

June 23, 1981

6-9

Docket No. 50-245  
LS05-81-06-095



Mr. W. G. Council, Vice President  
Nuclear Engineering and Operations  
Northeast Nuclear Energy Company  
Post Office Box 270  
Hartford, Connecticut 06101

Dear Mr. Council:

SUBJECT: COMPLETION OF SEP TOPIC VI-10.B, "SHARED SYSTEMS FOR  
MULTI-UNIT STATIONS"

References: (1) Letter, Ziemann to Council, March 19, 1979  
(2) Letter, Council to Ziemann, April 27, 1979

In Reference (1), the NRC staff transmitted to Northeast Nuclear Energy Company (NNECo) the draft evaluation of the above subject SEP topic and requested that NNECo review its factual correctness as it pertained to the Millstone Nuclear Power Station, Unit No. 1. In response, Reference (2), NNECo indicated that the fire protection water system and the 357 foot stack warranted additional consideration by the NRC staff. Also, NNECo did not receive the bottom part of our report.

We have re-examined these systems in light of NNECo comments and determined (see Enclosure 1) that the original assessment is still valid. As a result, we now consider the previous draft evaluation final and have re-issued it as Enclosure 2. This assessment may be revised in the future if your facility design is changed or the NRC criteria relating to this topic are modified before the integrated assessment is completed.

Sincerely,

Dennis M. Crutchfield, Chief  
Operating Reactors Branch No. 5  
Division of Licensing

Enclosure:  
As stated

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
June 23, 1981

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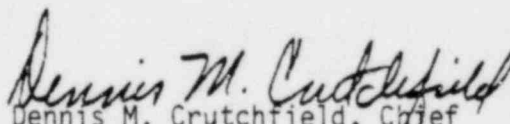
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RESOLUTION OF NNECo'S COMMENTS\*

1. NNECo - The 357 foot stack is shared and is considered to be important to safety.

NRC - Based on the information provided in the Millstone Unit 2 FSAR, we have concluded that the filtration systems, which disperse effluent via the stack for Units 1 & 2 are both independent and void of possible system interactions. The design adequacy of the stack, which appears to be the common feature of the filtration systems, is being evaluated under SEP Topic III-6, "Seismic Design Considerations".

2. NNECo - The draft evaluation requires further elaboration with respect to the fire protection system as a water source (for systems such as the isolation condenser) and the shared portions of that system.

NRC - The fire protection system as a water source was purposely not addressed in this evaluation. Our rationale for this action was based on our understanding of the system. It is our understanding that the isolation condenser contains enough water for 30 minutes of operation and can utilize either the condensate storage system or the fire protection system as secondary water sources. As discussed in the safe shutdown review, the isolation condenser is not included on the minimum list of systems required for safe shutdown.

For small break mitigation, less than 10 minutes of operation is required so no makeup is needed for the isolation condenser to fulfill its function. Therefore, the fire protection system was not included in this evaluation. The remaining portion of the fire protection system is being evaluated under SEP Topic IX-6.

\*See Letter, Council to Ziemann, April 27, 1979

**POOR ORIGINAL**

SEP REVIEW  
OF  
SHARED ENGINEERED SAFETY FEATURES,  
ONSITE EMERGENCY POWER, AND SERVICE SYSTEMS  
FOR  
MULTIPLE UNIT STATIONS\*  
TOPIC VI-10.B

\*This evaluation deals only with non-EI&C equipment and structures and should be combined with the EI&C review of this topic when it is completed.

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INTRODUCTION

The safety objective of Topic VI-10.B is to assure that: (1) the interconnection of ESF, on-site emergency power, and service systems between different units are not such that a failure, maintenance or testing operation in one unit will affect the accomplishment of the protection function of the system(s) in other units, (2) the required coordination between unit operators can cope with an incident in one unit and safe shutdown of the remaining unit(s), and (3) system overload conditions will not arise as a consequence of an accident in one unit coincident with a spurious accident signal or any other single failure in another unit. This objective applies only to safety related equipment and structures.

The sharing of structures, systems and components important to safety for a multiple unit facility can result in a reduction of the number and of the capacity of on-site systems to below that which normally is provided for the same number of units located at separate sites. NRC General Design Criterion 5, "Sharing of structures, systems and components," was developed to ensure that sharing of structures, systems, and components important to safety among nuclear power units will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, orderly shutdown and cooldown of the remaining units.

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This evaluation addresses only the non-Electrical, Instrumentation, and Control (EI&C) portions of this topic i.e. fluid systems and components and structures. The EI&C portions will be evaluated later in the SEP. In the course of this evaluation, we determined that the review of shared structures and equipment at the Dresden Unit Nos. 1 and 2 facilities could not be completed prior to the completion of other related SEP topic reviews. These related topics are identified in the evaluation; and, upon completion of these topics, this evaluation will be updated. Topic VI-10.B is applicable to the following SEP plants which are located at multiple unit sites:

San Onofre 1

Millstone 1

Dresden 1 and 2

#### Evaluation and Conclusion

##### San Onofre 1

San Onofre Unit 1 is an operating plant which utilizes a Westinghouse pressurized water reactor for its nuclear steam supply system while Units 2 & 3, which utilize Combustion Engineering pressurized water reactors for their nuclear steam supply systems, are under review for the issuance of operating licenses.

Shared systems is a review concern which is normally addressed in the course of an Operating License review. The Final Safety Analysis Report for San Onofre Units 2 and 3 discusses shared structures, systems and

components for Units 2 and 3 only and does not identify any interfaces between these units and Unit 1. Therefore, the staff conducted a review to identify and evaluate the structures and equipment shared between Unit 1 and Units 2 and 3. Based on this review, we identified the Service Water Reservoir (SWR) as the only shared component which could affect the safe shutdown capability of Unit 1\*. This is because the SWR provides water to both the Unit 1 fire protection water system, which can be used to supply water to the other units, and to the Unit 1 safe shutdown systems (Auxiliary Feed System). However the Unit 1 Technical Specifications (Section 3.4 and 3.14) acceptably account for this sharing of the SWR by requiring the licensee to maintain adequate SWR water inventory for both safe shutdown and fire fighting purposes.

Based on the results of our review as summarized above, we conclude that 1) the safety objective of Topic VI-10.B is met for San Onofre 1, and 2) the sharing of the SWR is in conformance with GDC 5.

#### Millstone 1

Millstone Unit 2 utilizes a pressurized water reactor for its nuclear steam supply system (NSSS), while Unit 1 utilizes a boiling water reactor for its NSSS. The Unit 2 Final Safety Analysis Report (Amendment 39, page 1.2-17) identifies facilities and systems which are shared between the units. Based on our review of these facilities and systems, we conclude that

\*Refer to the SEP Review of Safe Shutdown Systems for San Onofre 1.

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1) the only shared system important to safety is the fire protection water system, which has been previously evaluated as a shared system in Millstone 1 License Amendment No. 53, dated September 26, 1978, and  
2) the fire protection system is not needed for the safe shutdown of Unit 1\*. Therefore, the safety objective of Topic VI-10.8 is met for Millstone 1, and the fire protection water system is in conformance with GDC 5.

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\*Refer to the SEP Review of Safe Shutdown Systems for Millstone 1.

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