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## Task II.J.2: Construction Inspection Program (Rev. 1)

The objective of this task was to provide greater assurance that nuclear plants are properly constructed by improving construction inspection programs.

### ITEM II.J.2.1: REORIENT CONSTRUCTION INSPECTION PROGRAM

#### *DESCRIPTION*

This TMI Action Plan<sup>1</sup> item called for OIE to change its reactor construction inspection program and its Inspection Manual to require increased observation of work activities, more attention to the involvement of licensees in construction activities, independent verification that as-built conditions met design requirements, and follow-up of reported incident information, as applicable, from operating reactors. This item addressed the NRC capability to make independent assessments of safety and, therefore, was considered a Licensing Issue.

#### *CONCLUSION*

Chapter 2512 of the Inspection Manual was revised on August 1, 1980, as part of the OIE program to incorporate increased observation of work activities and to increase inspection of licensees' involvement in the overall construction of plants. In addition, program changes to ensure earlier and continuing inspection of construction QA activities were made. A trial program involving team inspections was also completed. Thus, this issue was resolved with changes in the NRC procedures that address construction inspection.<sup>2, 3, 4, 5</sup>

### II.J.2.2: INCREASE EMPHASIS ON INDEPENDENT MEASUREMENT IN CONSTRUCTION INSPECTION PROGRAM

#### *DESCRIPTION*

This TMI Action Plan<sup>6</sup> item called for OIE to evaluate trial programs involving independent measurements (non-destructive examination) at construction sites. NRC was to buy a van to be fitted with equipment to conduct ultrasonic, liquid penetrant, and magnetic particle non-destructive examinations. If the evaluations were successfully made from the equipment-fitted van, additional vans were to be purchased for use at each Regional Office. In addition, a contract was awarded to the Franklin Research Center to provide services involving independent assessment (destructive testing) of material samples. Data from these assessments were to supplement the testing to further verify conformance with licensee commitments, specifications and/or codes and standards requirements. Five uniquely qualified inspectors were to be assigned full-time to each van to ensure maximum use of the vans. This item addressed improvement in the NRC capability to make independent assessments of safety and, therefore, was considered a Licensing Issue.

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<sup>1</sup> NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," U.S. Nuclear Regulatory Commission, May 1980, (Rev. 1) August 1980.

<sup>2</sup> Memorandum for H. Denton from R. DeYoung, "TMI Action Plan Items Still Pending," June 10, 1982. [8401170101]

<sup>3</sup> Memorandum for W. Dircks from V. Stello, "TMI Action Plan—Status Report," December 19, 1980. [8205260193]

<sup>4</sup> Memorandum for H. Denton from R. DeYoung, "Draft Report on the Prioritization of Non-NRR TMI Action Plan Items," January 24, 1983. [8401160474]

<sup>5</sup> Memorandum for W. Dircks from R. DeYoung, "TMI Action Plan—Status Report," March 4, 1982. [8204290601]

<sup>6</sup> NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," U.S. Nuclear Regulatory Commission, May 1980, (Rev. 1) August 1980.



## CONCLUSION

A contractor for destructive testing was hired and tests were performed on an ongoing basis. An NRC mobile van was purchased, equipped, and staffed with contractor assistance. The original plan called<sup>7</sup> for the staff to evaluate a trial program involving independent measurements at construction sites and then, based upon the results of the trial program, equip each region with the capability and equipment necessary to conduct independent measurements on a routine basis. The trial program was a success; however, based on budgetary constraints, a cutback in the effort was necessitated. OIE recommended a modified scope of the item so that the effort was limited to purchasing one van which would be available to all five regions. Personnel to utilize van equipment were supplied by an NRC contractor. This eliminated the need to hire additional full-time personnel and to provide a training program necessary to maintain personnel competency in NDE disciplines.

This issue was resolved when the scope of the action plan was revised and the program of independent measurements was incorporated into routine NRC operations.<sup>8</sup> Follow-up was to be performed via routine programmatic action, and further expansion was to be based on continuing OIE appraisal of the program's effectiveness.

## ITEM II.J.2.3: ASSIGN RESIDENT INSPECTORS TO ALL CONSTRUCTION SITES

### DESCRIPTION

This TMI Action Plan<sup>9</sup> item called for OIE to expand the resident inspector program to include one inspector at each power plant construction site. Previous experience had shown the need for inspection at all stages of construction. This conclusion contradicted earlier criteria that delayed the assignment of resident inspectors to a plant site until 50% of the construction was completed. Schedules and resources for assigning resident inspectors to construction sites were to be developed in connection with routine agency budgetary processes. This item addressed improvement in the NRC capability to make independent assessments of safety and, therefore, was considered a Licensing Issue.

### CONCLUSION

OIE assigned resident inspectors to all active construction sites that were greater than 15% complete.<sup>10</sup> In November 1983, there were 23 resident inspectors at various construction sites. This item was developed as part of the routine program for NRC operators and was resolved when it was decided that future specific allocation of resources in this inspection program would be reevaluated as part of the annual budget process.<sup>11</sup>

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<sup>7</sup> Memorandum for H. Denton from R. DeYoung, "TMI Action Plan Items Still Pending," June 10, 1982. [8401170101]

<sup>8</sup> Memorandum for H. Denton from R. DeYoung, "Draft Report on the Prioritization of Non-NRR TMI Action Plan Items," January 24, 1983. [8401160474]

<sup>9</sup> NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," U.S. Nuclear Regulatory Commission, May 1980, (Rev. 1) August 1980.

<sup>10</sup> Memorandum for H. Denton from R. DeYoung, "TMI Action Plan Items Still Pending," June 10, 1982. [8401170101]

<sup>11</sup> Memorandum for H. Denton from R. DeYoung, "Draft Report on the Prioritization of Non-NRR TMI Action Plan Items," January 24, 1983. [8401160474]