

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NO. DPR-22
NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

INTRODUCTION

By letter dated May 30, 1975, the Northern States Power Company requested an amendment to license No. DPR-22 for the Monticello Nuclear Generating Plant. The requested change increases the U-235 possession limit from 2300 kilograms to 3200 kilograms. The increase in the possession limit will permit the licensee to take delivery of new fuel elements which will replace irradiated fuel elements scheduled to be removed from the reactor core and stored in the spent fuel pool in October 1975.

EVALUATION

Replacement of the initial core fuel was originally scheduled for the Spring of 1975. However, due to unanticipated high activity levels in the reactor coolant and a corresponding increase of the radioactive gaseous effluent activity, the licensee plans to refuel in October 1975. The premature removal of all remaining initial core fuel elements prior to their planned burnup and replacement with new fuel will result in the licensee possessing 3200 kilograms of U-235 which exceeds the currently approved possession limit of 2300 kilograms. The net result is an increase of 900 kilograms in the inventory of un-fissioned U-235.

The licensee's planned course of action is as follows:

1. Temporarily store 150 new fuel elements in the spent fuel storage pool which presently contains 216 spent fuel elements.

OFFICE▶					
SURNAME▶					
DATE▶					

2. Temporarily store 118 new fuel elements in the new fuel storage vault. Prior to shutdown, these fuel elements would be transferred to the spent fuel storage pool. There are presently no fuel elements in the new fuel storage vault.
3. Remove from the core and store the remaining 268 initial fuel elements in the spent fuel pool. Each time a fuel element is removed from the core and stored in the spent fuel pool a new fuel element will be placed in the vacant core fuel cell to effectuate a one-to-one fuel element interchange. Strict adherence to the one-to-one fuel interchange is not required for safety since any combination of 740 fuel elements approved for use at this facility can be safely stored in the spent fuel pool.

After completion of refueling operations, there will be no new fuel elements stored in the new fuel vault or spent fuel storage pool, and there will be 484 irradiated fuel elements stored in the spent fuel pool. The spent fuel storage pool is designed to accommodate 740 fuel elements at their most reactive exposure with an attendant multiplication factor of less than 0.90 dry or in the flooded (non-borated) water condition. The new fuel storage vault is similarly designed to store 150 new fuel elements with a multiplication factor of less than 0.90 dry and less than 0.95 in the flooded (non-borated) water condition. Consequently, the proposed number of fuel elements that will be stored at a time in either storage locations will not exceed the design capacity and will not result in an increased hazard or introduce a different type of hazard not previously considered at this facility.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: JUL 08 1975

OFFICE ▶					
SURNAME ▶					
DATE ▶					