

August 6, 2003

MEMORANDUM TO: James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management

FROM: Richard B. Ennis, Senior Project Manager, Section 2 /RA/  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JULY 22, 2003, INTERNAL MEETING CONCERNING  
CODE CASE N-597, REQUIREMENTS FOR ANALYTICAL  
EVALUATION OF PIPE WALL THINNING

On July 22, 2003, U.S. Nuclear Regulatory Commission (NRC) staff from the Office of Nuclear Reactor Regulation (NRR) held an internal meeting at NRC Headquarters to discuss American Society of Mechanical Engineers (ASME) Code Case N-597, "Requirements For Analytical Evaluation of Pipe Wall Thinning." The following staff members were in attendance:

<u>Name</u>	<u>Organization</u>
Rick Ennis	NRR/Division of Licensing Project Management (DLPM)
Jim Clifford	NRR/DLPM
David Terao	NRR/Mechanical and Civil Engineering Branch (EMEB)
Kamal Manoly	NRR/EMEB
Mark Hartzman	NRR/EMEB
Ted Sullivan	NRR/Materials and Chemical Engineering Branch (EMCB)
Ray Lorson*	Region I/Division of Reactor Safety (DRS)

\* Participation via teleconference

### Background

Based on a recent phone call request from Dominion Nuclear Connecticut, Inc. (DNC or the licensee), the NRC staff held a conference call with DNC on July 14, 2003, to discuss whether Millstone Unit 2 (MP2) needs to submit a relief request related to ASME Code Case N-597 for the October 2003 refueling outage. On February 23, 1999, the NRC staff authorized use of the Code Case for MP2 until the Code Case is approved for use in Regulatory Guide (RG) 1.147, and thereafter, provided the licensee follows any conditions set forth in RG 1.147. The Code Case was subsequently incorporated in the RG 1.147 with four conditions. Condition 2 deals with components affected by flow-accelerated corrosion (FAC) and requires NRC review and approval if the licensee plans to leave piping in service with a wall thickness less than the Code-allowable minimum wall thickness ( $t_{min}$ ).

During the conference call on July 14, 2003, the staff told DNC that RG 1.147 has been incorporated by reference into Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a. Therefore, a relief request would be required for MP2 if the licensee intends to

leave piping in service with wall thickness less than  $t_{min}$ . The licensee stated that they intended to submit a relief request and asked what information the staff would need for the review. The NRC staff stated that we would need to discuss this issue internally and would get back to DNC.

### Summary of Meeting on July 22, 2003

The purpose of this internal NRC meeting was to discuss the information the staff would need to process relief requests to leave piping in service with wall thickness less than  $t_{min}$  as related to RG 1.147, Code Case N-597, Condition 2. David Terao stated that although MP2 is the only plant to raise this issue at this time, it may be an issue for other plants prior to the fall outages. Therefore, it is important that we determine the information we need to process these potential relief requests as soon as possible.

It was decided that licensees should provide the following information in their relief requests for each section of piping where the wall thickness is less than  $t_{min}$ :

- 1) markup of piping isometric showing location where piping is less than  $t_{min}$ ;
- 2) affected system;
- 3) system normal operating temperature, normal operating pressure, and design pressure;
- 4) pipe size and nominal pipe wall thickness ( $t_{nom}$ );
- 5) Code-allowable  $t_{min}$ ;
- 6) current measured wall thickness ( $t_{meas}$ ) and date measurement was made;
- 7) estimated wall thinning wear rate; and
- 8) predicted wall thickness ( $t_p$ ) at the next scheduled inservice examination.

In addition, the licensee's relief request should address the following:

- 1) discuss how pressure spikes associated with anticipated system transients are accounted for in establishing  $t_{min}$ ;
- 2) provide licensee's basis for determining the wear thinning rate;
- 3) provide licensee's criteria for repairing or replacing piping and the basis for the criteria;
- 4) discuss what evaluation methods and criteria the licensee plans to use for performing analytical evaluations of pipe wall thinning in Class 1 carbon steel piping subjected to FAC; and

- 5) discuss what evaluation methods and criteria the licensee plans to use for performing analytical evaluations of pipe wall thinning in non-Code class 1 carbon steel piping subjected to FAC.

- 5) discuss what evaluation methods and criteria the licensee plans to use for performing analytical evaluations of pipe wall thinning in non-Code class 1 carbon steel piping subjected to FAC.

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