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## 5.0 HOOKS

### 5.1 SCOPE

This 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 section implements required criteria from DOE/RL-92-36 and the following standards: ASME B30.10-2005-Hooks, OSHA 29 CFR-1926.550 Cranes and Derricks, OSHA 29-CFR-1910.179 Overhead and Gantry Cranes, 29 CFR-1910.180 Crawler locomotive and truck cranes, and 29 CFR-1910.181 Derricks.

This chapter also implements the following criteria from the applicable national standards and/or federal specifications that are mandatory requirements for each item.

1. Markings (ASME B30.10-2005)
2. Construction (ASME B30.10-2005)
3. Inspection Classification (ASME B30.10-2005/29 CFR-1910.180)
4. Frequent Inspection (ASME B30.10-2005/29 CFR-1910.180)
5. Periodic inspection (ASME B30.10-2005/29 CFR-1910.180)
6. Testing (ASME B30.10-2005)
7. Maintenance (ASME B30.10-2005)
8. Operating Practices (ASME B30.10-2005)

### 5.2 GENERAL REQUIREMENTS

Contractors shall access ASME via one or more of the following options:

1. IHS Engineering Standards, Regulations and Technical Specifications at <http://www.ihs.com/>. The contractor must have paid for access to the specific standard. For access contact The Hanford Technical Library, 277 University Dr, Richland, WA (372-7430). To print IHS file go to <http://www.ihs.com/>
2. To purchase directly from ASME go to <http://www.asme.org>
3. To access OSHA standards go to the following links:
  - 29 CFR-1910.179 Overhead and Gantry Cranes  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9830](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9830)
  - 29 CFR-1910.180 Crawler Locomotive and Truck Cranes  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9831](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9831)
  - 29 CFR-1910.181 Derricks  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9832](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9832)
  - 29 CFR-1926.550 Cranes and Derricks  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10760](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10760)

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### 5.3 IMPLEMENTATION

Contractors shall be compliant to OSHA, ASME, DOE/RL-92-36 and the hook manufacturers' requirements. It is the responsibility of the user of this manual to implement all of the requirements. When two standards set forth inconsistent requirements, the user shall adhere to the standard containing the most stringent requirements. ASME standards provide the most comprehensive information. Users should contact a Hanford Hoisting Rigging Committee (HHRC) representative or send an email to ^Hanford Hoisting and Rigging for a formal interpretation. See Chapter 17.0 for process to be followed when requesting an interpretation. Notify the Hanford Site Hoisting and Rigging Committee if any inconsistent standards are identified.

It is not the intent of this manual 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 manual. 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) within 1 year.

### 5.4 INCONSISTENT STANDARDS

1. OSHA requires Monthly Documented Hook Inspections along with other critical items, while ASME B30.10-2005, Hooks does not require monthly inspections to be documented. Therefore follow the OSHA requirements.
2. OSHA 29 CFR-1910.179-Overhead and Gantry Cranes set 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 B30.10-2005 - 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)

- 5.5.1.1 Monthly and periodic inspections shall include the requirements of Frequent Inspection as identified in ASME B30.10-2005, shall be done by a qualified person ( see Chapter 4 Personnel Qualifications and Training Requirements), and shall be documented as required by OSHA 29 CFR-1910.180.
- 5.5.1.2 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 wire 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.
- 5.5.1.3 When monthly and periodic inspection fall in the same month, only the periodic documented hook inspection is required that month.