

N112. Scaffold Management - A New Era

One of the areas where dose reduction can be realized is scaffolding erection and dismantlement, a task which is both labor intensive and time consuming. The different types of scaffolding available were evaluated and the required labor effort and time associated with each type. This evaluation indicates a significant radiation exposure savings realized through pro-active scaffolding program management and utilization of modular systems type scaffolding versus the standard tube and clamp predominant in the industry today. The obvious advantage of modular systems scaffolding is less labor and time for all projects requiring scaffolding. Of far greater importance to the nuclear industry is the impact of reduced personnel exposure and achieving ALARA. With any reduction in the number of people required and a reduction in the amount of time required in a radiation area, ALARA is enhanced. Utilizing the modular systems scaffolding instead of tube and clamp can result in a man-rem reduction of 30-50%.

In addition to evaluating the actual erection and dismantling time factors, it became obvious that the type and extent of pre-planning also had an impact on labor, time, and thus ALARA. The standard method of designing a scaffold and calculating the scaffold pieces required for a particular project involved a walk-down of the area, manual sketching the scaffold, and figuring the quantity of pieces required from the sketch. In some cases, redundant scaffolding requirements were not identified, making it necessary to start from scratch each time an outage occurred. This approach is time consuming and does not provide an easy-to-read drawing or accurate materials list. Both the drawing and materials list have an obvious direct impact on erection time and personnel radiation exposure. Computer programs exist which will design a scaffold of any configuration to be OSHA compliant and provide an accurate list of materials required. This program provides for maintenance of a recoverable record of historic scaffold requirements used each outage.

Additional advantages of the systems scaffolding concept include:

- 20-25% lighter than tube and clamp (reduced handling and shipments)
- Safer (all connections are fail-safe)
- 60-65% fewer pieces required (reduced handling)
- Visual confirmation of locked connection (no wrench or torque wrench required)
- Adaptable with tube and clamp
- Neater final scaffold (no overhangs - safer)

Taken From: "Scaffold Management - A New Era," David L. Presley, Nuclear Plant Journal, p. 68, May-June, 1991. For more information contact David L. Presley, Chem-Nuclear Systems, Inc., 140 Stoneride Drive, Columbia, SC, 29210, Phone (803) 758-1810, Fax (803) 252-9770.