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## NRC INCIDENT INVESTIGATION TEAM REPORTS ON POTENTIAL CRITICALITY ACCIDENT AT WILMINGTON, NC, FACILITY

An Incident Investigation Team, established by the Nuclear Regulatory Commission's Executive Director for Operations, has concluded its investigation, and reported on its findings, of the circumstances surrounding a potential criticality (nuclear chain reaction) accident at a General Electric Company nuclear fuel fabrication facility in Wilmington, North Carolina, in late May this year.

The incident began on May 28 when liquid waste material containing 320 pounds of uranium was inadvertently transferred over a nine-hour period to a tank which, because of its configuration, type and the amount of uranium it contained, led to the potential for an accidental criticality accident. General Electric recognized the potential for a nuclear criticality accident but did not consider it to be an emergency condition. However, to minimize the nuclear criticality potential, operators continued mixing the uranium in the tank with air to prevent an accumulation of material on the tank bottom.

After the NRC staff was advised on May 29, a response team was dispatched to the site and incident response centers at the NRC's headquarters in Bethesda, Maryland, and Region II office in Atlanta were activated. At **the urging of the** NRC response team, General Electric increased staffing levels and developed various contingency measures but continued to maintain that the incident did not meet the threshold required for implementation of its emergency plan. On May 30, at the continued urging of the NRC, an Alert emergency classification was declared, the emergency plan was implemented and Federal, State and local authorities were notified.

The Alert classification was terminated on June 1 based on uranium removal and transfer so that substantially less than a critical mass of uranium existed in any tank.

The Incident Investigation Team was established on May 31 and charged with: (1) making factual findings on what happened;

(2) identifying probable cause-; and (3) making appropriate findings and conclusions. The team conducted its on site activities June 2 through 13, 1991 and the report of findings and conclusions was issued August 5, 1991.

The Incident Investigation Team concluded that there were three interrelated root causes which contributed to the incident:

(1) There was a pervasive attitude within the General Electric organization that a nuclear criticality was not a credible accident scenario.

(2) General Electric management did not provide effective guidance and oversight of its NRC-licensed activities to assure that operations were conducted in a safe manner.

(3) There was a deep-seated, production-minded orientation within the General Electric organization which was not sufficiently tempered by a safety-first attitude, particularly regarding nuclear criticality safety

Together, these basic causes manifested themselves in contributing causes such as design deficiencies, procedural non-compliance, inadequate incident investigations and a general deterioration of criticality safety. Because of these problems there was little or no latitude in the licensee's program to accommodate equipment failures, system upsets or personnel error.

The Incident Investigation Team also concluded that there were deficiencies in NRC regulatory oversight of the facility with respect to its regulations and regulatory guidance, license and licensing process and inspection program. These deficiencies contributed to the NRC failure to prevent or identify the licensee problems before the May 29 event.

Currently the NRC is reviewing the findings of the investigation to develop an appropriate set of lessons learned both within the NRC, the industry and the licensee. The report has been transmitted to the licensee and any regulatory actions related to the findings will be transmitted separately.

A copy of the "Executive Summary" from the Incident Investigation Team's report is attached.

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Attachment