




UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 13, 2000

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

James T. Wiggins  
Chair, DPO Ad Hoc Panel  
Office of the Executive Director for Operation

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

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

This is in response to the Reference 1 request that I reconsider my February 23, 2000, response and provide a list of nominees to the ad hoc panel from within the NRC staff only. I have considered the above request carefully and must state that there is no one in the agency whom I could honestly nominate to serve as a third panel member.

My March 1, 2000, memorandum to the EDO requested the replacement of Mr. Hodges to the ad hoc panel on the grounds that his direct involvement with the mixing model in the steam generator is *prima facie* evidence that he has a strong bias against the related issue which I raised in the DPO. In Reference 2, the EDO refused to replace Mr. Hodges stating that he was confident that Mr. Hodges can serve as an objective and productive member of the panel. Based on Mr. Hodges previous involvement, I cannot share this view. Mr. Hodges' nomination is not only in violation of Management Directive 10.159, but is contrary to the accepted engineering practice of assuring impartiality in design or operational assessments.

In Reference 1, Mr. Wiggins indicated that he had discussions with the EDO and other senior managers at the NRC who remain firmly committed to maintaining the integrity of the DPO

process. To gain a balanced perspective on the integrity of the DPV/DPO process at the NRC, I recommend that Mr. Wiggins also discuss this subject with individuals at the NRC who have attempted to use the DPO process in the belief that their concerns would receive unbiased considerations. Based on my own experience and observations over a 13-year period, the DPV/DPO process gives only an appearance that the agency is providing an unbiased, meaningful platform for raising safety concerns. In fact, delays, stonewalling, appointment of unqualified and biased panels, intimidation and harsh punishment of the individuals who raised serious safety concerns appear to be the standard practice at the NRC. The DPO process appears to serve only the senior NRC management. It does not fairly serve the general public and is grossly misleading by indicating that the NRC is committed to free and open discussions of differing professional views and opinions. The present DPV/DPO process has such a chilling affect that only a very few DPOs on serious safety issues were filed in the last 10 years.

Please note the following finding of a 1994 study of a Special DPO Review Panel, NUREG 1518: *Filers of DPV/DPOs often observed that the members of a Standing Review Panel did not include individuals who were technically qualified to review the merits of differing view or else consisted of individuals who had been part of the original decision making process, which contributed the impression of a strong bias against a filer's view.*

The process of selecting members to my DPO ad hoc panel clearly demonstrates that the NRC is ignoring its own findings and continues the practice of appointing unqualified members to a panel. I find it very offensive to have dictated to me who should be my representative to the panel.

It has been three months since I provided the EDO with my reply to the staff DPO consideration document and there has been no progress in addressing the DPO issues while seventeen reactors continue to operate outside Commission safety guidelines.

I have recently been provided copies of an NRR User Need Request which relates to the DPO severe accident issue. I have also seen a draft RES response to the User Request. It is very clear to me that both NRR and RES were thoroughly misled by the results of NUREG-1570. The issue of severe accidents, which is before the ad-hoc panel, is completely misunderstood and it appears that the agency is about to launch another questionable research program.

Public safety and the potential for additional waste of government resources dictate that the selection of a knowledgeable and unbiased panel proceed at a faster pace than in the past.

Because I was required to provide a reply to you within one day, I am limited in the amount of supporting information that I can provide. Please file this memorandum and my above mentioned memoranda to the EDO office ( February 23, March 1) in the PDR.

## REFERENCES

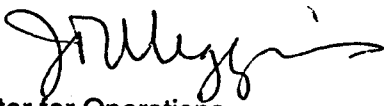
1. Memo, J. Wiggins to J. Hopenfeld, "Nomination For DPO Panel Member", March, 10, 2000
2. Memo, W. E. Travers to J. Hopenfeld "March 1, 2000, Memorandum From Joram Hopenfeld To William D. Travers Expressing Continuing Concern Over An Appointment To The Ad Hoc Review Panel For Differing Professional Opinion On Steam Generator Tube Integrity Issues." March 10, 2000.



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March 10, 2000

MEMORANDUM TO: Joram Hopenfeld  
Engineering Research Applications Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

FROM: James T. Wiggins   
Chair, DPO Ad Hoc Panel  
Office of the Executive Director for Operations

SUBJECT: NOMINATIONS FOR DPO PANEL MEMBER

This responds to your February 23, 2000, memorandum to me in which you responded to my request for a list of nominees for the Panel from within the NRC staff.

I have reviewed your response carefully and given consideration to the your views. I continue to believe that there are individuals within the NRC staff who are technically qualified to judge the issues involved in the DPO on their merits, with sufficient independence to assure an impartial review. Further, regarding your statement that members of the panel will be at risk of retaliation and harassment, I have had a number of discussions with the EDO and other senior managers who all remain firmly committed to maintaining the integrity of the DPO process. Key to that objective is their commitment to assuring that panels could reach conclusions and make recommendations in a free and open environment.

Management Directive 10.159 provides processes for staff members to either formally or informally express a difference of opinion or disagreement with an NRC policy, practice or decision directly related to the mission of the agency. Both the informal Differing Professional View (DPV) process and the formal Differing Professional Opinion (DPO) process are intended to function internally. As a result, I am requesting you to reconsider your earlier response and to provide me a list of nominees from within the NRC staff to serve as the third panel member. As before, I am willing to provide any help you need in identifying potential nominees.

The Management Directive also provided for the EDO or the panel chairman to arrange for the use of technical assistance from inside or outside the agency to address highly specialized issues. In keeping with the spirit of your initial recommendation, I have been in contact with Dr. Ivan Catton, one of those on your original list of potential panel members. He expressed interest in providing technical support to the panel and I am pursuing retaining his services.

Please respond to me by **COB, March 13, 2000.**

cc: W. Travers, EDO  
F. Miraglia, DEDR  
L. Chandler, OGC  
J. McDermott, HR



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

cc: J. Wiggins  
W. Hodges  
F. Miraglia  
D. Lange  
W. Ott  
C. Papiarello

March 1, 2000

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

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

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

Your February, 23 2000 memorandum said that Mr. Hodges had no direct involvement in the development of NUREG 1570. You also stated that his appointment to the DPO ad hoc panel was consistent with Management Directive 10.159. Based on a review of readily available documents, Mr. Hodges was indeed directly involved with NUREG 1570 and therefore his appointment is not consistent with Management Directive 10.159.

The primary basis for the NUREG 1570 study was the DPO findings that leaving degraded steam generators in service would pose safety risks not only during design bases accidents but also during severe accidents. My December 16, 1999 reply to you regarding the staff's DPO Consideration document points out that the thermal hydraulic modeling in NUREG 1570 was designed to develop a rationale which would dismiss the DPO safety concerns during severe accidents, thus allowing licensees to operate plants with degraded steam generators.

Your memo does not dispute that the thermal hydraulic work was conducted under the supervision of Mr. Wayne Hodges, but it emphasized that Mr. Hodges was not directly involved and that his staff's contribution represented a small fraction of the entire NUREG-1570 effort. I do not dispute that in terms of billable hours, the RES effort was small in comparison to the efforts of NRR contractors. This does not indicate that the RES work had an insignificant impact on NUREG 1570 and on its use in regulatory activities. Thermal hydraulic results had the most important impact on the NUREG-1570 study. In fact, the entire outcome of NUREG-1570 depended on the predictions of the hydraulic model, specifically the mixing model for the inlet steam generator plenum. If the model had shown, as does the DPO, that the temperature of the steam generator tubes increases at a faster rate than does the surge line temperature, the

risk of containment bypass from degraded tubes would be very high. By assuming arbitrarily perfect mixing in the inlet plenum, RES was able to show that the risk of containment bypass is relatively small and has no generic applicability.

The RES model is based on Westinghouse small scale tests and the assumption of perfect mixing in the steam generator plenum, my model, is based on the proposition that because of leakage the tubes will be exposed to the hot leg temperature and not to the mixed cup temperature in the plenum. It should be noted, that similarly to my model EPRI and JAERI also did not assume perfect mixing in the plenum. Only the model developed under Mr. Hodges' direction assumes perfect mixing which creates a significantly non-conservative condition.

RES efforts in the development of the thermal hydraulic model were significant: (1) the modeling using RELAP/SCADAP was conducted over a period of several months, (2) outside consultants were employed, (3) there were meetings and disagreements on the mixing model in Mr. Hodges office, and (4) Mr. Hodges and his staff made several presentations to the ACRS. The thermal hydraulic modeling work was conducted under the supervision of Mr. Wayne Hodges. I remember telling Mr. Hodges, regarding his staff's presentations to the ACRS, that major assumptions concerning mixing were not stated and prior work was not acknowledged. Mr. Hodges indicated that he would attend my presentation to the ACRS, August 26, 1997, on the effect of tube leakage on tube temperature.

Mr. Hodges defended the modeling work at the September 12, 1996 ACRS meeting, and approved its transmittal for publication by NRR in NUREG 1570. He also agreed to consider the comments provided by the ACRS, those comments, however, are not reflected in NUREG-1570. It is inconceivable that Mr. Hodges would not to be biased against the DPO model given the extent of his involvement with the development of the opposing model.

I am concerned with MR. Hodges recollection. Mr. Hodges signature on the transmittal to NRR and the ACRS transcripts and my own remembrances are that Mr. Hodges was personally directly involved in the substantive activities that bear on the DPO issues.

I was amazed that Management Directive 10.159 was interpreted in such a narrow manner as to justify Mr. Hodges appointment simply because he personally had not signed the final release form for NUREG 1570 and because NUREG 1570 is not a statement of agency policies. At issue is the technical validity of the steam generator mixing model which was developed under the direct supervision of Mr. Hodges. The signature on form 426 is not relevant because it is by no mean any indication that Mr. Hodges was not directly responsible for the most significant input to NUREG-1570.

I believe that the final resolution of the DPO could impact agency policies under risk informed regulations. If the DPO model is found to be valid, it will not be possible to use NUREG -1570 as a justification to provide relief from the 40% plugging rule under risk informed regulations. Current agency policy is to use NUREG-1570 to justify regulatory relief, (Joseph M. Farley Nuclear Plant Cycle 16 Extension Request).

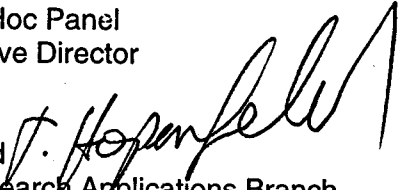
In my February 23, 2000 memo to James T. Wiggins, I have stated my concern regarding his request to change the list of my nominees and the nomination of Mr. Hodges. I repeat my concern.



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WASHINGTON, D.C. 20555-0001

February 23, 2000

MEMORANDUM TO: James T. Wiggins  
Chair, DPO Ad Hoc Panel  
Office of Executive Director

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

SUBJECT: NOMINATION FOR DPO PANEL MEMBER

In response to your request for a list of nominees for the subject panel within the NRC staff, please be advised that I cannot comply with your request for the following reasons:

1. I do not know of any NRC staff members who have the appropriate technical expertise, together with the education, training, and hands-on experience in the areas that I listed in my February 7, 2000, memorandum.
2. You indicated that you could provide a list of NRC staff for my consideration. I would not select an NRC employee for the DPO panel because of the possibility of retaliation against him/her by the agency. Based on past experience, I believe that I would be putting his/her career in jeopardy and expose him/her to harassment. As you should know, the NRC has a long history of retaliation against individuals who submit DPVs/DPOs or raise safety concerns by other means. Such retaliation was documented in a study performed in the late 1980s, and presumed corrective actions put in place. These corrective actions lessened the severity of retaliations but have not eliminated them. The problem is apparently deeply rooted and still exists. Instead of promptly resolving safety concerns, the NRC fosters an adversarial relation with the DPO author and treats him as an enemy.

3. Considering that the NRC has delayed the resolution of this DPO for nine years, your concern about the possibility that an outside member will slow the DPO process appears to be unjustified. I have discussed the DPO ad-hoc panel assignment with each of the nominees and even though these individuals are very busy, they consider the resolution of the DPO a very important duty and will make adjustments accordingly.

4. I disagree with you that outside consultants can compensate for the lack of technical expertise of the ad-hoc panel. The consultants' contributions would be of limited usefulness because a poorly qualified panel will be incapable of posing the right questions. It is of utmost and vital importance that the panel members themselves be competent to evaluate the critical and complicated DPO issues. It is a fallacy to believe that "any" NRC graduate engineer or scientist, especially one without extensive design and operation experience, can perform such an assessment. Persons chosen to the ad hoc panel must be skilled, by virtue of their hands-on experience, in assessing uncertainties in modeling, assumptions, and engineering inferences. The work at NRC does not lend itself to acquiring such skills.

5. I do not share your view that only NRC staff members can perform an efficient review of the DPO. It is more than a year now since I provided the agency with a reply to the staff's first DPO Consideration Document and it is more than two months since I provided a reply to the second DPO Consideration Document. Since that time there has been no progress in resolving the DPO. I do not see the NRC as a model of efficiency in this area.

Your request to change the list of my nominees and the nomination of Mr. Wayne Hodges to the ad hoc panel are very disturbing. These actions clearly deviate from the intent of Management Directive 10.159 which requires that the members of the ad hoc panel be knowledgeable and have had no direct involvement with the issues at hand. As I have indicated in my February 14, 2000, memo, Mr. Hodges does not meet these requirements.

All the signals that I have been receiving from the EDO's office in the past month indicate that the NRC is not proceeding in earnest towards the resolution of the DPO on its technical merits. Since the NRC is allowing a number of reactor plants to operate outside the Commission safety standards and since incompetent resolution of the DPO could allow this dangerous situation to continue I feel that if I comply with your request I will be contributing to increasing public risk.

cc: W. Travers, EDO  
P. Hearn, NTEU




UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 17, 2000

MEMORANDUM TO: Joram Hopenfeld  
Engineering Research Applications Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

FROM: James T. Wiggins   
Chair, DPO Ad Hoc Panel  
Office of the Executive Director for Operations

SUBJECT: NOMINATIONS FOR DPO PANEL MEMBER

This responds to your February 7, 2000 memorandum to Dr. Knapp in which you provided the names of three nominees for the DPO ad hoc panel. I appreciate your timely response in this matter.

I noted that the three individuals offered for consideration are from outside the NRC staff. To support a more efficient and timely review of the issues included in the DPO, however, I request that you provide a list of nominees from within the NRC staff. Per Management Directive 10.159, I will consider those internal nominees as I select the third member of the panel. In addition, since any of the three individuals listed in your memorandum could contribute positively to the process, I will explore retaining the services of one of them in the role of a technical advisor to the panel, contingent upon the interest and availability of the individual involved.

To move the process forward, I would appreciate receiving the list of internal nominees by February 23, 2000.

cc: W. Travers, EDO  
F. Miraglia, DEDR  
L. Chandler, OGC





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February 14, 2000

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

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

SUBJECT: APPOINTMENT TO AD HOC REVIEW PANEL FOR "DIFFERING  
PROFESSIONAL OPINION ON STEAM GENERATOR TUBE  
INTEGRITY ISSUES" (Memo, February 8, 2000)

This is to bring to your attention that the appointment of Mr. Wayne Hodges to the subject panel is not in compliance with Management Directive 10.159 which requires that DPO review be conducted by individuals who have not participated directly in the formulation of agency position that is at issue.

Two out of the five unresolved DPO issues (severe accidents & risk increase issues) relate to the results of NUREG-1570, "Risk Assessment of Severe Accident Induced Steam Generator Tube Rupture". As a Director, DST, Office of Research Mr. Hodges was directly responsible for NURG-1570.

My December 16, 1999 memorandum questioned staff's abilities to address steam generator issues. NUREG-1570 was specifically cited as an example where theories were invented to prove a desired outcome.

cc: J. Wiggins  
M.W. Hodges



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 29, 1998

MEMORANDUM TO: Joram Hopenfeld  
Generic Safety Issues Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

FROM:

William D. Travers   
Executive Director for Operations

SUBJECT: PANEL REVIEW OF DPO ON STEAM GENERATOR INTEGRITY

Jocelyn Mitchell of my staff indicated to me that, with the recent changes in the direction of staff actions and the long time since your concerns were first expressed, you have questions about what, exactly, an ad hoc Differing Professional Opinion (DPO) panel would review on the subject of steam generator integrity. I agree that your question has merit and that this particular situation seems to require a somewhat different approach than the standard approach for addressing DPOs in Management Directive 10.159. Therefore, I propose the following course of action:

(1) The staff of NRR will receive public comments on the draft regulatory guide, the draft DPO resolution document, and your memorandum dated September 25, 1998 addressed to the Commission. This is in accordance with the final Staff Requirements Memorandum (SRM) on SECY-98-248, dated December 21, 1998. The SRM is attached for your information.

(2) The staff will address all the comments and prepare a final staff position, including endorsing a revision of NEI-97-06, should that prove to be technically acceptable, or deciding to issue a Generic Letter.

(3) The final staff position will be forwarded to you for your review as to which, if any, of your DPO issues have been adequately addressed in that position. Any remaining issues would then be submitted to an ad hoc panel, which would be established at that time. A mutually agreeable length of time would be provided for your review, depending upon the volume of documentation to be reviewed.

The schedule for the start of your review would not be before the early summer of 1999, and might be as late as the fall.

If this revised course of action addresses your question and seems reasonable to you, please indicate your approval in a memorandum to me.

Joram Hopenfeld

-2-

Again I want to thank you for your willingness to participate in the DPO process. This willingness to bring your concerns to management's attention contributes directly to achieving the Agency's safety mission.

**Attachment:**

**Staff Requirements Memorandum dated December 21, 1998**