

10/25/78

50-266

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of Wisconsin Electric Power }
Company amendment to License Nos. DPR-24 & } Docket Nos. 50-266
27. } 50-301

LAKESHORE CITIZENS FOR SAFE ENERGY RESPONSES TO THE NRC
STAFF'S FIRST SET OF INTERROGATORIES

GENERAL INTERROGATORIES (G-1 through G-5 and all their subparts).

We are unable to give you specifics as this time (also see page 16). We will inform you as soon as our case is clarified. We are anxiously awaiting your technical and safety evaluation as well as the final GEIS report.

CONTENTIONS:

- 1-1 An incremental increase in emissions is significant if it adds anything to the area which did not previously exist or adds to already existing radiation regardless of how minimal. Significance--meaning, Significant--having meaning, existence. In otherwords, Intervenor contends that incremental airborne radioactive emissions (those emissions which add anything to the area which did not previously exist or those emissions which add to already existing background radiation), must be analyzed for their meaning (no matter how obscure). If these emissions are found to have meaning (exist), Applicant's airborne monitoring program must be considered (evaluated), and the monitoring results should be published in the local paper.
- 1-2 Incremental airborne radioactive emissions as referred to in the applicant's License amendment DPR 24 & 27. At this time, I cannot state how or what type of analysis should be performed other than the monitoring of radioactive emissions and their effects on human beings (see transcript for specifics).
- 7811200275 G
Analysis is necessary because radiation is dangerous to one's health.

- 1-3 Yes, according to my definition.
- 1-4 See answer 1-1.
- 1-5 Considered--must be able to measure any and all radioactive emissions regardless^{of} how small.
- 1-6 For public information. I understand that this is not a problem if someone is willing to gather the information and give it to the media. This is not really an issue but more a convenience as the documents ~~are~~ (radiation reports) are kept in Steven Points.
- 2-1 The word "effect" deals with the emission's contact with the environment and health of humans in and around the plant site.
- 2-2 See emissions as reported in the Applicant's original application. I'm unable to give further information at this time.
- 2-3 Because of the inconclusive information available to us at this time, we cannot address this question.
- 3a-1 The phrase "within a short period" is intended to mean within a period of ten days or less.
- 3a-2 Any event capable of causing the emergency core offload of ONE reactor may be duplicated to cause the emergency offload of the second core. Since the NRC has deemed the emergency core-offload capability as "desirable" (but not mandatory) for plant safety, the NRC staff might best determine which - if any - occurrence could require the emergency offloading of one, or both, cores.
- Among the events which we envision as possible are: the breakdown of fuel assemblies within the core; the breakdown or threatened breakdown of the core containment walls; damage to or mal-function of the emergency core cooling system;

damages to or malfunction of the reactor core-coolant pumps and or piping; damage to or malfunction of the control rods and their activators; and the damage or threat of damage to the facility by "terrorist groups."

3a-3 As coolant water moves from point a to point b in the cooling pool, any blockage will impede its free flow. While it is true that the coolant water enters the SFP above the stored assemblies, and is drawn-off from above the assemblies, and the direct flow from entrance to exit may not be hindered by the increased assemblies, some of the entering coolant water must be drawn by convection to the pool bottom, beneath, and between the stored assemblies. It is these convection currents which may be impeded by the increased numbers of stored older and cooler fuel assemblies. The added residual heat of these additionally stored assemblies will either increase the SFP's coolant water temperature, or the coolant water flow rate will have to increase to dissipate it.

3a-4 Intervenor has no calculations to support this contention. On the contrary, if common sense leads the NRC to agree that the increased racks and assemblies will reduce the free flow of water then it behooves the NRC staff to engage engineers to quantify the flow restrictions in the public interest.

3a-5 Spent fuel assemblies are kept submerged in the SFP for two reasons: they are radioactively "hot" and they are thermally "hot". Intervenor understands that a great deal of the thermal energy is lost during the months following removal from the core.

Most of the heat is lost quickly; most, but not all.

We have three possible consequences of adding more assemblies to the SFP. First, that the temperature of the SFP will go down; Second, that its temperature will stay the same; and third, that its temperature will rise. We believe it may rise.

3a-6 Intervenors have no estimate of the increase in SFP coolant water temp and have no calculations or analysis to support our contention.. On the Contrary, we feel it the duty of the NRC's technical staff to compute this increase and and compare findings with the Applicant.

3b-1 Intervenors have presented interrogatories to the Applicant regarding this, and, as yet have received no reply. We believe worker activity will increase in these ways: removal of the old racks and the re-fitting of new racks will require increased "over the pool" and "in the pool" activity; we understand that some of the spent fuel assemblies may be moved about in the pool from one storage location to another after removal from the core to assure that the outermost storage positions (those nearest the walls) will be the coolest; we believe the increased number of stored assemblies will require more monitoring activity by the worker.

3b-2 Intervenors have submitted interrogatories to Applicant which may, when answered, relieve our concerns. Our present position is this:

We believe the SFP coolant water suction pipe has no protective screening.

Any of the three activities mentioned in 3b-1 requires increased worker activity over the pool.

Any item used by the worker which could drop into the pool might be drawn into the suction pipe and cause a blockage.

We concede that worker activity probably would not endanger the "filling pipe."

3b-3 Blockage--any restriction in the flow of SFP coolant water.

3b-4 The results of a blockage of the suction pipe would be a reduced flow (in CF/minute) of coolant water.

The effect of a reduced flow might be an increase in the temperature of the SFP coolant water.

See answer 3b-2.

3c-1 "Emergency Core Unload Situations" are defined as those instances which may necessitate the offloading of a complete reactor core (or both reactor cores) in the shortest feasible time period. These instances were listed in our answer 3a-2.

3c-2 "normal core unload situation" is defined in this contention as the offloading of approximately 1/3 of a reactor core's fuel assemblies as would be done in a "normal" refueling operation.

3c-3 Intervenor is concerned with two possible causes of damage to the coolant water pumps:

1. The pumps may be damaged or even made inoperable by individuals attempting to damage the plant and machinery. This may include workers dropping loads onto the pumps, fanatical groups using explosives, or possibly even small arms fire from weapons discharged near the pumps.

2. The pumps may be damaged by objects drawn into the

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suction pipe in the SFP. This may include items accidentally dropped into the pool or it may include items intentionally fed into the suction pipe to cause a breakdown.

These concerns would apply to the SFP coolant pumps in both normal operations and in an emergency core unload situation but would be magnified under the increased heat load accompanying an emergency core offload.

3c-4 Intervenor do not understand what the NRC staff desires in its request for a "factual basis" for our response to interrogatory 3c-3? Perhaps we have satisfied your question in our response to 3c- 3.

3c-5 Intervenor believe that the SFP might reach boiling in the following areas:

1. Simultaneous failure of both coolant pumps within a one week period following a normal 1/3 core offload refueling operation;
2. Failure of one or both pumps within a one week period following an emergency offload of one entire core;
3. Failure of one or both pumps within a one week period following an emergency offload of both entire cores.

In any of these cases, the time required to reach boiling in the SFP would be hastened by the additionally stored spent fuel assemblies.

3c-6 Any of the mechanisms mentioned in Intervenor's answer to question 3c-3 could cause pump failure. In the event of complete pump failure, the SFP would reach boiling sooner as a result of the additionally stored spent fuel assemblies.

- 3c-7 Intervenor do not know what will be emitted as a result of the SFP's water boiling. The Applicant and NRC staff should be aware of the emissions possibilities.
- 3c-8 Any radioactive materials dissolved or suspended in the SFP coolant water may be carried away with the boiling water.
- 3d-1 Intervenor believe that coolant water volume may be lost through any of the following cases:
1. Leaks in the pumps or piping in the SFP's coolant loop.
 2. Leaks in the pool liner and pool walls of the SFP.
- These cases could be caused by worker sabotage, worker accident, or a terrorist attack.
- 3d-2 A leak in the pumps or piping could cause a loss of coolant of the top 10 feet of water in the SFP. A leak in the liner and pool wall could result in a complete drain of the SFP.
- 3d-3 The flow of service water through the heat exchanger maybe reduced by; a breakdown of the service water pumps; or a break in the piping and/or heat exchanger in the service water coolant loop.
- These cases could be caused by: worker sabotage or accident; terrorist attacks.
- 3d-4 Either of the events mentioned in 3d-3 could cause a complete loss of service water.
- 3d-5 The service water pumps maybe damaged or destroyed by: materials drawn into the pump and jamming it from within; explosives or any other concussion capable of cracking the pumps
- 3d-6 Either of the instances mentioned in 3d-5 could cause complete loss of volume in the service water loop.

- 3d-7 In this contention, the "degree of hazard" refers to the "seriousness of the consequences" of damage to the spent fuel assemblies. Since there will be more assemblies stored in the SFP, the seriousness of a loss of cooling capacity increases.
- 3d-8 Any loss of cooling capacity which might be caused by the cases mentioned in answers to interrogatories 3d-1, 3, & 5, becomes more "hazardous" with each additionally stored heat-generating spent-fuel assembly.
- 3d-9 Intervenors cannot "quantify the probability of occurrence" of any accident or sabotage.
- 3d-10 Intervenors propose that compaction will necessitate more worker activity in and above the pool to: remove the present racking, install the new racking, re-position the stored spent fuel assemblies, and monitor the stored assemblies for deterioration or leakage. We cannot estimate the man-hours involved.
- 3d-11 Intervenors concede that worker activity necessitated by compaction will have little or no effect on the accident or sabotage possibilities to the service water pumps, piping and heat exchanger (on the service water loop). This concession does not negate the seriousness of the consequences of a failure in this loop. Service water loop failures could cause an increase in the SFP's water temperature, which would be hastened by the additionally stored assemblies. Intervenors do contend that any worker activity mentioned in answer to interrogatory 3d-10 leads to a greater risk of the occurrences mentioned in answer to 3d-1.

- 3e-1 Intervenor contend the pools liner and/or base and walls maybe damaged by: worker sabotage or accident (dropping materials into the pool or onto the walls; terrorist activity (use of explosives.)
- 3e-2 Intervenor cannot estimate the "extent of damage" of dropping fuel assemblies, or shipping casks, or any other heavy object into the pool or onto the wall. Explosives could puncture the SFP wall.
- 3E-3 If the pool liner were damaged by any event mentioned in answer 3e-1, intervenors believe that stored spent fuel assemblies may have to be moved to another under-water storage site, or removed from the pool entirely.
- 3e-4 Any event which would necessitate the repair of the pool's liner, base, or walls, would necessitate the moving of the stored assemblies nearby to allow the repairs.
- 3e-5 Pool liner "breach" in this contention means any crack, tear, split, puncture, dent which may leak or threaten to leak.
- 3e-6 The stored fuel assemblies are not harmless. They are stored beneath borated water because they pose a hazard to workers and the environment. If one assembly is hazardous, then 1502 assemblies are more hazardous.
- 3e-7 Men make mistakes; men can cause accidents. Men can intentionally cause damage. The more man hours spent in, around and above the pool, the greater the risk of accident or sabotage.

- 3e-8 The SFP was designed to hold, at most, several hundred spent fuel assemblies. Now, we ask, how can the load be increased to 1502 assemblies and racking with no structural changes? The chance of a crack in the base increases as its weight burden increases.
- 3e-9 Intervenor cannot quantify such a probability; the NRC staff engineers may be more qualified to do this.
- 3f-3 We rely on the NRC staff to provide the stress calculations; we do contend that the pool was designed and built for a much lighter burden than this compaction will produce.
- 3f-2 We specified no load in answer 3f-1, but we do contend - until assured by the NRC technical staff to the contrary - that the pool base may not stand the increased burden.
- 3f-4 "Seismic Event" refers to ground vibration or shifting.
- 3f-5 We contend that the modified SFP "may" not be adequate to withstand a seismic event. We ask the NRC technical staff to analyze the structure with this in mind.
- 3f-6 If the pool's walls and base were designed for fewer assemblies, then we question their adequacy while bearing larger stresses during a seismic event.
- 3g-1 "Associated materials" includes the rack bases and accompanying fasteners, and any materials contaminated by the removal exposure.

- 3h-1 Problems--off gasing and gamma radiation damage. Your Technical and safety evaluation should address this area and perhaps clear up any concern.
- 3h-2 Documentation will be provided. (States problems that exist)
- 3h-3 Yes.
- 3h-4 Visual monitoring, monitoring of water, hand check (inspection).
- 5-1 A situation in which the pool no longer serves the purpose for what it was constructed for. The pool can no longer serve as a safe storage facility for spent fuel.
- 5-2 A situation that warrants the possible escape of dangerous elements as a result of an accident or sabotage.
- 5-3 Applicant needs to define and describe the "procedure, hazards or logistics of transportation." Our contention is not that the Applicant has completed an inadequate job of describing the procedures, etc., but that the Applicant has failed to address the topic. This interrogatory should be directed to the Applicant.
- 5-4 When the pool experiences a failure, the pool must be relieved of its spent fuel rods in order to make the pool safe or to implement repairs as soon as possible.
- 5-5 Refer to transcripts from pre-hearing of August 17th, 1978.
- 5-6 Refer above.
- 5-7 Refer above

- 6-1 "Activity" refers to "worker activity" at and around the SFP.
- 6-2 Intervenor contend that leakage from the pool may result from increased stress loads and/or worker activity at the pool site.
- 6-3 As mentioned earlier, worker activity and stress loads could cause a leakage of the pool.
- 6-4 Increased worker activity and stress loads will not likely modify the ground water movement. We contend the ground water should be monitored to detect possible leakage.
- 6-5 The Point Beach Facility should drill wells to the water table in order to monitor possible leakage. The NRC staff may have recommendations as to how many wells should be monitored and their positioning.
- 6-6 Intervenor cannot estimate the transit time for leaked radioactive water to reach the water table; the applicant and the NRC technical staff should be aware of this transit time.

Responses to Interrogatories

- 3a - 1,2,3,4,5,&6
3b - 1,2,3,4
3c - 1,2,3,4,5,6,7,8
3d - 1,2,3,4,5,6,7,8,9,10, And 11
3e - 1,2,3,4,5,6,7,8,9
3f - 1,2,3,4,5,6
3g - 1
6 - 1,2,3,4,5,6,

Were all prepared by David Estes, Esq.

Specific Interrogatories:

7-1 -- Existing racks that would have to be removed, cladding, and particulates of and in the spent fuel storage pool which would be filtered and have to be disposed of as a result of additional storage of spent fuel at Point Beach are the "other low-level radioactive waste" referred to in this contention. There may be other low-level radioactive wastes of which we are unaware and which the Staff should ask to be enumerated by the Applicant.

7-2 and 7-3 -- We do not contend that the existing spent fuel storage racks or other low-level radioactive waste should be buried or stored at Point Beach, but circumstances at formerly and previously licensed low-level radioactive waste burial sites may force the utilities operating Point Beach to store low-level radioactive waste at the plant. We have asked the Applicant to assess availability of storage of these waste off-site as well as on-site.

8-1 and 8-2 -- No, we do not contend that the Point Beach fuel assemblies presently stored at NFS cannot be safely stored at Point Beach when the spent fuel is returned to Point Beach. However, Applicant has given no indication that the Point Beach assemblies presently stored at NFS are in tact and capable of shipment to Point Beach.

- 9-1 Because the Nuclear Regulatory Commission is revising the status of spent fuel, ^{re-}classifying it as having a greater potential risk which will necessitate greater protection. Since it holds greater potential as a hazard, other methods used to protect or aid the public in emergency situations created by this hazard must be re-evaluated
- 9-2 This was answered at the August 17, 1978 hearing. Please refer to transcript for scenarios.
- 9-3 This question is redundant. It has been answered on multiple occasions. (Example, sabotage, seismic event).
- 9-4 See 9-3.
- 9-5 Plans are outdated as they contain resources such as physicians who are no longer present in the community. In a disaster situation, (see 9-3), Two River's Community Hosp. would not be able to handle mass emergencies in their one isolated room. Further, local law enforcement agencies and civil defense personal are unaware of the assistance that they will be require to give during such an occurence whether it be medical or an evacuation procedure.
- 9-6 See 9-5. Further the emergency plan has never been tested.
- 9-7 Waiting for this information from you. Should be contained in your safety analysis
- 9-8 Ask the Applicant. I think you can safely assume that at least one worker will be required to implement increased storage of spent fuel. Applicant should have these statistics.
- 9-9 (additional worker activity refers to the construction and re-racking of the spent fuel.)

11-1 The term "effects" as used in the context of contention
11 signifies negative impact or influence.

11-2 & 3 We are unable to answer these because of insufficient
information available from the utilities.

Intervenors Response to NRC Staff First Set of Interrogatories to and Request for the Production of Documents from Intervenor Lakeshore Citizens for Safe Energy regarding Contentions 7, 8, and 16:

General Interrogatories:

G-1. (r) through (z), Contentions 16.a. through 16.i. -- We are investigating the availability and cost of witnesses. We are also approaching the State of Wisconsin to sponsor witnesses on these contentions.

G-3. (r), Contention 16.a. -- A. B. Johnson, Behavior of Spent Nuclear Fuel in Water Pool Storage, Battelle Northwest Laboratory 2256, September 1977. We have requested true copies of this document through our U.S. Senator Gaylord Nelson's office and will forward same when received.

G-3. (s), Contention 16.b. -- NRC Draft Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel, NUREG-0404, Volume 2, March 1978, readily available to NRC Staff at the NRC.

G-3. (u), Contention 16.d. -- Same as (r), Contention 16.a.

G-3. (w), Contention 16.f. -- Same as (r), Contention 16.a.

G-3. (x), Contention 16.g. -- Alternatives for Managing Wastes from Reactors and Post-Fission Operations in the Light Water Reactor Cycle, ERDA 76-43, May 1976, available from the Department of Energy.

G-4, (m), Contention 7, (n), Contention 8, (r) Contention 16.a. through (z) Contention 16.i. -- Please refer to texts of these contentions as written in Admitted Contentions September 29, 1978.

G-5, (m), Contention 7, (n), Contention 8, (r) Contention 16a. through (z) Contention 16.i. -- Please refer to our response G-3 (r) through (x) above.

16.a.-1 -- We are unaware of "other components" and would appreciate Staff enumerating any other components of and in the spent fuel storage pool which Applicant has not listed in the request to amend the operating license.

16.a.-2 -- Please refer to Contention 16.a. as it appears in Admitted Contentions, September 29, 1978, at page 5. There are no studies estimating these enumerated types of corrosion. If the Staff knows of any studies or analyses, please inform us. We have asked Applicant to furnish same and perhaps Staff should do likewise.

16.a.-3 and 4 -- Please refer to Contention 16.a. as worded in Admitted Contentions, September 29, 1978, at page 5.

16.b.-1 -- To the best of our knowledge, there are no studies indicating the threat to the integrity of spent fuel, its cladding and other components of and in the spent fuel storage pool due to these corrosion factors. The absence of such a study and the fact that the NRC Draft Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel stated that these corrosion effects require examination leads us to assert that they should be. We would appreciate knowing if the NRC Staff disagrees with the Draft referred to, and why.

16.c.-1 -- All pipes subjected to the borated water in the spent fuel storage pool fall under this category. We are unable to identify each and every pipe as requested by the NRC Staff, and would appreciate Staff's requesting the Applicant to enumerate all pipes in contact with the borated water in the spent fuel pool.

16.c.-2 -- There are no studies, documents or analyses estimating those factors referred to in (a) and (b) of your interrogatory. We would appreciate your identifying any documents which estimate the levels of corrosion referred to therein.

16.d.-1 -- We believe Applicant should discuss the desirability of all available monitoring methods to identify defective fuel elements, including monitoring of individual fuel assemblies. We are unfamiliar with methods of monitoring fuel assemblies and have, therefore, requested Applicant to enumerate those available and discuss their desirability. This should have been done in the original application to compact spent fuel at Point Beach.

16.d.-2 -- Hopefully, Point Beach operators will be able to identify defective fuel elements and take steps to prevent further disintegration which should make future storage and handling possible and safe. Applicant has not yet identified a method for monitoring to detect defective fuel elements.

16.d.-3 -- Applicant has not yet addressed the desirability of monitoring each spent fuel assembly. We have no factual basis for saying Applicant should -- just common sense. If Applicant plans to store spent fuel in the Point Beach pools for longer than anticipated, the utility certainly would want to provide some mechanism for monitoring the spent fuel assemblies to detect leaking elements.

16.d.-4 -- There is no factual basis whatever that spent fuel will remain in tact for the period of licensed plant operation. Despite this lack of information, Staff and Applicant persists in assuming the spent fuel will retain its integrity for however long it is stored at Point Beach. We insist that you must have some factual basis for your assertions and that the burden of proof as well as all the risks should not fall upon the citizens in the area.

16.e.-1 -- Applicant is requesting permission to provide capacity to store 1502 spent fuel assemblies which would be adequate for spent fuel discharged throughout the duration of the operating license. If Applicant did not plan to store this anticipated spent fuel at Point Beach, the utility would not have wasted this time, effort and paper.

16.e.-2 -- Please refer to Admitted Contentions, September 29, 1978, Contention 16.e., at page 7. Applicant has not discussed methods of encapsulating defective spent fuel elements and should do so. One method of encapsulating might be through an engineered pipe expressly designed for this purpose. We are unaware of methods of encapsulation that might be desired by Applicant and have asked the utility to discuss same.

16.e.-3 -- Encapsulation of defective spent fuel assemblies may be desirable at Point Beach to assure any necessary handling of the assemblies which does not involve hazards for workers at the Point Beach storage pool or during transfer to shipping casks for removal to another storage pool either on-site or off-site.

16.f.-1 -- To the best of our knowledge, there are no documents, studies or analyses estimating the thickness of crud layers. If Staff is aware of any such

(16.f.-1 continued)

studies, please inform us -- and Applicant.

16.f.-2 -- We do not know if crud will influence the corrosion of spent fuel and its cladding. No one seems to know! We are alerted by A.B. Johnson in Behavior of Spent Nuclear Fuel on Water Pool Storage at page 65 that this matter should be studied. Does the NRC disagree? If so, please indicate why and enumerate your sources.

16.f.-3 -- No studies are available to explain why or under what circumstances crud will influence the corrosion of spent fuel and its cladding as a result of the proposed modification of the Point Beach spent fuel pool.

16.g.-1 -- All uncertainties regarding spent fuel pool components integrity as indicated in contentions 16.a. through f. are enumerated in Admitted Contentions, September 29, 1978.

16.g.-2 -- Please see Admitted Contentions 16.a. and c.

16.g.-3 -- Please see Admitted Contentions 16. a., b., c., and f.

16.g.-4 -- Please refer to Admitted Contentions 16.a., b., c., and f.

16.g.-5 -- Please refer to Admitted Contentions 16.a., b., c., and f.

16.g.-6 -- Please refer back to Admitted Contentions 16.g.

16.g.-7 -- Please refer back to Admitted Contentions 16.g.

16.h.-1 -- We have already described this requested data to the best of our ability in Admitted Contentions 16.h. at page 8.

16.h.-2 -- We have no factual basis, study, analysis or anything else to assert that spent fuel and its cladding will lose integrity due to more dense and increased spent fuel storage at Point Beach. There are admittedly many areas of study that

(16.h.-2 Continued)
have not yet been pursued (please refer specifically to Admitted Contentions 16.a., b., and f.) but should be to assure maintenance of spent fuel and its cladding integrity. To assume that it will without any factual basis or experimentation or experience is irresponsible and further incites lack of faith in the NRC and the utility.

16.h.-3 -- Please refer to Admitted Contentions 16.a. and 16.c.

16.h.-4 and 5 -- If the spent fuel cladding disintegrates and loses its ability to contain the spent fuel, there may be difficulty in transferring the spent fuel assembly to and from a shipping cask and/or any encapsulating device utilized.

16.h.-6 -- "Repositioning of spent fuel in the expanded storage pool" refers to moving spent fuel assemblies immediately discharged from the reactor to places that are not near the pool liner and transferring those assemblies in places farther away from the pool liner to closer to the liner.

16.h.-7 -- Please re-word for our understanding.

16.i- 1 -- Please refer to the application for Spent Fuel Storage Expansion submitted to the NRC by Wisconsin Electric Power Company for this requested information. We have requested similar information from applicants who should enumerate the existing chemical composition of the Point Beach spent fuel pool water as well as provide this information on the NFS pool water.

16.i-2 -- Please refer to 16.i-1 above.

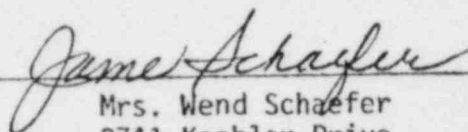
16.i-3 -- We do not know whether or not the chemical composition of the Point Beach spent fuel pool water will change as a result of the proposed modifications and have asked Applicant to supply this information to us. We would appreciate the NRC Staff also requesting this information from the Applicant.

16.i-4 -- Please refer to 16.i-3 above.

16.8.-5 -- Please refer to 16.i.-3 above.

I, Jame Schaefer, hereby swear that I have answered portions of Interrogatories G-1, G-3, G-4 and G-5 and all of Interrogatories 7-1 through 7-3, 8-1 and 8-2, and 16.a.-1 through 16.i.-5 and subparts thereof, which were propounded by the NRC Staff by document dated September 29, 1978, to the best of my knowledge and in all good faith.

Dated this 20th day of October, 1978,



Mrs. Wend Schaefer
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CERTIFICATE OF SERVICE

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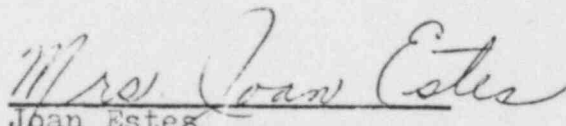
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