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TO: Distribution January 17, 2005

FROM: SA-B1/M. Glenn

SUBJECT: 1/14/05 KSC Lifting Devices and Equipment Committee Meeting Minutes

A KSC Lifting Devices and Equipment (LDE) Committee meeting was held on January 14, 2005, at 1:30 pm, in the Operations Support Building, K6-1096, Room 6203E.

Meeting attendees were as follows:

Name	Organization/Mailing Address	Phone
Malcolm Glenn	SA-B1	1-4128
Ed McKnight	Boeing Safety/D150	7-5441
Francis Beach	Boeing N190	7-5798
Ken Kramer	ASRC-9	7-9440
Wayne Saturday	SGS-H,Q 062	794-2181
Lesley Carroll	NASA Trans/TA-E1	7-2975
Mark Gross	USA/USK-291	1-5556
Larry Jones	NASA/PH-J2	1-3290
Wally Majid	USA/Heavy Equip Engr	1-5593
Garey Hartman	SGS-Cranes, fixed	476-3831
Paul Kruse	USK-131	861-5560
Carl Ray	USK-849	867-9538
Stephen Koca	USK-353	861-4869
Ken McCluney	USK-135	861-0920
Mike Kelemen	USK-464	861-8294
Mike Wilson	USK-890	867-9939
Lauren Price	PH-J2	861-5110
Doug Moore	PH-J2	1-7658
Rob Summers	NASA OHE/PH-H1	1-3646
Joe Torsani	NASA S&MA/SA-B1	1-3806
Gary Hopkins	USA DE/USK-T29	264-8414
Paul Teehan	NASA MSFC-RO	861-4005

Meeting agenda items were as follows:

1. Safety Message (How I Spent My Christmas Vacation).
2. CR S061848A (Update Program Documentation to Incorporate NASA-STD-8719.9)-status/discuss.

3. Document status-KNPR 8715.3, KNPD 8719.9, LDE Committee Charter, LDEM Delegation Form, SLOAA cover sheet-status/discuss.
4. OPF/VAB lifting equipment load testing-provide background/discuss.
5. Proposed changes to NASA-STD-8719.9-discuss.
6. NASA-STD-8719.9 implementation status.
7. Other topics-e.g., shared information, mishaps, questions, other.
8. 'The Learning Channel' videos.

Details of the meeting agenda items are as follows. **NOTE:** For all the below items, I am not providing as much detail as was briefed at the meeting. If you need more information or have questions about the meeting, please contact me.

1. <u>Safety Message (How I Spent My Christmas Vacation)</u>. I gave the safety message. While in New York over Christmas, within the space of several hours, I had a car accident; rear ended the vehicle in front of me on a busy street and followed that with an interesting episode. As far as the accident, the vehicle in front stopped pretty quickly, and I was not able to stop in time. No one was injured and I was not cited for anything that I know of. Some lessons learned from the accident:
    a. Give yourself enough room between you and the vehicle in front of you.
    b. After the accident:
        1. Check to see if everyone is okay in your vehicle.
        2. Try to get your vehicle out of traffic, if possible. If not, put on emergency flashers or do something to notify other traffic.
        3. Call the police.
        4. Check with the other vehicle involved in the accident to ascertain their situation; as in, ask if injured, etc.

    Leaving the accident in a cab, and on a residential street, the cab driver stated there was someone lying in the street. It is pretty dark and there is no one in sight at this point, except us. He stopped. I got out and walked over to the person, who was an elderly lady. She said multiple times she wanted to get up but could not. I wanted to help. She seemed to be talking okay and I could not ascertain any visible signs of injury, so I proceeded to help her up. She was unable to put weight on her left side. At this point, I was kind of stuck, in that I am not sure I would have been able to put her back down, without injuring myself or her. I could have asked the cab driver for help. In any case, two police cars showed up about the same time and I was able to hand over/transfer the lady to the police officers. Lesson learned. Try to think through as best you can, before you proceed to do something, such as I describe above. I got myself in a situation, where I could have injured the lady helping her up and then was I in a situation where I could only physical do so much. In hindsight, it probably would have been more prudent, in this case, to make sure someone called the police, and stay with/keep the lady where she was until the right people arrived to do the right thing. Every situation is different. If this would have been a major thoroughfare, and the

lady was in immediate danger, I would have done my best to get her out of harm's way as quickly as possible. Anyway, adrenalin gets you going sometimes and you do what you think is best. By the way, the lady slipped and fell on the street; ice/snow being the main contributor in my opinion.

2. CR S061848A (Update Program Documentation to Incorporate NASA-STD-8719.9). This CR was presented and approved at the 5/13/04 Space Shuttle Program Requirements Control Board. Even though the presentation charts were only 6 pages, the discussion at the Board that day lasted about an hour and a half or so. It was a good discussion and actually quite enjoyable. There were lots of questions about the Lifting Standard, its history, etc. And on this subject, if you are interested in the history of the NASA Lifting Standard, information regarding same is provided on page 3 (REVISION LOG) of NASA-STD-8719.9.

3. Document Status-KNPR 8715.3, KNPD 9719.9, LDE Committee Charter, LDEM Delegation Form, SLOAA Cover Sheet.
    a. KNPR 8715.3 (Kennedy Safety Practices Procedural Requirements. This document was effective October 26, 2004 and supercedes KHB 1710.2. The KSC supplement to NASA-STD-8719.9 is Attachment G in KNPR 8715.3. See also: http://businessworld.ksc.nasa.gov/Businessworld/html/ksc_directives.html, under 'KSC Directives', as one way to get to this document.
    b. KNPD 8719.9 (Examination and Licensing of KSC Operators of Special Heavy Equipment, Facility Cranes or Hoists). This document was effective August 31, 2004, and supercedes KMI 6730.3. This document was updated to reflect change in OPR from PH to SA, and to change the basic document number. See a. above to get access to.
    c. KSC LDE Committee Charter Form. This document was recently updated to reflect change in OPR from PH to SA. As one way to get to this document, see the following link, and the document is called 'LftngDev': http://tdsearch.ksc.nasa.gov/search/general.html. Select 'Document type' under 'Search field' and 'TEAM' under 'Search text' (click on the magnifying glass and then down to 'TDKSC Document Types' to be able to select 'TEAM'.
    d. LDEM Delegation Form. This document, KSC-DES-0098, was recently updated to reflect change in OPR from PH to SA. Access to this document is similar to c. above, just substitute 'DELEGATION' for 'TEAM' in the above directions.
    e. SLOAA Cover Sheet. This document is now available electronically, through 'KSC Forms': http://kscforms/findex.cfm. The form number is 'KSC FORM 20-200 NS', titled 'APPROVAL SHEET FOR SUSPENDED LOAD OPERATIONS'. **Thank you Joe Torsani** for making this happen.

4. OPF/VAB Lifting Equipment Load Testing. Since the Columbia accident, there have been several occasions where orbiters are in the OPFs and ETs are in the VAB, and the normal load testing procedure (as in, the annual load test is normally performed without flight hardware present for affected lifting equipment; e.g., hoists) has not been able to be performed. OMRS File VI exceptions were processed to extend some lifting equipment load test due dates, for 6 month intervals, until the flight hardware was out of the particular facility. In fact, load tests were extended for several consecutive six month intervals for some lifting equipment. This required presentations to the Shuttle Processing Engineering Review Board (ERB) and in turn presentations to the Daily Space Shuttle Program Requirements Control Board (Daily PRCB), for each occasion. Needless to say, there is extreme sensitivity to try to avoid waivers/exceptions/safety variances, especially after Columbia. Well, in the case of the OPF and the VAB, and after going to the above mentioned forums for extensions several times, an action was assigned to see if there was a way to perform the load tests, with the flight hardware in place, but not performing the test directly over the flight hardware, and after due course, we determined, this method was doable and acceptable. Risk assessments and PFMEAs were performed, and presentations to the ERB and other management were conducted, to support this out of normal load testing process, and the actual load testing was subsequently performed, with flight hardware present in the applicable facility.

   In the midst of this activity, and at more than one of the Daily PRCBs, the question was asked how was the NASA-STD-8719.9 annual load test requirement being accounted for when the File VI OMRS exceptions were processed and approved. I stated, in the Daily PRCB forum, that I accepted responsibility for how this was being done, in that, we were not processing a separate safety variance to NASA-STD-8719.9, when the File VI OMRS exceptions were processed and approved. I stated that I thought the File VI exception process was rigorous, met the intent of a waiver/variance to NASA-sTD-8719.9 and a separate variance was not needed. Well, after hearing and responding to this question more than once, and making some inquiries, that process is no longer performed and it is not acceptable. If there is a situation, where a lifting equipment load test must be extended, and there is a OMRS File VI requirement involved, then an OMRS File VI exception must be processed and in addition, a safety variance to NASA-STD-8719.9 must also be processed. And if possible, bearing in mind safety/engineering/other concerns, if it is reasonable and feasible to avoid the exception and safety variance, that is the preferred option.

5. Proposed Changes to NASA-STD-8719.9. As a result of some safety variances KSC processed the past couple of years, primarily regarding the orbiter portable jacks, proposed changes to NASA-STD-8719.9 are being circulated through the NASA community, for consideration, in order to avoid further safety variances. The most recent safety variance on this subject was

approved in 8/04 with considerable preparation time and meetings with management. I attached the proposed changes to my email announcing the 1/14/05 KSC LDE meeting, and I have also attached that email to this email.

Action for all: Please review the proposed changes. If you have comments to the proposed changes, or if you know of other changes, what I will characterize as significant issues (see attached email for more information/direction), **please get comments/input to me by 1/28/05**.

6. NASA-STD-8719.9 Implementation Status. Bottom line on this, we are supposed to be working to NASA-STD-8719.9. If you have questions or concerns or whatever about this, please contact me.

7. Other Topics.

   a. At the meeting, Wally Majid asked about the potential of adding requirements for 'Spiders' to the Lifting Standard. Paul Kruse suggested we discuss this and implications thereof, before recommending same.

      Action: I will work/discuss this with Wally and Paul, as a starting point.

   b. Attached to this email, you will find information on two mobile crane mishaps. I do not know anything more than what is attached. The one on the Grove crane mishap includes a recommendation, which seems prudent. By the way, talking about mishaps, I sent out information last month on some lifting mishaps. I also sent this information to lifting POCs at other NASA facilities. Mike Scott, from JSC, provided the below, regarding photos from one of the mishaps:

      Just FYI... the attached is a partial hoax. Since this series of pics has been circulated so much, I thought I should check it out. You know how all these urban legends and digitally manipulated photos crop up and things aren't as they seem. Turns out this one is not all legitimate. The first crane actually went in the drink, but the series of photos showing the second one have been altered. If you look closely, you'll see that the last pic actually has the large boom truck (tipping) transposed over the 5th photo in the series. Read all about it....

      http://www.snopes.com/photos/accident/crane.asp

      Mike Scott
      281-483-2925

8. TLC Videos. Portions of two 'The Learning Channel' videos were shown at the end of the meeting:

a. ‘Monster Machines, Big Builders’-viewed portion about Demag 12600 crawler crane; also includes footage of the crane mishap that occurred in 1999 during construction of Miller Park in Milwaukee, Wisconsin.
b. ‘Monster Machines, Power Lifters’-viewed portion describing world’s largest tower crane and world’s largest ship board crane.

9. Other Matters. A draft of proposed changes to Attachment G of KNPR 8715.3 has been prepared. **Thank you Joe Torsani**. I was planning to send out the draft with this email, but some technical difficulties have been encountered with the draft document. I will work with Joe to figure out the technical difficulty and then send this out to you under separate email.

   Action: Malcolm Glenn and Joe Torsani work/review draft and in turn, send it out to this email distribution for review/comment. In turn, Malcolm Glenn/Joe Torsani submit a DCR to KNPR 8715.3 with the proposed changes.

Contact me if you have any questions or need assistance with something.
Thanks.

Original signed by
Malcolm Glenn