

February 20, 2007

COMGBJ-07-0001

MEMORANDUM TO: Chairman Klein
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Lyons

FROM: Gregory B. Jaczko /RA/

SUBJECT: PROPOSAL TO INCLUDE AIRCRAFT IMPACT DESIGN
REQUIREMENTS FOR NEW REACTORS

I propose the Commission complete an expedited rulemaking to include a requirement in 10 CFR Part 52 that any new nuclear power plants built in the U.S. be designed to withstand a large commercial aircraft impact. This requirement would apply to any plant not yet constructed and would be based on an assessment performed using a realistic analysis of the threat posed by an aircraft with parameters defined by the Commission.

Since September 11, 2001, the Commission has assessed the potential vulnerabilities of operating nuclear power reactors to aircraft impact. By order dated February 25, 2002, the Commission required all operating power reactors to develop and adopt mitigative strategies to cope with large fires and explosions, whatever the cause but including aircraft impacts. The continuing requirement to provide such mitigative measures is being incorporated in the Commission's regulations in the proposed Part 73 power reactor security requirements, specifically the proposed revisions to 10 CFR. 73.55 and Part 73, Appendix C. Once final, these requirements, promulgated based on adequate protection of the public health and safety and common defense and security, must be satisfied by all current and future power reactors. Any new reactors built, however, should be designed to limit the damage an aircraft impact could cause.

Therefore, applicants should be required to perform an assessment which demonstrates the design of their plant would withstand an aircraft impact such that there would be no release of significant quantities of radioactive materials to the environment, defined as releases requiring measures to limit the exposure of the general public. In order to ensure this standard can be met, applicants should be required to show that in the event of a commercial aircraft impact, their facilities would demonstrate:

- (1) reasonable assurance of the structural integrity of containment, the spent fuel pool and a minimally necessary set of buildings housing the important safety functions;
- (2) reasonable assurance there will be no large fires and explosions due to large quantities of fuel leaking into containment, the spent fuel pool and a minimally necessary set of buildings housing the important safety functions;

(3) reasonable assurance of safe shutdown capability;

(4) reasonable assurance that emergency core cooling and residual heat removal systems will continue to function as necessary to ensure continued reactor pressure vessel and fuel integrity; and

(5) reasonable assurance that any release of radioactive substances to the environment will not produce exposures exceeding 10 CFR Part 100 guidelines.

The staff should develop an expedited rulemaking package with these criteria in mind.

SECY, please track.

cc: EDO
OGC