supply had sent Zack 26 orders of materials between December 1980 and May 1981.

DOCUMENTS SHOW that on Oct. 22, 1981, Zack notified Consumers that the paperwork problems were potentially reportable to the NRC under part 30.55(e) of the Code of Federal Regulations. The report began, "There has been a breakdown of the quality assurance program" for document control.

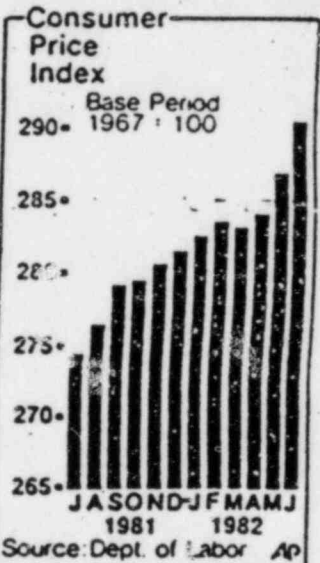
Federal regulations require that utilities building nuclear power plants report any significant deviations from federal codes to the NRC.

Zack said in the report that "unauthorized personnel" had gained access to the documents and made "improper modifications." Zack said in the report, "These errors and

Continued on page 3



RESIGNED — Murray Weidenbaum, chairman of the President's Council of Economic Advisers, has resigned. Story, page 12.



CPI UP — Consumer prices, spurred by a big jump in gasoline costs, increased in June, the government said today. Story, page 12.

Six killed in plane collision

MERCER ISLAND, Wash. (AP) — Two small planes collided with a "loud, metallic crash" over this island suburb, killing six people as they crashed near a freeway and scattering debris through-

Consumers rechecking Zack documentation

By PAUL RAU
Daily News staff writer

Consumers Power Co. said today that its own investigation of document deficiencies at the Zack Co. has so far shown that 81 percent of purchase orders made by Zack for materials used in the Midland nuclear plant are in proper order.

Consumers said it began its in-house investigation in late August of last year, and that the check will continue until all of the Zack purchase orders are documented properly.

Plant spokesman Norman Saari said Consumers notified the U.S. Nuclear Regulatory Commission last fall of the disarray in documentation at Zack's

appropriate action to resolve them," the statement concluded.

Saari noted the the NRC's April 20 Systematic Assessment of Licensee Performance (SALP) report gave Consumers the highest mark for taking "aggressive action" to resolve past problems with Zack's work at the Midland plant.

In January 1981, the NRC fined Consumers \$38,000 for quality assurance (QA) deficiencies in Zack's work in installing heating, ventilating and air conditioning (HVAC) systems at the Midland plant.

Since then, the NRC said in the SALP report, Consumers' aggressive action in

Thatcher: No vote very soon

LONDON (AP) — Prime Minister Margaret Thatcher has ruled out an early general election, saying her Conservative government needs at least 12 more months in office to implement its economic policies.

Fired Zack employees charge n-plant quality control 'coverup'

Continued from page 1

inconsistencies made the material certifications suspect and, by implication, the material suspect."

Zack wrote that its personnel involved in the alterations "are loyal employees and while their actions are not condoned, it is understood that it was done with the thought that it was helping the company." Zack said it reprimanded the employees by demoting them and putting critical letters in their personnel files.

But Howard claims that, to the best of his knowledge, none of the persons responsible for altering the documents was ever demoted.

ON NOV. 3, 1981, a meeting was held at the Midland nuclear plant to discuss the Zack QA situation as described in an October report from Zack. Attending were officials for Consumers, Bechtel, MPQAD and Zack QA. According to the minutes of the meeting, Zack was asked to elaborate on the positions taken by the other two utilities to which Zack had reported its document problems.

Three utilities — including Consumers — received Zack reports on the QA breakdown. Of the three, Commonwealth Edison, owner of the LaSalle nuclear plant, determined the problems should be reported to the NRC. Illinois Power Co., which owns the Clinton nuclear plant, did not send a 50:55(c) report on the problems to the NRC.

According to minutes from the Midland meeting, it was agreed that "in virtually all cases, material is acceptable or will be deemed acceptable. There is not special material involved and the major issue is certification and/or proof. In worst cases, additional testing may be required." Consumers did not file a

50:55(c) report with the NRC.

IN LATE 1981, Howard said, he and his team began to be harassed and intimidated by Zack management because they refused to cover up the document problems.

He said he had a meeting in February with David Calkins, who was then head of Zack's QA department, and told Calkins the document problem still was not under control.

Another meeting followed on March 8 with Christine Zack DeZutel, the president of Zack Corp. Howard said Mrs. DeZutel assured him Zack would not interfere with the work of his department.

On April 13, Howard said, Hank Leonard of Consumers' MPQAD promised him protection and confidentiality if Howard's team would report the document deficiencies through the MPQAD investigatory system. Howard said he did so on April 15.

Leonard then flew from Midland to Chicago and conducted a two-day investigation. Howard said Leonard pledged that the integrity of the QA program would be maintained, but that instead, his team again began receiving oral assaults from Zack management.

Howard said that on April 29, he was fired along with the rest of his team, Ms. Morelio, Cioioni and Grant.

"We were obviously canned because we knew too much. We were retaliated against. Their excuse was a departmental reorganization, which means they just hired four replacements. That's exactly what they did," Howard said.

He said the dismissals were a risk Zack took. "They had done it in the past and were successful. They thought we would just walk away. We are not ones to mess around with like that without just cause," Howard said.

Howard said he is contemplating suing Zack. "I don't know what a good lawyer would ask for in damages, but I will show no mercy. What they did to me and

my family is unforgivable," he said. He said Thursday he still is out of work, and now has no medical insurance for himself or his family.

Howard, of Massachusetts, said he is a retired teacher with 25 years experience as a principal, assistant principal, special education teacher and science teacher. He also owns a real estate consulting firm which one of his daughters is now running.

He said he took the job with Zack at Calkins' urging because he wanted to change careers.

EVER SINCE GAP began an investigation of the Midland nuclear plant this spring, Consumers has claimed that GAP's probe is not needed because the in-house MPQAD system and the NRC offer workers all the avenues they need to resolve their complaints about construction problems.

But Howard said in his affidavit, "... my personal experience dictates that action would be personally disastrous for any other employee who wishes to notify MPQAD of serious problems.

"It has been a sobering education to realize that the information I brought forward in good faith because I was concerned about the safety of my fellow Americans in Michigan and Illinois has led to incredible financial hardship for my family.

"What is even more sobering is to accept that the Nuclear Regulatory Commission has received all of the information concerning Zack, including evidence, and has failed to act on it," Howard concluded.

The NRC says it received allegations about Zack's document situation on May 3, but did nothing about the charges because other investigations were more important.

When GAP official Billie Garde pointed out the significance of the information the NRC already had received from the former Zack employees, the NRC began an investigation of Zack on Thursday.

Dress-up week set at playgrounds

The week of July 26 has been designated as "dress-up week" by the City playground program. Daily themes have been chosen and children may dress up to correspond with them if they like. The daily themes are: Monday, 1890's Day; Tuesday, Western Day; Wednesday, Backway Day; Thursday, Punk Rock Day; and Friday, Leader-Look-A-Like Day.

On Monday, the playgrounds will take a trip to Stratford Woods for a hot dog cook-out from 11 a.m. to 3:30 p.m. Children are to bring a sack lunch including a hot dog bun and something to drink; the city will provide one hot dog

Midland man is found innocent in arson case

A Midland man was declared innocent by reason of insanity on a charge of arson to a residence in Midland County, according to Midland County Circuit Court records.

Garth R. Jacobson, 36, 1410 Maryland, was ordered to enter treatment in a local hospital after being declared innocent during a non-jury trial recently. He was

Courts

years in Jackson State Prison, 140 days credit for time served, in connection with the

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The Midland Daily News - 7/23/82

Consumers rechecking Zack documentation

By PAUL RAU
Daily News staff writer

Consumers Power Co. said today that its own investigation of document deficiencies at the Zack Co. has so far shown that 81 percent of purchase orders made by Zack for materials used in the Midland nuclear plant are in proper order.

Consumers said it began its in-house investigation in late August of last year, and that the check will continue until all of the Zack purchase orders are documented properly.

Plant spokesman Norman Saari said Consumers notified the U.S. Nuclear Regulatory Commission last fall of the disarray in documentation at Zack's Chicago headquarters. He was not sure of the exact date, but said the notification occurred in late August or early September 1981.

Saari also confirmed that Consumers did not file a 50:55(e) report with the NRC on the document problems, although one other utility — Commonwealth Edison Co. — determined that the same Zack document problem was reportable at the LaSalle nuclear plant in Illinois.

Consumers declined comment on why it felt the situation was not reportable under 50:55(e) of the Code of Federal Regulations.

Saari said the utility's report to the NRC came from the Midland Project Quality Assurance Department (MPQAD) and was in the form of a Management Corrective Action Report, which details a utility's efforts to resolve a problem.

CONSUMERS ISSUED the following corporate statement today:

"Consumers Power Co. has received several inquiries regarding recent allegations concerning the job records required to be kept by the Zack Co. for work being performed at Midland. As has been previously reported, the entire Zack quality assurance program has been under intensive review and revision for several years with regard to Zack's records.

"A Corrective Action Report issued Aug. 28, 1981, by the Consumers Power Quality Assurance Department has been fully investigated and thoroughly documented.

"To date, the documentation on some 81 percent of 900 Zack Co. purchase orders has been reviewed and found to be acceptable. The investigation is continuing on the remainder of the documentation and will continue until all records have been verified as acceptable.

"We believe this is an excellent example of the effectiveness of the on-site quality assurance program to discover discrepancies and take

appropriate action to resolve them," the statement concluded.

Saari noted the the NRC's April 20 Systematic Assessment of Licensee Performance (SALP) report gave Consumers the highest mark for taking "aggressive action" to resolve past problems with Zack's work at the Midland plant.

In January 1981, the NRC fined Consumers \$38,000 for quality assurance (QA) deficiencies in Zack's work in installing heating, ventilating and air conditioning (HVAC) systems at the Midland plant.

Since then, the NRC said in the SALP report, Consumers' aggressive action in controlling Zack's quality programs has resulted in "marked improvement in the control of the HVAC installations."

SAARI HAD no comment on other aspects of the allegations made by the four persons fired by Zack in late April. He said he did not know why they were fired.

"It is Consumers Power policy that we will not comment on personnel matters related to people not in the employ of Consumers Power," he said.

Zack official David Calkins, who hired the four persons to manage Zack's QA documentation section, did not return a Daily News telephone call.

A Zack employee reached by telephone today said Calkins is the only person who can comment on the situation.

Hank Leonard, Consumers' section head for HVAC work within MPQAD, was in a meeting this morning and unavailable for comment, Saari said.

The four former Zack employees claim they were fired about two weeks after they reported the documentation problems to MPQAD and Leonard, who reportedly offered them confidentiality.

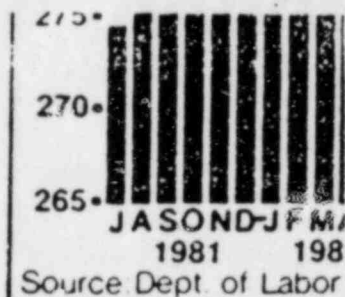
Saari confirmed that Leonard did offer the use of MPQAD to help the four persons resolve the document problems.

One of the four, Albert T. Howard, the former supervisor of the Zack QA documentation section, said he would advise other workers not to report problems to MPQAD because the results were "personally disastrous" for him.

Saari said, "I don't know who Mr. Howard is, but I think his comments are inappropriate. The facts carry out that MPQAD has been doing an excellent job."

He added, "What we are committed to doing is to ensure the safety of the HVAC systems through an appropriate construction program, an appropriate QA overview, an appropriate testing program and an appropriate preoperational program."

Saari said Zack is continuing its work as a subcontractor at the Midland plant, and that it is at full force with about 175 workers.



CPI UP — Consumer 1 spurred by a big jump in gasoline costs, increased in June, the government today. Story, page 12.

Six killed in plane collision

MERCER ISLAND, Wash. Two small planes collided with a "metallic crash" over this island killing six people as they crashed into a freeway and scattering debris out two neighborhoods, authorities said.

No one on the ground was injured. John Schwartz, a deputy fire chief for this island in Lake Washington, said the dead aboard the 172 Skyhawk II were believed to be two men, two women and a child.

Another man died in the second crash, which crashed in the yard of about three-quarters of a mile. The man was pulled alive from the wreckage but pronounced dead on arrival at Overlake Hospital in Everett. Identities were being withheld for notification of relatives.

The National Transportation Safety Board was investigating the collision.

Officer wounded two arrested

MELVINDALE (AP) — Two men faced arraignment today in the slaying of a 41-year-old Melvindale police officer following a service station shooting in suburban Detroit, authorities said.

The wounded officer, Richard Waha, was in critical condition early this morning at Oakwood Hospital in Dearborn, hospital spokesman Waha said.

Green was taken to surgery about 15 minutes after the shooting late Tuesday afternoon with a gunshot wound to the abdomen and a hand injury. He underwent intensive care unit after 3½ hours of surgery, in which a portion of the officer's bowel and two fingers were removed, Waha said.

The incident began when two men robbed a Melvindale gas station with about \$100, Melvindale police Kasper Ohannasian said.

Green, who was alone in a patrol car and unaware of the robbery, stopped after he stopped the getaway car for a routine traffic check, Ohannasian said.

The men, whose names were withheld, were arrested a short time later at an adjoining Dearborn based on information, according to Dearborn Detective Sgt. James Sarb.

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NRC probing for fraud in nuke plant records

'Whistleblowers' question quality control

BY DAVE SEDGWICK
News Staff Writer

A subcontractor at Consumers Power Co.'s Midland Nuclear Plant project may have built safety-related equipment with substandard materials, and the Nuclear Regulatory Commission is investigating the firm for possible fraud.

The target of the probe is Zack Co., a Chicago firm which builds heating, ventilation and air conditioning equipment for three Midwestern nuclear plants.

"We have indications of possible forgery of documents," said Jan Strasma, a spokesman for the NRC's Chicago office.

The NRC wants to determine whether Zack is guilty of "fraud,

false information, incomplete information and forging of information," Strasma said Thursday.

The News has obtained copies of documents which indicate that Zack repeatedly failed to keep track of the quality of its raw materials in 1981. The ventilating equipment is important because it must supply clean air to the control room in an emergency.

The NRC requires Zack to keep accurate records of the materials used in that ductwork to prove that it meets standards for nuclear construction.

Consumers Power was aware last year that a Zack official had tampered with the records.

The utility decided not to make an official report to the NRC after re-

ceiving assurances that Zack would improve its record-keeping, said Hank Leonard, Consumers Power's quality assurance chief for heating and ventilation construction at the plant.

Leonard said he told an NRC inspector of Zack's record-keeping problems. NRC officials said they could not immediately confirm that.

The NRC launched its probe after four former Zack employees charged that the company hasn't solved record-keeping problems.

The workers, assigned to the records office at Zack's Chicago headquarters, were dismissed April 30. That was two weeks after one complained to Consumers Power about the records.

Zack would not discuss the dismissals when The News asked about them. The workers suspect they were fired for talking to Consumers Power.

Before the workers were fired, they copied reports and letters from Zack to Consumers.

Strasma said the NRC was "generally aware" of Zack's problems last year, although it did not act until recently.

Consumers Power officials say they are sorting through Zack's records at the construction site and that any unsafe ductwork will be replaced or reinforced.

Zack officials would not comment on the allegations.

Another Zack customer — Illinois Power & Light — has slapped a stop-work order on Zack, which is involved in construction at the power company's Clinton, Ill., nuclear plant site.

At the LaSalle plant in Illinois, the NRC had ruled that Zack's record-keeping problems were too minor to delay Commonwealth Edison's operating license. The NRC has reopened its probe of the LaSalle plant, Strasma said.

The four whistle-blowers — Albert T. Howard, Sharon L. Marelo, Mark Clone and Charles Grant III — took their case to the NRC in May.

In a phone interview with the News, Howard claimed the NRC downplayed their complaints, so the four decided to take their case to the media. A Chicago television station aired their story Thursday night and today.

This isn't Zack's first brush with the NRC — or with whistle-blowers. In 1980, former quality-control inspector Dean Darley publicly charged that Zack failed to correct faulty welds on its ductwork.

Zack had fired Darley after he was caught smuggling Zack documents from the Midland site.

ber, Howard became quality assurance supervisor — in effect, the chief clerk of Zack's documents department in Chicago.

The files were badly disordered, Howard said.

"The papers were all over the place — clumps stuffed in a safe, on desks and piles and piles in a conference room," Howard said.

Ms. Marelo confirmed Howard's account. "When I got there, it was just a big mess. The papers were piled into a vault," she said.

Howard and Ms. Marelo said they helped Quality Assurance Manager David Calkins sift through the files. Slowly, they managed to locate documents, and sent letters to suppliers seeking missing test reports, the former Zack employees said.

Zack engineers also tested some of the materials themselves, if the suppliers could not find their quality-test results.

The clerks began to notice irregularities in the files as they put them in order, they said.

Howard and the others said they did not witness anyone in the act of forging or tampering with documents.

But Howard said that after the records team had reviewed and stored documents, they would return to the files and find that information had been added.

Early this year, Howard dis-

Please see EMPLOYEE, Page A-2

Please see PROBE, Page A-2

'Whistleblower' says he didn't get reprisal protection

BY DAVE SEDGWICK
News Staff Writer

CHICAGO — A former Zack Co. employee has charged that Consumers Power Co. failed to protect him from retaliation after he blew the whistle on shoddy record-keeping practices.

Albert T. Howard, a former schoolteacher, was dismissed April 30 with three other workers — only two weeks after he told utility officials that Zack could not keep track of the quality of its materials.

Zack, which builds heating and ventilating equipment for the Midland Nuclear Plant Project, must keep records to prove its material meets federal standards.

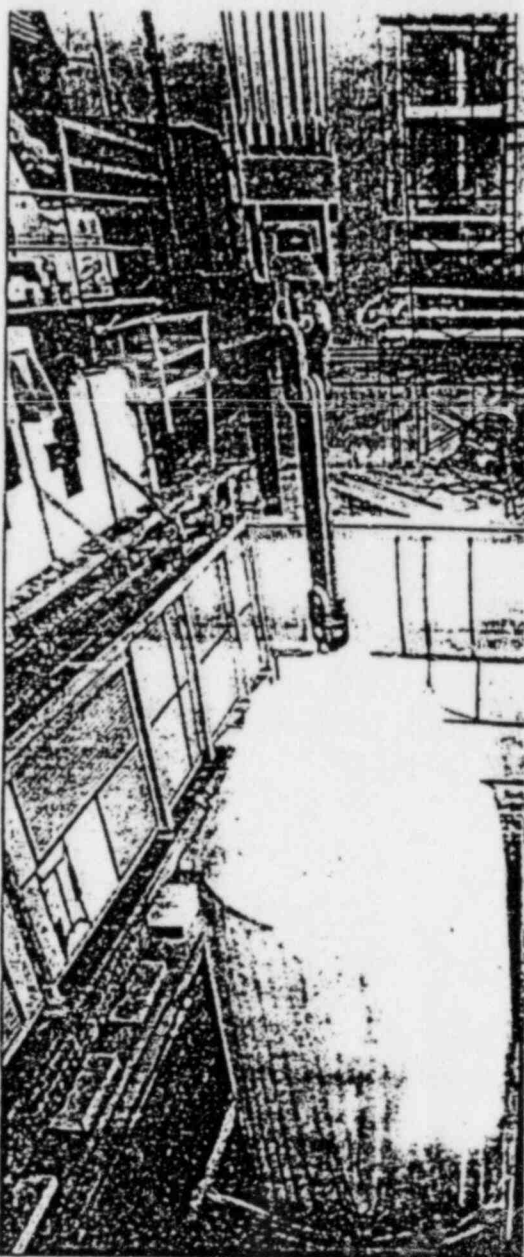
Howard insists he received spoken guarantees that the utility would protect him. "I wouldn't have done it otherwise," Howard told the News.

The utility has a policy that protects whistle-blowers, said Consumers Power spokesman Norm Saari.

"It is a clearly stated policy that an employee is protected against reprisal for making an allegation. We are not commenting on other personnel matters," said Saari.

In phone interviews with the News, Howard, Sharon Marelo and Charles Grant III all discussed their sudden dismissal from Zack. Mark Clone, another Zack worker who was dismissed, could not be reached for comment.

After Zack hired him last Octo-



Inside the nuclear plant

A shroud (foreground) protects a reactor at Midland Nuclear Plant, scheduled to go on line. Co. are visible on the far wall of the Commission is investigating Zack's record by Curt Leece)

Appeals judges kept cash from c

BY KAYE ROSS
News Staff Writer

LANSING — The library patrons of Saginaw today can thank the Michigan Court of Appeals.

Thursday, a three-judge panel ended a "War and Peace"-length legal battle by ruling that the Public Libraries of Saginaw are entitled by

law to a lot more money; have been receiving from District Court.

The appeals panel upbraided the library's victory in the suit which may have ramifications statewide.

The library system of Saginaw County Circuit 16, 1976, seeking a full

CALL NOT BOX

- increased taxpayer compliance reporting, enforcement and penalties.
- higher employer contributions to the unemployment compensation fund.
- modification of the controversial "safe harbor" tax leasing provision of last year's tax cut bill that permits unprofitable companies to sell their unused investment tax credits to profitable firms to reduce their tax liability.

PROBE

Continued from Page A-1

After a probe, the NRC fined Consumers Power \$38,000 for Zack's poor quality-assurance program. And in August 1981, Consumers Power reorganized its staff to tighten controls on construction work.

But documents show that Zack's quality-control problems persisted even after the NRC fine.

Federal regulations require a "paper trail" of documents to prove the reliability of materials used in nuclear plants.

For any material used for safety-related construction, inspectors must be able to trace each metal item back to the furnace in which it was created. Those documents must prove the part is "traceable," and also that it meets quality standards.

In June 1981, Zack hired David Calkins, a former Westinghouse employee, to put into order documents

in the company's Chicago office.

Calkins sent a progress report to the utilities Oct. 23. At that point, according to Calkins' report, he had reviewed about two-thirds of the documents.

His analysis revealed that:

- On some purchase orders, Zack failed to tell manufacturers that the materials would be used for safety-related work in nuclear plants.

- Zack had contacted those vendors and asked them to provide proof they properly tested their materials. But not all manufacturers could comply with the request. The report listed U.S. Steel as one example.

- A Zack official tampered with some documents so they would indicate proper test results, even though the proof was missing. Information was erased on some forms and handwritten additions were made on others, Calkins indicated.

- Some reports lacked the proper data to show materials had been chemically or mechanically tested.

The report described these altered documents as "serious from a programmatic nature," but asserted that they did not endanger the nuclear plants' safety.

Among other things, Calkins promised that Zack would offer its employees a training program on documentation. The company also would hire more workers to sort the records. Calkins added that "the responsible individual(s)" who falsified documents was identified and demoted.

Officials of the main contractor for the Midland project — Bechtel Corp. met with Consumers Power and Zack Nov. 3 to discuss Calkins' findings.

In a follow-up letter dated Dec. 21, a Bechtel official concluded that Zack's lack of test results for some materials posed little hazard to the nuclear plant.

But the four whistle-blowers apparently weren't so sure.

Howard told the News he had warned Zack management early this year that its record-keeping was shoddy. Howard, a former schoolteacher who joined the company in October, decided to take his case to Consumers Power.

With the support of his three co-workers, Howard made an official allegation to Leonard. Leonard told The News he made two trips to Zack's headquarters and ordered an audit of the records.

According to Leonard, the audit turned up no indications of fraud.

anyway. Currently, recipients can become eligible for Medicare benefits at the beginning of the month they turn 65.

The Senate also agreed to allow private insurance companies to become the primary health care provider for the working elderly, with Medicare as a back up insurance plan.

Patients who receive home health care for the first time would be required to pay for a portion of their medical services after the twentieth visit.

The Senate also agreed to changes in elective portion of Medicare coverage known as "part B," which recipients pay for through deductions in their monthly Social Security checks.

The monthly premiums would be set at 25 percent of program costs. The effect would be to raise the current monthly premium by about 10 cents to \$12.30 beginning Oct. 1, 1982, and more in the future years as program costs rise.

The largest single change in the Medicare reduction package would come from a hospital cost containment plan that would limit the annual increase in Medicare payments for three years until a major Medicare reimbursement reform package can be developed. That portion is projected to save

million benefits will receive slightly smaller checks as a result of the Senate bill, which requires the government to "round down" actual monthly benefit amounts to the next lower whole dollar.

The Senate already is being sent the second half of the legislation needed to implement the \$27.2 billion in spending cuts mandated in the 1983 budget resolution, which Congress approved last month.

The Senate Budget Committee Thursday approved and sent to the full Senate an omnibus bill containing \$12.2 billion in wide-ranging spending cuts over the next three years, \$1 billion more than was mandated in those areas by the budget outline.

Of the \$12.2 billion in cuts made in the bill, 70 percent come from limiting cost-of-living increases in benefit payments for federal retirees, both military and civilian, to 4 percent a year; eliminating scheduled increases in milk price support levels; and increasing Federal Housing Association mortgage insurance premium collections.

The House Veterans Affairs Committee, the only House committee so far to have met its budget targets, approved a measure Thursday that includes imposing a user fee — 0.5 percent or an average of about \$285 added to the closing costs of a

LIBRARIES—

Continued from Page A-1

libraries and law libraries.

When district courts were instituted, the judges acquired the power to set the amount of fees, fines and costs — and their subsequent allocation.

The libraries in Saginaw filed suit in 1976, claiming the judges had whittled away at their share of the pot, primarily by labeling more and more of the money taken in count as "costs" rather than "fines."

By 1979, the costs represented about 89 percent of the total assessed court patrons and fines had shrunk to about 11 percent of the total. In 1979, the libraries received just \$46,000 out of a total of \$414,800.

During a lengthy legal battle, the libraries fought for and won an "order of superintending control" — through which a Circuit Court judge could hear the case and overrule any decisions made by the lower bench.

To avoid prejudice, the case was transferred to 47th Circuit Judge Clair J. Hoehn. He heard evidence in a bench trial on Jan. 29, 1980, and issued an opinion in the libraries' favor April 13, 1980.

Hoehn ruled that the libraries were right in arguing that they should receive the bulk of all "civil-infraction" fines assessed in traffic cases.

He found that the constitution allowed the setting of fees and costs only high enough to directly compensate for the cost of each particular action.

EMPLOYEE

Continued from Page A-1

cussed record-keeping problems with company President Christine Zack DeZutel. Nothing came of the talk, said Howard. So in March, he approached a Consumers Power official to discuss Zack's problems.

Finally, he made an official allegation by phone to Consumers Power's Hank Leonard April 15. Leonard, a member of the power company's Midland Project Quality Assurance Department, visited Zack's Chicago office to investigate.

Leonard said he discussed the charges with Zack management, without revealing the whistle-blower's identity.

And Howard has admitted he mentioned his allegations to Calkins.

April 16, Mrs. DeZutel issued a blistering memo to the office workers, warning against any unauthorized use of documents. Two weeks later, said Howard, he and his colleagues were dismissed, with about two hours' notice.

Zack officials had no comment.

Bay YWCA hosts cheerleader units

Registrations for a three-day pom-pom and cheerleading camp may be made at the Bay County YWCA.

It will be held from 8:30 a.m. to noon Aug. 16-18 at 3405 E. Midland Road, Bay City. Karen Blazaitis, director of Mid-American Pom-Pom Inc., will conduct the program. There is open swimming after each day's session. The fee is \$17.

DEATH NOTICES

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Richard D. Wallace, 69, Saginaw.
James C. Kanary Sr., 72, Saginaw.

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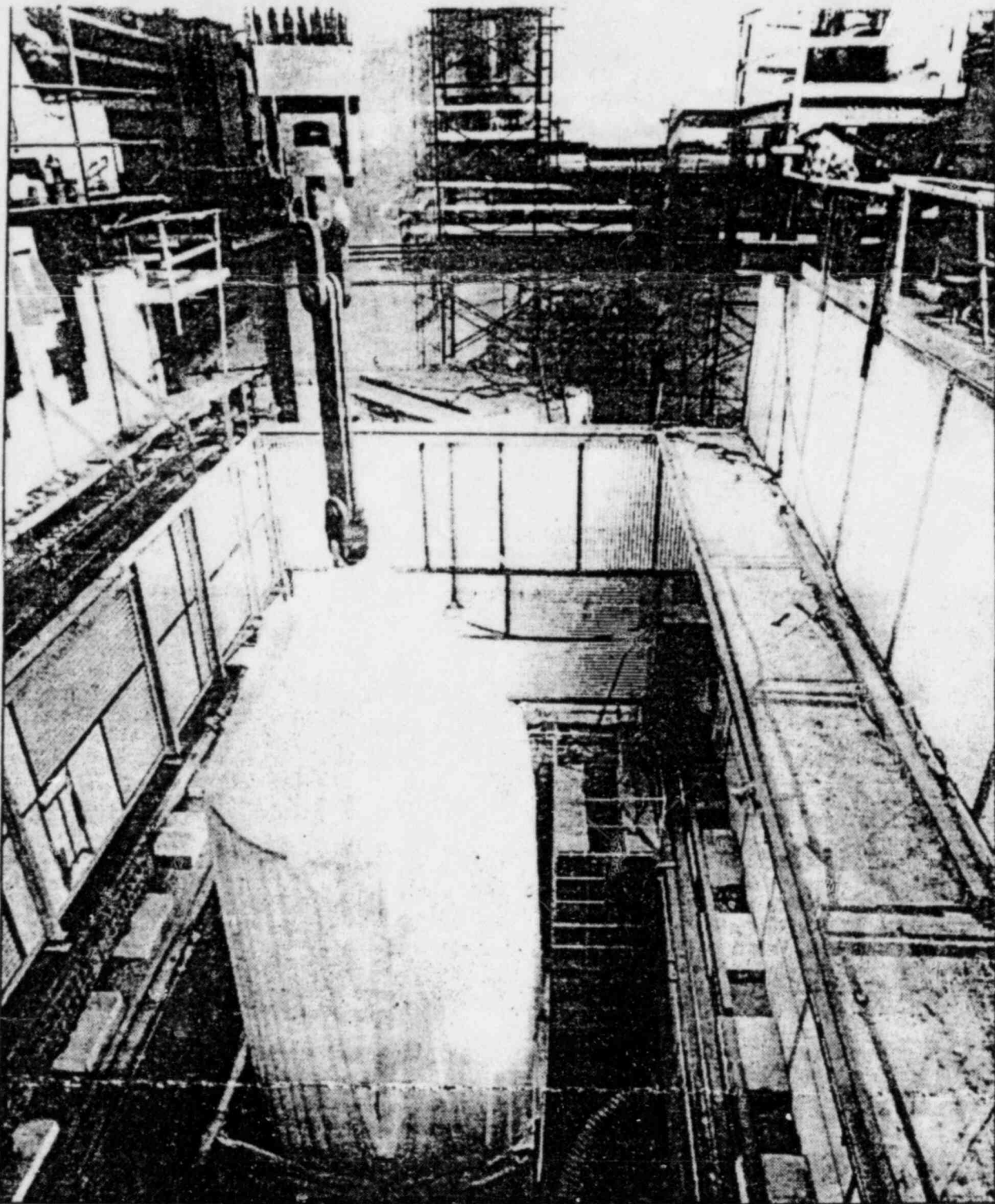
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Inside the nuclear plant

The Saginaw News - 7/23/82

A shroud (foreground) protects a reactor structure from contamination at the \$3.4 billion Midland Nuclear Plant, scheduled to go into service in 1983. Ventilation ducts built by Zack Co. are visible on the far wall of the containment building. The Nuclear Regulatory Commission is investigating Zack's records on materials used in the pipes. (News Photo by Curt Leece)

Appeals judges rule courts kept cash from city libraries

BY KAYE ROSS

law to a lot more money than they that the District judges had made a

La Salle nuclear plant gets new safety probe

By Barbara Shulgasser

Anti-nuclear activists won a small battle last week in the war to prevent the opening of Commonwealth Edison Co.'s La Salle nuclear plant, one of three plants the utility is building in the face of declining growth in power needs.

Edison officials expect La Salle, located 60 miles southwest of Chicago, to start producing power in September and say delays would cost about \$600,000 a day—costs that would be passed on to consumers.

The U.S. Nuclear Regulatory Commission on Tuesday postponed awarding the \$2.5 billion La Salle plant a full operating license to allow further investigations into allegations first raised four months ago.

Critics prompted the renewed investigation by claiming that quality control used in the heating, ventilation and air-conditioning systems was faulty.

The NRC already had completed one investigation into allegations by workers that thousands of holes drilled into concrete weakened the structure that holds the reactor in place. Workers also said concrete in the containment building was full of gaps.

An NRC report July 19 concluded these claims either were untrue or did not affect safety. The plant already

had loaded nuclear fuel and was operating at zero power for testing. After the first investigation, the NRC granted permission to go to 5 percent power.

The current investigation will examine allegations by employees of the Zack Co., of Cicero, who say workers falsified documentation on the quality of materials used in heating, ventilating and air conditioning.

The information was taken to the NRC last May by former Zack quality control employee Terry Howard, but no action was taken until last week, when Howard spoke to WMAQ-TV news. Howard was fired after he made his allegations. Zack Co. declined to comment.

NRC spokesman Russ Marabito said the NRC at first

thought Howard's information pertained only to the Midland nuclear power plant in Michigan, another Zack project. Midland was not immediately investigated either, Marabito said, because the plant is not scheduled to operate for another two to three years.

But Howard said, "I specifically mentioned La Salle, and they [NRC investigators] questioned me about it."

Cordell Williams, one of the NRC investigators who met with Howard in May, at first said that Howard did talk about La Salle. When told Marabito said only Midland was mentioned, Williams revised his statement and said Howard seemed principally concerned with Midland.

In the current investigation, the quality control problems boiled down to a matter of verifying paper work, says Edison spokesman James Toscas.

"The feds say you can have any [quality of] material you want, but you better have the piece of paper in your file to prove that it's what you want," Toscas said. When faulty paper work was discovered, Edison called all the suppliers to confirm the equipment was standard commercial grade, Toscas said.

He added that none of the systems in question directly affects the safety of the plant—a notion the NRC disputes.

In case of emergency—such as an earthquake—the heating, ventilation and air conditioning must maintain habitable temperatures in the control room and filter out any leaking radiation, Marabito said.

The NRC will meet in Washington Thursday to reconsider the company's request for a full-power license. And most observers say a denial of the license would be a surprise.

probe

Press Intelligence, Inc.

WASHINGTON, D.C. 20005

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CHICAGO, ILLINOIS
SUN-TIMES

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SUNDAY - 710,633

1982



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Public interest group urges probe into new LaSalle nuke plant charges

By Jennifer Small
Journal Washington bureau

24
WASHINGTON — A public interest group today urged the Nuclear Regulatory Commission to investigate charges of false documents pertaining to the air handling systems at the LaSalle nuclear power plant before it is allowed to go fully on line.

In a letter to NRC Chairman Nunzio Palladino, the Government Accountability Project also asked that the federal NRC Office of Inspector and Auditor investigate the performance of the NRC's Midwest Office of Inspection and Enforcement.

The Midwest office's report last week clearing allegations of construction problems at the \$2.5 billion LaSalle facility failed to adequately address the plant's safety questions, the GAP letter said.

Thomas Devine, GAP legal director and a co-author of the letter, was more blunt in describing that report to a news conference in Washington:

"The report was a whitewash — a coverup," he said.

The news conference today focused on allegations made by former employees of The Zack Co., of Cicero, which did the heating, ventilating and air conditioning work at LaSalle, and

at nuclear plants in Clinton, Ill., and Midland, Mich.

The allegations include charges of missing records on quality assurance programs and purchase orders to falsification of these documents while corrections were being made.

Albert Howard and Sharon Marella, who worked at Zack's Document Control Room from October, 1981, to April, 1982, said they could not say whether LaSalle would be unsafe with faulty records on its air handling systems.

But, they said they were dismissed from Zack because they "knew too much" and went to the NRC's Midwest

office to discuss the potential problem.

A spokesman for Zack could not be reached for comment.

Jan Strasma, a spokesman for the NRC's Midwest office, said last week an investigation would be launched on the allegations concerning Zack's work.

Even if true, however, Strasma said the charges were "not of sufficient safety significance to merit continued restriction of power level (at the plant)."

Devine said the NRC is expected to decide soon whether to allow LaSalle, which has been stalled at the testing stage, to operate at full power.

45

NRC delays licensing of LaSalle plant

By Jennifer Small
Journal Washington bureau

24

WASHINGTON — The Nuclear Regulatory Commission has postponed further deliberation on the LaSalle nuclear power plant pending an investigation into charges of improper documentation by a plant contractor.

By a 2-2 vote Tuesday, the NRC commissioners decided to wait until Aug. 5 before voting on whether to issue a full power license to the controversial \$2.5 billion plant.

In so doing, the commissioners went against the advice of Harold Denton, director of the NRC's Office of Nuclear Reactor Regulation and James Keppler, NRC's Midwest administrator. The two recommended the commissioners immediately approve a full power license, subject to satisfactory resolution of the investigation.

Keppler said questions concerning the safety of materials in LaSalle's heating, ventilating and air conditioning system could soon be clarified by additional interviews and a chemical analysis of the materials involved.

"We do have to go the extra step and satisfy our concerns," Keppler told the commissioners.

But, he said, the heat and air system does not warrant the same kind of concern as more critical systems, even though one-third of its equipment affects the plant's safety.

"There have been questions raised whether the material can meet its safety functions. These allegations seem to come in on a continuous basis," Keppler said, suggesting that LaSalle be treated like any licensed plant which becomes subject to safety charges.

However, officials did say an earthquake or tremor could shake loose faulty ventilation and air-conditioning equipment. If that happened during a critical accident, they said, radiation conceivably could get into the plant's control room and hamper operators' ability to respond to the emergency.

Commissioner John Ahearne agreed the NRC should not stop licensing proceedings because "a large amount of paperwork flows in at the last minute."

But before going ahead with LaSalle, Ahearne said, "I find there are enough issues I would like answers to."

At issue are a list of charges mailed Monday to the NRC from the Government Accountability Project,

(GAP), a Washington public interest group.

The charges include allegations that improper and falsified documents were supplied by The Zack Co., a Cicero contractor, to Commonwealth Edison Co., which owns the LaSalle plant.

GAP said the complaints made by Albert Howard, a former Zack employee, to the NRC's Midwest office, were not addressed in the NRC's July 19 report clearing LaSalle of separate charges of faulty construction work.

Keppler, however, said his staff concluded, after talking with Howard, that his main concern was with work done by Zack at a nuclear plant in Midland, Mich., and that he "did not have significant concerns with LaSalle."

Since Commonwealth Edison had twice previously investigated problems of Zack's installation and documentation, Keppler said, "We had no reason to keep the plant down any longer."

The NRC then allowed LaSalle to begin tests at the 5 percent power level.

Howard, however, said he emphasized the problems at LaSalle when he met with Keppler's staff, and left accompanying records.

Keppler said it was not until he was interviewed by a Chicago TV station that he became aware of the full extent of Howard's concerns, repeated in documents supplied by GAP to the NRC.

Since the TV interview last Thursday, Keppler said he has sent additional inspectors to Zack, and ordered tests on the materials in the heat and air handling system.

Commonwealth Edison Vice President Cordell Reed told Small Newspapers there is "nothing new" in the latest allegations against Zack, which he said had all been reviewed.

Reed complained that each day of delay is costing the utility's electric customers about \$600,000 in higher fuel costs associated with burning coal as an alternative.

"We have great confidence in the safety of the plant," Reed said.

Denton, however, said, "We have to make sure Commonwealth Edison's

previous conclusions have not been invalidated by these latest allegations of false documents."

NRC officials acknowledged that Zack's records were a "mess" and that some files had been lost or altered. But they described it as a problem involving documents rather than the components themselves.

Critics contend that the documents issue is a demonstration of disregard for NRC regulations by ComEd, one which calls into question ComEd's

ability to manage the nuclear facility properly.

"The NRC sees the problem as whether or not the components are right," said Bridget Rorem, president of Illinois Friends of the Earth, an environmental group allied with GAP on the LaSalle plant issue. "The real issue here is the utter contempt with which Zack and ComEd treat the rules and regulation of the NRC."

But Ms. Rorem, of Esses, said she was pleased with the NRC delay

because the NRC's staff normally will "do whatever they can, bend whichever way the wind blows to accommodate the nuclear industry."

Similar problems have been found with the quality-control records on Zack's air-conditioning and ventilation work at Illinois Power Co.'s Clinton plant, 10.2 percent of which is owned by a group of rural electric cooperatives — including the Eastern Illinois Power Coop, which serves Iroquois and neighboring counties.

Illinois Press Association
(Press Services Inc.)
1035 Outer Park Drive
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JUL 28 1987

Ventilation vital to nuke safety

In a home, a well-functioning air-conditioner is a matter of comfort.

In a nuclear power plant, it may be a

matter of life or death.

The ventilation system of a nuclear power plant, such as the system now

Springfield, IL 62704
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JUL 21 1982

Which side are you on?

Have you decided whose side you are on in the current debate between the Public Utilities Commission and the Public Service Company of New Hampshire over the completion of Seabrook II?

As of today the state waits for the reaction from PSNH to the PUC ruling late last week that Seabrook II would have to stop because the company will not be allowed to raise any more money for construction.

There are rumblings of court proceedings, massive layoffs, significant blows to the Seacoast economy and "huge increases in power costs" (Our emphasis added). At least these are the attitudes of supporters of PSNH.

Those supporting PUC say similar things. . . millions of wasted dollars being poured into Seabrook and the need to protect ratepayers from a "huge increase in power costs" (Look familiar?).

So, if you're just a regular, down-to-earth person trying to get by and understand things in this ever complicated world we've engineered, it won't be any comfort to you to know that there is no easy way to make a decision. As you see, those supporting the PUC and those supporting Public Service Company both predict disaster. Well, disaster of a type. The question in this pro and con debate is not whether the place will blow up in our faces, but rather whether the economy of New Hampshire will blow up because of the costs of Seabrook. In other words, this current disaster all comes down to money.

In a way, we suppose this debate ought to be comfortable, and perhaps a little humorous. At least in this argument the Nukes and Anti-Nukes do agree on something: they expect a disaster.

And the common thread in their predictions of disaster is that it is going to come out of our pockets. So, what is new?

under investigation at the Commonwealth Edison LaSalle County Nuclear Station, is just one of several systems that protect the operators from exposure to deadly air-borne radiation.

The heating, ventilation and air-conditioning units at LaSalle are, according to a "Reporter's Guide" published by ComEd, an "engineered safety feature."

They are part of the "defense in depth" concept of power plant design, which, according to ComEd, "is used to build nuclear power plants with redundant safety systems and barriers to prevent or arrest postulated accidents up to and including those deemed 'incredible.'"

The ventilation systems, ComEd guides state, "provide adequate shielding, air purification and climate control for the control room," where the plant operators work.

A 1982 ComEd document filed with the Nuclear Regulatory Commission is even more specific. It states the ventilation system monitors radioactive contamination and filters the air of potential contaminants.

The control room system assures that plant operators are adequately protected against effects of accidental releases of toxic or radioactive gases, the document states. The control room system also assures that the control room can be maintained as a backup center in case of an accident.

But the ventilation system also protects the computer room, the computer storage room and the auxiliary electrical equipment room.

Robert Pollard, nuclear safety engineer at the Washington, D.C.-based Union of Concerned Scientists, said proper temperature and air conditions are as important to auxiliary electrical equipment functions as they are to human life.

"If the temperature varies outside of the limits the equipment has been designed for, it will fail," Pollard said. Temperatures 10 degrees above its limits will cause the machine to stop, he said.

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JUL 23 1982

Ventilation at LaSalle²⁴ plant studied by NRC

By Rod Perlmutter
Times-Press Writer

The Nuclear Regulatory Commission investigation into the Zack Co., the contractor that built the heating, ventilation and air-conditioning system at the Commonwealth Edison LaSalle County Nuclear Station, comes less than three months after an NRC inspector said the company's records were in compliance.

One day after an April 16 inspection by H.M. Wescott, the NRC granted ComEd a restricted license to permit testing at the LaSalle plant, and to load it with radioactive fuel.

But, according to a former NRC project manager, the plant should not have received a license at that time, because Wescott did not check to see if the equipment purchased by Zack did in fact live up to NRC requirements. Instead, the inspector relied on Zack documents that the company admits were altered and possibly forged.

Robert Pollard, nuclear safety engineer for the Washington, D.C.-based Union of Concerned Scientists and an NRC project manager from 69 to 1976, said today that because of inadequate inspection by Wescott,

the NRC has "no technical basis for saying the plant is ready for operation."

"No one went back and examined the equipment, all they did was shuffle paper," said Pollard.

And the paper they shuffled was suspect, according to the quality assurance manager of the Zack Co.

Records filed with the NRC by Zack quality assurance manager David Calkins on Oct. 26, 1981, concerned the company's installation of ventilation systems at LaSalle as well as the Clinton and Midland, Mich. nuclear stations.

During that construction period, Calkins wrote, "there has been a breakdown of the quality assurance program related to (NRC requirements) on purchased material, equipment and services."

Materials purchased for nuclear plants have to be made and tested according to standards recognized by the NRC. Each building material is ordered by specific industry certifications.

But, Calkins wrote, several purchase orders were completed with discrepancies and missing information concerning certification. Materials pur-

chased for all three plants lacked the required testing information to prove that the equipment was safe. Some material was purchased without any certification whatsoever.

"These errors and inconsistencies made the material certifications suspect and, by implication, the material suspect," Calkins wrote.

Pollard said the materials were more than suspect.

"The documents do not say that the materials are unsafe," Pollard said. "But there is no verification that the materials are safe. And in the absence of proof that (construction) materials are safe, the NRC should not issue an operational license."

The purchase orders not only were missing information, Calkins wrote; some had also been altered after purchases had been made.

He said he found certifications on purchase orders were altered by hand-written or typed additions, and on some documents, numbers were whited out. Gummed labels were placed on purchase orders that were sent back to suppliers, with the "correct" certification information, he reported.

Continued on page 3

NRC investigation

Continued from page 1

Some orders were authorized by signatures with "questionable authenticity," Calkins wrote.

The reason behind the alterations, Pollard said, may have been to protect the Zack Co. Zack officials sent letters to its manufacturers requesting that previous purchases be certified in accordance to NRC requirements.

The problem, Pollard said, was that while some materials were bought and installed at plants in 1978, Zack officials were asking the supplier to certify 1978 materials to safety standards established years later for nuclear plants.

Some companies, such as U.S. Steel, were surprised by this request.

In 1981, Zack officials wrote U.S. Steel requesting confirmation of orders sent earlier that year. Zack stated in its letter that the confirmation orders were for the steel purchases were "safety related."

However, in a Sept. 21, 1981 response, U.S. Steel officer supervisor Gerald Peters wrote back that had Zack informed them that the steel was to be "safety related," it would have run the required tests on it.

"These orders were not called in to our salesperson as 'safety related,' Peters letter states. "Therefore, they were handled in our normal procedure and not run through our (verification and testing) program.

"Please advise us what is meant by the term "safety related" and what obligation if any does this impose on the supplier," Peters wrote.

ComEd Nuclear Communications Specialist James Toscas said the NRC did "a very thorough investigation of the LaSalle plant, checking not only the paper work but also the equipment itself."

Toscas said at most, the suspect material would have been only 10 percent of what Zack constructed at the LaSalle plant.

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SANTA FE, N.M.
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EVENING - 18,461
SUNDAY - 22,425

JUL 22 1982

Labs should be unaffected by fusion research delay

ALBUQUERQUE (AP) — A 10-year delay on a government program to develop nuclear fusion power plants probably will not adversely affect fusion research at Sandia National Laboratories, a laboratory official says.

"There probably will be a lot of disappointed people, though," said Gerold Yonas, director of pulsed power sciences at the lab.

The delay on the \$20 billion program probably would mainly affect projects geared toward production of electric power, but Sandia's fusion project is designed mainly for defense purposes, he said.

"Our initial purpose is for defense, though our feeling is that we could turn it towards the production of energy in the long run," Yonas said.

He said officials at the U.S. Department of Energy and the White House Office of Science and Technology say they will continue to supply researchers with about \$450 million a year — about the same they currently receive.

But the officials no longer are interested in finishing a demonstration fusion plant by the year 2000 and will not step up the program because "the government just doesn't have the money," said John Clarke, DOE's fusion program director.

John Marcum, the science office's assistant director, said the need for fusion power is not pressing.

The world's oil and natural gas reserves will last for at least another 50 years, coal deposits will last for another 400 years and there are enough uranium reserves for several thousand years, he said.

DRAFT

I. Chose three safety-related valves M had worked on

A. Two of four bolts on one connection loose

1. Checklist showed torqued to 50 ft. lb. and QC inspected.

2. No maintenance.

II. Records Problems

A. Copied pages, white out, missing QC signatures, unchanged data

B. Out of Spec Data accepted by QC

III. Morrison calibrates for RCI and Zack

IV. Adequacy of CECO calibration standard found outside specs.

V. Loose bolt - motor to operator

Check all such bolts I. C. prior to going above 0%

Check all such bolts O. C. prior to January 15, 1983

. Based on engineering developed standards.

} to assure they
met minimum
torquing requirements!

Assumed LOCA & Earthquake.

A. 126

UNQUALIFIED WELD PROBLEM

System

<u>Equipment Cooling</u>	<u>Operator Cooling</u>	<u>Failure Causes Related to "Unqualified Weld Failure"</u>
VX switchgear	VG standby gas treatment	1. System Live leads (fluid, thermal)
VE aux. elec. equip. rm.	VC control room	2. System dead loads
VY pump room <i>Emergency Cooling Equipment</i>	VE aux. elec. equip. rm.	3. Seismic loads
VD diesel gen. rooms		4. Random

EVALUATION MATRIX

<u>System</u>	<u>Failure Cause</u>	<u>Remarks</u>
— VG <i>standby gas treatment</i>	N/A	No unqualified welders
VC	1 & 2 3 4	No problem - preop No problem - fragility low, thermal lead time, air, low heat load Only a small portion of duct is common - no welder problem in this area.
VE	1 & 2 3 4	No problem, pre-op No problem, fragility low, same as for VC except Scott Air Pack Same as VC
VX	1 & 2 3 4	Pre-op Fragility, rooms are redundant Fuel failure does not stop room cooling
VY <i>Emergency Core Cooling</i>	N/A	No unqualified welders for Unit 1
VD	N/A	No unqualified welders No ducts
HPCI✓	N/A	No unqualified welders

Zack Company
Commonwealth Edison Quality Assurance Department
Review of Government Accountability Project Submittal of 7/27/82

Commonwealth Edison was advised by the Nuclear Regulatory Commission (NRC) Staff on July 27, 1982, of all allegations relating to improper handling of documentation by the Zack Company. These allegations were transmitted to NRC by the Government Accountability Project (GAP) on July 26, 1982. The allegations deal specifically with certification documents for materials supplied by Zack in the fabrication and installation of the heating, ventilating and air conditioning (HVAC) system at the LaSalle County Nuclear Station. This memorandum deals with the review of the GAP submitted document package to determine if the Commonwealth Edison (CECo) Quality Assurance Department position regarding the acceptability of Zack documentation and the HVAC installation is altered in any way as a result of the information included in the GAP submittal.

CECo Q.A. Review of GAP Document Package

The CECO Corporate Q.A. staff read and reviewed the entire GAP document package. In addition, the CECO Site Q.A. staff independently performed the same review. As a result of these reviews, it was determined that certain concerns highlighted in the GAP package, although not new to Q.A., merit additional comments and, as such, are addressed in another section of this memorandum. In total, however, the Quality Assurance Department concluded the following:

- 1) Certain information internal to Zack, dealing with subjects such as wages, working hours, harassment, and Zack audits was deemed to be new information by CECO Q.A.; however, this information does not directly impact on the quality of the duct system materials supplied by Zack for the LaSalle County Station. The HVAC equipment and components were procured from other vendors by CECO.
- 2) The 50.55(e) report made by CECO to the NRC properly described and adequately addressed the document problems for material supplied by Zack for the LaSalle County Station.
- 3) The information in the GAP document package does not negate the CECO Q.A. position regarding the acceptability of the duct system materials supplied and installed by Zack for LaSalle County Station.

Basis For CECO Q.A. Position - Disposition of Allegations

A) Audits

The CECO Q.A. Department performed extensive audits of Zack activities to assure conformance to specification and design requirements throughout the term of the Zack contract. At the

LaSalle Site, Q.A. performed 33 formal audits during the period of 9/31/76 to 5/19/82. Attachment "A" lists the audits and number of deficient items identified by Commonwealth Edison which were corrected to ensure proper quality was provided. When it was found that deficiencies were sufficiently significant to have an adverse impact on the HVAC installation, work at the site was stopped. Attachment "B" lists the four occasions where it was necessary to stop work on the HVAC system installation at the LaSalle site until full corrective action was achieved by Zack. In addition, during the period June 1979 through June 1981 CECo instituted an independent inspection of 100% of the hanger welding performed by Zack. This inspection was performed by Conam, an Independent Testing Agency. Also, CECo Q.A. performed four audits of the Zack corporate office, one in 1980 and 1981 and two in 1982.

B) Surveillances

Regularly scheduled surveillances were also performed of Zack's activities by CECo Q.A. During the period 11/19/76 to 6/30/82, 305 surveillances were conducted at the LaSalle Site and 7 at the Zack corporate office. This broad coverage, in addition to audits, adds to the CECo confidence level that proper quality has been achieved.

C) 50.55(e) Investigation

The documentation problems related to Zack in the CECo 50.55(e) report issued on 9/30/81 was a formalization of the concerns which were identified by CECo Q.A. as early as 8/25/80. Although the magnitude of the documentation problem was not fully identified until September 1981, CECo Q.A. had been identifying documentation problems and obtaining resolution on a case by case basis since August 1980. This 50.55(e) report and investigation further demonstrates that the problems which CECo Q.A. had been working on were properly and fully reviewed and resolved. Moreover, the third party review by the NRC adds to the CECo confidence level that quality has been achieved.

D) Information from Ron Perry

On February 15, 1982 Mr. Ron Perry, an ex Commonwealth Edison employee, working for Zack in their documentation group, called the CECo Manager of Quality Assurance to give him a "first hand" report of concerns he observed. He felt that the major problems were in the areas of: lead auditors not qualified, material paperwork inadequate, purchases from unapproved vendors and the document vault not meeting ANSI N-45.2.9 requirements. The Manager Quality Assurance did not report Mr. Perry's call to Zack's management but, as is appropriate and mandatory, investigated Mr. Perry's concerns by directing that a special audit of the Zack corporate activities be performed to determine if there were any other deficiencies that were not known as part of the 50.55(e) report CECo had previously filed

with NRC. On February 18, 1982, a CECQ Q.A. Supervisor and cognizant Q.A. engineer from the LaSalle Site conducted an audit of the Zack Corporate office to specifically evaluate the concerns reported by Mr. Perry. During the audit, the lead auditor spoke to Mr. Perry, showed him the audit checklist and the audit results and asked if he had any concerns other than those in the audit. He indicated that he had no additional concerns (See CECQ Audit Report #1-82-45). He was invited to attend the audit exit meeting but he chose not to attend. Two deficiencies were identified in the audit, one in the area of annual auditor evaluation and auditor qualification records and one involving material traceability for a section of HVAC duct. Both items were resolved. The audit team concluded that no new serious concerns existed and that the document deficiencies previously identified were adequately and completely covered in the 50.55(e).

On March 22, 1982, CECQ Q.A. conducted another audit at Zacks corporate office to determine if the other Q.A. Program requirements were being implemented. Two deficiencies were identified, one in the area of control of revised documentation and the second in the area of protection of quality assurance records.

As a result of the personal contact with Mr. Perry, CECQ-QA was aware of the details of his allegations prior to the submittal of the GAP document package. All of the concerns reported by Mr. Perry, who had first hand information, were examined by Edison auditors and were found to be either minor, being resolved or adequately dispositioned. Furthermore, it was concluded from the CECQ investigation that, notwithstanding the document deficiencies, Mr. Perry's allegations do not directly affect the quality of materials supplied by Zack for LaSalle County Station.

Comments on Specific Allegations

Certain concerns which were highlighted in the GAP submittal appear to merit further comment. Although these concerns do not present new information for CECQ Q.A., explanation as to the actions taken by Edison regarding the concerns should help explain why Edison feels these concerns have been adequately addressed.

a) Inadequate Training

On October 9, 1981, a surveillance was performed by CECQ Q.A. at Zack's corporate headquarters to review personnel qualifications for those individuals involved in document review. Mr. Howard McGrane of the Midland Project Quality Assurance Department, who has 15 years of documentation experience, was in charge of the document group. In addition, three people on short term contract from Quan Tech were also working in the group. The qualifications of these individuals included resumes listing extensive experience and attendance sheets for informal training sessions held at Zack. Two additional Zack employees were also being

trained at that time. It was indicated that the two Zack individuals were brought in to eventually take over the documentation review once the initial evaluation was completed.

The work activity in the documentation group consisted of matching material certification documents to purchase orders and assembling purchase order packets. In addition, the people were required to match certification data to established standards. For the most part, personnel with good clerical skills and a reasonable amount of on-the-job training should be able to perform the duties in the documentation group. The qualifications of the people in the documentation group were viewed to be sufficient for the work being performed.

b) Purchases from Unapproved Vendors

In Mr. Ron Perry's statement to David Crow it is stated that "Mr. Perry compiled a list of P.O.'s reviewed by Delta Screw Co. while Delta was not on the list." Review of Exhibit 25 from the Government Accountability Project's information indicates that 38 hardware items involving ten purchase orders were let to Delta screw as follows:

12/22/81	34 entries (8 Purchase Orders: #1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596)
1/06/82	1 entry (P.O. #1029)
2/01/82	3 entries (P.O. #1717)
Total	38 entries (10 Purchase Orders)

Review of Commonwealth Edison objective evidence gathered during Q.A. Audit 82-45 conducted on 2/18-19/82 indicates that Delta screw was suspended from the Zack Approved Vendors List (AVL) on 10/20/81. Further, the objective evidence indicates that on 12/17/81 Zack documented, in a Memo-to-File conversation with NRC Region III, the position that fastener suppliers like Delta Screw are not required to supply material certifications for safety-related, commercial grade material. On 12/22/81 eight of the ten purchase orders were issued. Review of the Zack records during this audit revealed no issuance of purchase orders after 10/20/81 and prior to 12/17/81. This was the period during which release of the purchase orders would have been unacceptable per the Zack Q.A. Program as Delta Screw was not deemed an approved vendor until the NRC position was received. Delta Screw was not officially placed back on the AVL until 2/10/82 due to business related reasons.

As attested by Mr. Perry, the Zack AVL was inaccurate but Zack appeared to be making a concerted effort to correct inaccuracies at the time of the audit which has since been achieved. Judgement at the time of the audit was that Zack could purchase from Delta Screw on or after 12/17/82 upon receiving direction from NRC and be in compliance with their Q.A. Program and 10CFR50, Appendix B.

Two specific clarifications of Terry Howard's affidavit are in order at this point since on page 18 of his testimony he states that approximately 38 P.O.'s were issued when in fact Exhibit 25 indicates that 38 P.O. line entries were listed, but only ten purchase orders were released. CECO Audit 82-45 reviewed the first eight of these ten documents and found them acceptable. Also, the audit referred to in Mr. Howard's and Mr. Perry's affidavits as being conducted on October 9, 1981, was a surveillance strictly to evaluate the steps taken concerning Zack's notification of a possible 10CFR50.55(e) relating to documentation deficiencies. It was not an audit of the implementation of the Quality Assurance Program.

c) LaSalle Documentation Review Completed

Based on Commonwealth Edison surveillances, it was determined that Zack's documentation review associated with the 50.55(e) report was being conducted in an orderly manner, using logs to document all purchase orders and associated certifications as the review was being performed. These logs showed all purchase orders used at the three nuclear sites plus those used to order stock material. The logs reflected the current status of each purchase order - that is, whether it was acceptable or not and the problems found. To further control this review effort, Zack placed in the front of each purchase order packet a log sheet identifying the purchase order number, the reviewer's conclusion (accept/reject) and the specific problems found.

On October 9, 1981, the first interim report was submitted by Zack identifying the results of their review to date. CECO Q.A.'s surveillance #81-661 dated 10-9-81 was conducted at the Zack Corporate office and the interim report was reviewed. During the surveillance both acceptable and rejectable purchase orders were reviewed using both the logs and interim report to obtain the necessary purchase order information. The interim report was found to be accurate - that is, it reflected the same information as provided within the logs. Only the problem purchase orders were identified within the surveillance, but many additional purchase orders were reviewed and found acceptable, as was the case for Zack's review. The surveillance was an attempt to acquire background on the types of deficiencies being identified by Zack. Many deficiencies were written for clerical errors where certifications failed to identify the year for the applicable ASTM Standard. Also, Zack was concerned about certifications failing to identify the term "ASTM" although A36 was provided on the certification. The A36 designation, per the ASME Code, also applies to ASTM specifications. Many of the problems identified under missing certification were actually purchase orders written with requirements in excess of specification requirements for non-safety related/commercial grade items.

Deficiencies for altered reports included cases of highlighted heat numbers, although an unaltered heat number was also on the certification. Finally, many cases were observed that identified certifications not per the S&L Specification. These certifications were reviewed and found to cover better quality steel than was originally required by the Specification (that is, A36 instead of A575 grade M-1020 commercial grade). The use of higher grade materials would not create a safety deficiency.

Based on this surveillance and Zack's many tracking systems, CECO Q.A. felt that the spectrum of LaSalle purchase orders was being reviewed and properly dispositioned. After Zack's review was finally completed, all problem purchase orders were transformed into Zack nonconformances and dispositioned. These were subsequently reviewed to assure proper disposition, also on a documented CECO Surveillance # 82-225 dated 4-15-82.

d) Zack Document Control Non-existent Prior to Fall 1981

As part of Sharon L. Morello's affidavit contained in the GAP submittal, Ms. Morello states:

"Prior to my arrival there had not been a formal Quality Assurance Documentation Control function. I was told for years Zack had one person handling Quality Assurance, but it did not have a documentation control department."

Ms. Morello states, in part, that records at Zack were in disarray and that it took several weeks of effort before organization of the documents could begin. She also saw no control of nuclear purchase orders beyond that imposed by Zack for commercial orders.

Review of the Q.A. audits performed at the Zack Corporate office, from 1980 through 1982 (4 audits total) indicates that of the 66 questions contained in the checklists, 17 questions addressed the areas of procurement documents, and procurement and document control. Two deficiencies were identified as the result of these reviews. In addition, review of the objective evidence contained in these audits indicates that even though a well organized and expertly implemented program of document control did not exist, the implementation of quality related activities with respect to document control at the Zack corporate headquarters was sufficiently adequate to implement the Zack Q.A. Program requirements. It was evident that Zack, during 1980 and 1981 was attempting to upgrade their program with varying degrees of success. But the judgement made, based on the objective evidence at the time of auditing, was that the Zack Program, from the standpoint of document control, was sufficient for the type of materials and assemblies supplied to the LaSalle Project.

e) Welder Qualification Deficiencies

The concerns with documentation and discrepancies in welder qualification records covered in the GAP submittal had been identified by Commonwealth Edison Co. and corrective actions which relate to the disposition of these deficiencies have been taken to ensure the HVAC system installation is acceptable.

As a result of the various discrepancies identified through inspections, surveillances and audits in connection with the HVAC system, a complete independent recheck of the quality of the installation was performed. In addition to Commonwealth Edison Company Quality Assurance surveillance and audit involvement with Zack Company, specific surveillance and inspection tasks involving Zack construction were assigned to the Conam Independent Testing Agency by LaSalle Site Quality Assurance. Conam performs inspection and testing under the direction of CECo QA at LaSalle. The intent of these inspections or re-inspections of the Zack work, as well as other contractors, is to independently assure that contractor field activities are properly performed in accordance with applicable procedures, standards and design requirements and that the final installation is acceptable. The basic approach is that each site contractor has a total entity in that each contract includes responsibility for installation, quality control inspection and quality assurance with quality control over - inspections and quality assurance checks, surveillances and audits being done by, or for, Commonwealth Edison Company. For most cases, an over - inspection of from 5 to 10% of the various contractor's activities requiring inspection is performed. Where problems are identified, corrective actions are required of a contractor and the re-inspection activities by Commonwealth Edison are increased to as much as a complete re-inspection where the circumstances warrant. After it is confirmed that the contractor has undertaken the necessary corrective steps such as developing and implementing procedures, training and qualifying involved personnel and verifying the Quality Control inspection functions are performed acceptably to the satisfaction of CECo Site Quality Assurance, then the re-inspection performed by the Independent Testing Agency is reduced in step fashion as the results of the re-inspection justify as was done with Conam following the two year period of 100% re-inspection of Zack. In the case of Zack, the quality control inspections for accepting Zack welding at the site between June 1979 and June 1981 were performed by Conam no matter whether Zack was or was not released from our "stop work" order to perform its own Quality Control inspections under its contract. i.e. the installed hangers were inspected, and repaired as required and then reinspected by Conam. Also, duct work was required to be inspected by Conam prior to being released for installation in the building between April 1980 and May 1982. Deficiencies identified through inspections were covered by contractor non-conformance reports (NCR) for each affected hanger and otherwise for each other

deficient case. All seismic and safety-related hangers were treated as suspect and were inspected. Zack Quality Control (QC) inspected each hanger and after Zack QC's acceptance, Conam repeated the complete inspection for acceptability which included inspection of all welds of the hangers. Any deficient welds identified by Conam were reported to Zack, corrected by Zack, inspected by Zack QC and then inspected by Conam. Conam's 100% re-inspection included inspection of welds for placement and quality and for location of the hanger. Also, configuration checks on a random basis were made. In this period, most of the control room HVAC system was fully inspected by Conam after being inspected by Zack. Finally, system walkdown inspections were initiated by Zack in early 1982 to check final acceptability.

Thus, work that may involve missing documents or discrepancies in welder qualification records, even though such deficiencies are not acceptable, was inspected and ensured to be acceptable.

As for other HVAC equipment supplied by Commonwealth Edison, it was receipt inspected by Commonwealth Edison and again inspected by Zack when issued to them for installation and then inspected after installation by Conam.

Attachment C is included to detail, in a summary fashion, Conam coverage of the Zack on-site installation activities.

Upon notification by the Zack Company on September 25, 1981 of the possible 10CFR50.55(e) report with respect to supplier material certification, surveillance and monitoring activities by Quality Assurance (CECo) were intensified and directed toward this specific concern at the Zack corporate headquarters. Between 9/25/81 and 4/15/82 three surveillances and two audits were performed by CECO Quality Assurance to assess the nature and scope of the problem.

In February 1982, at the direction of the Commonwealth Edison Quality Assurance Manager, a Special Audit was performed to investigate the conditions verbally reported to him by phone by Ron Perry, a Zack employee, as well as audit other aspects of the Zack Program.

In summary, Commonwealth Edison Company has maintained continuous and comprehensive involvement with the Zack work activities and the implementation of its Quality Assurance Program to ensure the work was being done correctly for the LaSalle Site. Special actions were taken to correct work deficiencies, disposition acceptably identified documentation deficiencies and ensure the heating, ventilating, and air conditioning (HVAC) system was provided and installed as required. Furthermore, upon identification of problems at the Zack Corporate Headquarters in late 1981, additional

monitoring of Zack was performed to search for any other possible problems and to ensure corrective actions were completed. Finally, the use of Conam Quality Control Inspectors to augment the on-site Edison Quality Assurance inspection, surveillance and audit activities to independently inspect the HVAC installation including the associated equipment and components provided by others further assures that the HVAC system is installed as required by the design.

f) Seas, Inc. - Cannot meet standards

An audit performed by Zack at the Seas Inc. plant on February 10, 1982 stated that Seas "cannot verify any product furnished." In order to fully understand the meaning of the Zack finding, the GAP documentation was reviewed and was found to contain the following information. On February 6, 1981, Zack wrote identical letters to Seas Inc., Key Crest Inc., Thiele and Delta Screw Co. stating that the hex nuts be supplied and certified to ASTM-A307 and as a result, these manufacturers supplied the hex nuts with certification to ASTM-A307. Zack then discovered that the hex nuts should have been certified to ASTM A-563 and requested the manufacturers to supply the new certifications. One manufacturer replied on 2-13-81 and stated that the hex nuts are certified for use with grade ASTM A-307 steel bolts but the nuts are made to ASTM A-563. In a practical sense the original certification was correct but "technically" conformance to ASTM A-563 should also have been stated.

A review of the LaSalle County Station purchase order discrepancy log showed that all of the document problems with Seas were of this nature i.e. "incorrect standard referenced" or "no standard referenced". In all cases, Zack prepared a non-conformance report. The product document verification problem was minor in significance.

Conclusion

Based on the above, CECO Q.A. concludes that the Zack documentation problems have been adequately investigated and addressed and the information included in the document package submitted by GAP does not change this position. It is our position that Edison is aware of the details of the allegations and has investigated them sufficiently to be assured that the materials provided by Zack for the LaSalle County Station are of proper quality and the LaSalle Unit #1 facilities are safe to operate.

0386Q

Attachment A

plant & corporate

Commonwealth Edison Company Q.A. Audits and Surveillances
of the Zack Company

<u>Year</u>	<u>Audits Performed</u>	<u>Surveillances Performed</u>
1976	1	1
1977	4	17
1978	5	35
1979	8	35
1980	9	82
1981	6	83
1982 (6months)	4	57

Attachment B

"Stop Work" Actions Imposed on Zack Company
LaSalle County Station

<u>Date Initiated</u>	<u>Date Removed</u>	<u>Program Deficiency</u>
7/22/77	9/27/77 (all activities except Welding)	Welder Qualification, Q.C. training
	10/11/77 (Welding)	Program design control, Q.C. inspection & inspection documentation, and misc. program deficiencies.
6/25/79	7/25/79 (Partial) 8/06/79	Unacceptable Q.C. inspection at LaSalle
4/02/80	6/21/80	Unqualified Q.C. inspectors at Fab Shop in Chicago. On-site hold point established for receipt inspection of HVAC assemblies.
8/06/80	10/20/80	Design Control, Q.C. Inspections, and "Safety-Related Welding

Attachment C

CONAM INSPECTION AGENCY COVERAGE OF ZACK COMPANY
INSTALLATION ACTIVITIES AT THE LASALLE SITE

<u>ACTIVITY</u>	<u>DURATION</u>
General Inspection of Zack Field Activities (17 reports on file)	2/24/78 - 6/24/79
100% Re-inspection of future and past Zack "Safety-Related welding on-site. (Hangers)	6/25/79 - 6/07/81
50% re-inspection of Zack on-site welding.	6/08/81 - 6/21/81
25% re-inspection of Zack on-site welding	6/22/81 - 7/05/81
10% re-inspection of Zack on-site welding	7/06/81 - Present
100% inspection of Zack ductwork entering the building and being erected at LaSalle	4/02/80 - 5/10/82

COMMONWEALTH EDISON COMPANY CHRONOLOGY ON RESOLUTION
OF ZACK COMPANY 50.55(e) - DOCUMENTATION DEFICIENCIES

Introduction

Throughout the July 26, 1982 Government Accountability Project (GAP) letter to Nuclear Regulatory Commission (NRC) Chairman Nunzio J. Palladino and the attached affidavits and exhibits, statements are made that Commonwealth Edison Company (CECo) exerted pressure on the Zack Company to meet unrealistic time demands to resolve material documentation deficiencies in order to avoid licensing delays at LaSalle County Station. This chronology details CECo Project Construction Department's actions during the September 25, 1981 to April 15, 1982 time period as they relate to the issue at hand. The record shows that the Zack progress was monitored, communication with Zack Company was frequent, quality control procedures were followed, and Zack Company was allowed to slip their resolution of documentation deficiencies as the fuel load was delayed.

Chronology

A September 25, 1981, Zack Company letter informed CECo of a possible reportable event under 10 CFR 50.55(e) on documentation inconsistencies. Zack had not yet completed its investigation as to the extent and validity of the documentation inconsistencies. They anticipated being complete by October 31, 1981. CECo was not pleased with the discrepancy information but the completion date given did not appear to adversely affect the December 15, 1981 scheduled fuel load date. Zack was requested to inform CECo on their progress. NRC Region III was notified of a potential 50.55(e) construction deficiency on September 30, 1981.

Reports from Zack in October, 1981 indicated the progress on the documentation review as going well. On October 9, 1981 and October 23, 1981, Zack issued reports with findings of their review. These reports indicated categories of deficient items, quantities and corrective actions planned and taken to that time. An interim report on the 50.55(e) was submitted to NRC Region III based on the above Zack report on October 30, 1981. On November 2, 1981, CECo wrote to Zack Company requesting that specific Zack nonconformance reports (NCRs) which would require Owner/A-E dispositioning (i.e., engineering basis) be submitted to CECo. These Zack NCRs were to detail material certifications that were not in accordance with S&L specification and/or ASTM standards. Zack NCRs which did not require Owner/A-E dispositioning were not required to be submitted to CECo. The Zack NCRs were to be submitted no later than November 13, 1981. Zack Company was in agreement with our requests.

On November 13, 1981, fifteen (15) Zack Company NCRs were submitted. These Zack NCRs were then categorized and put on three (3) CECo NCRs (#556, #557 and #558). These were sent to CECo Project Engineering/Sargent & Lundy Engineers for disposition.

Based on these 3 NCRs, a final report was issued to the NRC Region III in early December 1981. The disposition of all 3 CECo NCRs was completed on December 31, 1981. However, another CECo NCR (#566) was opened on December 31, 1981 to address a remaining open item on one of the original 15 Zack Company NCRs. The disposition of this NCR was completed on February 18, 1982.

In late January, 1982, based on CECo Quality Assurance Department audits and conversations with Zack, many additional Zack NCRs were reported still open, plus a few purchase orders needed to be reviewed. At this point, the scheduled fuel load date was March 15, 1982. CECo requested that Zack expedite its review and corrective action program. Mr. Albert T. Howard, Zack Quality Assurance Documentation Supervisor, issued a report on February 12, 1982 to CECo. Mr. Howard reported as of January 15, 1982, that a significant increase in the number of corrected purchase orders packages had been accomplished and a number of the remaining purchase orders indicated as still discrepant had only one or two items to be corrected. A copy of this report and attachments is included. (Note: This report is not referenced in the GAP letter and attachments.)

Zack was informed that all NCRs still open on March 1, 1982, should be submitted to CECo for engineering disposition. Zack was contacted frequently prior to March 1 to monitor progress and emphasize the importance of March 1 date.

On March 1, 1982, Zack submitted 69 open NCRs. In reviewing these NCRs with Project Engineering/Sargent & Lundy Engineers was felt that many of the NCRs were of such a nature that Zack should be able to close them without CECo input. A review by Project Engineering/Sargent & Lundy Engineers of the specifications, purchase orders and Zack Q.A. Program revealed that Zack was being overly conservative in classifying documentation deficiencies as nonconforming. Zack was advised of this finding on March 9, 1982, and all 69 nonconformances reports were returned. Over the next three weeks Zack continued its corrective action program in an effort to resolve the remaining 69 nonconformances. During this period, the CECo fuel load date continued to slip a week or two at a time.

On April 1, 1982, Zack returned 21 open NCRs. All 21 Zack NCRs were placed on a CECo NCR (#594) and sent to Project Engineering/Sargent & Lundy Engineers for disposition. On April 7, 1982, CECo requested additional information on five (5) Zack NCRs. The information was available at Zack and would be sent immediately.

On April 9, 1982, Zack had completed its review and supplied the necessary information. CECo then closed NCR #594. It was CECo's understanding that all Zack NCRs relating to document deficiencies had been resolved and the matter was closed.

Summary

The Zack Company progress towards resolving the 50.55(e) was continually monitored. The goal of this monitoring was to provide direction and engineering support to the Zack dispositioning effort as well as address corrective action. At no time were unrealistic target completion dates and undue pressure put on Zack Company. As the fuel load date slipped, Zack was allowed additional time to resolve the 50.55(e). Correspondence from Zack indicates they met CECO requests and correctly dispositioned the discovered material documentation discrepancies.

4638N



CUSTOM METAL FABRICATION

February 12, 1982
HVAC Contract #J-2590

Commonwealth Edison Co.
LaSalle County Nuclear Station
Rural Route #1, Box 240
Marseilles, IL 61341

Attn: Mr. Richard Cosaro
Project Manager

Ref: The Zack Company letter dated October 23, 1981

Subject: Potential 10CFR50.55(e)
Material Deficiency Report

Gentlemen;

Attached is an updated (January 15, 1982) report on the status of the material certifications identified in the above referenced letter. As indicated by the report, a significant increase in the number of corrected purchase order packages has been accomplished and a number of the remaining purchase orders indicated as still discrepant have only one or two items to be corrected. Therefore, the number of actual material certifications acceptable is in excess of the percent indicated in the report.

It is The Zack Company's opinion at this time that all problems still existing could be corrected with further vendor/subcontractor persurance and those items not resolved through this same endeavor might be resolved with engineering disposition.

With this interim report The Zack Company would like to assure you of its continued efforts in the above direction.

Should you have any questions or problems, please contact me.

Most Sincerely,

Albert T. Howard
Quality Assurance Documentation Supervisor

ATH/dm

cc: Mrs. C. DeZutel
Mssrs. J.C. DeZutel
L.J. Burke, Site Project Mgr.
T. Quaka, QA CECO
B. Wood, QA CECO
J. Dearbeck, CECO
C.L. Eichstaedt, Jr.
D.E. Calkins
D. Malzahn
M.L. Skates
C. Baumgardner
Q.A. Chicago
Q.A. LaSalle

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CUSTOM METAL FABRICATION

January 15, 1982

ADDENDUM

REPORT TO LaSALLE POWER STATION
SHOWING CORRECTED P.O./CMTR PKGS.
FROM FIRST TO SECOND REPORT

Prepared for: Bruce Wood - Q.A. Engineer, Commonwealth Edison
Prepared by: Terry Howard, Q.A. Engineer- Document Control
Ronald A. Perry, Q.A. Engineer

1st REPORT - DISCREPANCY LISTING

CORRECTIVE ACTION

P.O.#

1127

None

None

1046

None

None

952

None

None

582

C of C not on file

C of C located and included

4016

None

None

4077

None

None

4104

None

None

4165

None

None

13207

C of C only

C of C to correct Standard - advise consulting S&L engineering revision tentatively open.

913

No A.S.T.M.

Vendor supplied A.S.T.M.

565

None

None

4036

None

None

4424

A.S.T.M. A307 for nuts

A.S.T.M. A307 acceptable for nuts

470

None

None

474

No Certs

Reference to Zack NCR L-147 12/28/81

605

No A.S.T.M.

Vendor resolution

636

No A.S.T.M.

Vendor resolution

637

No A.S.T.M.

Vendor resolution

645

No A.S.T.M.

Vendor resolution

658

No A.S.T.M.

Vendor resolution

666

None

None

790

No galv. reference

690 designation on invoice

793

None

None

813

No A.S.T.M.

None

4014

None

None

4044

None

None

4092

None

1st REPORT - DISCREPANC. LISTING

CORRECTIVE ACTION

P.O.#

4044	None	None
4092	None	None
4108	P.O. reflects no requirement	Reviewed P.O. and found acceptable
4143	None	None
4337	None	None
4455	None	Material on hold (partial)
9441	No A.S.T.M.	Vendor resolution
9447	None	None
12346	No Material certs	Mtl. certs - material on hold w/ NCR L-157
563	No CMTR/C of C	Zack Co. engineers to review
583	No Certs	See NCR L-159 Certs not available
584	No certs	" " " " "
773	A36 Material not acceptable at LaSalle	S&L spec. revision to accept A36
775	A36 not for LaSalle	S&L spec. revision to accept A36
676	MTL A240 not acceptable at LaSalle	Spec. change Oct. 7, 1981
801	Mtl. not acceptable to S & L spec.	Addendum to S&L spec. renders it acceptable (note NCR L-1641)
807	[same as above]	[as above]
826	[same as above]	[as above]
1094	[same as above]	[as above] & vendor resolution
1102	[same as above]	Vendor resolution
4470	[same as above]	[same]
587	CMTR to AISI 1035	Engineering resolution being

(

All of the following were listed on the first report submitted by the Zack Company on October 23, 1982. However, upon cursory examination one will find that these same listed P.O. numbers were without itemized discrepancies. I would like to submit those with the generalized explanation of "Vendor correction" to be added to the foregoing as acceptable P.O./CMTR Pkgs.

P.O.#

4021

552

559

524

526

535

- 13207

739

641

643

743

914

938

940

947

1029

1274

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CUSTOM METAL FABRICATION

February 10, 1982
ZQAD-234

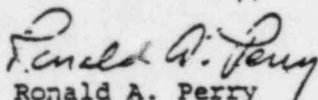
ATTENTION: Tom Quaka
Q.A. Superintendent
LaSalle County Station

REFERENCE: QAL #5361 dated 1/29/82

SUBJECT: Corrective action on open POs

Attached is an updated status report on purchase orders listed as open on QAL #5361 dated 1/29/82. Those identified as still discrepant have corrective action in progress as noted.

Yours Truly,
The Zack Company


Ronald A. Perry
Q.A. Engineer

RAP/dm
cc: Q.A. files

ATTACHMENT I

DISCREPANCY LISTING

CORRECTIVE ACTION

C508 Wrong standard referenced on C of C

Reference ZQAD-203 letter to vendor dated 2/1/82. No response received as of 2/10/82

C572 No Certs

Engineering disposition required

C586 No Certs

Specification sheet received (acceptable)

C914 Alteration

On re-reveiw - no alteration of Zack PO# (acceptable)

C947 Alteration

On re-review - Heat# identical on cert and cover letter (acceptable)

C4105 Wrong standard referenced on C of C

Reference ZQAD-181 letter to vendor dated 1/28/82. No response received as of 2/10/82

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CUSTOM METAL FABRICATION

February 10, 1982
ZQAD-235

ATTENTION: Tom Quaka
Q.A. Superintendent
LaSalle County Station

REFERENCE: QAL #5376 dated 2/3/82

Attached is an updated status report of purchase orders that were identified on QAL #5376 as requiring resolution. The Zack Chicago Document Control Center has reviewed these P.O.s with the attached (attachment II) comment(s).

Yours Truly,
The Zack Company

Terry Howard, Documentation Supervisor
Ronald A. Perry, Q.A. Engineer

TH/RAF/dm
cc: Q.A. files

ATTACHMENT II

DISCREPANCY LISTING

CORRECTIVE ACTION

C9504 No Certs

Vendor supplied C of C

C9509 No Certs

Engineering disposition required

DEFINITIONS OF SUMMARY LISTING

1. Packages Reviewed - This item lists the total number of packages that were reviewed for this report only. It includes the number of purchase orders that the site have. It does not however, include those purchase orders generated after November 10, 1981.
2. Packages correct and acceptable - This includes the total number of P.O./CMTRs that the Document Team deem correct/acceptable through January 15, 1982.
3. Discrepant Packages - Includes the total number of P.O./CMTRs not acceptable for the reasons listed in numbers four (4) through nine (9).
4. No Material Certs - This includes those packages that have no certification data, i.e., certified test material/certificate of conformance (compliance).
5. No phys/chem test data - This number indicates the total of packages that are missing part or all of CMTR data.
6. Wrong standard referenced - This includes the number of packages where the standard referenced in the certification is contrary to the contract specification/procurement document.
7. No standard referenced - This includes the number of packages in which there was no standard referenced in the procurement and document/material certification.
8. Material does not meet Spec. - This includes those P.O. packages that material does not meet the standard specified.
9. Clerical errors - This group includes a variety of discrepancies (minor) that are clerical in nature; i.e., no ASTM, no ASTM/yr., No ASTM/yr. designation, typographical errors, etc.

RESULTS/SUMMARY OF REVIEW (FOURTH INTERIM)

I. Increase in No. of correct pkgs.

	<u>3rd</u>	to	<u>4th (Report)</u>	<u>Increase</u>
A. Midland	145		374	229
B. LaSalle	109		237	128
C. Clinton	159		268	109

II. Increase of percent (%) of complete pkgs.

A. Midland	26	68.0
B. LaSalle	37	58.52
C. Clinton	42	67.34

III. No. of discrepancies requiring engineering disposition.

A. Midland	23
B. LaSalle	14
C. Clinton	14

IV. No. of discrepancies requiring possible engineering disposition.

A. Midland	42
B. LaSalle	27
C. Clinton	23

V. No. of discrepancies requiring both possible and definite engineering disposition.

		<u>Percent (%)</u>
A. Midland	65	11.71
B. LaSalle	41	10.21
C. Clinton	37	10.26

LA SALLE STATION ONLY

1. Packages reviewed.....	405
2. Packages correct and acceptable.....	237
3. Discrepant packages.....	168
4. No material certs.....	33
5. No phys/chem test data.....	27
6. Wrong standard referenced.....	19
7. No standard referenced.....	10
8. Material does not meet spec.....	3
9. Clerical errors.....	67
10. Listed by site - not located.....	9

LA SALLE DISCREPANT - (OPEN)

C#

451	668	4205	9417	<u>17103</u>
452	683	4216	9419	
454	696	4268	9420	
455	704	4270	9421	
465	714	4285	9422	
472	722	4286	9427	
508	736	4289	9429	
519	764	4294	9442	
520	798	4312	9444	
522	804	4348	9450	
542	852	5759	9455	
549	893	5776	9501	
566	909	6813	9505	
567	954	9242	9506	
572	956	9244	9762	
597	1329	9251	9636	
599	G3111	9401	10784	
602	4004	9402	11237	
603	4023	9403	11271	
616	4048	9411	11544	
617	4052	9412	12206	
627	4080	9413	12285	
630	4081	9414	13246	
639	4105	9415	13912	
651	4137	9416	16429	
652	4157			

Total: 103

ALL SITES - DISCREPANT (OPEN)

<u>C#</u>		
456	762	1255
	770	G3114
464	797	4055
468	802	9247
586	803	11503
601	806	12281
604	820	12303
606	821	12304
609	822	12434
611	823	13238
632	827	13255
633	830	13268
642	839	<u>13293</u>
644	851	
662	855	
663	888	
665	912	
684	917	
701	955	
711	987	
717	1048	
724	1070	
738	1076	
742	1089	
746	1133	
752	1195	
	1238	

Total: 65

NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
101	Coils #215 - 216 - 217 - 218 - 219	CMTR	No ASTM/year designation	Zack to obtain revised CMTRs
102	Coils #220 - 221 - 222 - 223 - 224	CMTR	No ASTM/year designation	Zack to obtain revised CMTRs
103	Coils	CMTR	No certs	Zack to obtain CMTRs
105	Coils #229 - 230 - 231 - 232	CMTR	No ASTM year	Zack to obtain revised CMTRs
106	Coils #233 - 234 - 235 - 236	CMTR	No ASTM year	Zack to obtain revised CMTRs
107	Missing pkg.			Zack will attempt to locate
108	Structural nuts bolts	C of C	Material does not meet spec.	Engineering disposition required

Q. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
199	Angles	CMTR	No galvanizing cert	Zack to obtain galvanizing cert
200	Angle	CMTR	No galvanizing cert	Zack to obtain galvanizing cert
201	Hex nuts washers screws	C of C	Wrong standard referenced (No Zack P.O.)	Possible engineering disposition required
202	"J" bolts and washers	C of C	No certs	Zack to obtain certs
203	Bolts Washers	C of C	Wrong standard referenced	Possible engineering disposition required
204	Elcen welded beam attachments	C of C	Material does not meet spec.	Possible engineering disposition required
205	Pipe couplings	CMTR	No certs	Zack to obtain CMTRs

P.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
597	Hex head screw	C of C	No ASTM year (No Zack P.O.)	Zack will attempt to locate P.O.
600	Missing pkg.			Zack will attempt to locate (Possible engineering disposition required)
602	Coils #252 - 253 - 254 255 - 256	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
603	Coils #248 - 249 - 250 - 251	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
616	Structural bar stock	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
617	Structural bar stock	CMTR	No ASTM year	Zack to obtain revised CMTR
	Angle	CMTR	No ASTM/year designation	Zack to obtain revised CMTR

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
422	Sheets	CMTR	No ASTM year	Zack to obtain revised CMTR
630	Angles	CMTR	No ASTM	Zack to obtain revised CMTR
635	Angles	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
641	SS Sheet	CMTR	No ASTM yr.	Zack to obtain correct CMTR
652	Angles, Bars	CMTR	No ASTM/yr. designation	Zack to obtain correct CMTR
666	Angles, channel (galvanizing)	C of C	Different count on galvanizing certs	Zack will attempt to obtain corrected cert
	Flats	CMTR	No physicals, 102, 103, 104	Engineering disposition required

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
106	Coils #405 - 506 - 507 408 - 409	CMTR	No ASTM/yr. designation	Zack Co. will obtain corrected CMTR
104	Angle rings	CMTR	No certs - 3x3x1/4	Possible engineering disposition required
114	Angle rings	CMTR	No certs	Zack will attempt to acquire CMTR Possible engineering disposition required
112	Angle rings	CMTR	No certs - 722 - 722-1 - 722-3 - 722-4	Possible engineering disposition required
114	Bars and angles	CMTR	Wrong standard referenced	Engineering disposition required
110	Sheets	CMTR	No certs Wrong standard referenced	Engineering disposition required
111	Square walled tubing	CMTR	Wrong standard referenced	Engineering disposition required

P.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
002	SS Sheets	CMTR	Wrong type references T-309-2B	Engineering disposition required
003	Angle rings	CMTR	No certs	Zack to attempt acquisition of CMTR
009	Angle rings	CMTR	No ASTM/yr.	Zack to attempt acquisition of corrected CMTR
001	Angle rings	CMTR	No ASTM	Zack to obtain corrected CMTR
006	Angle rings	CMTR	No ASTM/yr.	Zack to obtain corrected CMTR
007	Angle rings	CMTR	No. of items galvanized does not match no. of material items	Possible engineering disposition required
011	Angle rings	CMTR	No ASTM/yr.	Zack to obtain corrected CMTR

P.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
0001	Hex cap screws and washers	C of C	Wrong standard referenced for washers	Engineering disposition required
0001	Lock washers	C of C	Wrong standard referenced	Possible engineering disposition required
0001	Tek screws	C of C	No standard referenced	Zack to obtain revised C of C (Possible engineering disposition required)
0002	Pop Rivets	C of C	No standard referenced	Zack to obtain revised C of C (Possible engineering disposition required)
0000	Hex head cap screws nuts	C of C	Wrong standard referenced	Possible engineering disposition required
0001	Tek screws	C of C	No standard referenced	Zack to obtain revised C of C (Possible engineering disposition required)
0001	Studs Nuts Washers	C of C	Wrong standard referenced	Possible engineering disposition required

P.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
4137	Hex Head bolts Hex head nuts Hex head washers	C of C	Wrong standard referenced	Possible engineering disposition required
4138	Huck pins Huck collars	C of C	Cert not signed	Zack to obtain revised C of C
4140	Hex head cap screws Hex head nuts Hex head washers	C of C	Wrong standard referenced	Possible engineering disposition required
4208	Carbon arc sticks	CMTR	No certs	Zack to obtain CMTR
4270	Backdraft dampers	Material CMTR	certs not reviewed	Zack to review certs
4305	Hex head cap screws Hex head cap nuts	C of C	Wrong standard referenced (A164)	Engineering disposition required
4310	Air Monitors	C of C	certs not reviewed	Zack to review certs

FIG. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
4-106	Hex head cap screws Hex nuts	C of C	Wrong standard referenced	Engineering disposition required
4-104	Pop rivets	C of C	Wrong standard referenced	Possible engineering disposition required
4-112	Missing pkg.			Zack will attempt to locate
4-108	Pop rivets	C of C		Possible engineering disposition required
4-102	Coils #7 - 8 - 9 - 10 - 13	CMTR	No certs for 22 & 24 gage mtl.	Zack to obtain certs
4-106	Coil #23	CMTR	No certs for 22 & 24 gage mtl.	Zack to obtain certs
4-108	Coil #6	CMTR	No ASTM/year disposition	Zack to obtain revised CMTR

J. L. SALLIE

ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
Angles	CMTR	No galvanizing cert	Zack to obtain galvanizing cert
Coils #245 - 246 - 247	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
Angles	CMTR	No certs	Zack to obtain CMTR
Coils #105 - 106 - 107 - 108	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
Coils #125 - 126 - 127 - 128	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
Coils #117 - 118 - 119 - 120	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
Coils #145 - 146 - 147 149 - 150	CMTR	No ASTM/year designation	Zack will obtain corrected CMTR

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
9412	Coils #148 - 151 - 152	CMTR	No ASTM/yr. designation	Zack will obtain corrected CMTR
9413	Coils #156 - 157 - 158 - 159	CMTR	No ASTM/yr. designation	Zack will obtain corrected CMTR
9414	Coils #174 - 175 - 176 - 177 - 178	CMTR	No ASTM/yr. designation	Zack will obtain corrected CMTR
9415	Coils #129 - 120 - 164 - 165	CMTR	No ASTM/yr.	Zack will obtain corrected CMTR
9416	Coils #131 - 132 - 155 - 182	CMTR	No ASTM yr.	Zack will obtain corrected CMTR
9417	Coils #101 - 102 - 103 - 104	CMTR	No ASTM/yr. designation	Zack will obtain corrected CMTR
	Coils #166 - 170 - 171 - 172	CMTR	No ASTM year	Zack to obtain revised CMTR

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
0120	Coils #167 - 168 - 169 - 173	CMTR	No ASTM year	Zack to obtain revised CMTR
0121	Coils #183 - 184 - 185	CMTR	No ASTM year	Zack to obtain revised CMTR
0122	Fans	C of C	No C of C	Zack to obtain C of C
0127	Angles Channels	CMTR	No ASTM/year designation	Zack to obtain revised CMTRs
0129	Sheets	CMTR	No ASTM/year designation	Zack to obtain revised CMTRs
0132	Angles	CMTR	No ASTM year	Zack to obtain revised CMTRs
0134	Coils #210 - 211 - 212 213 - 214	CMTR	No ASTM/year designation	Zack to obtain revised CMTR

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
	Angles	CMTR	(A575 mtl.) - No ASTM/year designation	Zack to obtain revised CMTR
	Angles	CMTR	No ASTM/year	Zack to obtain revised CMTR
	Grilles Registers Diffusers	Material - CMTR (Seismic analysis)	No certs	Zack to obtain certs
	Balancing Dampers Fire Dampers Gravity damper	Material CMTR	No Zack P.O.	Zack will attempt to obtain F.O.
	Air Monitors	C of C	certs not reviewed	Zack to review certs
	Stainless Steel coil	CMTR	No ASTM year (No Zack P.O.)	Zack to obtain revised CMTR (Zack will attempt to locate P.O.)
	Missing			Zack will attempt to find

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
10764	Angles	CMTR	No ASTM/yr.	Zack will obtain corrected CMTR
11257	Bolts, Nuts, Washers	CMTR	Wrong standard referenced (washers)	Engineering disposition required
11271	Missing			Zack will attempt to find
11544	Angles	CMTR	No certs	Zack will attempt to obtain CMTR Possible engineering disposition
11706	Screws, washers, rivets	C of C	Wrong standard reference on washers	Zack will attempt to obtain CMTR Possible engineering disposition
11755	2x2 (1/2) wire mesh	C of C	No standard referenced	Zack will attempt to obtain CMTR
11766	Missing			Zack will attempt to locate

IA SALE

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
	Missing			Zack will attempt to locate
	Missing			Zack will attempt to locate
	Missing			Zack will attempt to locate
/a	Angle rings	CMR	No certs for 736, 736-3, 736-4	Zack will attempt to locate

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
1.10	Angles and bars	CMTR	Heat # altered	Zack to obtain corrected CMTR
1.11	Blanket P.O. #839 - 839-0	N/A	Blanket P.O.	Zack to correct the confusion of blanket P.O.
1.12	Coils #449 - 450 - 451 452 - 461	CMTR	No physical tests No ASTM yr.	Zack to attempt to obtain physical test data and corrected CMTR
1.13	Angles, Bars, Sheets	CMTR	No ASTM Tubing 6x6x1/4	Zack to obtain correct CMTR
1.14	Sheets	CMTR	Certs	Zack to attempt to obtain CMTR
1.15	Coils #462 - 463 - 482 - 499 - 500 - 501 - 502	CMTR	No physical tests (OK LaSalle)	Zack to attempt to obtain physical test data
1.16	Tubing - ASTM A500 - Grade B	CMTR	No ASTM/yr. designation No physicals 1" square x 1/8	Zack to attempt to obtain physical test data and galvanizing certs on material

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
100	Angles Tubing) Galvanizing Angle Rings)	CMTR	No material certs (Galvanizing order certs only)	Zack to attempt to obtain CMTR on material
101	Sheets	CMTR	No ASTM yr.	Zack to obtain corrected CMTR
102	Sheets	CMTR	No physical tests No ASTM yr.	Zack to obtain physical tests and corrected CMTR
103	Sheets	CMTR	No physical tests No ASTM yr.	Zack to obtain physical tests and corrected CMTR
104	Sheets	CMTR	Wrong standard referenced No physical #69350 No ASTM yr.	Engineering disposition required
105	Coils #445 - 446 - 447 - 448	CMTR	No ASTM yr.	Zack to obtain corrected CMTR
106	Coils #393 - 394 - 395 - 396	CMTR	No ASTM yr. No physical test	Zack to obtain physical test CMTR

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
742	Coils #372 - 373 - 374 375 - 376	CMTR	No physicals for #372, 373, 374 Heat #174278	Zack to obtain physical tests
746	Coils #385 - 386 - 387 - 388	CMTR	No physical tests	Zack to obtain physical tests
752	Angle rings	CMTR	No certs for 2x2x3/16 angles	Zack to attempt to obtain CMTR for 2x2x3/16 stock
762	Angle rings	CMTR	No ASTM/yr.	Zack to obtain corrected CMTR
766	Sheets	CMTR	No physicals on 20 and 22 ga. sheets (OK for LaSalle)	Zack to obtain physical tests
771	Coils #426 - 427 - 428	CMTR	No physical tests (OK for LaSalle)	Zack to obtain physical tests
777	Angles	CMTR	Discrepant count on galvanizing	Zack to obtain corrected CMTR

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
650	Tubing. Bars	CMTR	(tubing A500 mtl.) No ASTM/year designation	Zack to obtain corrected CMTRs Engineering disposition required (Clinton, LaSalle)
651	Angles Tubing	CMTR	Material does not meet Clinton, LaSalle specs. (material certi- fied to A500 1974 - Midland spec. 1977)	Engineering disposition required
651	Coils #359 - 360 - 361 362 - 363	CMTR	No physical tests (OK La Salle)	Zack to obtain CMTR physical tests
711	Bars, Angles	CMTR	No physical tests Item 5 (1/2x10" bar)	Zack to obtain CMTR for physical tests
717	Sheet Bar Angles	CMTR	No ASTM/yr. designation Sheets - 14 ga. Angles 2x2x1/4 No physicals - 14 ga. sheets	Zack to attempt to acquire proper CMTR
717	SS Sheets 14 ga. 16 ga.	CMTR	No ASTM/yr. designation	Zack to obtain corrected CMTR
717	Sheets	CMTR	No physical tests (OK - LaSalle)	Zack to obtain physical test results

P.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
609	Coils #271 - 272 - 273 - 274 - 275 - 276 - 277	CMTR	No physical tests (OK - LaSalle)	Zack to obtain physical test results
610	Coils #280 - 281 - 282 - 283 - 284 - 285 - 286 - 287 - 304	CMTR	No physical tests (OK - LaSalle)	Zack to obtain physical test results
611	Coils #351 - 352 - 353 - 354	CMTR	No ASTM/year designation No physicals	Zack to obtain corrected CMTRs
612	Coils #315 - 316 - 317 - 318	CMTR	No ASTM year No physical tests	Zack to obtain corrected CMTRs
613	Coils #338 - 339 - 340 - 341	CMTR	No ASTM/year designation	Zack to obtain revised CMTR
614	Coils #355 - 356 - 357 - 358	CMTR	No ASTM year	Zack to obtain revised CMTR
615	Sheets	CMTR	No certs	Zack to obtain CMTRs

I.O. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
101	Coils #237 - 238 - 239 - 240	CMTR	No ASTM year No physical tests	Zack to obtain revised CMTRs Zack to obtain physical test results
102	Sheet	CMTR	No physical tests (OK - LaSalle)	Zack to obtain physical test results
103	Duct Sealer	C of C	No certs	Zack to obtain C of C
104	Coils #267 - 268 - 269 - 270	CMTR	No ASTM year	Zack to obtain revised CMTRs
105	Coils #307 - 308 - 309 - 310	CMTR	No ASTM/year designation	Zack to obtain revised CMTRs
106	Coils #495 - 496 - 497 - 498	CMTR	No ASTM yr.	Zack to obtain corrected CMTR
107	Sheets	CMTR	No ASTM yr.	Zack to obtain corrected CMTR

ITEM NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
1046	Bar	CMTR	No certs 1048-1 3x8 Bar	Zack to obtain CMTR for 1048-1
1049	Sheets	CMTR	No physicals No ASTM yr.	Zack to attempt to obtain physical test data
1048	Sheets	CMTR	No chemical data	Zack to attempt to obtain physical test data
1099	Square tubing	CMTR	No certs - 1095-5	Zack will attempt to obtain CMTRs
1100	Sheets - 12 ga.	CMTR	No physical tests (OK LaSalle)	Zack to attempt to obtain physical data
1101	Coils #575 - 576	CMTR	No physical data on coil #576 (OK LaSalle)	Zack to attempt to obtain physical data
1102	Angles	CMTR	No ASTM	Zack to obtain corrected CMTR

P.O. NO.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
1111	Tubing	CMTR	No ASTM/yr.	Zack to obtain corrected CMTR
	Hex bolts Hex nuts	CMTR	No ASTM yr. No reference to zinc spec.	Zack will attempt to obtain corrected CMTR Possible engineering disposition required
	Coils #257 - 258 - 259 - 260 - 261 - 262 - 263 - 264 - 278 - 279	CMTR	No physical test data No ASTM/yr. designation	Zack will attempt to obtain physical test CMTR
1111	Pop rivets	CMTR	No certs	Zack will attempt to obtain CMTR Possible engineering disposition required
1111	Malleable clamp, 3/8"	CMTR	No certs	Zack will attempt to obtain CMTR Possible engineering disposition required
1111	Hex nuts and bolts	CMTR	Wrong plating standard referenced - C of C only	Zack will attempt to obtain correct CMTR Possible engineering disposition required
	Rod (threaded)	CMTR	Wrong plating standard refe- renced - C of C only	Zack will attempt to obtain correct CMTR Possible engineering disposition required

	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
	Nuts	CMTR	No plating standard referenced	Zack will attempt to obtain correct CMTR Possible engineering disposition required
	Butt hinge	CMTR	No certs	Zack will attempt to obtain CMTR
	Vent Glas (12")	C of C	No certs	Zack will attempt to obtain CMTR
	Tek Screws	C of C	No standard referenced	Zack to obtain corrected C of C
	Tek screws	C of C	No standard referenced	Zack to obtain corrected C of C
	Hex nuts and bolts	CMTR	No plating standard referenced	Possible engineering disposition required
	Coils #347 - 348 - 349 - 350	CMTR	No physical tests (OK La Salle)	Zack to attempt to obtain physical test data

I.D. No.	ITEM DESCRIPTION	REQ'D. DOC.	DISCREPANCY	COMMENTS/PROPOSED RESOLUTION
	Square tubing	C of C	Wrong standard referenced (803, 803-1)	Engineering disposition required
	Angle rings	OMR	No ASTM	Back to obtain corrected OMR

LASALLE COUNTY
HVAC SYSTEMS

- DEFINITIONS
- HVAC SYSTEMS
- AREAS SERVED/FUNCTION
- ZACK COMPANY SCOPE
- SYSTEM DIAGRAMS
- MATERIAL REQUIREMENTS
- MATERIAL PROPERTIES
- MATERIAL FURNISHED
- DISPOSITION OF CECO NCR'S #556, 557, 558, 566 & 594

DEFINITIONS

A. Nuclear Safety-Related Function

Any function necessary to assure:

1. The integrity of the reactor coolant pressure boundary or primary coolant boundary,
2. The capability to shutdown the reactor and maintain it in a safe shutdown condition, or
3. The capability to prevent or mitigate the consequences of conditions of design which could result in potential off-site exposures that are a significant fraction of Title 10, Code of Federal Regulations, Part 100, "Reactor Site Criteria."

B. Safety-Related HVAC Systems (Engineered Safety Feature Systems)

Those heating, ventilating, air conditioning, or air cleaning systems which provide necessary support to enable nuclear safety-related functions to be performed. Specific objectives are to:

1. Provide suitable environment for plant personnel so they may perform required nuclear safety-related functions.
2. Provide a suitable environment for nuclear safety-related plant equipment so it may perform required nuclear safety functions.
3. Control, limit, or prevent the release or transfer of airborne radiological contaminants and intake of hazardous chemicals that could affect nuclear safety functions.

C. Non-Safety Related-Seismic

Those HVAC Systems or portions of HVAC or air cleaning systems which, although not required to function, are required to retain their structural integrity (i.e. remain in place during and after an SSE) so as not to prevent the operation of other nuclear safety related systems.

D. Non-Safety-Related - (Non-Seismic) HVAC Systems

Those systems or portions of HVAC or air cleaning systems whose operation or structural integrity is not required to support nuclear safety-related functions.

E. Commercial Grade Quality

Merchant or common grade materials, components, or appurtenances that are customarily used in industrial and commercial HVAC applications and which are readily available, catalog-type ("off-the-shelf") items. No special manufacturing processes are required, over and above, the normal industry practice, to enhance the items' characteristics.

F. Special Quality

Material, components, or appurtenances that are special order, custom made as required when end use, method of fabrication or subsequent processing treatment requires quality characteristics not available in merchant or commercial grade quality (e.g., high strength, low alloy, quencher or special killed steels).

LASALLE COUNTY
HVAC SYSTEMS

SAFETY RELATED/SEISMIC

- Control Room HVAC (VC)
- Auxiliary Electric Equipment Room HVAC (VE)
- Diesel Generator Facilities Ventilation (VD)
- Switchgear Heat Removal Ventilation (VX)
- Emergency Core Cooling System (ECCS) Equipment Area Cooling (VY)
- Standby Gas Treatment System (SGTS) (VG)
- Limited Portions of Reactor Building Ventilation and Primary Containment Furge

NON-SAFETY RELATED/SEISMIC

- Primary Containment (Drywell) Ventilation (VP)
- Primary Containment Furge, Portions (VQ)
- Reactor Building Ventilation System (VR)

NON-SAFETY RELATED/NON-SEISMIC

- Auxiliary Building Office HVAC (VA)
- River and Lake Screen House Ventilation (VH)
- Machine Shop Ventilation (VJ)
- Auxiliary Building Laboratory HVAC (VL)
- Off-Gas Building HVAC (VO)
- Service Building HVAC (VS)
- Turbine Building Ventilation (VT)
- Radwaste Ventilation (VW)

ILASALLE COUNTYHVAC SYSTEMS

<u>Safety Related HVAC Systems</u>	<u>Areas Served</u>	<u>Function</u>
1. <u>Control Room HVAC</u> A Train and B Train	Unit 1 & 2 Control Room Main Security Center Storage Room	Provide Habitable zone for radiological and haz chemical protection. Provide temperature control for personnel comfort and equipment operation. Maintain positive pressure.
2. <u>Auxiliary Electric Equipment Room HVAC</u> A Train and B Train	Unit 1 Auxiliary EE Room Unit 2 Auxiliary EE Room Computer Room Computer Storage	Provide habitable zone for radiological and haz chemical protection for remote plant shutdown. Provide temperature control for personnel comfort and equipment operation. Maintain positive pressure.
3. <u>Diesel Generator Facilities Ventilation</u> Unit 1 Diesel Gen. Room Vent Standby Diesel Gen. Room Vent Unit 1 HPCS D-G Room Vent Unit 1 HPCS SWGR/Pump Rm Vent Unit 2 Diesel Gen. Room Vent Unit 2 HPCS D-G Room Vent Unit 2 HPCS SWGR/Pump Rm Vent	Unit 1 Diesel Gen. & Diesel Oil Rooms Standby Diesel Gen. & Diesel Oil Rooms Unit 1 HPCS Diesel Gen. & Diesel Oil Rooms Unit 1 HPCS SWGR & Pump Rms. Unit 2 Diesel Gen. & Diesel Oil Rooms Unit 2 HPCS Diesel Gen. & Diesel Oil Rooms Unit 2 HPCS SWGR & Pump Rms	Provide temperature control for D-G, HPCS switchgear and pumps rooms when equipment operates. Provide ventilation of diesel oil and day tank rooms.

Safety Related HVAC Systems

Areas Served

Function

4. Switchgear Heat Removal

Unit 1 Reactor Protection System
LG Set Room Vent

Unit 1 Ess Swgr Div I Vent

Unit 1 Ess Swgr Div II Vent

Unit 2 Rx Protection System
LG Set Room Vent

Unit 2 Ess Swgr Div I Vent

Unit 2 Ess Swgr Div II Vent

Unit 1 Reactor Protection Sys.
LG Set Rm & 48V Battery Room
& Cable Spreading Room

Unit 1 Ess Div I Swgr Room &
125 V Battery Room

Unit 1 Ess Div II Swgr Room &
125V Battery Room

Unit 2 Rx Protection System
LG Set Rm & 48V Battery Room
& Cable Spreading Room

Unit 2 Ess Div I Swgr & 125V
Battery Room

Unit 2 Ess Div II Swgr & 125V
Battery Room

Provide ventilation for
temperature control for
equipment operability

Provide ventilation for
battery rooms.

5. ECCS Equipment Area Cooling

Unit 1 RHR Pump 1A Cubicle
Cooler

Unit 1 HPCS Pump Cubicle Cooler

Unit 1 RHR Pump 1B and 1C
Cubicle Cooler

Unit 1 LPCS & RCIC Pumps
Cubicle Cooler

Unit 1 RHR Sw Pump A & B
Cubicle Cooler

Unit 1 RHR Sw Pump C & D
Cubicle Cooler

Unit 2 - Same as Above.

Unit 1 RHR Pump 1A Cubicle

Unit 1 HPCS Pump Cubicle

Unit 1 RHR 1B & 1C Pump Cubicle

Unit 1 LPCS & RCIC Pump Cubicle

Unit 1 RHR Sw Pump A & B Cubicle

Unit 1 RHR Sw Pump C & D Cubicle

Unit 2 - Same as Above.

Provide Temperature control
for ECCS pump operability.

6. Standby Gas Treatment

Unit 1 & 2 SGTS Trains

Unit 1 Reactor Building

Unit 1 Drywell & Suppression
Pool Chamber

Unit 2 Reactor Building

Unit 2 Drywell & Suppression
Pool Chamber

Maintain negative pressure
in reactor building and drywell.

Remove radioactive iodine from
post accident reactor building
effluent.

LASALLE COUNTY HVAC SYSTEMS

Page 3

Safety Related HVAC Systems

Areas Served

Function

7. Reactor Building Vent

Unit 1 & 2 Reactor Building
Supply and Exhaust Isolation

Unit 1 Reactor Building
Unit 2 Reactor Building

Isolate supply and exhaust
ducts for Reactor Building
Vent System post accident.

8. Primary Containment Purge

Unit 1 & 2 Containment
Isolation

Unit 1 & 2 Primary and
Secondary Containment

Isolate Primary and Secondary
containment supply and exhaust
pipes post accident.

SAFETY RELATED HVAC SYSTEM
AND EQUIPMENT CHECKLIST
LASALLE COUNTY NUCLEAR GENERATING STATION

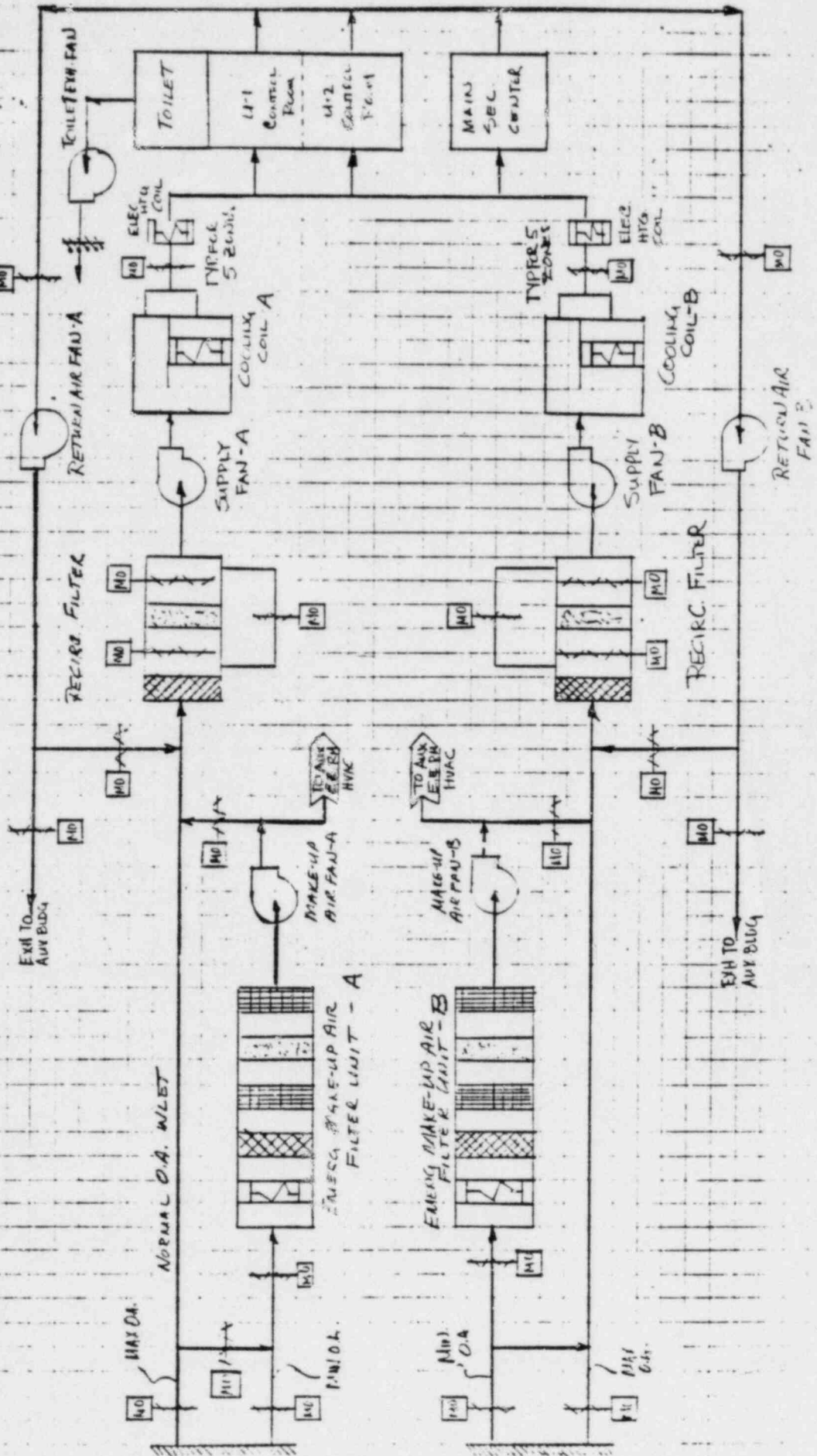
SCOPE OF HVAC WORK	Items Identified On Safety Related HVAC Systems					
	System Acronym					
	VC	VD	VE	VG	VX	VY
<u>Furnished By Zack, Installed By Zack</u>						
Ductwork	X	X	X	*	X	X
Supports	X	X	X	-	X	X
Welding	X	X	X	-	X	X
Refrigerant Piping	X	-	X	-	-	-
<u>Purchased By Zack, Installed By Zack</u>						
Fasteners	X	X	X	*	X	X
Sealants	X	X	X	*	X	X
Flexible Connections	X	X	X	X	X	X
Access Doors	X	X	X	-	X	X
Refrigerant Specialties	X	-	X	-	-	-
Fire Dampers	X	X	X	-	X	X
Gravity Shutters	X	X	-	-	X	-
Balancing Dampers	X	X	X	-	X	X
Grilles, Registers and Diffusers	X	X	X	-	X	X
Airflow Measuring Stations	X	-	X	X	X	X
Silencers	X	-	X	-	X	-
Filters	-	X	-	-	X	-
<u>Purchased By CECO, Installed By Zack</u>						
Heat Exchange Coils and Cabinets	X	-	X	-	-	X
Atmospheric Clean-Up Filter Units	X	-	X	X	-	-
Vaneaxial Fans	X	X	X	-	X	X
Centrifugal Fans	X	X	-	-	X	X
Air Cooled Condensing Units	X	-	X	-	-	-
Isolation Dampers	X	X	X	-	X	X
Check Dampers	X	-	-	-	-	-

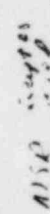
↓
S&L approved purchases

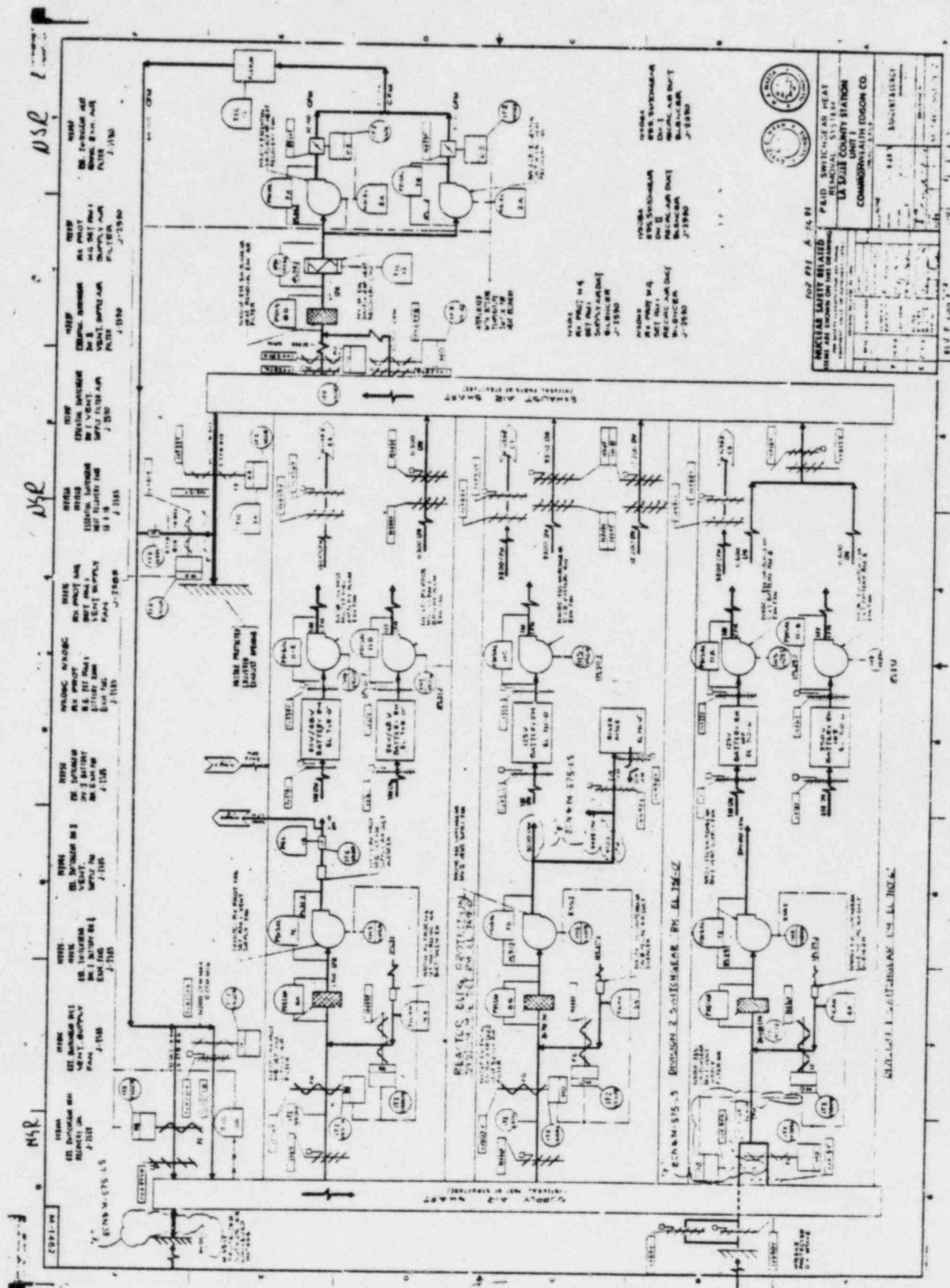
←
Purchased under another special contract

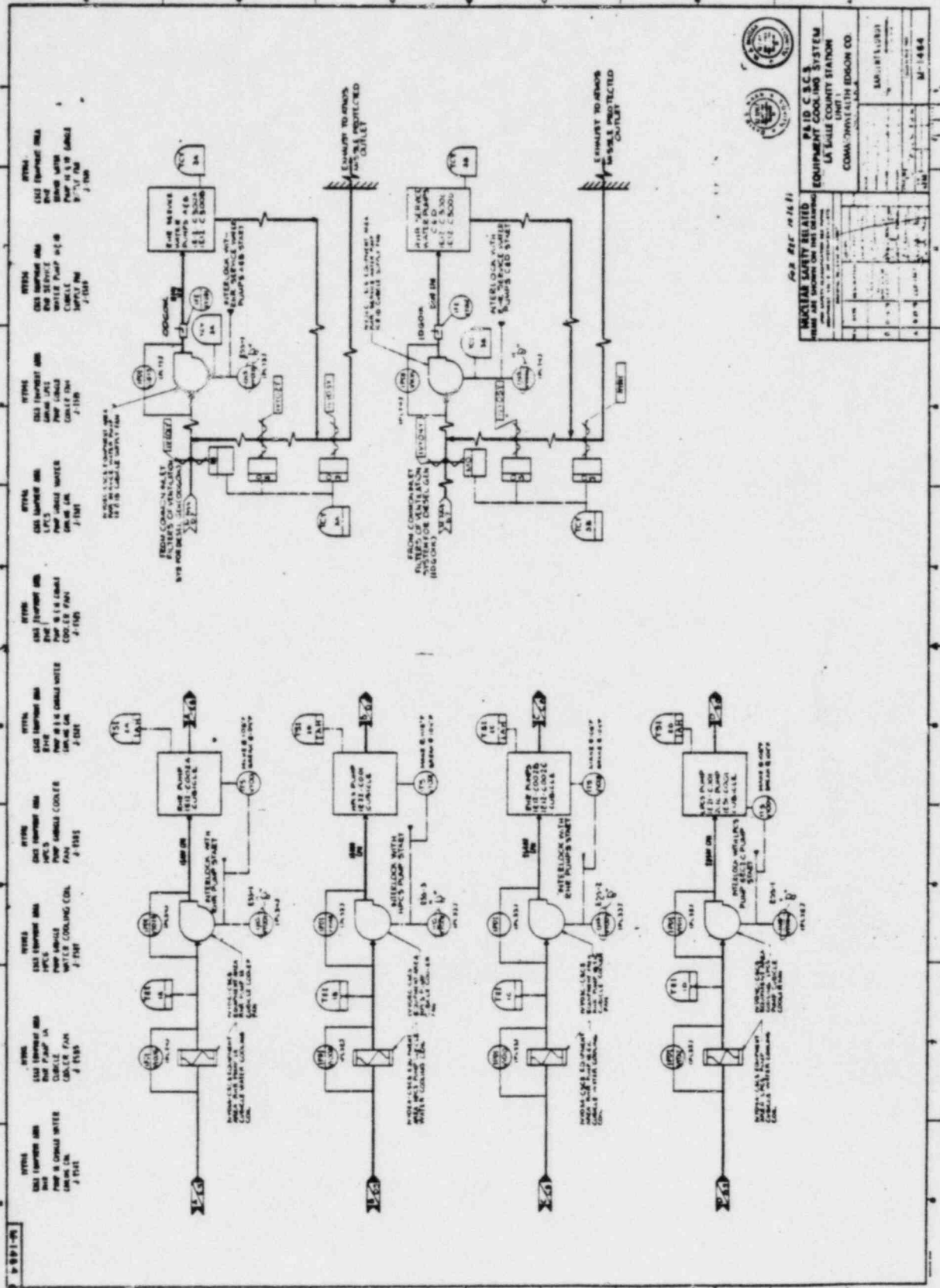
*Limited Scope i.e. Less 5 Feet Of Ductwork.

CONTROL ROOM HVAC SIMPLIFIED DIAGRAM









PL ID C 5 C 5
 EQUIPMENT COOLING SYSTEM
 LA COUNTY JAIL
 COMMUNICATIONS SECTION
 M-1484

LaSalle County Nuclear Station

Material Requirements for HVAC Ductwork Systems

The LaSalle County HVAC Work Specification J-2590 requires that the HVAC ducts be made of galvanized sheet metal conforming to the requirements of ASTM A-527 for up to 16 gauge thickness and ASTM A-526 for 14 gauge and over. The companion flange angles and stiffening angles are specified as ASTM A-36 (ASTM A-575 for angles less than 2-1/2" x 2-1/2" x 1/4"). Hanger supports are specified as ASTM A-36. The specification further states the required thickness and angle iron stiffening and flange joints to be used for both seismic (safety-related and non-safety-related) and non-seismic (non-safety-related) applications. The physical design drawings indicate the size of hanger angles.

The material used for this application is no different from that used in any industrial or commercial application. Nuclear power plant galvanized ducts, angles and hangers do not have any additional requirements placed on the manufacturing of this material. The galvanized ducts, angles and hanger steel must simply conform to the specified ASTM standard.

It is also important to point out that there are no national codes which specifically govern the design, fabrication, or installation of HVAC systems such as there are for power plant piping, which is covered by ASME Boiler and Pressure Vessel Codes. In fact, the only national standard which covers duct systems is ANSI N509 "Nuclear Power Plant Air Cleaning Units and Components" which states requirements for air cleaning ducts only. This standard, written initially in 1976 and extensively revised in 1980, states that galvanized sheet material for air cleaning ducts shall conform to ASTM A-527/A-526. No specific material documentation is required.

The federal regulation which addresses the requirements for documentation is 10CFR50, Appendix B, Section VII, Control of Purchased Material, Equipment, and Services. It states that "documentary evidence that material and equipment conform to the procurement requirements shall be available at the nuclear power plant site prior to installation or use of such material and equipment. This documentary evidence shall be sufficient to identify the specific requirements, such as codes, standards, or specifications met by the purchased material and equipment."

Since there are no national codes or standards which specify the documentation required, the documentation requirements are the responsibility of the Purchaser (and his A-E) to define. As a minimum, evidence which indicates the material conforms to the specified material is all that is required. For this application which uses standardized, commercial-grade material, a certificate of conformance would be acceptable.

LaSalle County HVAC Work Specification J-2590 however included standardized QA articles (prepared mainly for ASME B&PV code systems). These require the following:

Two (2) copies of all appropriate documentation, as hereinafter specified, or as required by applicable code, standard, and criteria shall be submitted. . . A list of the minimum required documentation with references where they are defined is as follows:

- a. Certified Material Test Report, which shall include the actual results of all chemical analyses and mechanical tests required by the material specifications and actual results of all other tests required by material specification.
- b. Welding Material Test Report.
- c. Radiographic Certification.
- d. Repair Weld Certification.
- e. Eddy Current Test Report.
- f. Hydrostatic Testing and/or Pneumatic Testing Report.
- g. Leak Test Report.
- h. Heat Treatment (Time and Temperature Charts).
- i. Material Identification and Marking (Traceability).
- j. Filler Metal Traceability on Pressure Retaining Welds.
- k. Welder Qualification Report.
- l. Nondestructive Testing Personnel Qualification Report.
- m. Code Data Report, including nameplate date and rubbing.

After award, a meeting was held with The Zack Company, Commonwealth Edison Company and Sargent & Lundy to clarify the QA requirements. Item a above was clarified to only apply to duct sheets, angles and supports. Typical welding rod material certificates were also requested for noncode weld rod, which is in accordance with AWS 5.01. For the remainder of the work, certificates of conformance were required.

Nonconformances concerning the galvanized sheet steel and angle iron were submitted by The Zack Company to Commonwealth Edison Company in late 1981 and early 1982. These nonconformances were for documentation deficiencies (i.e., documentation which did not meet specification requirements) and not material deficiencies. These nonconformances were evaluated to determine if there was sufficient documentation available to verify if specified materials or materials equivalent to or exceeding specified materials were provided.

Other documents such as steel company invoices and Zack purchase orders which indicate for example ASTM A-527 or lock forming quality (LFQ) galvanized steel¹, provide adequate assurance that the specified materials were provided. Since these materials are identical to those materials routinely used in industrial and commercial applications, and the steel manufacturers have been producing this material to a nationally recognized standard for many, many years, the history of this standardized product indicates a satisfactory performance and quality.

In addition, these materials have low carbon content, less than 0.3% by the ASTM specifications and it is well known that low carbon steel metal exhibits yield stresses of a minimum of 35,000 psi². The seismic safety-related duct system assumes an allowable stress of 18,000 psi maximum with many ducts seeing less than that. Thus, considerable margin exists in the system design with the normal production quality ASTM material. A comparison of the commercially available materials that could possibly be used for ducts, stiffeners and angles confirms that the majority of the materials have yield stresses in excess of 30,000 psi. The worse possible case (ASTM A663, Standard Specification for Merchant Quality Hot-Rolled Carbon Steel Bars subject to Mechanical Property Requirements) exhibits a minimum yield of 22,500 psi. This is still above the 18,000 psi design value. Thus, even if the worse possible steel was used, the yield stress would not be exceeded. (Refer to the attached discussion on "Material Specification and Mechanical Properties for Galvanized Sheet Steel and Stiffener, Hanger, and Support Steel" for additional information).

It should also be pointed out that none of the nonconformances submitted involve the sheet metal gauge or angle size and thickness. Zack documents (fabrication tickets and duct construction details) indicate the sheet metal gauge. This is checked during shop inspection.

All of these factors were involved in our review of the material documentation nonconformances to the specification requirements and allowed us to accept the alternate documentary evidence.

¹ASTM A-527 is referred to as lock forming quality (LFQ) in its title. ASTM A-526 is referred to as commercial quality (CQ). These terms are acceptable alternates for the ASTM designation.

²T.B. Jefferson, Metals and How to Weld Them, (The Welding Encyclopedia), Second Edition.

Material Specification and Mechanical Properties
for Galvanized Sheet Steel,
and Stiffener, Hanger, and Support Steel

We have reviewed the properties of the available materials for sheet steel, stiffeners, hangers, and supports and compared them to properties of the material specified in Specification J-2590, HVAC Work. The enclosed table, Material Specification and Mechanical Properties, lists the possible sheet and angle materials and corresponding mechanical properties. The minimum yield strength for all tabulated sheet steel materials is 34,000 psi and for angle materials is 22,500 psi. The seismic analysis of the ductwork and support systems utilized a design yield strength of 18,000 psi. Therefore, materials routinely purchased by The Zack Company would satisfy the design requirements of Specification J-2590.

Stiffener, hanger, and support angles used by The Zack Company have typically been purchased from Northwestern Steel and Wire Company. Angles of a size 3" x 3" x 1/4" and larger are normally produced to ASTM Specification A36 which has a minimum yield strength of 36,000 psi. Angles 2-1/2" x 2-1/2" x 1/4" and smaller are normally produced to ASTM A36 or ASTM 575. ASTM 575 does not require physical property tests as part of its specification. However, based upon our discussions with Northwestern, their typical Mechanical properties for the grade of steel specified (M1020), the lowest grade available (M1008), and two intermediate grades (M1010 and M1015) range from 34 ksi to 37.2 ksi minimum yield strength as shown on the attached tabulation.

Another possible substitution to the above materials is ASTM A663, Standard Specification for Merchant Quality Hot-Rolled Carbon Steel Bars subject to Mechanical Property Requirements although this is not a normal product for ductwork. Grades 45, 50, and 55 represent the worse possible cases with a minimum yield strength of 22,500 psi, and as stated above, exceed our design minimums.

Galvanized sheet steel used by The Zack Company has typically been purchased from Inland Steel Company and other similar reputable companies. Galvanized sheet steel, unless specifically identified otherwise, is normally produced to ASTM Specifications A526 or A527. These specifications do not require physical property tests as part of their specifications. However, Inland Steel Company periodically obtains mechanical property data on these materials as part of their quality control program. The mechanical properties listed in the attached table are representative of the values obtained from this testing program. Other possible types of galvanized sheet steel are also shown on the attached tabulation. These represent the minimum mechanical properties available for sheet steel, and as stated above, exceed our design minimums.

One other alternative to purchasing galvanized sheet steel manufactured to ASTM A526/527, would be to purchase uncoated sheet steel from the steel mill and then have it galvanized elsewhere. Procurement in this manner would not change the characteristics of the sheet steel as the uncoated material would have been produced at ASTM A366, Standard Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality or ASTM A569, Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip, Commercial Quality. These specifications have the same chemical composition as materials produced to ASTM A526 or A527 and therefore, are equivalent. Other forms of galvanized sheet, e.g., "Paintgrip", "Electrogalvanized", are different coating variations to the same base metals and carry the same ASTM designation for the base metal.

Since the specified materials are very common to the HVAC industry, material substitution is not very probable. However, this should eliminate any concern with respect to the hypothetical question of what is the worse that could happen if the wrong material was furnished.

MATERIAL SPECIFICATION AND MECHANICAL PROPERTIES
FOR GALVANIZED SHEET STEEL AND STIFFENER HANGER, AND SUPPORT STEEL

MATERIAL	SIZE	MATERIAL SPECIFICATION	SPECIFICATION TITLE	MECHANICAL PROPERTIES	
				MINIMUM YIELD STRENGTH PSI	MINIMUM TENSILE STRENGTH PSI
<u>Sheet</u>	16 Gauge - Lighter	ASTM 527 (1)	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Lock-Forming Quality</u>	38,000 (4)	52,000 (4)
	14 Gauge - Heavier	ASTM 526 (1)	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Commercial Quality</u>	40,000 (4)	53,000 (4)
		ASTM A446 Grade A	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Structural (Physical) Quality</u>	33,000 (2)	45,000 (2)
		Grade B		37,000 (2)	52,000 (2)
		Grade C		40,000 (2)	55,000 (2)
		Grade D		50,000 (2)	65,000 (2)
		Grade E		80,000 (2)	82,000 (2)
		Grade F		50,000 (2)	70,000 (2)
		ASTM A742	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Polymeric Pre-Coated For Sewer and Drainage Pipe</u>	33,000 (2)	45,000 (2)
		ASTM A444	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process for <u>Culverts and Underdrains</u>	33,000 (2)	45,000 (2)
		ASTM A528	Standard Specification for Sheet Steel, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Drawing Quality</u>	34,000 (5)	52,000 (5)
		ASTM A642	Standard Specification for Sheet Steel, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>Drawing Quality, Special Killed</u>	34,000 (5)	52,000 (5)
		ASTM A361	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process for <u>Roofing and Siding</u>	38,000 (6)	52,000 (6)
		ASTM 525	Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, <u>General Requirements</u>	38,000 (7)	52,000 (7)

*lowest
quality you
could get.
Design has
minimum design
strength of
18,000*

() Refers to note numbers.

MATERIAL SPECIFICATION AND MECHANICAL PROPERTIES (cont.)
FOR GALVANIZED SHEET STEEL AND STIFFENER HANGER, AND SUPPORT STEEL

MATERIAL	SIZE	MATERIAL SPECIFICATION	SPECIFICATION TITLE	MECHANICAL PROPERTIES	
				MINIMUM YIELD STRENGTH PSI	MINIMUM TENSILE STRENGTH PSI
<u>Stiffeners, Hangers, and Supports</u>	3"x3"x1/4" and Larger 2-1/2"x2-1/2"x1/4" and smaller (Formed Angle)	ASTM A36 (1)	Standard Specification for Structural Steel	36,000 (2)	58,000 (2)
		ASTM 575 Grade M-1020 (1)	Standard Specification for Merchant Quality Hot-Rolled Carbon Steel Bars	37,200 (3)	57,500 (3)
		Grade M-1008	• <i>general over the counter</i>	34,000 (3)	52,000 (3)
		Grade M-1010		35,700 (3)	54,500 (3)
		Grade M-1015		36,100 (3)	55,000 (3)
		ASTM A663 Grade 45	Standard Specification for Merchant Quality Hot-Rolled Carbon Steel Bars Subject to Mechanical Property	22,500 (2)	45,000 (2)
		Grade 50		25,000 (2)	50,000 (2)
		Grade 55		27,500 (2)	55,000 (2)
		Grade 60		30,000 (2)	60,000 (2)
		Grade 65		32,500 (2)	65,000 (2)
		Grade 70		35,000 (2)	70,000 (2)
		Grade 75		37,500 (2)	75,000 (2)
		Grade 80		40,000 (2)	80,000 (2)

() Refers to note numbers.

Notes:

1. Materials specified in J-2590.
2. Properties from appropriate ASTM specification.
3. Properties obtained as minimum produced value from Northwestern Steel and Wire Company.
4. Properties obtained as routine periodic testing for quality control from Inland Steel Company.
5. Material has a chemical composition that is similar to ASTM A575, Grade 1008.
6. Material not chemically controlled, data estimated by Inland Steel Company.
7. Material has a chemical composition that is similar to ASTM 527.

**MATERIAL SPECIFICATION AND MECHANICAL PROPERTIES
FOR FASTENERS USED IN HVAC SYSTEMS**

PASTER MATERIAL	MATERIAL SPECIFICATION	SPECIFICATION TITLE	MINIMUM TENSILE STRENGTH, PSI	COMMENTS
<u>Bolts:</u> <i>nos specify</i>	ASTM A307 (1)	Standard Specification for Carbon Steel Externally Threaded Standard Fasteners	60,000 (2)	
	ASTM A325	Standard Specification for High-Strength Bolts for Structural Steel Joints	120,000 (2)	
	ASTM A354	Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners	125,000 (2)	
	ASTM A449	Standard Specification for Quenched and Tempered Steel Bolts and Studs	120,000 (2)	
	ASTM A490	Standard Specification for Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints	150,000 (2)	
	ANSI B18.2.1	American National Standard Square and Hex Bolts and Screws Inch Series	60,000 (3)	Refers to ASTM A307
<u>Nuts:</u> <i>no specify</i> <i>congruents with ASTM A307 as standard</i>	ASTM A563	Standard Specification for Carbon and Alloy Steel Nuts	52,000 (2)	Proof Stress, PSI
	ASTM A194	Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service	120,000 (2)	Proof Stress, PSI
	ANSI B18.2.2	American National Standard Square and Hex Nuts	52,000 (3)	Refers to ASTM A563
<u>Rivets:</u>	ASTM A152 (1)	Standard Specification for Wrought-Iron Rivets and Rivet Rounds		Discontinued
	MIL-R-24243	Military Specification, General Specification for Rivets, Blind, Non-Structural Retained Mandrel	Minimum Tensile Load-475 lbs (2)	3/16" diameter rivets
<u>Screws:</u>	ASTM A548	Standard Specification for Steel Wire, Carbon, Cold-Heading Quality, for Tapping or Sheetmetal Screws		
<u>Washers:</u>	ASTM F436	Standard Specification for Hardened Steel Washers	38-45 HRC (2)	(HRC) Hardness Rockwell C
	ANSI B27.1 (ANSI B18.21.1)	American National Standard Lock Washers	45-51 HRC (2)	Redesignated as ANSI B18.21.1 1972
	ANSI B27.2 (ANSI B18.22.1)	American Standard Plain Washer	23-35 HRC (3)	Redesignated as ANSI B18.21.1 1965 (R1975) Refer to ASTM A325
<u>Studs:</u>	ASTM A193	Standard Specification for Alloy Steel and Stainless Steel Bolting Materials for High-Temperature Service	75,000 (2) 110,000 (2)	Class 1 Class 2
	ASTM A354	Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners	125,000 (2)	
	ASTM A441	Standard Specification for High-Strength Low Alloy Structural Manganese Vanadium Steel	70,000 (2)	3/4" diameter and under

Notes:

1. Materials specified in J-2590.
2. Properties from subject material specification.
3. Properties from referenced ASTM specification.

*used only
in gills, etc
attachmets.*

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

Material/Equipment Categories

- Fasteners
- Miscellaneous Steel Products
- Sealants and Gaskets
- Ductwork, Stiffeners, Hangers
- Weld Rod Filler Material
- Ductwork Accessories
- Coatings/Paints
- Refrigeration Equipment
- Purchased Equipment
- General Notes

*Believe that
records are sufficient
to show this material
was used.*

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>FASTENERS</u>					
• Bolts	ASTM A307	ASTM A307 ANSI B18.2.1	SR	C	Field Test Data
• Nuts	None specified ASTM A307 re- ferences ASTM A563	ASTM A194, A563 ANSI B18.2.2	SR	C	Field Test Data
• Huck Fasteners	None specified	MIL-P-24369B	SR	C	Reliable Supplier
• Rivets	ASTM A152	IFI-110, 114 MIL-R-24243	SR	C	See Note 7
• Screws	ASTM A548	ANSI B16.6.4 IFI-113	SR	C	See Note 8
• Plain Washers	None specified	ASTM F436 ANSI B27.2	SR	C	See Note 9
• Concrete Expan- sion Anchors	Phillips "Red Head" et al.	Phillips "Red Head", HILTI	SR	C	Reliable Supplier
• Structural Bolts	ASTM A325	ASTM A325, A354, A449, A490	SR	S	Visual Inspection

*Supplemental
testing being
done this
week.*

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
• Captive Screw Assemblies	None specified	ASTM A307	NSR	C	Not applicable
• Lock Washers	None specified	ANSI B27.1	SR	C	See Note 9
• Beveled Washers	None specified	ANSI B27.4	SR	C	See Note 9
• Lock Nuts	None specified	IFI-100, 101, 107	SR	C	See Note 10
• Studs	None specified	ASTM A193, A354 A449	SR	C	Visual Inspection
• Drive Nails	None specified	GSA FF-S-325 #3.2.5.2	NSR	C	Not Applicable

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>MISCELLANEOUS STEEL PRODUCTS</u>					
• Tie Rods	1/2"Ø Galvanized Tubing	Republic Elec- trone E.M.T. WW-C-563-A	SR	C	Reliable Supplier
• Band Steel	None specified	ASTM A36	SR	C	Field Test Data
• Bar Stock	None specified	ASTM A36	SR	C	Field Test Data
• Shims	ASTM A36	ASTM A36	SR	C	Reliable Supplier
• Gusset Plates	ASTM A36	ASTM A36	SR	C	Field Test Data
• Expansion Anchor Plates	ASTM A36	ASTM A36	SR	C	Field Test Data
• Hanger Clip Strips	ASTM A526	ASTM A526	SR	C	Reliable Supplier
• Threaded Rod	None specified	ASTM A307, A193	NSR	C	Not Applicable
• Wire Cloth	None specified	RRW-360A	NSR	C	Not Applicable
• Channel	None specified	ASTM A36	SR	C	Field Test Data
• Tube Steel	None specified	ASTM A500, A501	SR	C	Field Test Data

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
• Structural Beams Used as Aux- iliary Steel	ASTM A-36	ASTM A36	Sl	C	Field Test Data

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>SEALANTS AND GASKETS</u>					
• Duct Sealant	GE SCS #1200 DOW #732 RTV et al.	GE SCS #1200 DOW #732-BL11 JM "DUXSEAL"	SR	C	Reliable Supplier
• External Sealant	None specified	Hardcast FT-20 Standard Tape (DT)	SR	C	Reliable Supplier
• Gaskets	Weatherban #1202	Weatherban #1202T	SR	C	Reliable Supplier

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>DUCTWORK STIFFEN- ERS HANGERS</u>					
• Galvanized Duct- work	ASTM A526, A527	ASTM A526, A527	SR	C	Field Test Data
• Stainless Steel Ductwork	Type 316	Type 316	NSR	C	Not Applicable
• Stiffeners	ASTM A575 Grade M1020	ASTM A36 ASTM A575 Grade 1020 Grade 1015 Grade 1010	SR	C	Field Test Data
• Hangers	ASTM A36	ASTM A36	SR	C	Field Test Data

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>WELD ROD FILLER MATERIAL</u>					
• Welding Ductwork, Stiffeners, Supports	Per Welding Procedures	AWS E60-11 AWS E70-18 AWS E70S	SR	S	Field Test Data See Note 11
• Ductwork Brazing	Per Welding Procedures	RCU-SiA	SR	S	Field Test Data See Note 11
• Copper Pipe and Fittings	AWS 5.8 BAg-1	AWS 5.8 BAg-1	SR	S	Reliable Supplier

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>DUCTWORK</u> <u>ACCESSORIES</u>					
• Vanes	ASTM A526, A527	ASTM A526, A527	SR	C	Reliable Supplier
• Flexible Con- nection (<50 HP, 2500 FPM)	Ventglas, et al.	Ventglas	SR	C	Reliable Supplier
• Flexible Con- nection (>50 HP, 2500 FPM)	Goodyear E-59241-0348	Goodyear E-59241-0348	SR	C	Reliable Supplier
• Factory Insula- ted Ducts	Wiremold 57K, et al.	Porter	NSR	C	Not Applicable
• Flexible Metal Ducts	Flexaust Co. Bendway, et al.	Flexaust Co. Bendway	NSR	C	Not Applicable
• Access Doors	Air Balance et al.	Air Balance, Zack	SR	C	See Note 12
• Insulation	Certain-Teed Read	Certain-Teed Read	NSR	C	Not Applicable

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>COATINGS/PAINTS</u>					
• Galvanized Touch-up	Galvanox Type I by Subox	Galvanox, ZRC	NSR	C	Not Applicable

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>REFRIGERATION EQUIPMENT</u>					
• Piping	ASTM B88 Type K Hard	ASTM B88 Type K Hard	SR	C	See Note 13
• Specialties	Henry, Superior, et al.	Henry, Superior	SR	C	Reliable Supplier
• Fittings	ANSI B16.22		SR	C	See Note 13
• Expansion Valves	ALCO, Sporlan	Sporlan	SR	C	Reliable Supplier
• Liquid Solenoids	ALCO, Sporlan	Sporlan	SR	C	Reliable Supplier
• Hot Gas Bypass Valves	ALCO	Flo-Con	SR	C	Reliable Supplier
• Insulation	Armstrong, et al.	Armstrong	NSR	C	Not Applicable
• Refrigerant	R22	R22	SR	C	See Note 14

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
<u>PURCHASED EQUIPMENT</u>					
• Fire Dampers	Advanced Air, et al.	Advanced Air, Rushin	154 SR 207 NSR	C	Reliable Supplier
• Gravity Shutters	Performance Specification	American Warming	23 SR 138 NSR	C	Reliable Supplier
• Balancing Dampers	Performance Specification	American Warming	53 SR 347 NSR	C	Reliable Supplier
• Grilles, Regis- ters, Diffusers	Titus, et al.	Titus	252 SR 1347 NSR	C	Reliable Supplier
• Airflow Mea- suring Stations	Air Monitor, et al.	Air Monitor	50 SR 168 NSR	C	Reliable Supplier
• Silencers	IAC, et al.	IAC	23 SR 52 NSR	C	Reliable Supplier
• Terminal Control Units	Titus, et al.	Titus	70 NSR	C	Not Applicable
• Dust Collector	AAF	AAF	1 NSR	C	Not Applicable
• Filters	Farr, et al.	Farr	11 SR 28 NSR	C	Reliable Supplier

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

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Material/ Equipment Designation	Specified Materials/ Equipment	Furnished Materials/ Equipment	Safety-Related (SR) or Non- Safety-Related (NSR) (See Note 1)	Quality Commercial (C) Or Special (S)	Documents Available (Objective Evidence)
• Humidification Steam Generator	Armstrong	Armstrong	1 NSR	C	Not Applicable
• Humidifiers	Armstrong	Armstrong	20 NSR	C	Not Applicable
• Miscellaneous Fans	Greenheck, et al.	Greenheck, et al.	43 NSR	C	Not Applicable
• Electric Heating Coils	Bransh	Bransh	2 NSR	C	Not Applicable
• Packaged Air Conditioning Units	Trane, et al.	Trane	6 NSR	C	Not Applicable
• Air Handling Unit	Carrier	Carrier	1 NSR	C	Not Applicable
• Condensing Unit	Carrier	Carrier	3 NSR	C	Not Applicable
• Water-Cooled Condensing Units	Carrier	Carrier	1 NSR	C	Not Applicable
• D-X Cooling Coils	Carrier	Carrier	2 NSR	C	Not Applicable

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

General Notes

1. Under safety classification, listing of an item as SR or NSR represents use in safety-related or non-safety-related HVAC systems. For purchased equipment, numerical representations are quantities of equipment in their respective safety category.
2. Where materials were provided by Zack, even though they were not specified, they represent normal commercial practice of providing all necessary hardware required for successful execution of the project. For those miscellaneous materials, not covered in the specification, Zack Company did submit correspondence covering these materials for review.
3. Reliable Supplier - Manufacturer has been producing this standard item for many years. Operational history of this standard item indicates that its significant characteristics perform satisfactorily.
4. Field Test Data - Actual physical data has been verified by in situ material testing.
5. Visual Inspection - Materials can be readily identified by visual observation of a known physical characteristic.
6. Not Applicable - Items were used in non-safety-related HVAC systems and therefore objective evidence is not required.
7. Rivets in safety-related systems were used in the attachment of the hanger support clips. The use of rivets for the application was based on test results utilizing commercially available rivets ("Pop Rivets"). The strength of the rivet is a function of the rivet diameter. Therefore, it is sufficient to perform a visual inspection to determine rivet diameter.
8. Screws in safety-related systems were used in the attachment of grilles, registers and diffusers (GRD) to the HVAC ductwork system. These GRD's are the end points of the HVAC system and are provided to introduce air into a space to obtain a desired indoor environment. The individual spaces are provided with a number of GRD's. The screws that were used are commercial grade sheet metal screws. No further objective evidence is warranted.

HVAC MATERIALS AND EQUIPMENT FURNISHED
BY THE ZACK COMPANY FOR THE
LASALLE COUNTY NUCLEAR GENERATING STATION

General Notes

9. Washers used in safety-related HVAC systems can be categorized as plain, bevel and lock type. Plain washers are used primarily to minimize embedding and to aid in torquing the nut/bolt assembly. Bevel washers are normally provided with concrete expansion anchors and are used to aid in torquing the expansion anchor assembly. Lock washers are used to provide greater bolt tension per unit of applied torque or to provide protection against looseness resulting from vibration. The washers that were used are commercial grade devices with no special requirements dictated by their application. No further objective evidence is warranted.
10. Lock nuts in safety-related systems were used in lieu of a bolt and lock washer connection. These lock nuts are commercial grade devices with no special requirements dictated by their application. No further objective evidence is warranted.
11. Welding rods are used in the attachment of stiffener angles to the ductwork, the assembly of the supporting system or the longitudinal welding of 16 gauge and heavier ductwork. They were controlled by a weld rod quality control procedure. The welding applications were controlled by specific welding quality control procedures. Assurance has been maintained that the proper welding rod was used for the appropriate fabrication assembly. No further objective evidence is warranted.
12. Access doors have been provided in safety-related ductwork to aid in maintenance and inspection of duct mounted accessories such as dampers and airflow measuring stations. These devices are mounted in the ductwork system and are provided with latching mechanisms to maintain closure. These devices have been procured from reliable suppliers or have been fabricated by Zack. They are constructed of the same materials as the ductwork for which they were installed. The use of these doors poses no safety concern. No further objective evidence is warranted.
13. Refrigerant piping and fittings have been subject to pressure tests in excess of system design pressures during construction testing of system. No further objective evidence is warranted.
14. Refrigerant used within the safety-related air conditioning systems was confirmed by resulting temperature conditions identified during pre-operational testing of the respective system. The use of other refrigerants would have resulted in temperature extremes outside of the actual tested values. No further objective evidence is warranted.

The 10CRF50.55e submitted by The Zack Company (Zack) was dispositioned as follows:

- 1) Those Zack NCR's which appeared to be able to be resolved by Zack were returned to Zack for further review.
- 2) Those which Zack could not resolve were included in Commonwealth Edison Company (CECo) NCR's 556, 557, 558, 566 and 594 and were submitted to CEC Co Engineering and subsequently to our consulting engineer (S&L) for their recommended corrective action. The Zack NCR's can be categorized as follows:

- Material specifications for angles, shapes, plates and fasteners are different than those identified in the project specification.
- Documentation provided for angles, shapes, sheets, coils and welding rod filter material is incomplete.
- Materials provided were used in non-safety related applications.
- Miscellaneous discrepancies.

In the course of reviewing these NCR's the following was considered prior to final disposition:

- Material specifications that differed from those identified in the project specification were reviewed to establish the chemical and/or mechanical property variances.
- Documentation that was deemed incomplete was reviewed to determine if sufficient information was provided

to establish the material specification. This was done by reviewing other evidence, such as purchase orders and documentation, provided by Zack.

- Materials were reviewed to determine their applicability to safety-related systems by identifying material unique to ^{non-}safety-related systems, Zack provided documentation and discussions with construction engineers.

Once all technical information relating to the NCR has been reviewed, the resolved NCR is dispositioned in accordance with established procedures.

SPECIFIC GAP ALLEGATIONS MADE REGARDING
THE ZACK COMPANY

1. Absence of any formal Quality Assurance Documentation Program
2. Inadequate qualifications of personnel performing significant roles
3. Missing documentation and discrepancies in welder qualifications records
4. Inadequate training for QA personnel
5. Missing records due to inadequate document control
6. Absence of required quality verification on documents that could be retrieved
7. Lack of proper identification through compliance with material traceability requirements
8. Improper alteration of QA records through stickers containing signatures of questionable authenticity
9. Improper alteration of QA records through whiting-out previous information in order to create the appearance of compliance with legal requirements
10. Improper requests by Zack management for vendors to supply unavailable information or to inaccurately upgrade quality documentation
11. Failure to distinguish between commercial and nuclear purchases on Purchase Orders
12. Unqualified vendors on the AVL
13. Failure to remove unqualified vendors from the AVL
14. Management awareness of QA breakdown
15. Harassment, attempted intimidation and retaliation against QA staff
16. Bad faith progress reports to the utilities
17. Failure to adequately discipline those responsible for records falsification
18. Surrender to unrealistic utility deadlines
19. Utility knowledge of the QA breakdown
20. Utility complicity with the ongoing breakdown
21. Utility complicity with retaliation
22. Inaccurate public denials by utilities of the Zack deficiencies

Mr. James Keppler
Nuclear Regulatory Commission
Steve Ellyn, Jr.

Dear Mr. Keppler,

In regards to the meeting on Aug. 11, 1982 with the Nuclear Regulatory Commission and Commonwealth Edison Co. I feel there are a few things that can be changed to make this audit very effective and successful.

C. F. Braun Co. is hired to do the audit. I feel they should not send their reports to Commonwealth Edison Co. but should report directly to the Nuclear Regulatory Commission. My reasons are drawn from that C. F. Braun reports to Commonwealth Edison Co. and if Comm. Ed. feels it is important they in return will report to the NRC. I am very uneasy with the thought of what Comm. Ed. feels is an important issue. There have been a lot of things Zack has done in the past that Comm. Ed. did not feel were important. If they had at the time I believe all of this would not be going on now.

I am not sure how independent C. F. Braun is. They were recommended from General Electric Co. and I. E. does have the system at the La Salle Plant. I understand Conn. E. do. reasoning because of the background in the nuclear business that C. F. Braun has done. But it seems to me from audits I have seen & people I have heard talk in the nuclear field, that they do not take it very serious.

I heard one of the gentlemen from C. F. Braun say they were going to be visual inspections on the hangers. What about the material the hangers were made from? I feel these hangers should be checked back to the purchase order to find out if there are Certified Material Test Reports for the hangers. If not there should be chemical and physical testing done on these.

Also when Mr. Howard brought our concerns to the N.E.C. and then later Mr. Howard and I told N.B.C. about these concerns it was for the reasons of not knowing whether the La Salle plant is safe or not. Since the time all of this originated, it has been brought to our attention that

Lack is not the only problem on that site. I know you have knowledge of the things I am referring to and I believe you know without my stating them to you. If not I am sure Mr. Devine will again bring them to your attention. For these reasons I believe whenever auditors are selected, they should audit all critical areas on the La Salle site (masonry, pipefitting, bolts on the turbine casing).

I do hope you take my letter seriously and do your best to make sure the La Salle Nuclear Site is up to all federal standards on all of its construction. I believe you are interested in what the public has to say and even though I helped bring allegations against the three nuclear sites above all I am part of that public and do live in the same state as you and the La Salle Plant.

I would like to see the N.R.C. regulating the utilities instead of the utilities regulating the N.R.C.

I thank you for all you have done and what I hope you will do.

Sincerely,

Sharon S. Marella