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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the
ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
REGULATING & SERVICE
BRANCH

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| 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) |

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

Pursuant to this Board's Order of July 20, 1982, governing discovery in this proceeding, and pursuant to 10 CFR §§2.740b and 2.741, Intervenor Sensible Maine Power, ("SMP"), here propounds the following Interrogatories and Requests for Documents upon Applicant.

Relative to these Interrogatories, SMP respectfully requests that Applicant identify the source of the information furnished, specifically and in detail, as follows: (1) Where the source is a person or persons, the name, job title, time of service in same, and a short summary of educational and experiential background; (2) Where the source is a document made or issued by Applicant, a complete citation to it, including date, title, and author or originator, and as to author or originator, please complete as (1) immediately above; and (3) Where the source is a text, treatise, officially published document, or like printed matter, whether of government or private issue,

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the title, author, publication date, edition number, and if the author has been or is now employed by Applicant, information upon the author as in (1) above.

Relative to the Requests for Documents set forth below, SMP respectfully requests that, after Applicant has identified the documents as requested above in the body of its Answers to Interrogatories, Applicant append the documents with specific reference to the item of SMP's discovery under which elicited, (E.g., "Documentation upon anticipated worker exposures during retrieval of foreign objects from spent fuel pool, SMP Interrogatory 1(j)").

Last, where the following Interrogatories and/or Requests for Documents are most properly subsumed under only one or largely under one admitted contention, that discovery will be numbered in conformity with the admitted contention, (E.g., "1. WORKER EXPOSURE"); where the discovery applies to or seeks information relative to several admitted contentions, it will be lettered in the upper case and titled by the subject area of concern, (E.g., "A. IDENTIFICATION AND DESCRIPTION OF APPLICANT'S D/R/C SCHEME").

A. IDENTIFICATION AND DESCRIPTION OF APPLICANT'S D/R/C SCHEME

Please identify and describe how Applicant is going to pursue its proposed d/r/c scheme, including especially the proposed "pinpacking".

(1) Please provide such information broken down on a step-by-step basis, stating as to each step or part of the process: A title for the same; A brief description of what is proposed to be done; The means and methods proposed to be employed; The situs or location in which the work will be pursued; The number and nature of personnel involved; The tools, devices and/or mechanisms used; and The estimated

time requirements, preferably on a unit basis, (E.g., x hours for disassembly of one existing spent fuel assembly).

(2) Have the means and methods referenced above been reduced to documented form? If so, please provide copies of the most current documentation relative to each step or phase identified above, including written statements, drawings, graphs, tables, and the like.

(3) Has any computer modelling or analysis been utilized in developing the means and methods identified above? If so, please identify the same as to step or phase of the proposed d/r/c scheme and describe briefly, including date and result.

(4) Have any mockups, scale models, simulators or other demonstrative instrumentalities been utilized in developing the means and methods identified above? If so, please describe the same, including the identity of the originator(s), the date of completion, and the availability of such instrumentality for inspection.

(5) Please briefly describe and where applicable please document the process by which the foregoing means and methods were chosen, including the alternative means and methods investigated or considered in keeping with ALARA goals and objectives.

1. WORKER EXPOSURE

(a) Please supply records for the past four years of worker exposures in spent fuel handling operations, maintenance of spent fuel facilities, and for the past ten years as to any extraordinary or supranormal exposures. Please include exposure records for auxiliary areas, equipment and operations such as spent fuel pool cooling system maintenance, filter changes, disposal and/or storage of waste from spent fuel pool operations, laboratory and analysis, and health physics.

Please identify sources by isotope and/or irradiated material for said exposures. Describe dose measurement and analysis with qualifications of procedures and results for each record.

(b) Please provide an itemized or categorical listing of the exposures anticipated for each step in the proposed pin-compaction process by source and delivery, (E.g., Kr 85, .0035 pc, inhalation, pin hole leaks in fuel rods, during fuel rod removal from old assemblies).

(c) Please include methods of analysis and rationalization for base data as released, (E.g., On October 28, 1978, MYAPS personnel, five in number, four at poolside, one operating the crane, received a calculated dose of .05 mr over a period of six hours, gamma, Co 60 crud, dispersed in spent fuel pool coolant at a measured concentration of blank pc/liter, while engaged in transferring fuel pins from leaking assemblies in storage to fresh fuel assemblies.

(d) Please state methods, procedures and frequency of cross-checking or verifying calculated doses, (meter, badge, dosimeted, whole-body counter, nasal smear, retinal exam and/or urinalysis), and health physics/environmental lab records for spent fuel pool, filter, and irradiated/contaminated materials inventory.

(e) Please describe methods, tools, time-frames, locations, shielding, health physics procedures, and personnel requirements for each step of the proposed pin-compaction process, together with spent fuel pool coolant, spent fuel pool building atmosphere, and tool-surface contamination by type, element and contamination. Specify poolside crud buildup levels anticipated for each step in the process.

(f) Please identify and describe procedures, training and in-place equipment for mitigating the consequences of fuel-handling ac-

cidents in the spent fuel pool, transfer tunnel and reactor pool. Please also identify any such procedures, training and equipment as have been considered and rejected, and a brief statement of the reasons for rejection.

(g) Please state whether or not interlocks have been installed on the fuel carriage upender and/or the rotating mast on the spent fuel handling crane. If so, please describe their nature and function. If not, please identify the means and mechanisms relied upon to ensure against error or mistake in the conduct of these functions. Are there audible and visible alarms for interlock malfunction? If so, please describe; if not, please identify the procedures or mechanisms relied upon to ensure against or to detect interlock malfunction.

(h) Please describe in more complete detail than is available in notices of events, the circumstances under which an employee fell into the spent fuel pool. Please identify and describe any measures that have been taken or are being taken to prevent or diminish the likelihood of such an occurrence during fuel handling and pin-compaction operations. Also upon said event, please identify and describe, specifically and in detail, the decontamination process practiced relative to this employee, including dosage received, tests made, health physics procedures employed, the particular steps taken in said decontamination, and the results.

(i) Also relative to Applicant's decontamination processes, please describe, in a manner similar to that outlined above, the decontamination processes practiced upon one Mr. Philip Ripton, who suffered an inhalation exposure several years ago at Applicant's facility.

(j) Please identify and describe methods, tools, mechanisms and procedures for retrieving objects dropped into the spent fuel pool

once new racks, canisters and compacted fuel bundles are in place. Describe, justify and document the calculations performed to estimate the worker exposures anticipated during such retrieval. Please describe decontamination procedures for all tools used in the spent fuel pool, transfer tunnel, reactor pool, and involved in cooler pump and filter maintenance.

(k) Describe, quantify and document the methods, worker exposures, and methods for mitigating said exposures both in preparing for storage and in storing irradiated and contaminated fuel assembly and rack components discarded during the compaction/consolidation process. How will the components to be discarded be removed, handled, and reduced in dimension and/or volume? Please quantify, together with a breakdown of sources, specific as to type of radiation, isotopes and pathway (inhalation or direct), anticipated worker exposures during this stage of the process, and please document the same thoroughly, including identification and description of the alternatives that were investigated and considered in keeping with ALARA objectives.

(l) As to providing working conditions conducive to attentiveness, unobstructed vision, hearing, freedom of movement and tactile awareness with the aim of avoiding fuel handling accidents and consequent worker exposures, please identify and describe the methods, training and equipment to be employed to mitigate the effects of heat, humidity and condensed moisture during fuel transfers and pin-compaction operations. Please document these estimates thoroughly.

(m) Please describe, with documentation, the ambient air flow, air exchange, and air conditioning capacity for the spent fuel pool building.

(n) Please provide repair and maintenance records for the follow-

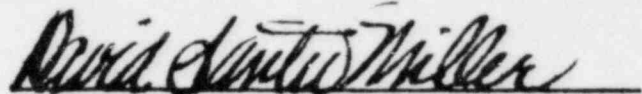
ing spent fuel pool-related components for the past four years: Radiation alarms; Pool cleaning equipment; Pool cooling pumps and piping; Heat exchanger and outboard pump(s); Spent fuel pool building air exchange and conditioning or heating; Primary component cooling system; Fuel transfer tunnel (all components and accessories); filters; fuel handling crane; Emergency pumps and/or fire system adaptors. Please also include a detailed description of the training and qualifications of all personnel to be handling these items.

(o) Please provide repair and maintenance records for the spent fuel pool building for the past four years, including doors, gaskets, seals, all penetrations or apertures, electrical equipment, plumbing, and any modifications thereto, said statement upon modifications to include all modifications made from the original design and/or first use of the spent fuel pool and spent fuel pool building to the present.

(p) Please describe and document the alternative procedures, methods and equipment investigated or considered in keeping with ALARA objectives. Please explain and/or justify the choices made with reference to ALARA objectives, (E.g., Compare handling times, frequencies, effects on spent fuel, and radiological consequences to workers for alternative methods of dealing with diminishing storage space, such as, but not limited to, dry cask storage or automated pin compaction or for that matter grinding and layering with shielding and moderators (poison).

(q) SMP has learned that a number of divers are currently at work within the spent fuel pool. Relative to controlling and minimizing worker exposure, please identify and describe the nature of the work in progress, whether the same be repair, maintenance, cleaning or otherwise, including all documentation upon any tests, studies,

analyses or the like, being performed as a part of such operation, and the results thereof. Please also identify the radiation levels of all surfaces of radioactive materials in the pool at this time, and the distances of said surfaces from the workers (divers).



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CERTIFICATE OF SERVICE

I hereby certify that I have mailed copies of the foregoing document to the following, postage prepaid, this 25th day of October, 1982.

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

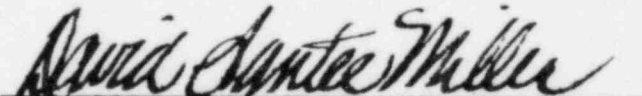
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