ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT ON PROPOSED AMENDMENT TO 10 CFR PART 72 "LIST OF APPROVED SPENT FUEL STORAGE CASKS: NAC-MPC REVISION 5"

Office of Nuclear Material Safety and Safeguards

U.S. Nuclear Regulatory Commission (NRC)

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I. THE PROPOSED ACTION

The proposed action is to amend 10 CFR 72.214 to revise the NAC International, Inc., NAC-Multi-Purpose Canister (MPC) System listing within the "List of approved spent fuel storage casks" to include Amendment No. 5 to the Certificate of Compliance (CoC) No. 1025. Amendment No. 5 would modify the present cask system CoC by revising the Technical Specifications (TS) to incorporate changes to the reporting and monitoring requirements to allow for visual inspection of the air inlet and outlet vents instead of thermal monitoring, revising the TS to incorporate guidance from NRC Interim Staff Guidance (ISG)-22 and replace all references to backfilling the cask with air to backfilling with inert gas, revising the CoC description to remove the requirement for tamper-indicating devices on the Vertical Concrete Casks, and including several editorial changes to improve the clarity of the documents associated with the NAC-MPC system, under the general provisions of 10 CFR Part 72. The NAC-MPC cask system can be relied on to provide safe confinement of spent fuel at any reactor site when used under CoC No. 1025. To use an NRC-approved cask system, the reactor

licensee must ensure that the reactor site parameters and potential site-boundary doses are within the scope of the cask system safety analysis report and reactor license.

II. THE NEED FOR THE PROPOSED ACTION

This rulemaking is needed to revise a cask system listing within the "List of approved spent fuel storage casks" in 10 CFR 72.214. On July 17, 2006, and as supplemented on September 13, 2006, the certificate holder, NAC International (NAC), submitted an application to the NRC to amend CoC No. 1025 by revising the TS to incorporate changes to the reporting and monitoring requirements to allow for visual inspection of the air inlet and outlet vents instead of thermal monitoring, revising the TS to incorporate guidance from NRC ISG-22 and replace all references to backfilling the cask with air to backfilling with inert gas, and revising the CoC description to remove the requirement for tamper-indicating devices on the Vertical Concrete Casks. This amendment also includes several editorial changes to improve the clarity of the documents associated with the NAC-MPC system. No other changes to the NAC-MPC cask design were requested in this application. The NRC staff performed a detailed safety evaluation of the proposed CoC amendment request and found that an acceptable safety margin is maintained.

III. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

The potential environmental impact of using the NAC-MPC system was initially presented in the Environmental Assessment for the final rule to add the NAC-MPC system to the list of approved spent fuel storage casks in 10 CFR 72.214 (65 FR 12444; March 9, 2000). Each general licensee must also assess the environmental impacts of the specific Independent

Spent Fuel Storage Installation (ISFSI) under the requirements of 10 CFR 72.212(b)(2)(i)(C). This clause requires the general licensee to perform written evaluations to demonstrate compliance with the environmental requirements of 10 CFR 72.104, “Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS [Monitored Retrievable Storage Installation].”

NAC-MPC casks are designed to mitigate the effects of design basis accidents that could occur during storage. Design basis accidents account for human-induced events and the most severe natural phenomena reported for the site and surrounding area. Postulated accidents analyzed for an ISFSI include tornado winds and tornado-generated missiles, a design basis earthquake, a design basis flood, an accidental cask drop, lightning effects, fire, explosions, and other incidents.

Considering the specific design requirements for each accident condition, the design of the cask would prevent loss of containment, shielding, and criticality control. Without the loss of either containment, shielding, or criticality control, the risk to public health and safety is not compromised. The NRC staff performed a detailed safety evaluation of the proposed CoC amendment request and found that an acceptable safety margin is maintained.

The staff reviewed the proposed changes and confirmed that the changes provide reasonable assurance that the spent fuel can be stored safely and that the changes meet the acceptance criteria specified in 10 CFR Part 72. The staff documented its findings in a Safety Evaluation Report. In addition, the staff has determined that there continues to be reasonable assurance that public health and safety and the environment will be adequately protected.

Any resulting increase in either occupational exposure or offsite dose rates would remain well within the 10 CFR Part 20 limits. Therefore, the proposed action now under consideration would not change the potential environmental effects assessed in the initial 2000 rulemaking.

Therefore, the NRC staff has determined that an acceptable safety margin is maintained and that no significant environmental impacts occur as a result of the amendment.

IV. ALTERNATIVE TO THE PROPOSED ACTION

The alternative to the proposed action would be to deny approval of Amendment No. 5, and to require any Part 72 licensee seeking to use Amendment No. 5 to request an exemption from the requirements of 10 CFR 72.212 and 72.214. Under this alternative, each interested Part 72 licensee would have to prepare, and the NRC would have to review, a separate exemption request, thereby increasing the administrative burden upon the NRC and the costs to each licensee.

V. ALTERNATIVE USE OF RESOURCES

There were no irreversible commitments of resources determined in this assessment.

VI. AGENCIES AND PERSONS CONTACTED

No agencies or persons outside the NRC were contacted in connection with the preparation of this environmental assessment.

VII. FINDING OF NO SIGNIFICANT IMPACT

The environmental impacts of the proposed action have been reviewed under the requirements in 10 CFR Part 51.

Based on the foregoing environmental assessment, the NRC concludes that this rulemaking entitled “List of Approved Spent Fuel Storage Casks: NAC-MPC Revision 5” will not have a significant effect on the human environment. Therefore, the NRC has determined that an environmental impact statement is not necessary for this rule.

Certain documents related to this rulemaking, including comments received by the NRC, may be examined at the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD. These same documents may also be viewed and downloaded electronically via the rulemaking website (http://ruleforum.llnl.gov).