Rec'd 06/17

From: [redacted] 1C
To: <Mwh@nrc.gov>, <rlo@nrc.gov>, <Ewb@nrc.gov>, <Dsb3@nrc.gov>
Date: 6/13/02 2:43PM
Subject: Final clarification on my dry cask allegation

Hello Mr. O'Connell;
Attached, please find my final clarification statement on my dry cask allegation issue. I have been awake since last night from 11:00 PM to now 1:30 PM with no sleep to finish this and clarify this issue.

I hope that your technical staff along with your inspectors perform a more thorough investigation on this matter this time.
Please reply to this e-mail to reflect your receipt.
You may distribute this e-mail to all your staff who need to know.
Thanks.
Oscar Shirani, date: June 13, 2002.

CC: <Jkheller@nrc.gov>

Information [illegible]
Information [illegible] Section of Information
[illegible] 1C
[illegible] 2003-395

H/S

June 13, 2002

Mr. Robert L. O'Connell
Allegation Coordinator
Office of Nuclear Material Safety and Safeguards
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Subject: Allegation – NMSS-2002-A-0002

Reference: 1. Your letter to Oscar Shirani, dated May 28, 2002 regarding the subject Allegation (Oscar Shirani's Allegation No. 6 submitted to USNRC Region III, on December 3, 2001)

Dear Mr. O'Connell:

In response to your letter and in reference to my telephone call to you on May 30th, 2002 regarding the subject allegation, I had faxed a Memorandum to Mr. Jim Heller, the USNRC Region III Allegation Coordinator and asked him to fax you the same and he did.

In that Memorandum, dated May 30, 2002, I documented the following and provided a Table (Table 4.5.8-A of Exhibit A, TID-MS-11, revision 1, Page 97 of 408, prepared by Oscar Shirani for ComEd in early 1990s): "All calculations regarding the dry cask storage containers designed by Holtec and fabricated by UST&D should be revised to assure that design changes have been evaluated like the original design. All calculations after evaluation and revisions should be sent to USNRC for final approval and potential license re-submittal".

In the attached Table to the subject Memorandum, I had illustrated that the yield strength values for common steel varies and reduces by the increase in temperature. For example, you will observe that the Fy (Yield Strength) for a A36 (SA36) Material at 100 degree F is 36000 psi (36ksi), at 200 degree F is 32.8 ksi, at 300 degree F is 31.9 ksi, and up to 700 degree F that the yield strength will go down to 25.9 ksi.

When the material is exposed to heat as a result of repairs done to disposition the nonconformance, if the engineering evaluation (i.e. design change) is not performed to document that the existing reduced material allowable strength or yield strength at the heated temperature from repair still envelopes the actual stresses, then the state of stress would be indeterminate.

When the material is exposed to many repairs as a result of numerous nonconforming conditions detected by the Resident Inspectors at UST&D for the actual casks that are loaded and are operated (after the prototype unit were made), the accumulated effect of all the Repairs also need to be documented to demonstrate that the reduced yield strength still is above the actual applied stresses at the cask repaired sections. That is why all the codes mandate that field changes disposition as repair or use-as-is be treated as the design change and documented as such. This would mandate

engineering re-evaluation of the material sections exposed to heat to still demonstrate that the yield strength of the material is maintained and documented.

This same table exists in many standard codes (i.e. ASME Code Case N-71-8, etc.) and I expect that your technical staff (if assigned to this investigation) should be familiar with the material reduction in yield strength as a result of heat imposed on the material subjected to repair disposition.

I am very disappointed from your response to my allegation (Reference No. 1 above) that was signed by you. On my phone call to you, you stated that you are not a technical person and do not understand the technical argument that I was presenting to you. I heard the same from your boss and Region III staff. Then where are your technical experts? This issue has been lingering for more than 8 months and there is no closure in my opinion and I absolutely disagree with your final closure of the subject allegation. However, you signed the letter indicating that NRC inspection was conducted in response to my allegation and your staff has determined that **my concerns were substantiated, but there is not a resulting safety or regulatory concern requiring further NRC action.** If the state of stress or the value of yield strength is unknown nor documented and evaluated after the exposure of heat on the sections repaired, then we would loose the control of design process and it renders public safety and regulatory concern. I don't know how else I could simplify this matter any further.

You also indicated that I should send another letter and clarify this subject further more. It looks like that I am raising this safety concern (allegation) and I am supposed to resolve it for USNRC. I am solving my own puzzle. This is the third letter and more than three to four phone conversation and many face to face interactions that I have had with your staff at Region III and NRR. After I give you all the solution and step by step investigation processes, then myself would solve this case and there is no sense for me to make this allegation. This would be my last letter of clarification on this subject.

Your staff did not concentrate on the subject matter and have reviewed my 1999 audit report that I already closed myself. I would like to refer you to the Attachment 1, which was sent to you previously (as shown below) for further clarification. I had discussed this issue in depth with NRC Region III and they indicated that due to lack of adequate resources and technical expertise in Region III, the subject dry cask storage allegation is sent to NRR, Washington, D.C.

I did not hear from NRR and I made travel on my own expense and decision to follow up on this issue with NRR. I met Mr. Wayne Hodges on March 12, 2002. He referred me to you and indicated that he also is not a technical expert in this area. Your Inspector, Mr. Paul Narbut from NRR called me from Holtec Offices in early May 6th, 2002.

I explained my concerns in more details not to leave any ambiguity and clarified everything in depth. I was very disappointed from your staff investigation's results. Their focus has been mainly on my previous findings on the prototype unit designed by Holtec and fabricated by UST&D. I am no dummy to make an allegation on a prototype unit which will not be used for dry cask loading and operation.

Mr. Tony Frazier who was ComEd Resident Inspector and Paul (do not remember his last name) from Southern Operating Company were sending me the frequent inspection activities and there were numerous cases of Repair and Use-As-Is dispositions from both UST&D (fabricator and not designer) and Holtec (designer) that did not result in any design change and there were no documentation made by either parties to make changes to the original design as the code requires (ANSI N45.2 and ASME/ANSI NQA-1-1989, etc.).

Mr. Tony Frazier was a very qualified QC Inspector, but his full cooperation and inside information with me was making ComEd, UST&D, and Holtec very unhappy. Soon, he was assigned to join Sargent & Lundy (S&L), but I was not that lucky with S&L.

Your staff is focusing on the discrepancies of dimension changes between UST&D and Holtec drawings. Again, I am no dummy to talk about the discrepancies about the manufacturing tolerances of UST&D drawings/dimensions compared to design drawings by Holtec. Any one with common sense would know that manufacturing tolerances is tighter that the designer's tolerances. Dimension disputes are not the subject of my allegation. Your staff's investigation was found not to be applicable to my case and apples and oranges are both fruits, but they are not the same.

Your staff is under the impression that my repair and use-as-is issue is contrary to ComEd procedures. They are not only contrary to ComEd procedures, but also rather contrary to the codes and standard requirements stated above. UST&D and Holtec's disposition of numerous Repaired materials is in violation of codes. Codes mandate design changes as a result of nonconforming conditions (field changes) disposition as Repair and Use-As-Is. **Holtec and UST&D have not made any changes to the original design documents submitted to NRC and hence the design changes are not adequately documented and controlled.**

In addition, ComEd had generated a procedure (I believe, TID-MS-13 or it may have changed to ComEd Standard procedures as a result of my Finding No. 1 to ComEd for violation of Criterion 7 of QA Manual and 10CFR50 Appendix B, Criterion VII, Control of Purchased Items, Component, and Services). The subject procedure mandates that ComEd as an owner should review the design calculations generated by suppliers. ComEd did not review nor documented their review of any calculations made by Holtec. ComEd Engineering did not even ask Holtec for any design changes documentation from Holtec. ComEd, Holtec, and UST&D violated their design control processes for the dry cask storage project and that is the main reason for my allegation.

Attachment 1

Previously sent by Oscar Shirani in May 2002 to USNRC, NRR and Region III for clarification of allegation No. 6 regarding Dry Cask Storage containers

Nuclear Safety Alert, Page 23, Item 6 submitted to USNRC on December 3, 2001.

Subject: Per the USNRR's request, I am providing the following information to further explain my concern, item No. 6 of allegations submitted to USNRC regarding the structural integrity of all dry cask storage containers designed by Holtec International and fabricated by U.S. Tool and Die (UST&D) for utilities. This matter should be investigated by USNRC/NRR as a 10CFR Part 21 and/or 72.48 issue.

Previously stated:
All the nonconformance condition disposition of Use- As-Is, Rework, and Repair by UST&D is in violation of 10CFR 71 & 72 Quality Assurance Program for design Control. UST&D is not an approved design organization and its QA Program clearly reflects that they do not have a design capability. Use-As-Is and Repair dispositions are considered as the Design Change and should be evaluated and documented by engineering analysis in the same manner as the original design. UST&D had disposition many nonconformance conditions under UST&D's QA Program without the Holtec International consent who was the designer. In addition, Holtec International QA Manager, Mr. Mark Soler, had a misunderstanding and inadequate knowledge of the differences between Repair and Rework and the applicable codes. He challenged Oscar Shirani's finding against Holtec's QA Program in this regard, but later agreed with him. He was misinterpreting the definitions in ASME NCA-3800 and ASME NCA-4000. Hence, he had implemented inadequate/incomprehensive quality assurance oversight activities for all the nonconforming conditions, which were disposition as Use-As-Is, Repair, and Rework. Mr. Soler fixed his procedures and the applicable forms to close the audit finding. I suspect whether Mr. Soler of Holtec performed any design reconciliation and documentation for all the dry cask storage containers and associated parts impacted by disposition of use-as-is, repair, and rework at UST&D that were built or will be built and delivered to nuclear plants.

Further explanation:

During one of the ComEd audits in which I (Oscar Shirani) was the lead auditor in the 1999 time frame, I cited Holtec International Quality Assurance Program for the violation of design change control process for the Use-As-Is and Repair disposition of nonconformance reports.

Mr. Tony Frazier and later upon his departure, Mr. Roger Gillenwater were the ComEd/Exelon Resident Inspectors at UST&D Facilities in Pittsburgh, PA. In their By-Weekly inspection reports of dry cask storage project, they were documenting many nonconformance reports, which were disposition by UST&D and sometimes by Holtec International (for SMDRs), as Use-As-Is, and Repair/Rework. There were no design documents generated by Holtec to document the design changes resulting from the disposition of the subject field changes. ASME NQA-1-1989 Edition, Supplement 3S-1, page 6 and ANSI N45.2-1971, page 2 and other quality assurance design codes clearly distinguish the Repair from Rework. Use-As-Is and Repair dispositioning of field changes are considered as Design Change

Holtec and UST&D were casually dispositioning the nonconformance as Repair/Rework and Use-As- Is with buzzwords of engineering judgement and via letter of transmittals without revising the original design documents for the dry cask storage containers. On the other hand, ComEd/Exelon under their contractual agreement with Holtec were reviewing and approving the Use-As-Is and repair disposition of nonconformance reports. ComEd/Exelon was not documenting their review and approval of the contractor's design calculations/analysis and design changes (cited by my Level 1 finding in 1998 against ComEd, which later became a procedure mandating the review and approval of contractors' calculations). **Holtec and ComEd/Exelon were not adequately implementing the requirement of their quality assurance program for design control/design change control processes, hence this renders the structural integrity of the dry cask storage containers designed by Holtec and fabricated by UST&D as a suspect/indeterminate status.** USNRC should investigate what the contractual agreements were between Holtec and their other utility customers (i.e. NYPA, SNOC, etc.) for review and approval of the design changes and their perspective disposition of nonconformance reports.

I had repeatedly told the Exelon Engineering and management staff, particularly, Mr. Paul Planing (Dresden Nuclear Station Dry Cask Storage Project Director) and Mr. Ben Christel (Dresden Nuclear Station Dry Cask Storage Project Engineering Manager) to ensure documenting their review and approval of the disposition of Use-As-is and Repair per ComEd/Exelon internal procedures.

I was not in charge of the quality oversight for the Dresden Nuclear Station Unit 1, but I made sure to notify Mr. Robert Speak, QA Person in charge of dry cask storage project at Dresden Nuclear Station Unit 1 to keep an eye on those activities. I don't believe that Mr. Speak had a technical background or understood the technical nature of those issues. Dry cask storage quality oversight at Dresden never impressed me and I doubt that Mr. Speak had done anything to assure that engineering staff were performing an adequate review and approval of the contractors' calculations involved with dry cask storage project. There were other contractors in that project doing activities affecting quality, but ComEd did not want to see Oscar Shirani constantly digging in their work to ensure quality.

In addition, my other findings in July 2000 DSQG/NUPIC Audit of UST&D, cited UST&D for purchasing dry cask storage materials from unapproved/non- audited suppliers. Certified Material Test Reports (CMTRs) received from material suppliers whom quality assurance had not been evaluated add an additional suspect in materials used in the dry cask storage containers. The CMTRs provided by unapproved/non-audited suppliers should also be validated to assure that the structural integrity of the material being subjected to all the repair/rework is still maintained.

The repair of the material subjected to the heat affected zones and disposition of the nonconformance issues of use-as-is and their accumulated affect of repetitive repair, use-as-is needs to be evaluated by engineering analysis similar to the original design review and approval processes. These evaluations should be conducted in a manner to attest that the material still meets the intent of its design (i.e. yield strength, tensile strength and other design parameters are not adversely impacted by the repair, use-as-is dispositions). Since the design control process is lost/questionable, Holtec should re-evaluate the impact and aggregate affect of all the design changes (Repair, Use-As-Is) on every component, part, material used in all their dry cask storage containers which are already loaded (in operation) to ensure public health and safety.

Note: That was one of the reasons that Mr. Paul Planing accused me of "screwing up his project" after I unfold all the nine findings of my DSQG/NUPIC Audit Report in front of Mr. Russ Landsman of

USNRC Region III in November 30th, 2000 at the symposium held by Holtec and other utilities including ComEd. Dr. Kris Singh of Holtec being angry with me at the symposium told me "Don't send the copy of your audit report to that trouble maker Mr. Landsman after he found out that Mr. Landsman asked for my audit report of July 2000. My management under the leadership of David Helwig and Oliver Kingsley were already resenting me for my quality assurance activities more rigorously after my stop work order of GE Nuclear Energy, San Jose, CA took me out of the nuclear with a planned conspiracy in December 7, 2000 (just one week after I unfold the dry cask issues to NRC) to get rid of me later in 2001.

Attached (Attachment 2), please find my letter to ASME Quality Assurance Code Committee in this regard.

ATTACHMENT 2

August 26, 1999
ComEd Letter No. SES-99-165

Prepared By: Oscar B. Shirani, PE
ComEd/Supplier Evaluation Services

Approved: By Russell A. Bastyr

To: ASME Quality Assurance Code Committee
345 East 47th Street
New York, NY 10017

Subject: ASME Article NCA-4000 Code Correction and/or clarification

Dear ASME Colleagues:

ASME Article NCA-4000 Quality Assurance, Section NCA-4120 "Definitions", Subsection 4121, item (4) has indicated that for the definition of rework, refer to repair. This is confusing and actually one of our vendors has interpreted that statement as rework definition being the same as repair. We know for fact that the definition of repair and rework are not the same. ASME NQA-1-1989 Edition, Supplement 3S-1, page 6 and ANSI N45.2-1971, page 2 have both clearly defined the repair and rework and there is a clear distinction between the two terms. The subject NCA-4000 needs to be corrected and similar corrections deemed necessary in the other Code sections such as NCA-3800, etc.

Please provide your response and corrective action in this regard at your earliest convenience.

Please refer questions to Mr. Oscar Shirani at Tel: 630-663-5873.

Cc: T. Joyce (ComEd Supply Management Vice-President)
N. Leech (ComEd Dry Cask Storage Project Manager)
R. Bastyr (ComEd Supplier Evaluation Services Manager)
J. Reiss (ComEd Dry Cask Storage Project Engineer)
W. Bohlke (ComEd Nuclear Engineering Vice- President)
R. Gavankar (ComEd Nuclear Engineering Chief Engineer)
Y. Patel (ComEd Nuclear Engineering Specialist in material and fatigue analysis)
G. Kuhn (ComEd Nuclear Engineering Procurement Manager)
T. Frazier (ComEd Resident Inspector at UST&D)
K. Singh (Holtec President & CEO)
R. Moscardini (UST&D President)
Distributed at the DSOG Meeting in Washington, D.C. in January 24, 2001

Note: I discussed this issue with the ASME-PVP Executive membership, Dr. Ike Ezekoye (Westinghouse) and Dr. Ismail Kisisel (Sargent & Lundy Engineers, LLC) in September 2000 and they indicated that this should be put in a proper ASME Format for consideration. A copy of this letter was given to the Chairman of the session held between USNRC and ASME-PVP in July 2001 in Atlanta, GA. I am not aware of the status of this letter with the Code Committees.