



PDR

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October 9, 1996

Mr. Don Demart  
Duke Power Company  
M/C EC09H  
P.O. Box 1006  
Charlotte, North Carolina 28201-1006

Dear Mr. Demart:

As I summarized in our telephone conversation on October 9, 1996, we have an ongoing research project at Oak Ridge National Laboratory (ORNL). This program has several tasks:

- 1) The development of a material properties data and information database for steel containments, steel liners coatings and seal materials.
- 2) Development of a degradation assessment methodology for application to steel containments and liners of reinforced concrete structures.
- 3) An assessment of the effectiveness of destructive and nondestructive techniques. A major focus is the study of state-of-the-art techniques as they may be applied to containment ISI. There may be research in the future to adapt and verify some of the more promising methods.
- 4) Development of a reliability-based condition assessment methodology. The focus is quantifying residual strength and predicting future service life through this time-dependent reliability analysis.

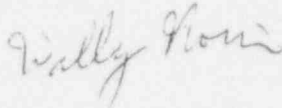
I appreciate your willingness to work with us on this research project. I understand that the repairs to the Catawba and McGuire containments were performed in the late 1980's, and that the detailed information we are trying to obtain may not have been retained. We have previously contacted GPU Nuclear and Niagara Mohawk Power Corporation regarding corrosion of their containments. The information that they provided has been very useful. I contacted you because we would like to obtain as much information as possible related to certain areas such as reliability of UT results (e.g., accuracy of examiner wall thickness readings compared to actual wall thickness determinations). A separate NUREG will be published for each of the areas identified above. We will be glad to share reports (in fact the first detailing assessment methodology is attached), and any results of the ORNL

effort. Unit specifics will not be identified in the reports. I spoke with the principal investigator, Dr. Dan Naus, at ORNL, and the following has been identified as areas of interests.

- Dr. Naus thought it would be helpful to meet with the lead engineer on the repair project. This would give Dr. Naus general information such as method of detection, inspection methods, assessment, mitigation/repair, and monitoring. Dr. Naus can travel to Charlotte at your convenience.
- Specifically:
  - NDE methods used to inspect the shell
  - Methods used to validate NDE results as well as their effectiveness and reliability. In particular, any results where UT measurements were compared to actual thickness measurements (e.g., were material plugs removed?). One of the areas in which ORNL has had difficulty is obtaining information is related to probability of detection.
  - Ongoing NDE programs including a description of augmented UT measurement program.
  - Methods used to assess corrosion occurrence as well as monitor its rate (corrosion rates are of special interest for the subtask no predicting future service life).
  - Repair approach including methods and materials used to clean and recoat degraded areas. For example, what weld techniques were used, and were there any special considerations?
  - Repair methods and methods where shell samples may have been removed and how integrity was demonstrated after repair.
  - Were color photographs taken of the areas which experienced degradation, while measurements were being made, or of the repair procedures, and if so, are there any which would be useful for a project such as this? If necessary, the photographs would be altered to only show the items of interest (e.g., corrosion) so that plant identification is not possible).

I will fax an advance copy of this letter and mail the original. Once you have had a chance to read this letter and check your records for information on the repairs, I will have Dr. Naus contact you directly. If you have any questions, please call me at (301)415-6796.

Sincerely,

A handwritten signature in cursive script, appearing to read "Wally Norris".

Wallace E. Norris, Project Manager  
Structural & Geological Engineering Branch  
Division of Engineering Technology  
Office of Nuclear Regulatory Research

cc: V. Nerses, NRR PM McGuire  
P. Tam, NRR PM Catawba