March 29, 2000

MEMORANDUM TO: William D. Travers
Executive Director for Operations

FROM: Joram Hopenfeld /*RA*/
Engineering Research Applications Branch
Division of Engineering Technology
Office of Nuclear Regulatory Research

SUBJECT: APPOINTMENT TO AD HOC REVIEW PANEL FOR " DIFFERING PROFESSIONAL OPINION (DPO) ON STEAM GENERATOR TUBE INTEGRITY ISSUES"

I was very much dismayed to learn from your March 21, 2000 memorandum to me on the same subject that you have decided to reject my nominee to the *ad hoc* panel whom I requested in accordance with NRC Management Directive (MD) 10.159, and instead appointed Mr. Joseph Murphy. All three panel members, who are NRC management, were selected by you which is a blatant violation of MD 10.159. In my memos of February 14, March 1 and March 13, I provided you with the reasons why Mr. Hodges does not meet the requirements of MD 10.159. This memorandum is intended to formally address why Mr. J. Murphy and Mr. T. Wiggins also do not meet the requirements of MD 10.159 and why I have decided to file a grievance requesting that a new panel be selected.

In the early 1990's, NRC management made a decision to permit severely degraded steam generator tubes to remain in service without having a verifiable technical basis and based on the use of technology which could not be justified. In spite of my unresolved differing professional view, (DPV), Trojan received NRC approval in early 1992 to operate with steam generator tubes having numerous through the wall cracks. The basis of my DPV was that scientific methods to measure the number and size of the cracks and to assess their behavior under accident conditions were not available. As Advisory Committee for Reactor Safety (ACRS) Member Harold W. Lewis stated so aptly in a November 15, 1991 letter to Chairman Selin:

"The instruments used in the tube inspections depend upon the effect of the tube on the inductance and mutual inductance of magnetic coils at frequencies for which the tube thickness is comparable to the skin depth. Such measurements of gross properties are in principle insensitive to the morphology of the cracks, and are in particular not unique indicators of crack

depth. The staff is therefore regulating according to a parameter that cannot be uniquely measured. These are instruments which are ancient in concept, and some research attention to the development of more discriminatory instrumentation could help a great deal. It is a mistake to believe one is measuring something that is beyond the capability of the measuring instrument."

Because of (1) the wide public interest that the DPV received when a Trojan nuclear plant steam generator tube developed a large leak in November 1992 and (2) the negative publicity that the agency had received regarding its policy of advocacy towards the industry, NRC management ignored my identified safety concerns and minimized their importance. Instead of promptly acting on my concerns and approach them with an open-mind as required by MD 10.159, agency management has repeatedly delayed their resolution. Mr. J. Murphy was my division director when the NRC was developing the rationale for ignoring the DPV issues and aiding the industry in not removing defective steam generators from service. He was directly involved in the above NRC management decisions, practices, and policies.

In May 1994, NRR requested RES comments regarding the Voltage Repair Criteria prior to hearings by the NRC management Committee for Review of Generic Requirements (CRGR) on releasing GL 95-05**,** "Voltage-Based Repair Criteria For Westinghouse Steam Generator Tubes" for public comments. Even though I was the author of the DPV, and I have initiated "GSI-163-Multiple Steam Generator Leakage" and was a member of the technical task force that established the basis for GL-95-05, Mr. Murphy first did not ask me to comment on the package and then refused to listen to my concerns and refused to incorporate them with the outgoing comments to NRR (Reference 1). Mr. Murphys' action was a major motivation for elevating the DPV to the DPO level two weeks later on July 14, 1994.

On July 26, 1994, I presented my concerns directly to the CRGR. Mr. Murphy was present at this CRGR hearing (I do not remember whether he was a member or an observer). I do remember that he did not ask any significant questions during my presentation. The CRGR approved the release of GL95-05 as an interim measure. In 1997, Mr. Murphy tried to close GSI 167 without technical justification even though it was being tracked as a HIGH priority issue.

The above involvement of Mr. Murphy with the issues raised by the DPO clearly indicates that he was directly and significantly implicated in the present NRC position on this issue, and would only affirm his previous position that the DPO issues are invalid. Therefore he does not meet the criteria to serve on the DPO panel. For Mr. Murphy to change his position now would indicate that he was previously wrong and that he had directly participated in allowing plants to operate for years in a condition that was outside the established safety parameters of the agency.

Mr. James Wiggins was a branch chief of the Engineering Material and Components Branch of NRR and later Division Director, NRR/DE. He supported the management policy of allowing significantly degraded steam generator tubes to remain in service without having a verifiable technical basis. There is no reason to believe that Mr. Wiggins will change his position and support the DPO, which claims that public risk is substantially increased by not removing degraded units from service. To change now would be an admission of improper judgement on Mr. Wiggins' part in the past.

My February 7, 2000, memorandum to you emphasized, and public confidence mandates, that a technically valid resolution of this DPO be accomplished by knowledgeable engineers whose education and experience qualify them in the technical areas of stress corrosion cracking, iodine chemistry, fluid flow/ heat transfer, non-destructive examination (NDE), instrumentation, reactor transients, risk analysis, water chemistry, and jet erosion. The three members whom you have appointed to the DPO panel do not meet the above criteria in any of the areas related to the DPO. The DPO policy as presently established is simplistic and not designed for significant complex DPOs such as this, whose safety significance and universal concern warrant a panel having national or global stature in the involved technical areas, especially since other countries utilize the determinations of the NRC. Additionally, MD 10.159 appears to have been implemented by NRC management in a manner that suppresses rather than technically resolves DPOs.

When I filed the DPV in 1991, I assumed that the DPV/PDO process was fair and unbiased. I now regretfully conclude after 9 years of devious and protracted delay tactics on the part of NRC management that it is neither. NRC management's acceptance of the NEI proposed guidance regarding steam generators, NEI 97-06, "Steam Generator Program Guidelines" will show without a doubt that the NRC is permitting the commercial nuclear industry to regulate itself in the area of repair and operation of steam generators. Since steam generators are a most safety significant component in commercial nuclear power plants, it is more important than ever that the DPO issue be resolved based solely on its technical merit by eminently qualified board members. Since I have exhausted all other recourse in trying to have a DPO panel that meets the minimum requirements of MD 10.159, I have requested that NTEU file a grievance regarding this panel selection and violation of MD10.159.

Please file this memorandum in the PDR. Please also place all my outgoing documents in ADAMS, including on the external server so that external stakeholders may have access to them. To date only two such documents, dated September 28, 1999 and October 15, 1999, are available even in the internal ADAMS Main Library.

REFERENCES

1. Memo, Themis P. Speis to Ashok Thadani " Comments on CRGR/DRAFT GL Package On Voltage- Based Interim Repair Criteria For Steam Generator Tubes. July 1, 1994

CC: P Hearn, NTEU