

U. S. NUCLEAR REGULATORY COMMISSIONNUREG-0612NOTICE OF ISSUANCE AND AVAILABILITY:CONTROL OF HEAVY LOADS AT NUCLEARPOWER PLANTS - RESOLUTION OF TASK A-36

The Nuclear Regulatory Commission (NRC) staff has prepared a report entitled, "Control of Heavy Loads at Nuclear Power Plants - Resolution of Task A-36" (NUREG 0612), dated July 1980. The report provides the staff's resolution of the NRC's Generic Technical Activity A-36, which was an "unresolved safety issue" pursuant to Section 210 of the Energy Reorganization Act of 1974, as amended.

The generic study was established to take a systematic look at staff licensing criteria and adequacy of measures in effect at operating plants, and to recommend necessary changes to assure the safe handling of heavy loads in the area of the fuel storage pool, fuel in the reactor vessel during refueling, and safety related equipment.

NUREG 0612 describes the types of heavy loads handled, the potential consequences of load handling accidents, and the staff's plan for implementing guidelines to assure safe load handling.

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The staff has determined that a number of procedural and design measures are in effect at operating plants to reduce the likelihood or mitigate the effects of load handling accidents; however, adequate measures have not been taken for all of the heavy loads that may be handled and the potential consequences that may result from a load handling accident. NUREG 0612 describes the interim measures that should be satisfied until full conformance to the guidelines in the report. The staff will be sending a generic letter to licensees identifying the interim measures that should be implemented.

Our review showed that load drops occur rather infrequently. Nonetheless, load drops can and have occurred at nuclear facilities, although these have not resulted in an offsite release of radioactive material. The staff believes that the likelihood for a load drop in this interim period and the potential consequences warrant some interim actions prior to final implementation of the guidance in NUREG 0612. The measures that will be implemented at operating facilities in this interim period include: revisions to technical specifications to include a restriction on carrying heavy loads over fuel in the storage pool; definition of safe load paths; development of procedures for handling heavy loads; training of crane operators; crane inspections; and a special review of equipment, procedures, and personnel training for the handling of loads which must be brought over the core such as vessel internals or the vessel inspection tool. These measures will assure that heavy loads are kept away from fuel in the core or spent fuel pool except where necessary, that equipment used to handle these heavy loads are in proper condition, and that personnel who handle these loads have received sufficient direction and training.

NUREG 0612 also provides guidelines to assure safe load handling over the life of the plant and acceptance criteria for evaluation of licensee measures and designs related to load handling. General guidelines are provided that include definition of safe load handling paths, qualification and training of crane operators, selection and proper use of slings and other handling devices, and periodic inspection, test, and maintenance of cranes. Additionally, certain area specific guidelines are provided that include alternatives on upgrading handling system reliability, use of mechanical stops or electrical interlocks to restrict crane travel, or analyzing the consequences of postulated load handling accidents to demonstrate that acceptance criteria are satisfied. The factors that should be considered in these analyses are also specified.

NUREG 0612 also contains recommended changes to Regulatory Guides and Standard Review Plans that will be used in the CP and OL licensing reviews.

The staff has initiated the implementation review of the guidelines in NUREG 0612 on a plant specific basis.

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Copies of the report will be available after August 14, 1980.

Copies will be sent directly to utilities, utility groups and associations, and environmental and public interest groups. Copies will also be forwarded to the applicable Congressional Committees for their information and use. Other copies will be available for review at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Commission's local public document room located in the vicinity of existing nuclear power plants. Addresses of these local public document rooms can be obtained by contacting the Chief, Local Public Document Room Branch, Mail Stop 309, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 492-7536.

Dated at Bethesda, Maryland, this 12th day of August 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

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