November 23, 2007

Dr. William J. Shack, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: RESPONSE TO ADVISORY COMMITTEE ON REACTOR SAFEGUARDS LETTER, DATED OCTOBER 19, 2007, CONCERNING NRC STAFF SAFETY ASSESSMENT OF THE INDUSTRY STUDY RELATED TO DISSIMILAR METAL WELD ISSUES IN PRESSURIZER NOZZLES

Dear Dr. Shack:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter, dated October 19, 2007, concerning the NRC staff's safety assessment of the industry's study related to dissimilar metal weld issues in pressurizer nozzles. We note that the Advisory Committee on Reactor Safeguards (ACRS) agrees that the advanced finite element analyses conducted by industry and NRC staff to address potential primary water stress corrosion cracking in pressurizer nozzles led to important advances in fracture mechanics capability and understanding of weld residual stresses.

Your letter indicates that the studies by the industry and the staff have been timely and have also significantly improved the technical basis for the assessment of circumferential flaws in dissimilar metal welds in pressurizer nozzles. Your letter also supports efforts by the staff to pursue further work on residual stresses including additional efforts to obtain more experimental confirmation of the welding residual stresses.

In its safety assessment the staff discussed a number of conservatisms and uncertainties related to the advanced finite element analyses. The staff noted that the sensitivity study shows that results are highly dependent upon the weld residual stress profile. However, weld residual stress models are not fully validated by full-scale experiments. The NRC Office of Nuclear Regulatory Research is undertaking a robust program to validate the weld residual stress models. This program is scheduled to be completed by the end of 2008. The NRC staff will keep ACRS informed of these efforts.

In closing, we value the Advisory Committee's review of the advanced finite element analyses of the pressurizer nozzle dissimilar weld issue. We appreciate your conclusions and recommendations on the issue.

Sincerely,

/RA Martin J. Virgilio for /

Luis A. Reyes
Executive Director
for Operations

cc: Chairman Klein
Commissioner Jaczko
Commissioner Lyons
SECY

In closing, we value the Advisory Committee's review of the advanced finite element analyses of the pressurizer nozzle dissimilar weld issue. We appreciate your conclusions and recommendations on the issue.

Sincerely,

/RA Martin J. Virgilio for/

Luis A. Reyes
Executive Director
for Operations

cc: Chairman Klein
Commissioner Jaczko
Commissioner Lyons
SECY

DISTRIBUTION: G20070745/EDATS: OEDO-2007-0623

DCI r/f	RidsAcrsAcnw&mMailCenter	JUhle
RidsResOd	RidsOpaMailCenter	CGHammer
RidsNrrDlr	RidsOgcMailCenter	ACsontos
RidsNrrDci	RidsNrrDorl	TChan
RidsNrrAdes	RidsEdoMailCenter	TLupold
RidsNrrWpcmail	LMiller	RHardies

OAR in ADAMS? (Y or N) Y TEMPLATE NO. EDO-002
Publicly Available? (Y or N) Y SENSITIVE N
ADAMS ACCESSION NO.: ML073190144

OFFICE	NRR/ADES/DCI	Tech Editor	NRR/ADES/DCI	NRR/ADES/DCI	NRR	EDO
NAME	E.Sullivan	C. Hsu	B.Bateman	M.Evans (B. Bateman for)	J.Dyer (J.Grobe for)	L.Reyes MVirgilio for
DATE	11/15/07	11/14/07	11/15/07	11/15/07	11/19/07	11/23/07

OFFICIAL RECORD COPY