



January 24, 2003

U.S. Nuclear Regulatory Commission
ATTN.: Document Control Desk
Washington, DC 20555

Subject: Reply to a Notice of Violation
NRC Inspection Report No. 72-1029/2002-201

Dear Sirs:

The subject inspection report identified two (2) Severity Level IV violations, one cited and another non-cited, one minor violation (less than Severity Level IV), and areas of weakness. The required response to the Notice of Violation is attached herewith. Transnuclear, Inc. (TN) has documented the identified violations in TN's corrective action system in accordance with requirements of the TN Quality Assurance program.

As discussed during the inspection and in the subsequent telephone conference, TN is committed to take appropriate action to correct deficiencies and weaknesses, and to monitor the effectiveness of corrective measures taken. Our corrective measures have included the following:

- Training of Kie-Con craft and QC personnel
- Increased TN engineering and QA participation in fabrication oversight activities
- Implemented weekly meetings with Kie-Con management
- Implemented on the-job-training of Kie-Con QC Inspector by TN oversight person
- Instituted pre-pour and post-pour briefings with Kie-Con personnel
- Established compensatory oversight team of TN Engineer and QA Engineer to verify reinforcing steel placement, as an interim measure until additional training and drawing reviews are complete.
- Performed additional training of Kie-Con labor force on concrete handling, placement and compaction
- Initiated a review of reinforcing steel detailing drawings to provide specific spacing requirements and re-issue the revised reinforcing steel detailing drawings in accordance with the requirements of TN QA procedures
- Investigated the concrete mix design and batching process to improve the consistency of the batched concrete

These measures will be completely implemented by Jan. 31, 2003. TN is monitoring the effectiveness of the corrective action taken and will adjust as necessary to achieve and to

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maintain full compliance. Should you have any questions or require further information, please contact me at (914) 347-2345 or Tony Chen at (510) 744-6048.

Sincerely,

A handwritten signature in cursive script that reads "Alan S. Hanson".

Alan Hanson

President and Chief Executive Officer
Transnuclear, Inc.

Attachment

CC: Mr. Rob Lewis, Section Chief
Transportation and Storage Safety and Inspection Section,
Spent Fuel Project Office,
Nuclear Material Safety and Safeguards

REPLY TO A NOTICE OF VIOLATION

Inspection Report No. 72-1029/2002-201

Stated Requirements:

10 CFR 72.150, "Instructions, procedures, and drawings," requires, in part, that the certificate holder prescribe activities affecting quality in documented instructions and procedures, and that these instructions be followed.

The Safety Analysis Report for the Standardized Advanced NUHOMS Horizontal Modular Storage System for Irradiated Nuclear Fuel, drawing NUH-03-4011, "Advanced Horizontal Storage Module Main Assembly," Revision 1, Sheet 1 of 9, Note 19 requires that the minimum concrete coverage for reinforcing bar be 1 ½ inches. Further, Note 2 requires that construction be performed in accordance with American Concrete Institute (ACI) Standard 318. ACI 318-89, Section 7.6.1 requires that the minimum clear spacing between parallel bars in a layer be not less than 1 inch.

Stated Violation:

Contrary to the above, on November 18, 2002, the reinforcing bar for the base unit of the Advanced Horizontal Storage Module had reinforcing bar placed such that 1 ½ inches concrete coverage would not be achieved in several places (with coverage down to ½ inch) and the spacing between two parallel rebars was less than one inch (the bars had zero clearance). The reinforcing bar placement had been accepted by the Kie-Con quality control inspector on November 16, 2002.

1. Reason for the violation

The primary cause of this violation is inadequate control of work processes, aggravated by a lack of experience in performing QC inspections of reinforcing steel. The Kie-Con workers, craft and QC, were inadequately trained on the required acceptance criteria for reinforcing steel placement.

A contributing cause of this violation is a lack of experience in reinforcing steel detailing. The shop drawings for reinforcing steel failed to account for embedded items such as lifting devices, penetrations, geometry discontinuities and other designed embedment.

2. Corrective steps that have been taken and the results achieved

TN has issued a Corrective Action Report No. 02.019 to document the identified violation and to track the resolution thereof in accordance with the requirements of the TN quality assurance program. The specific areas of reinforcing steel spacing and concrete surface coverage deficiencies were immediately corrected at the time of the

discovery. The reinforcing steel for this AHSM base unit was re-inspected prior to concrete placement and meets design requirements.

3. Corrective steps that will be taken to avoid further violations

The Kie-Con craft and QC personnel will be trained in the importance of adherence to acceptance criteria. As an interim preventive action, TN's designated oversight person is assigned to assist the Kie-Con QC inspector in the performance of reinforcing steel inspection. The primary reason for this assignment is to provide on-the-job training of the Kie-Con QC Inspector. TN QA will perform independent verification of the effectiveness of the training and Kie-Con's control of work processes.

TN has also significantly increased both the Engineering and QA oversight activities at Kie-Con until actions are complete and their effectiveness confirmed:

- The reinforcing steel detail drawings are being revised to provide sufficient details of spacing requirements and acceptance criteria.
- The specific spacing requirements for all reinforcing steel are to be identified for each AHSM component, taking into consideration of penetrations, openings and other designed embedment.
- The end details of reinforcing steel are being modified to enhance the achievement of the minimum concrete surface coverage.

4. The date when full compliance will be achieved

All corrective actions either have been completed or are on going except for the issuance of the revised reinforcing steel detail drawings by no later than January 31, 2003.