

## UNITED STATES NUCLEAR REGULATORY COMMISSION

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

INTERVENOR'S SPECIFIC CONTENTIONS

Pursuant to 10 CFR §2.714(b), Intervenor Sensible Maine Power propounds the following Specific Contentions.

1. Neither Applicant nor Staff has adequately considered alternatives to the proposed disassembly/reassembly/compaction scheme, (hereinafter "d/r/c scheme"). Alternatives which should be considered are set forth below. Those lettered (a) through (g) will avoid altogether the potential risks and adverse consequences of:<sup>1</sup> the increased liquid, gaseous and heat emissions referenced in Contention 2; the Class 9 or other severe reactor accident situations referenced in Contention 3; the occupational exposure or health and safety considerations referenced in Contention 5; the operating procedures deficiencies referenced in Contention 6; the materials integrity or deterioration hazards referenced in Contention 7; the failures due to external traumatic

<sup>1</sup>While the Commission's regulations may assert that Contentions should stand alone for pleading purposes, the instant incorporation is made for the sake of brevity, to avoid verbatim reiteration of the Contentions cited; further, the issues there developed constitute sufficient reasons to consider the alternatives here suggested, whether or not the cited Contentions achieve independent validity.

causes referenced in Contentions 8 and 9; handling accidents referenced in Contention 10; the long-term storage consequences referenced in Contention 11 (regarding compaction only); the loss of water or loss of cooling function from internal failures referenced in Contention 12; and the impairment of coolant function or flow characteristics referenced in Contention 13. The alternatives lettered (h) through (l) would significantly postpone, for a period of at least several years, any necessity of enduring the risks and consequences referenced immediately above.

The alternatives which should be considered are:

- (a) The Construction of another, new or additional spent fuel pool onsite;
- (b) The physical expansion or enlargement of the existing spent fuel pool;
- (c) The construction of a new spent fuel pool offsite;
- (d) The contracting out or transshipment of spent fuel for storage at another power plant, or commercial or government-owned spent fuel storage facility, current information of the Commission indicating that the same will be available before 1983;
- (e) Other alternative storage opportunities, whether governmental or private, currently under study, analysis or review;
- (f) Conversion of facility enabling it to burn coal, oil, gas, or other non-nuclear fuel;
- (g) Closing or shutting down the facility;
- (h) Derating the facility, that is, reducing plant output and thereby reducing the generation of spent fuel;
- (i) Extending fuel burnup times and thereby reducing the generation of spent fuel;

(j) The purchase of less expensive electrical power from readily available sources, (E.g., The Hon. Rene Levesque, Prime Minister of Quebec, recently visited Maine seeking a market for less expensive Canadian hydroelectric power);

(k) Development or utilization of hydroelectric capability at existing damsites within the State of Maine; and

(l) Development of other power sources.

2. Neither Applicant nor Staff has adequately analyzed the probability or effects of the liquid and gaseous radioactive emissions likely to result from the proposed d/r/c scheme, nor has there been any showing that adverse environmental effects from the same will be kept within regulatory limits. Harmful emissions most likely to occur are Iodine 131, Cesium 137, Strontium 90, and Tritium.. Further, the adverse environmental impact of additional heat likely to be discharged in the vicinity of the plant as a result of the proposed d/r/c scheme has not been adequately analyzed by Applicant or Staff, and such failures violate NEPA.

Such emissions are rendered more likely by the significantly increased handling and rehandling of spent fuel, higher concentrations of spent fuel, and the greater decay heat generated by spent fuel, in the proposed d/r/c scheme.

3. Applicant's proposal does not ensure that spent fuel pool conditions will be maintained within regulatory or design limits in the event of a Class 9 or other extreme accident in the main reactor. Neither Applicant nor Staff has shown that in such case the electrical systems, cooling systems, and plant personnel will function sufficiently well to ensure continued safe operation of the

spent fuel pool. Further, and given greater amounts of more densely packed fuel, all adverse consequences will be worsened by Applicant's scheme, including cladding fires and spent fuel explosions.

4. The instant application is defective for the following reasons:<sup>2</sup>

(a) Said application is premature in that no need for the immediate approval of the d/r/c scheme has been shown. Applicant will have no need for the increased storage capacity for the next four years, and other circumstances are likely to obviate the need for Applicant's proposed amendment;

(b) Applicant has failed to submit to the Commission a specific and detailed description and analysis of the operating procedures to govern its d/r/c scheme; within any reasonable due process framework such statement must be furnished by Applicant before its proposal can be considered; and

(c) Applicant's failure to furnish said specific and detailed statement of operating procedures, and the Commission's consequent failure to analyze the same, violate NEPA, and severely disadvantage Intervenor in the formulation and preparation of Specific Contentions to the point of working a denial of due process against Intervenor and its members.

5. Applicant has failed to demonstrate that occupational exposures resulting from the proposed d/r/c scheme will be kept within regulatory limits; workers will receive more than allowable dosages

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<sup>2</sup>The assertion of these defects in the instant application is neither to enumerate all defects in the application nor to waive Intervenor's rights of objection to others; rather, these particular defects are raised now in order to make a complete record upon the same.



from increased handling of fuel assemblies. This contention refers to the handling of normal as well as leaking or damaged fuel pins, both during fuel assembly, disassembly and reassembly, and over the entire useful life of the spent fuel pool.

6. Applicant has not identified, described or analyzed the specific operating procedures to govern its d/r/c scheme. Such statement of procedures should include a thorough and detailed description of management, personnel and technical practices and guidelines concerning the hiring, testing, training and supervision of all personnel to be engaged in the d/r/c scheme.

The need for the same is especially critical where insufficiently trained, untrained, unqualified or improperly supervised personnel have been engaged in potentially hazardous activities in the recent past: E.g., "Inspection 50-309/80-04" reveals the following failures in Applicant's operation of its spent fuel pool: February 11, 1980, worker knocked into pool; February 18, 1980, improper positioning of fuel assembly; February 20, 1980, inadvertent removal of CE/ from fuel assembly.

7. Applicant has not adequately considered or analyzed the materials deterioration or failures in materials integrity resulting from the increased generation of heat and radioactivity in the spent fuel pool as a result of its proposed d/r/c scheme. The adverse effects include deterioration of fuel cladding as a result of exposure to increased decay heat and radiation levels during extended periods of pool storage; loss of materials integrity of storage racks and pool liner as a result of exposure to higher levels of radiation over extended periods; and deterioration of

concrete pool structure as a result of exposure to increased heat over extended periods.

8. Applicant has not adequately considered or analyzed the effects of extreme seismic phenomena upon the modified spent fuel pool and its contents. Such analysis should demonstrate the seismic/traumatic durability and tolerance of fuel pins, fuel assemblies, storage racks, pool liner, and concrete structure.

Such inquiry and showing by Applicant are especially critical where nearby geophisic faults and seismic phenomena were not fully known, recognized or appreciated until relatively recently, i.e., the "Robinhood Fault", within less than one-half mile of facility, was the site of an earthquake registering 4.1 on the Richter Scale in early April, 1979.

9. Applicant has not adequately considered or analyzed the effects of an aircraft crash into the spent fuel pool from the adjacent Wiscasset Airport, less than a mile from facility. Further, said airport has recently been undergoing a process of enlargement both in volume of traffic handled and in size of aircraft accommodated. In addition to the structures, devices and components noted immediately above, (Contention 8), here the traumatic tolerance of the spent fuel pool enclosure must also be considered.

10. Applicant has not sufficiently considered or analyzed the consequences of an accident involving the dropping of a fuel assembly or fuel cask in the pool area under the conditions created by its proposed d/r/c scheme. Given higher concentrations of fuel in the spent fuel pool, such accident is likely to yield a greater generation of heat and radioactivity.

11. Neither Staff nor Applicant has adequately considered or analyzed the long-term health, safety and environmental effects of the proposed d/r/c scheme with respect to such periods of time over which the spent fuel pool is likely to be used beyond the expiration of Applicant's operating license.

Further, insofar as Applicant fails to consider the costs of long-term operation and maintenance of the spent fuel pool beyond the expiration of its license, such failure invalidates all cost-benefit analyses relative to the proposed scheme.

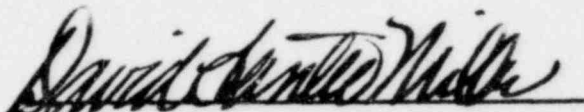
12. Applicant has not adequately considered or analyzed the likelihood or consequences of a possible loss of cooling capacity or function in the spent fuel pool under the conditions presented by its proposed d/r/c scheme. More particularly, Applicant has not sufficiently considered or analyzed the effects of failures of one or more pumps, heat exchangers, transmission lines, or the loss of coolant. Applicant has not sufficiently shown or analyzed the heat and radioactivity likely to be generated in such cases, nor its ability to control the same within regulatory limits.

13. Applicant has not adequately considered or analyzed changes in coolant flow characteristics in the spent fuel pool under its proposed d/r/c scheme. More particularly, Applicant has not shown that the cooling system will be adequate to prevent "hot spots", possible boiling, or other uncontrolled high temperature phenomena.

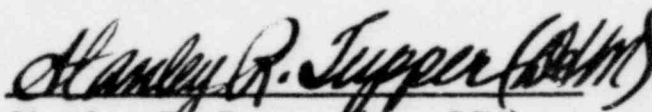
14. Neither Applicant nor Staff has shown that persons in the facility area will be safely evacuated in a timely manner in the event such action proves necessary. An adequate means of giving

prompt public alarm or notice, and a safe, workable and effective evacuation plan, are essential, given the increased likelihood of accidents under Applicant's d/r/c scheme and the worsened adverse consequences resulting therefrom.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that I have mailed copies of the foregoing "Intervenor's Specific Contentions", first class regular mail postage prepaid to the following persons and offices at the addresses stated, this 28th day of April, 1980.



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