

Dragon, Karen E. (CDC/NIOSH/EID)

From: DanMcKeel2@aol.com
Sent: Monday, May 21, 2012 4:25 PM
To: NIOSH Docket Office (GDC)
Cc: danmckeel2@aol.com
Subject: Docket 140 GSI: PETITIONER DOCUMENTS 3-8
Attachments: McKeel_ADD3.pdf+.zip

Dear NIOSH Docket 140 (GSI) Office:

Attachment: DOCUMENT 3: <McKeel_ADD3.pdf> (288 KB)
→ Attachment: DOCUMENT 4: <MCNPx_memo_3.22.12.pdf> (73 KB)
Attachment: DOCUMENT 5: <McKeel_Comment_Allen2_ADFD3.pdf> (477 KB)
Attachment: DOCUMENT 6: <McKeel_Part2_Allen_ADD-3.pdf> (411 KB)
Attachment: DOCUMENT 7: <McKeel_Comment_3.28.12.pdf> (76 KB)
Attachment: DOCUMENT 8: <DWM_GSI_email_Katz_4.26.12.pdf> (36 KB)

Please accept this submission to GSI Docket 140 for posting on the DCAS website. There are 6 small PDF files representing 6 separate communications from myself to the TBD-6000 work group and full Board.

Descriptions:

MCKEEL PETITIONER DOCUMENT 3. FILE: McKeel_ADD3.pdf (288 KB), dated March 19, 2012. Covers unresolved SC&A "SEC Issues" 5 and 6 as well as more realistic and time period-accurate surrogate concrete induced radioisotope activation data by the GSI Betatrons.

MCKEEL PETITIONER DOCUMENT 4. FILE: MCNPx_memo_3.22.12.pdf (76 KB); McKeel Email dated 3/22/12 to Ted Katz to distribute to TBD-6000 work group, DCAS and SC&A containing John Ramspott information about MCNPx with Dan McKeel comments.

MCKEEL PETITIONER DOCUMENT 5. FILE: McKeel_Comment_Allen2_ADFD3.pdf (480 KB) dated 3/23/12. 2 page initial reaction to mistaken calculations in David Allen's Addendum 3 action items white paper following the 3/15/12 TBD-6000 work group meeting.

MCKEEL PETITIONER DOCUMENT 6. FILE: McKeel_Part2_Allen_ADD-3.pdf (411 KB) dated 3/26/12. A critically important document showing that layout worker photon and neutron external radiation doses should be increased based on new knowledge they worked immediately outside the GSI new Betatron shooting room shielded only by a thin steel ribbon door that offered scant protection to them.

MCKEEL PETITIONER DOCUMENT 7. FILE: McKeel_Comment_3.28.12.pdf (80 KB) dated 3/28/12. McKeel read into the record of the 3.28.12 TBD-6000 work group meeting. Very important rebuttal to the DCAS and SC&A presentations at the same meeting.

MCKEEL PETITIONER DOCUMENT 8: FILE (PDF of email): DWM_GSI_email_Katz_4.26.12.pdf (40 KB) dated 4/26/12. McKeel added comments about the TBD-6000 work group 2 Yes (Ziemer, Munn), 1 No (Josie Beach, 1st ten years of covered period) recommendation on 3/28/12 to support NIOSH and to deny the GSI SEC-00105 petition for the entire covered period of 1953-June 1966.

Sincerely,

-- Dan McKeel May 21, 2012

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**Memorandum
(via e-mail)**

To: TBD-6000 work group, Ted Katz (ABRWH DFO)
From: Dan McKeel
Date: 3/22/12
Subject: E-mail from _____ to DWM 3.22.12 RE: MCNPx code

Ted Katz, please circulate this memo to all work group members and all participants at the 3/15/12 TBD-6000 work group meeting including the DCAS and SC&A contingents. Thank you.

I believe _____ makes some points worthy of the work group's consideration in making a recommendation on GSI SEC-00105 to the full Board (ABRWH) at the 3/28/12 meeting. Here is his message to me replicated below with my comment in blue.

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(_____ quote)

I have to wonder why MCNPX does not confirm _____ testimony, Allis-Chalmer's Manual, _____ declaration, _____ remarks in recent SC&A Report, Kuttemperoor's Activation Articles, ETC. "radiation/activation residual." (NOTE: _____ is named as one of the winners: 3. Log interpolation on data cards required lower case log (MCNPX2.4.j). \$20 awarded [_____ LANL HSR-4 (D-10:JSH-2002-07) 04/25/02.

Perhaps we should call the SC&A and NIOSH "inability to solve the Betatron residual radiation", using MCNPX to them.

This kind of example 47. & others makes me wish I was a physicist:
47. Bad trouble when high energy photons were used in LAQGSM. Wrong energy was being passed in with photon and electrons were not a supported secondary particle. Fixes made in cascade.F and updat1.F. Kin Yip, BNL (MRJ) (D-5-11-012) 04/27/11

RAMSPOTT: Would the Betatron's X-rays / photons and 15% Neutrons be an issue? It would be interesting to know exactly how SC&A & NIOSH modeled this issue.

MCNPX Guarantee "CLICK"
MCNPX Cash Awards. MCNPX is a quality production code and consequently we offer cash awards to the first person reporting any bug. 1 . Even the Beta test ...
mcnpx.lanl.gov/opendocs/misc/Cashbugs.pdf - Cached - Similar

Apr 21, 2008 ... According to Appendix BB, betatron operators, who had the limiting exposures of all GSI workers 2.1.4 Calculation of Exposure to Residual Radiation preliminary and not covered by the MCNPX cash awards program.
www.cdc.gov/niosh/ocas/pdfs/abrwh/scarpts/sca-t1-24-r1.pdf - Cached - Similar

Interesting from :

... (see reward below)

2.1 MCNPX Computer Code

The analyses utilized the latest release of Los Alamos computer code MCNPX version 26e, which was made available to approved users on November 17, 2007. We used this version of the code because of its advanced capabilities, notably the ability to model delayed gamma rays and delayed neutrons following photonuclear reactions resulting from the interaction of high-energy photons, such as those generated by a betatron, with material in a target. In addition, the code lists an inventory of nuclides produced by such photonuclear reactions. However, we note the following:

Warning! The new delayed gamma emission capability and delayed neutron capability is preliminary and not covered by the MCNPX cash awards program. It has been included in MCNPX 26E because of user and sponsor demand. (Hendricks et al. 2007) Despite this caution, we used this version of MCNPX since it is the only code capable of modeling the complex phenomena associated with betatron radiography. The long experience and high repute of the Los Alamos MCNP development group give us confidence that even this preliminary version produces reasonable results.

McKeel comment #1 (3.22.12): Peer reviewed journals do not accept mere "long experience and high repute" as being sufficient to validate new computer code-based models in any field. The problem NIOSH faces is, it did not do this modeling, SC&A did it for them which in the GSI co-petitioner's view, is improper. NIOSH first used Attila code, which the above statement implies cannot do these calculations.

NIOSH paid consultant, measured 15R/min residual radioactivity at the camera port of a Betatron similar to those at GSI. MCNPx did not confirm these data. Looked at another way, MCNPx modeling is not validated by actual (real) measured photon (x-ray) radiation from a Betatron that has been powered OFF.

ONE OF THE "REWARDS:

36. Delayed gammas from photo-nuclear reactions were being suppressed from incorrect use of nter variable. Only 27b was effected. \$20 awarded

08/18/09

McKeel comment #2 (3/22/12): David Allen told me during the 3/15/12 work group meeting that he did not want to have to redo the SC&A input file parameters for the New Betatron modeling. However, it is essential in the co-petitioner's view to check each and every variable to make sure they are correct and used correctly in the code. My view is the MCNPx code that SC&A used in 2008, and that NIOSH/DCAS Mr. Allen used in his January 2012 New Betatron model has not been scientifically validated with real data that does not actually exist.

I sure wish I understood all of this material !!!!!!!!!!!!!!!

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(end

quote)