Docket No. 50-336
B13475

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Proposed Change to Technical Specifications
Fuel Enrichment Limits

April 1990

DESIGN PRESSURE AND TEMPERATURE

5.2.2 The reactor containment building is designed and shall be maintained for a maximum internal pressure of 54 psig and a temperature of 289°F.

PENETRATIONS

5.2.3 Penetrations through the reactor containment building are designed and shall be maintained in accordance with the original design provisions contained in Section 5.2.8 of the FSAR with allowance for normal degradation pursuant to the applicable Surveillance Requirements.

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 217 fuel assemblies with each fuel assembly containing 176 rods. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.5 weight percent of U-235.

CONTROL ELEMENT ASSEMBLIES

5.3.2 The reactor core shall contain 73 full length and no part length control element assemblies. The control element assemblies shall be designed and maintained in accordance with the original design provisions contained in Section 3.0 of the FSAR with allowance for normal degradation pursuant to the applicable Surveillance Requirements.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

a. In accordance with the code requirements specified in Section 4.2.2 of the FSAR with allowance for normal degradation pursuant of the applicable Surveillance Requirements,

b. For a pressure of 2500 psia, and

c. For a temperature of 650°F except for the pressurizer which is 700°F.

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 10,060 + 700/-0 cubic feet.

5.5 EMERGENCY CORE COOLING SYSTEMS

5.5.1 The emergency core cooling systems are designed and shall be maintained in accordance with the original design provisions contained in Section 6.3 of the FSAR with allowance for normal degradation pursuant to the applicable Surveillance Requirements.

5.6 FUEL STORAGE

CRITICALITY

5.6.1 a) The new fuel (dry) storage racks are designed and shall be maintained with sufficient center to center distance between assemblies to ensure a $k_{eff} \leq .95$. The maximum fuel enrichment to be stored in these racks is 4.5 weight percent of U-235.

b) Region I of the spent fuel storage pool is designed and shall be maintained with a nominal 9.8 inch center to center distance between storage locations to ensure a $K_{eff} \leq .95$ with the storage pool filled with unborated water. Fuel assemblies stored in this region may have a maximum fuel enrichment of 4.5 weight percent of U-235. Consolidated fuel storage boxes may also be stored in this region.

c) Region II of the spent fuel storage pool is designed and shall be maintained with a 9.0 inch center to center distance between storage locations to ensure a $K_{eff} \leq .95$ with the storage pool filled with unborated water. Fuel assemblies stored in this region must comply with Figure 3.9-1 to ensure that at least 85% of the design burn-up has been sustained. The contents of consolidated fuel storage boxes to be stored in this region must comply with Figure 3.9-3.

d) Region II of the spent fuel storage pool is designed to permit storage of consolidated fuel in the 4th location of the storage rack and ensure a $K_{eff} \leq 0.95$. Placement of consolidated fuel in the 4th location is only permitted if all surrounding cells of the STORAGE PATTERN are occupied by consolidated fuel.

DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 22'6".

CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 384 storage locations in Region I and 962 storage locations in Region II for a total fo 1346 storage locations.*

*This translates into 1277 storage locations to receive spent fuel and 69 storage locations to remain blocked.

Docket No. 50-336
B13475

Attachment 2

Millstone Nuclear Power Station, Unit No. 2

Advanced Nuclear Fuels--ANF-88-020
"Final Report--Criticality Safety Analysis, Millstone 2
New Fuel Storage Vault and Transfer Carriage
With 5.0 Percent Enriched 14 x 14 Fuel Assemblies"

April 1990

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Millstone Nuclear Power Station, Unit No. 2

Advanced Nuclear Fuels--ANF-88-028
"Final Report--Criticality Safety Analysis, Millstone 2
New Fuel Storage Vault and Transfer Carriage
With 5.0 Percent Enriched 14 x 14 Fuel Assemblies"

April 1990