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5.0 HOOKS

5.1 Scope

This Hanford Site Hoisting and Rigging Manual (HSHRM) chapter applies to the construction, installation, operation, inspection, testing, maintenance, and the safe use of hooks installed on cranes or hoists as prescribed by the American Society of Mechanical Engineers (ASME) standards and the Occupational Safety and Health Administration (OSHA) regulations. This chapter implements required criteria the following standards:

- ASME B30.10, *Hooks*
- OSHA 29 CFR 1910.179, *Overhead and Gantry Cranes*
- OSHA 29 CFR 1910.180, *Crawler Locomotive and Truck Cranes*
- OSHA 29 CFR 1910.181, *Derricks*
- OSHA 29 CFR 1926, Subpart CC, *Cranes and Derricks in Construction*

5.2 Accessing Requirements

- a. To access ASME standards, choose one of the following options:
 - [IHS Engineering Standards, Regulations and Technical Specifications](#). The contractor must have paid for access to the specific standard.
 - Purchase directly from [ASME](#).
- b. To access OSHA standards, go to:
 - [OSHA 29 CFR 1910.179, Overhead and Gantry Cranes](#)
 - [OSHA 29 CFR 1910.180, Crawler Locomotive and Truck Cranes](#)
 - [OSHA 29 CFR 1910.181, Derricks](#)
 - [OSHA 29 CFR 1926, Subpart CC, Cranes and Derricks in Construction](#) or see Attachment 4

5.3 Implementation

Contractors shall comply with OSHA, ASME, this HSHRM, and the manufacturers' requirements. Users of this HSHRM are responsible to implement all applicable requirements. If standards conflict, the user shall adhere to the standard containing the most stringent requirements. In most cases, ASME standards provide the most comprehensive information.

Users should contact a Hanford Hoisting Rigging Committee (HHRC) representative or send an [email](#) requesting a formal interpretation. See Appendix C, *Interpretations*, for the process to be followed. Notify the HHRC if any inconsistent standards are identified.

This HSHRM does not intend to require retrofitting of existing equipment. However, when any hoisting or rigging equipment is modified, its performance requirements shall be reviewed relative to the requirements within the current HSHRM. The need to meet the current

requirements shall be evaluated by a qualified person selected by the owner (user). Recommended changes shall be made by the owner (user).

5.4 Inconsistent Standards

- OSHA 1910.179 and 1926.1412 require Monthly Documented Hook Inspections along with other critical items, while ASME B30.10, *Hooks*, does not require monthly inspections to be documented. Therefore, follow the OSHA requirements.
- OSHA 29 CFR 1910.179, *Overhead and Gantry Cranes*, sets removal criteria for hooks at 15% of normal throat opening or more than 10 degree twist from the plane of the unbent hook, while ASME B30.10, *Hooks*, sets hook removal criteria at 5% for throat opening not to exceed ¼ inch and any visibly apparent bend or twist from the plane of the unbent hook. Therefore, follow the ASME requirements.

5.5 Hanford Specific Requirements and Practices

5.5.1 Monthly and Periodic Hook Inspections (Records Required)

- Monthly and periodic inspections shall include the requirements of Frequent Inspection as identified in ASME B30.10, *Hooks*, shall be done by a qualified person (see Chapter 4.0, *Personnel Qualifications and Training Requirements*), and shall be documented as required by OSHA 29 CFR 1910.180, *Crawler Locomotive and Truck Cranes*.
- A monthly documented hook inspection is required on overhead, gantry, and mobile cranes. Monthly hook inspection is a visual inspection for deformation, throat opening, and wear. Measurements are only required if the inspector finds evidence of distortion or damage. Monthly hook inspections on such cranes should be done in conjunction with the monthly rope or chain inspection. On manually operated lever hoists, overhead (underhung) hoists, jibs, and monorail systems, periodic hook inspection is required, but monthly hook inspection is not required.
- When monthly and periodic inspection fall in the same month, only the periodic documented hook inspection is required that month.
- Crane hooks, hoist hooks, and miscellaneous hooks, as identified in ASME B30.10, *Hooks*, shall be equipped with latches unless determined by a qualified person that the use creates a greater hazard for the specified application.

5.6 Temperature Limitations – Crane Hooks, Hoist Hooks, and Miscellaneous Hooks

When hooks are to be used at temperatures above 400°F or below –40°F, the hook manufacturer or a qualified *engineer* should be consulted.