



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001  
November 13, 1996

LICENSEE: Niagara Mohawk Power Corporation  
FACILITY: Nine Mile Point Nuclear Station Unit No. 1  
SUBJECT: SUMMARY OF TELEPHONE CONVERSATION OF OCTOBER 23, 1996, ON REACTOR AND TURBINE BUILDING BLOWOUT PANELS (TAC NO. M94858)

On October 23, 1996, the NRC staff discussed, via telephone, the results of an audit of certain calculations by Mr. M. Hartzman of the NRC's Structural Engineering Branch regarding the Nine Mile Point, Unit 1, Reactor and Turbine Building relief (blowout) panels. Participants for the NRC staff were Mr. M. Hartzman and Ms. H. Pastis. Participants for the licensee included Messrs. A. Zalnik, W. Yager, and Mohamed Ali.

Mr. Hartzman reviewed the calculations provided by Niagara Mohawk Power Corporation (NMPC) during a recent audit. The calculations are for the blowout panel impacting the roof of the Turbine Building above the condensate storage tanks. These calculations are an enclosure to the "Trip Report Regarding August 20, 1996, Audit of Reactor and Turbine Building Blowout Panel Calculations" dated October 7, 1996:

The calculations consist of two parts: a primary calculation by NMPC and a confirmatory calculation by Sargent and Lundy (S&L). The S&L analysis is based on an energy approach, similar to that used by Bechtel in analyzing the impact of tornado missiles. Mr. Hartzman selected the confirmatory analysis as the basis for his audit.

S&L determined that the maximum ductility in two impacted roof beams was 9.2, which is less than NMPC's allowable value of 10. Using the same model, Mr. Hartzman calculated a ductility factor of 17.6, which is considerably larger than the S&L value and exceeds the NMPC allowable ductility. The reason for this discrepancy is that there is a fundamental error in the S&L method, having to do with the calculation of the impact velocity and the kinetic energy of the falling panel.

Mr. Hartzman advised NMPC that the S&L analysis, and by implication the NMPC analysis, are not acceptable.

The maximum expected deflection of the impacted roof beams is about 1.5 feet. The height of the roof above the tanks is about 9 feet. Mr. Hartzman does not believe there is an immediate safety issue here, but NMPC/S&L should take appropriate measures to show that the ductility is really below allowable values, or else modify the roof.

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Mr. Zalnik stated that NMPC would discuss the NRC's audit conclusions with S&L, and further advise the NRC as to its future course of action.

Sincerely,

/s/

Darl S. Hood, Senior Project Manager  
Project Directorate I-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-220

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Sincerely,

*Darl S. Hood*

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Division of Reactor Projects - I/II  
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