



Department of Energy
Washington, DC 20585

March 25, 2004

Mr. J. P. Henschel
[]
Bechtel National Inc.
3000 George Washington Way
Richland, WA 99352

Subject: Enforcement Letter for Concrete Work Issues

Dear Mr. Henschel:

This letter addresses eleven instances that have occurred at the Waste Treatment Plant during a 14-month period from August 2002 through October 2003 in which concrete work was not performed to established procedures and standards. The Department of Energy's (DOE) Office of Price-Anderson Enforcement (OE) has reviewed these concrete work issues and is concerned with the work process you have in place to inspect concrete work prior to pour. In addition, OE is concerned with your failure to correct these known problems in a timely manner. It is our expectation that Bechtel National Inc. (BNI) has quality improvement programs in place to prevent recurrence of problems and management/independent assessment programs to detect quality related issues before they are manifested in operational issues. A summary of these concrete work issues is provided below.

In several instances concrete pour cards were signed off as complete with preplacements (i.e., rebar, dowel rods) missing. BNI internal procedures are clear in the requirements for inspection of preplacements prior to the concrete pour. These procedures include requirements for craft self-checking, as well as Superintendent, Field Engineer, and Quality Control Engineer inspection to assure all preplacements are present and positioned correctly according to drawing specifications. Despite these required inspections, several examples were noted where preplacements were discovered to be missing after all of the above-mentioned inspections were conducted and approved. On November 11, 2003, BNI performed a root cause analysis of one event in which 41 preplacements in three concrete placements were missing after all inspections were completed. The root cause was determined to be an ineffective and inconsistent approach to installation and inspection. One example of this ineffective and inconsistent approach to inspection was that Superintendent and Field Engineering inspections were performed without having drawings in hand. Given the number and complexity of these preplacements, it is difficult to understand how an effective inspection could take place without benefit of drawings and specifications. This is the type of problem OE would have expected BNI to have identified and corrected prior to performance of the root cause analysis.

In addition, there were concrete work issues which involved the performance of work without reinspection after the preplacement portion of the concrete pour card had been signed off and approved. BNI procedures require that if additional work is performed after inspection and approval of the preplacements, that work must be reinspected.

There were also numerous examples in which the concrete pour card was incomplete or inaccurate. These included the omission of embeds, failure to include pour conditions, unrecorded concrete placement rate, and failure to include drawing specification revisions. The failure to note these items on the pour card is viewed as more than just administrative error. These deficiencies could adversely affect inspection activities and concrete integrity.

The Waste Treatment Plant when completed is designed to vitrify some the nation's most hazardous waste. The safe construction of the plant, for which BNI is the prime contractor, is of paramount importance in providing protection to both DOE workers and the public. As such, it is critical that construction be in accordance with applicable standards and procedures using approved drawings and specifications. BNI is a subsidiary of a preeminent engineering and technical services corporation that has exhibited excellence in the construction management of complex nuclear facilities. The types of problems that have occurred thus far during the construction of the Waste Treatment Plant are inconsistent with this standard of excellence.

OE is encouraged by your identification of the programmatic issues related to your concrete work and the response to our initial document request in this matter. Further, OE views your recent root cause analysis and associated corrective actions to be a positive step in resolving these issues. OE considers your standards and procedures to be effective in controlling concrete work, assuming that they are implemented strictly. It is the implementation of these standards and procedures by your staff and management that is our primary concern. While this concern remains, based upon your recent response to the issues raised in this letter, OE will defer formal enforcement action regarding these issues while we closely monitor the effectiveness of your corrective actions to determine if these concrete work issues have been resolved. We may decide to pursue formal enforcement action if your corrective actions do not effectively remedy these problems.

Sincerely,



Stephen M. Sohinki
Director
Office of Price-Anderson Enforcement

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