Best Practice # 28
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FACILITY: BNFL Inc. - East Tennessee Technology Park 3-Building D&D Project

BEST PRACTICE TITLE: Ultra Safe Rigging and Lifting

POINT OF CONTACT: Ricky Miles, 865-412-1107, RMiles@bnfl-ettp.com
or Ken Meyer, 303-874-3977, kmeyer@bnflinc.com

BRIEF DESCRIPTION OF BEST PRACTICE:

The ETTP 3-Building D&D Project includes the removal and disposition of over 328 million pounds of hazardous and radioactively contaminated materials and equipment from three buildings comprising more than 4.8 million square feet. This large D&D project involves heavy construction dismantling, removal, and disposal of process equipment, support materials, and waste. Lifts included stacks of sharp, ragged edge, corrugated steel from dismantling.

The ultra safe rigging and lifting approach consisted of the following:

- Selecting experienced personnel for their skills and knowledge as the core group of people to initially perform the work
- Establishing controlled procedures by which the work is performed
- Conducting training of all personnel
- Implementing a comprehensive, monthly inspection program for the controlled slings, harnesses and other lifting equipment
- Ensuring new personnel were added to an experienced group for initial guidance and supervision until they became safely proficient

WHY THE BEST PRACTICE WAS USED:

The potential risk of serious injury or death from hoisting and rigging incidents when handling heavy loads, rusted pipes, 48 inch valves and five feet wide steel ducts, etc. made it imperative that an ultra safe approach be taken.

WHAT ARE THE BENEFITS OF THE BEST PRACTICE:

There were no injuries, damage, environmental releases or adverse consequences due to hoisting and rigging.

WHAT PROBLEMS/ISSUES WERE ASSOCIATED WITH THE BEST PRACTICE:

Developing the proper approach to handling a wide variety of types, sizes and complexities of lifts required an especially cautious attitude on the part of management and operations personnel, especially during early parts of the D&D. The experienced personnel, procedures and training were successful in preventing mishaps.

HOW THE SUCCESS OF THE BEST PRACTICE WAS MEASURED:

Approximately 800,000 lifts were made in five and one-half years, with maximum loads of 65,000 pounds, and only one near miss. Also, work was performed on night and day shifts, seven days-a-week. This is considered to be an ultra safe hoisting and rigging program for heavy, dangerous loads.

DESCRIPTION OF PROCESS EXPERIENCE USING THE BEST PRACTICE:

See the above statements.

K-33 Compressor Lift

K-33 Converter Lift Complete

ISM Core Functions and Principles

CF1 - Define Scope of Work	P1 – Line Management Responsibility for Safety P4 - Balanced Priorities
CF2 - Analysis of Hazards	
CF3 - Develop and Implement Hazard Controls	P2 – Clear Roles and Responsibilities P3 – Competence Commensurate with Responsibilities P5 - Identification of Safety Standards and Requirements P6 - Hazard Controls Tailored to Work Being Performed
CF4 - Perform Work Within Controls	P7 - Operations Authorization