CHAPTER 2
CRITICAL LIFTS

This chapter provides guidelines for critical-lift determination and requirements for planning and performing a critical lift safely and judiciously.

2.1 CRITICAL-LIFT DETERMINATION 2-1

2.2 CRITICAL-LIFT REQUIREMENTS 2-2

INTENTIONALLY BLANK

2.1 CRITICAL-LIFT DETERMINATION

a. An appointed person shall classify each lift into one of the DOE categories (ordinary, critical, or preengineered production) prior to planning the lift.

b. A lift shall be designated critical if any of the following conditions are met:

   1. The load item, if damaged or upset would result in a release into the environment of radioactive or hazardous material exceeding the established permissible environmental limits.

   2. The load item is unique and, if damaged, would be irreplaceable or not repairable and is vital to a system, facility or project operation.

   3. The cost to replace or repair the load item, or the delay in operations of having the load item damaged would have a negative impact on facility, organizational, or DOE budgets to the extent that it would affect program commitments.

   4. A lift not meeting the above criteria shall also be designated critical if mishandling or dropping of the load would cause any of the above noted consequences to nearby installations or facilities.

c. Further site-specific criteria may be developed to supplement those cited above and may include loads which require exceptional care in handling because of size, weight, close-tolerance installation or high susceptibility to damage as well as lifts using multiple pieces of lifting equipment.

2.2 CRITICAL-LIFT REQUIREMENTS

a. Ensure that the requirements are met for ordinary lifts specified in each section of this standard for each particular equipment category.

b. The operating organization shall appoint a Person-In-Charge (PIC) for the entire operation. This person shall meet the definitions of appointed, designated, and qualified as described in Chapter 1, "Terminology and Definitions," and shall be present at the lift site during the entire lifting operation.

c. The PIC shall ensure that a pre-job plan or procedure is prepared that defines the operation and includes the following:

   1. Identification of the items to be moved, the weight, dimensions, and center of gravity of the load, and any hazardous or toxic materials that are present.

   2. Identification of operating equipment to be used by type and rated capacity.

   3. Rigging sketches that include (as applicable):

      i. Identification and rated capacity of slings, lifting bars, rigging accessories, and below-the-hook lifting devices. Calculate and provide the rated capacity of equipment in the configuration in which it will be used.

      ii. Load-indicating devices.

      iii. Load vectors.

      iv. Lifting points.

      v. Sling angles.

      vi. Boom and swing angles.

      vii. Methods of attachment.

      viii. Crane orientations.

      ix. Other factors affecting equipment capacity (e.g. load path sketch, key point heights, floor or soil bearing capacity).

   4. Operating procedures and special instructions to operators including rigging precautions and safety measures to be followed as applicable.

d. All rigging equipment used in critical lifts (i.e., slings, below-the-hook lifting devices, and rigging hardware) shall have proof load certificates. See Chapters 11, 12 and 14 for proof test requirements of these equipment items.

e. Experienced operators who have been trained and qualified to operate the specific equipment to be used shall be assigned to make the lift.

f. Only designated, qualified signalers shall give signals to the operator. *However, the operator shall obey a STOP signal at all times, no matter who gives the signal.*

g. The procedure and rigging sketches shall be reviewed and approved by the responsible manager (or designee) and the responsible oversight organization (such as safety, quality assurance, or quality control) before the lift is made. Subsequent revisions shall be approved per site specific procedures.

h. A pre-lift meeting involving participating personnel shall be conducted prior to making a critical lift. The critical lift plan/procedure shall be reviewed and questions shall be resolved.

i. If required by the critical lift procedure, a practice lift shall be done before the critical lift. Conditions for a practice lift should closely simulate actual conditions involving: weight, rigging selection and configuration, load movement path, and other relevant factors. Practice lifts should be done by the same crew, using the same lifting equipment.

j. Although individual plans are generally prepared for critical lifts, multi-use plans may be employed to accomplish recurrent critical lifts. For example, a multi-use plan

may be used to lift an item or series of similar items that are handled repeatedly in the same manner. However, if the lifting equipment or rigging must change to accomplish the lift, the critical lift plan must be revised and approved accordingly.