

March 13, 1983

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF PUBLIC AFFAIRS
REGULATORY SERVICE
BRANCH

Before the
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket No. 50-309-OLA
MAINE YANKEE ATOMIC POWER STATION,)	(To Increase and Modify
(Maine Yankee Atomic Power Company),)	Spent Fuel Pool Storage
Applicant.)	and Systems; Compaction)

SECOND SET OF INTERROGATORIES
AND REQUESTS FOR DOCUMENTS FROM
SENSIBLE MAINE POWER UPON APPLICANT

Sensible Maine Power here propounds the following Interrogatories and Demands for Documents upon Applicant, and also here expressly incorporates by reference the introductory statements set forth at 1-2 of its earlier set of Interrogatories and Demands for Documents upon Applicant.

4. LOCALIZED BOILING

(a) Describe any analyses which have been made regarding partial blockage of water flow through and around fuel assemblies, or between canisters, as a result of foreign material accidentally introduced into the spent fuel pool, ("SFP"). Please identify, and provide copies of, any documentation setting forth such analyses.

(b) Please describe fully the means and methods, tools and materials, time-factors and radio-exposure levels for the retrieval of foreign material introduced into the SFP and subject to the available working space limitations imposed by the proposed reracking and pin-compaction configuration. Please

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identify, and provide copies of, any and all documentation reflecting the attention paid by Applicant to these concerns.

(c) Please provide any and all documentation of SFP water turbidity during SFP operations including fuel transfer and rack/spent fuel assembly modification, including welding or cutting operations. Has an analysis been done to determine if deterioration due to these operations could mask localized boiling from discovery? If so, please provide the same.

(d)(1) Is the heat output of the spent fuel pins evenly generated from their surface? If not, please identify and describe differences.

(2) Does this hold true for perforated assemblies?

(3) Were these differences taken into consideration in analysis for MYAPS submittals? If so, please cite such references and the specific location of such information.

(4) What is the temperature differential calculated from the inside to the outside (radially) of fuel under the compacted configuration and in boral canisters as proposed?

(5) Where will leaking fuel be located?

(6) Where is the leaking fuel now?

(7) How much leaking fuel is there?

(8) What is the temperature differential for that portion of the fuel pin within the spacer grids?

(9) Please identify, and provide copies of, pertinent to or relied upon in answering parts (1)-(8) immediately above.

(e) Has an analysis been done for neutron capture at the K_{eff} levels and temperatures, distances, and moderation factors claimed for the new fuel configuration? If so, please identify, and provide copies of, any and all documentation upon the same. If not, upon what basis does Applicant rely in fixing or calculating K_{eff} ?

(f) Please identify and provide copies of any and all data and documentation for any additional heat generated by chemical interaction, including that generated at the perforations in leaking fuel assemblies.

(g) Has an analysis of K_{eff} for Plutonium been done under the proposed configuration/moderation level? If so, please identify and provide copies of the same. If such analysis includes any changes in the results over the period of storage from the proposed date of implementation to the date of license termination, please be certain to identify and include the same.

(h) No schematic of flow or water circulation with flow rates and temperatures has been found by SMP which shows the same for a partially loaded pool or a fully loaded pool. Please identify and provide the same. Please be certain to show any changes which may take place during fuel transfer operations and immediately after the loading, also at such times as one of the two coolant pumps may be shut down and under maximum credible loading of the heat exchanger during both normal operations, maintenance outages, and accident conditions.

(i) Please describe specifically and in detail how Ph levels in the spent fuel coolant are maintained. Such description should include chemicals, chemical analysis, methods of introduction, precipitates, quantities, variables and the like. Please identify and provide copies of any and all documents pertaining to maintenance of the Ph levels in the spent fuel coolant.

(j) Please identify any tools or extraneous components which may be stored in the SFP for periods exceeding 24 hours, together with their volume and/or surface area, material make-up, and coatings or lubricants.

(k) Please identify by brand and composition any lubricants, sealers, degreasers, solvents, fluxes, abrasives, cleaners, absorbants, detergents, or other chemical products, including welding materials, which have been used,

are now being used, or are proposed to be used in areas where they could be introduced into the SFP coolant, the PCC coolant, or to any parts, components, or equipment in the SFP building, ("SFPB"), transfer tunnel, reactor pool, or reactor pool area. Please specify quantities, methods of application, duration of use or replacement schedule, methods of clean-up, (removal of excess and the like), and qualitative methods of assurance in all areas.

(1) Please identify by brand, lot number and composition, all surface coating material, including insulation, together with methods of fastening for said materials in the SFPB, and containment, which may have been added or modified since the plant's construction and which may not be listed in public documents available at the Wiscasset Public Library Document Room. If the assertion is made that all such information is contained in readily-available public documents, please specifically cite the same, including page and line references. If such assertion not be made, please identify and provide copies of any and all documents setting forth the requested information.

(m) Please document your experience with the materials described or identified in response to (k) and (1) above and all material other than spent fuel and racks which have been introduced into the SFP coolant water, intentionally or unintentionally. Include duration of immersion or solution, accumulation, or adhesion to the surfaces of SFP, contents, equipment, or auxiliary components.

7. FUEL HANDLING ACCIDENTS

(a) Please identify and describe any analyses of postulated fuel handling accidents in the spent fuel area that have been performed specific to/for MYAPS, including the presumptions or conditions upon which these analyses are based, (E.g., time frames from reactor discharge, specifics of loading, time frames from trauma to release, and including any possibilities of a power excursion).

(b) Has Applicant analyzed the effects of a dropped load which is deflect-

ed from the pool side, or from any other obstacle to its downward path, that imparts a skewed or horizontal vector to the said load? If so, please identify and provide copies of any and all documentation upon such analysis, including procedures proposed for extracting and managing any fuel assemblies pinched or damaged by a deformed canister, if such possibility has been considered. If such possibility has not been considered, or if such analysis has not been performed, please briefly but specifically state the position or information relied upon by Applicant in not pursuing such analysis or consideration.

9. APPLICANT'S TECHNICAL QUALIFICATIONS

(a) Please describe specifically and in detail the technical qualifications of all personnel anticipated to be required for each step of the proposed compaction/consolidation process. In the event that the same has already been reduced to documentary form, please identify and provide any and all documents exhibiting these qualifications. Please provide such information for all employees from top-level managerial positions down to those actually engaged in the compaction/consolidation scheme.

(b) Please describe specifically and in detail the technical qualifications currently available at Maine Yankee to design and perform the proposed procedures contemplated in MYAPS' application. Please include any and all information upon the training and experience of such individuals in large-scale pin compaction. Please be sure to identify and describe, specifically and in detail, the nature and relationship of all such qualifications to specific means, methods, procedures, tools, materials and the like as are proposed to be employed in the compaction/consolidation scheme.

(b)(1) If MYA does not currently have in employ sufficient personnel to accomplish or perform all phases of its proposed d/r/c scheme, please state specifically and in detail any and all criteria thus far established or likely

to be established for initiating such design and procedures and/or for carrying out the same, including all such criteria as will be used to find, hire, employ, train, guide and supervise any and all such employees in pursuit of MYA's proposed d/r/c scheme. If such criteria, plan and the like have already been committed to documentary form, please identify and provide copies of any and all documents upon the same.

(c) Please describe specifically and in detail Applicant's specific and cumulative experience, training and/or expertise in pin-packing as proposed. Please quantify this answer with particular attention to on-site experience.

(d) Please describe specifically and in detail the experience and training of any personnel in a supervisory capacity who have work experience or training for work at a spent fuel reprocessing facility, AFR storage facility, or other large-scale spent fuel handling enterprise as would equip them to participate in Applicant's proposed d/r/c scheme. If such be available, please identify and provide copies of any and all documentation demonstrating such experience and/or training.

(e) Please provide samples of testing materials (including psychological indicators) employed in selecting personnel for the proposed procedures for each step of the proposed storage scheme.

(f) Please describe specifically and in detail the training methods to be employed relative to the proposed procedures. Please include training to handle emergencies, including the loss of SFP cooling or coolant, fuel handling accidents, and the handling of leaking or ruptured fuel pins. If such plans have been reduced to documentary form, please identify and provide copies of any and all documentation treating such training program.

(f)(1) Please identify and describe specifically and in detail the professional, experiential and related qualifications of those to be employed

in the above-mentioned training program as instructors and/or supervisors.

6. SEISMIC DURABILITY

(a) Please identify and describe any and all investigations by MYAPS into the existence and potential effects of the "so-called Robinhood Fault" on Applicant's facility, including especially the SFP and SFPB and related components. Reference is made as necessary to a letter of May 14, 1982, from the Commission to Applicant, summarizing an earlier meeting between the parties. Please identify and provide copies of any and all documents within the control of Applicant relative to such "fault"; in the event that Applicant is aware of any further documentation upon the same, please identify it with particularity, including the identity of the individual or entity believed to be in possession or control thereof.

(b) Please identify and describe specifically and in detail any and all investigations, examinations or analyses by Applicant to date of the SFP and all its auxiliary components, including PCC, sumps, cranes, coolant pumps, plumbing and transfer tunnel concerning their ability to withstand earthquakes at or in excess of design basis criteria. If Applicant is aware of any such studies by any entity other than itself, please identify the same and identify the entity believed to have possession and control thereof. Please identify and provide copies of any and all documentation in the possession and control of Applicant relative to such investigations, examinations or analyses.

(c) Please provide a specific and detailed analysis of seismic effects on Applicant's operations with fuel handling, pin compaction and fuel transfer in progress, preferably broken down by ascending severity of seismic event.

(d) Cumulative or mass response is discussed in Applicant's submittals with the SFP fully loaded. SMP has yet to find an analysis of response with the SFP partially loaded with compacted assemblies, the whole responding as a

whole. If such exists in Applicant's submittals, please specifically cite it; if not, please provide the same.

(e) Please provide base data, including any updates, on a fault line described in the MYAPS FSAR as a few hundred yards "North of the plant".



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CERTIFICATE OF SERVICE

I hereby certify that I have served copies of these Interrogatories and the enclosed letter¹ on the following named persons, first class regular mail postage prepaid, this 13th day of March, 1983.

Robert M. Lazo, Esquire, Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

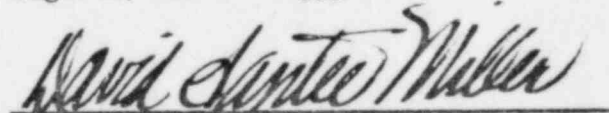
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David Santee Miller
Counsel for Sensible Maine Power

¹Original to Mr. Gad; copies to Service List. This document is enclosed not as an exhibit to these Interrogatories, but merely to memorialize the conversation and positions stated therein, since such may to some degree influence the conduct of discovery in this proceeding.