

December 1, 2011

MEMORANDUM TO: Michael J. Case, Director
Division of Engineering
Office of Nuclear Regulatory Research

FROM: Patrick L. Hiland, Director **/RA/ M.Cheok for**
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: XLPR DRAFT PROJECT PLAN

In August, 2010, the Office of Nuclear Reactor Regulation (NRR) issued a User Need Request (UNR 2010-18) for the Office of Nuclear Regulatory Research (RES) to develop a probabilistic fracture mechanics approach for evaluating the structural consequences of primary water stress corrosion cracking (PWSCC) of nickel-based alloys in pressurized water reactors. NRR intends to use the research results to establish review criteria for future Leak-Before-Break (LBB) applications and license amendments involving Alloy 82/182/600 and Alloy 690/52/152 materials and to support any regulatory actions taken in connection with PWSCC or mitigation of PWSCC involving these materials.

RES is responding to UNR 2010-18 by developing the XLPR probabilistic fracture mechanics computer code. Because of the complexity and scope of the code development process, NRR requested RES develop and maintain a project plan (UNR 2010-18, Subtask 1.1). This plan would describe the overall objective of the code, background, the proposed approach, milestones, anticipated funding and resource requirements, schedule, participants, and review processes. This document is meant to be updated on a semi-annual basis.

The Office of Nuclear Regulatory Research, in cooperation with the Electric Power Research Institute (EPRI) through a Memorandum of Understanding (MOU), developed a draft program plan for the development of a modular-based probabilistic fracture mechanics code. RES provided the draft plan for NRR review in May, 2011.

The Division of Engineering of NRR has reviewed the RES draft project plan. The draft document is well prepared and meets our needs. We have no significant comments and would like to express our appreciation for developing such a high quality product. We have some minor editorial comments that we will provide via e-mail.

CONTACT: Robert O. Hardies, NRR/DE
(301)415-5802

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