Glenn, Malcolm C. (KSC-SAG20)

From: Glenn, Malcolm C. (KSC-SAG20)
Sent: Thursday, October 08, 2015 7:21 AM
To: KSC-DL-Lifting-Community
Subject: 10/06/15 KSC Lifting Committee Meeting Minutes

Everyone,
A meeting of the KSC Lifting Devices and Equipment Committee was held on Tuesday, October 6, 2015. The main topic was implementation of the newly released, August 13, 2015, version, of the NASA Lifting Standard, NASA-STD-8719.9A. I went over and we discussed items that I sent out with the attachment for the meeting announcement. Attached are the meeting minutes, which includes some items I highlighted in bold, for emphasis. And I will repeat several of those items here:

- There is a new provision in the new Standard that allows critical rigging hardware to be load tested every two years versus annually, unless designated as non-load test rigging hardware. **I recommend KSC continue to load test critical rigging hardware annually.**

- There is a provision in the new Standard that allows hook surface NDT inspection intervals to be extended. **I recommend KSC not extend hook surface NDT inspection intervals.**

- **KSC will use the specific definition of a critical lift in the NASA Lifting Standard for implementation at KSC**. If you have any questions regarding a particular lift, please contact me. In addition, on the KSC Lifting Equipment and Devices web page, http://ksc-lde.ndc.nasa.gov/, there is the "Critical Lift Determination Process". Examples of critical lifts are provided below:
    - Working under a suspended load
    - Lifting personnel with a crane, on a personnel platform
    - Lifting SLS flight elements; e.g., booster segments, core stage, crew module, etc.
    - Lifting unpackaged flight hardware

If you have any questions regarding the meeting minutes, the new Standard, or anything else, please contact me. I also added some items to the attached since I sent out the meeting announcement.

I checked the meeting attendees and for those of you who were not on the "KSC-DL-Lifting Community" distribution, I added you.

The attached minutes will be posted to the KSC Lifting web page, under "KSC Specific References" header and "KSC Lifting Committee Minutes". Of note, I have posted minutes back to 1988, when we first started implementation of the NASA Lifting Standard at KSC, then numbered NSS/GO-1740.9.

Thank you very much!
An honor, a privilege and a very great pleasure!
Malcolm

KSC LDEC Meeting Minutes, 6 October, 2015

A meeting of the KSC Lifting Devices and Equipment Committee was held on October 6, 2015.

Attendees:

Malcolm Glenn, KSC S&MA
Alan Alemany, KSC S&MA
Mike Blankenship, SA-G (WTE)
Emery Lamar, SA-G (APT)
Brad Lytle, NE-M1
Angie Dimeo, ESC-310
Michael McClure, TOSC-4200
Phil Falk, KSC-S&MA
Matt Henry, TOSC HE
John Llibre, ISC SMA
Mark Smith, TOSC H/E/PL
Ralph Gordon, ISC H/E Ops
Randy Robbins, ISC H/E Ops
Laura Cardine-Sardella, ISC SMA
Danny Denaburg, Orbital-ATK
Kenneth Delaney, NASA SA-E2
Toney Zeak, BA-TT REDE
Jim Blake, NASA
Jack Legere, SA-B
James H. Little, TOSC
Audrey Jones, TOSC
John Garrett, TOSC
Rob Summers, NE-M1
Steve Brunelle, SA-E
Sam Klimmek, TOSC Mech
Eric Weaver, TOSC DE
Lauren Price, NE-M1
Dylan Manning, TOSC 5220
Brian Gloade, SA-F, SMASS

1. The following changes to the 8/13/2015 update of the NASA Lifting Standard, NASA-STD-8719A, were discussed:

- Changed title from "NASA Standard for Lifting Devices and Equipment" to "NASA Lifting Standard"
- Deleted repetitive requirements from OSHA and NCS
- Kept Appendix A as is – NASA Alternate Standard for Suspended Load Operations
- Deleted old Appendices B, C and D on hand signals, lifting personnel with a crane, and crane/hoist requirements to load test other lifting equipment
- Added new Appendices B and C on critical lift requirements and LDEM roles, approvals and special permissions respectively
- Added a general LDE requirements chapter, Chapter 4, containing requirements common to all LDE
- Added paragraph 1.6 on Using the Standard
  - Address applicable Federal regulations
  - Address applicable State and Local regulations
  - Address applicable NCS

- Address general LDE requirements in Chapter 4
- Address LDE-specific requirements in the Standard
- Address applicable center-level LDE requirements

- Removed requirement to not exceed 75 percent of crane rated load for mobile crane critical lifts but defined such lifts as critical. **Brief discussion took place regarding whether this had always been required by OSHA or not.**
- Changed "Hydra-Sets and Load Measuring Devices" chapter title to "Load Positioning and Load Measuring Devices"
- Changed "Powered Industrial Trucks" chapter title to "High Lift Industrial Trucks"
- Removed the sling design factor table from the Sling Chapter. Design is now in accordance with OSHA and the applicable NCS, including ASME B30.20 for below-the-hook lifting devices. For structural slings, ASME B30.20 points to ASME BTH-1 for design of below-the-hook lifting devices. See ASME B30.26 for rigging hardware.
- Did not fundamentally change load test philosophy. For example (periodic load tests), for non-critical LDE; load test every 4 years and for critical LDE; load test annually.
- Added provision to allow critical rigging hardware to be tested every two years versus every year. **Discussion occurred. Malcolm recommended KSC treat rigging like slings: test annually for critical and every 4 years for noncritical.**
- Still have provision for non-load test slings and rigging hardware (14.5.4)
- No fundamental philosophy changes with crane/hoist/LDE unique NASA design requirements; e.g., two upper limit switches for critical overhead cranes/hoists. However, for critical overhead cranes/hoists, there is a new allowance for holding brakes, that in addition to two holding brakes, a setup with a single holding brake in combination with a motor drive that automatically monitors brake functionally and motor torque is acceptable.
- Deleted specific mobile crane design requirements; go with OSHA and NCS
- Appendix B:
  - The responsible organization shall (4.2.2.a & b)

    (a) Follow a documented process that seeks input from the appropriate stakeholders (such as facility, program, operations, safety) and the LDEM to classify lifts as critical or noncritical and identify the necessary LDE to perform these lifts.

    (b) Obtain LDEM concurrence regarding the lift classification.

    - Note: Certain categories of lifts may be determined by the LDEM to be non-critical and do not require individual classification.

- An operation shall be classified as a critical lift when failure/loss of control presents an elevated risk of serious injury, loss of life, or loss of one-of-a-kind articles, high dollar items or major facility components whose loss would have serious programmatic or institutional impact; or mobile crane/derrick lifts in which the load exceeds 75 percent of rated capacity. (4.2.3)
    - Note: Lifts of high-value spacecraft are usually classified as critical lifts, while lifts of small, improvised mini satellites, for example, most likely would not be. Lifting and movement of flight hardware components packaged per applicable shipment specifications are typically not classified as critical lifts.

  NOTE: Malcolm stated KSC will use the specific definition of a critical lift in the NASA Lifting Standard for implementation at KSC. If you have any questions regarding a particular lift, please contact him. In addition, on the KSC Lifting Equipment and Devices web page, http://ksc-lde.ndc.nasa.gov/, there is the "Critical Lift Determination Process". Examples of critical lifts were provided, including:
    - **Working under a suspended load**
    - **Lifting personnel with a crane, on a personnel platform**
    - **Lifting SLS flight elements**
    - **Lifting unpackaged flight hardware**
- Critical lift cranes should have a fail-safe control system such that a single failure does not cause the crane to operate at a speed faster than commanded or in a direction other than commanded. (5.4.2.8) **During the discussion of this point, it was clarified that this is a SHOULD not a SHALL.**

- Appendix C
    - The LDEM shall have the authority to interpret this standard (1.2.4)
    - LDEM approval shall be obtained for any tailoring of manufacturer recommendations (4.1.4)
    - When critical and custom-built LDE is being designed or procured, the responsible organization shall notify the LDEM and provide the LDEM with the information necessary to review and approve the design/procurement (excluding hooks, rigging hardware and slings subject to LDEM approval) (4.4.2). **Malcolm advised using common sense here.**
    - LDEM approval shall be obtained for any modifications to LDE. (4.8.4)
        - Note: Replacement in kind is not considered a modification and does not require LDEM approval. **Malcolm advised using common sense here.**
    - The LDEM shall review the personnel licensing program at least annually to ensure the contents, training, testing and examination elements are up-to-

date with current methods and techniques and any "lessons learned" are adequately addressed (4.11.2.8)

- Periodic load test intervals may be extended by no more than 90 days subject to LDEM approval (all applicable Chapters)
- 13.6.3 Hooks shall be given a surface NDT immediately after all proof load and periodic load tests prior to further use of the hook, except as indicated in paragraphs 13.6.4.
- 13.6.4 Surface NDT is not required for:

  a. Hooks used on noncritical hoists that are not part of an overhead or mobile crane/derrick.

  b. Sling and rigging hooks.

- 13.6.5 Periodic hook surface NDT intervals may be extended by no more than four years from the original expiration date due to programmatic or institutional needs, subject to LDEM approval. To extend the surface NDT interval, the following conditions shall be met:

  a. The responsible organization provides documented rationale to the LDEM.

  b. LDEM determines there is no increase in risk.

Malcolm recommended that KSC not extend hook NDT intervals.

2. Several questions were asked after the presentation:

   a. What should we do for NDT for load cells with hooks on the bottom that are partially exposed? These have to be returned to the manufacturer to have this done. Malcolm advised keeping it on Center and doing the testing on the exposed hook unless you have reason to believe there is a problem.

   b. Does the BFF have to live to the KSC standard? Malcolm said he believes the BFF should live to the Agency Lifting Standard, but Kevin Primm, the MSFC LDEM, should be consulted to confirm that. Malcolm will work with Danny Denaburg and Kevin Primm to clarify this.

   c. A discussion took place about Orbital ATK in the SSPF operating like an IOZ.