Miller, Diane M. (CDC/NIOSH/EID)

From: DanMcKeel2@aol.com
Sent: Saturday, March 12, 2011 12:38 AM
To: pl.ziemer@comcast.net; Katz, Ted (CDC/NIOSH/OD); Kinman, Joshua L. (CDC/NIOSH/DCAS); NIOSH Docket Office (CDC); Wade, Lewis (CDC/NIOSH/OD) (CTR); Hinnefeld, Stuart L. (CDC/NIOSH/OD); jmauro@scainc.com
Cc: danmckeel2@aol.com;
Subject: GSI SEC-105 Co-petitioner McKeel Letter to ABRWH
Attachments: PLZ_GSIltr_3.11.11.pdf+.zip

Dear Dr. Ziemer and Colleagues,

I request that Ted Katz please distribute the 4 attached documents, that are related to General Steel Industries and SEC-00105, to all members of the TBD-6000 work group and to all 16 current members of the Advisory Board on Radiation and Worker Health (ABRWH). The letter to Dr. Ziemer and the Board [item 1] should also be distributed to NIOSH DOCKETS 140 (GSI) and 194 (Ten Year Review), to the three NIOSH/DCAS addressees, to Dr. Wade, and to Dr. John Mauro of SC&A.

Tomorrow I will fax a hard copy of the letter to the Board to the Fax number (513-533-6826) provided on the DCAS website. No mail address is listed for letters to the ABRWH.

The main letter has three technical document PDF enclosures/e-mail attachments. These documents [items 2, 3, 4] should be distributed to everyone except the public Dockets as they are all posted on the DCAS website.

The PDF files are: [1] Cover letter <PLZ_GSIltr_3.11.11.pdf>
[2] • Attachment 1 <sca-gsimtg-2007_coll#2386F4.pdf>
[3] • Attachment 2 <GSIsec_sca-t5-5-r0.pdf>
[4] • Attachment 3 <TBD6K_wgtr101210.pdf>

Thank you,

Sincerely,

Daniel W. McKeel, Jr., MD
GSI SEC-00105 co-petitioner
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Paul Ziemer GSI letter

Daniel W. McKeel, Jr., M.D., Letter to the ABRWH and NIOSH Dockets 140 and 194 Concerning General Steel Industries (GSI): SC&A 10/09/07 Worker Outreach Meeting Minutes; SC&A review of SEC-00105; Transcript of the TBD-6000 Work Group 10/12/10 Meeting

Letter submitted by E-mail and Facsimile
Attachments distributed by e-mail (dcas@cdc.gov)

March 11, 2011 **FAX: 513-533-6826**

Dr. Paul Ziemer, Chair, TBD-6000 work group of the ABRWH
All members of the TBD-6000 work group and the full ABRWH
Ted Katz, DFO (please distribute this letter and 3 attachments to all ABRWH parties)
Josh Kinman, NIOSH SEC Counselor
NIOSH PUBLIC DOCKET 140 (General Steel Industries)
NIOSH PUBLIC DOCKET 194 (SEC and DR sections, Ten Year Review)
Dr. Lewis Wade, coordinator, NIOSH Ten Year Review
Stuart Hinnefeld, DCAS Director, Jim Neton and David Allen (NIOSH/DCAS)
Dr. John Mauro (SC&A)

Dear Dr. Ziemer,

1. It has been five months (October 2010) since the release of David Allen's white paper on NIOSH's proposed path forward for GSI. This document had no detailed action plan from NIOSH. Many unresolved technical issues remain outstanding between the Board/SC&A and NIOSH.

- At the October 12, 2010, TBD-6000 work group session, the GSI SEC-105 co-petitioner, Dan McKeel, expressed his most grave concern that Dave Allen's path forward plan would likely involve months or even years of added work with no timeline specified for completion. Testimony at the same work group session (see 2 below) confirmed that McKeel's observation was in fact likely.
- McKeel pointed out that the very admission by Mr. Allen that all technical phases of the NIOSH Appendix BB and SEC-105 evaluation report needed to be reworked to accommodate new GSI source information was proof of the magnitude of NIOSH's task. Thus, NIOSH tacitly admits it is unable to accurately reconstruct doses during the AEC covered period of 1953-1966. The Board should act on this admission rather than allow unlimited time for NIOSH to pursue such a schedule of new work. Whether additional work will make possible sufficiently accurate dose reconstruction at GSI for the covered period in any reasonable time frame is debatable and appears highly unlikely to Dan McKeel.
- Dr. Ziemer expressed his concern during the most recent ABRWH meeting held in Augusta, Georgia, on February 23-25, 2011, that NIOSH had not provided details on the path forward to the TBD-6000 work group. The co-petitioner shares this concern.

2. Dr. John Mauro of SC&A has during the past year repeatedly expressed his view (see excerpts below) to the TBD-6000 work group and in SC&A (SEC-00105 ER review, October 2009) technical reports that NIOSH cannot accurately reconstruct doses during the ten year AEC contract period at GSI that spans 1953-1963. He has predicted unequivocally that the TBD-6000 work group will not be able to support NIOSH's recommendation to deny SEC-105 for at least those first ten years when no source term or monitoring data is available. NIOSH lacks source term data, purchase orders, and any individual or facility internal or external monitoring data including film badge and urine bioassays and area or breathing zone radiation data. Yet despite this very clear advice to the Board from its technical contractor, the TBD-6000 work group has not had a single vote concerning the NIOSH recommendation to deny GSI SEC-105. When the TBD-6000 work group will be in a position to bring a final GSI recommendation to the full Board is uncertain at the present time. Making such a recommendation is clearly within the mandate of the work group. Not making such a recommendation appears to be a major abrogation of the work group's mission to make such a recommendation in a timely way using procedures that are claimant favorable. In our view, this mandate has been breached.

[Note: . *furnished the following 10/12/2010 TBD-6000 work group meeting excerpts from the redacted document posted on the DCAS website. That text is in Courier font and some bolding has been added for emphasis. GSI SEC-00105 co-petitioner Dan McKeel comments are in Times bold and blue at the relevant portions of the minutes and transcripts*]:

The transcript for the October 12, 2010, TBD-6000 work group meeting was generated by:
NEAL R. GROSS
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(202) 234-4433 WASHINGTON, D.C. 20005-3701 www.nealrgross.com

[transcript excerpts begin]
Page 8
Chairman Ziemer:
"McKeel Rebuttal of 5/16/10 NIOSH White Paper on GSI Isotopes."
So, 4
I want to make sure you have that document. 5
This was the petitioner's concerns about that 6
White Paper, although again some of that may 7
change with the new document. 8

MCKEEL COMMENT: The work group chose not to discuss the petitioner's concerns about the Allen October 2010 white paper at the 10/12/10 meeting and wonders why not. All that was said still applies, except that 5 months have elapsed since the October 2010 work group meeting with no specific progress having been reported on a path forward by NIOSH.

We have a June 6th letter from 9
petitioner McKeel, called, "New Source 10
Activation from both GSI 24-25 MeV Betatrons." 11
I did put on the document here, "Email letter 12

off? Was there anybody up here, or standing 18
outside the strip door? 19
See, these are things that 20
reasonable people could say, "Okay, I think this 21
is a good bounding approach. It's plausible. 22

Page 252
We can deal with it." But that itself is going 1
to take some time. 2

MCKEEL COMMENT: I disagree with marginalizing and putting off dealing with these other issues that I view as major. I challenge the implication that ALL issues related to the rest of years 11-13 of the covered period at GSI are solvable. The work group has *already had years* to solve these other issues that Dr. Mauro easily dismisses here and *has failed to do so.* "Take some time" could take years based on the track record thus far of NIOSH/SC&A solving "tractable" GSI issues.

While we're -- if it turns out we 3
wait until we resolve all that, and let's say we 4
do. It's a year from now, and we resolve all 5

MCKEEL COMMENT: Dr. Mauro here acknowledges the 1964-66 issues could take a full year to resolve.

that. You know where we're going to be? With 6
that first basket. 7
The first basket is the showstopper. 8
If we can't -- if the Board -- the Work Group 9
and the Board struggles with the idea that **we've 10
got 10 years of people working in radiographic 11
operations, no film badge data and no radiologic 12
protection, occupational records, programs where 13
we could track people who might've been injured, 14
might've received overexposure, if that's the 15
case.** 16

MCKEEL COMMENT: This statement by Dr. Mauro reveals a bias that is disturbing. SEC-00105 is not about just the 89 GSI radiographer cohort of 1964-66. NIOSH has film badge dosimetry gamma photons and beta data, but no neutron data, on only this small cohort. The Class NIOSH and original petitioner (this name should NOT be redacted) proposed was all 3000+ workers at GSI, men and women, in all job categories.

So, to me, it's almost like we're 17
looking over here, but we should be looking over 18
here first because this may turn out in a 19
relatively short period of time. I guess this is 20
where I would be looking. I'll be looking to 21
Jim and the rest of the crew, saying, "Listen. 22

from Stu Hinnefeld to Dan McKeel, subject -- well, the subject is as it is on the email. It says, "Hours Appendix BB versus new GSI White Paper second request." It's dated September 18th. That was a reply that Stu Hinnefeld made to Dan McKeel, concerning the revision process.

MCKEEL COMMENT: To be more specific, Mr. Hinnefeld stated to McKeel that NIOSH was not planning to revise its evaluation report of SEC-00105 and that NIOSH would not revise Appendix BB Rev. 0 2007 until the Board, SC&A and NIOSH resolved all outstanding issues. McKeel considered this answer to be both rigid and not client favorable given the fact that David Allen's October 2010 "path forward" white paper was the main topic last October 12 that was discussed at the TBD-6000 work group meeting. Mr. Allen's path forward proposal outlined months or *years* of additional work that NIOSH must do. Dr. Mauro of SC&A then changed the direction of the discussion and went on to another topic (see pages 250 ff).

Page 250
DR. MAURO: I'd like to create -- just put on the table another option. The way we talked about these issues was that there was a big basket filled with issues, all of which are to be processed, and the process could be somewhat protracted for some, maybe more expeditious for others.

But I see it as really two baskets, okay? There's that basket, where -- but there's a basket of issues which are what I consider to

Page 251
be core issues that almost border on the kind of thing -- like surrogate data. **I think there's a class of issues before this Work Group that deals with the time period where there's no film badge data.**
There's non-destructive testing, radiological examinations going on, where the potential for off-normal conditions could've existed without any documentation for the extent to which they occurred. That's a very special basket in my mind. It's a new basket, and it's one that goes to the heart of the SEC issue. **In my opinion, that's the SEC issue.**
All these other areas, over a very -- possibly over a protracted period of time, we'll work it out. We'll work it out. How long was the person in the bathroom when the betatron was

an SEC issue," rather than SC&A, which has only an *advisory role* to the Board.

If there's a way to come to grips 12
with that: either there is or there isn't. And 13
it's going to have to meet the test of 14
satisfaction of not only the Work Group, but the 15
full Board. To spend enormous resources, try to 16
polish the apple on ones that we know we're 17
going to be able to resolve. We're going to 18
resolve them, but it's going to take some time, 19
but we'll work it out. 20
And then after going through all 21
that, after another year or more, and then the 22

MCKEEL COMMENT: Dr. Mauro underscores again his prediction that resolving the GSI issues that can be resolved is a one year "or more" proposition. There is simply no possible defense for this scenario of allowing NIOSH and SC&A indefinite time to *"work things out" at GSI*.

Page 254
showstopper becomes this basket, that seems to 1
be not an efficient way to go. Do we have -- in 2
other words, is it over because of the pre `62 3
problems? If it's over, let's not even waste 4
our time with this. 5

MCKEEL COMMENT: Not only is the Board's and SC&A's and NIOSH's *"time being wasted," but GSI worker/claimants are meanwhile dying and some survivors are being denied compensation they deserve to get under EEOICPA rules that apply to AWE sites.*

6
Later, I'm going to go through a 7
scenario. Fine. If it turns out that's -- we 8
can't deal with this. I'm not sure if we can. 9
Okay, SEC is granted through `62. Post-`62, 10
we're not sure whether you're going to have an 11
SEC there or not, but at least that's a little 12
bit more tractable.

MCKEEL COMMENT: In scientific terms, a statement such as "a little bit more tractable" begs the central SEC question. *Can or cannot NIOSH reconstruct doses with sufficient accuracy for ALL GSI workers for ALL sources 1953-66?* If not, the only moral, ethical action to take that would be faithful to Congressional intent would be for the work group and full Board to recommend overturning NIOSH's recommendation to deny SEC-00105. Mr. Allen's October 2010 white paper on a path forward for GSI proves that NIOSH cannot do sufficiently accurate dose reconstructions for the entire SEC Class without spending at least one or more years doing additional work to develop methods, and with no guarantee of their being success in the long run.

Page 253
I think we got a handle on this. This is why. 1
Okay? Because if you can solve that, I know we 2
can solve this.

MCKEEL COMMENT: This overall statement is gratuitous and inappropriate on two levels. The underlined statement is very disturbing. The implication is that "we" (SC&A and NIOSH) can together "solve" the many issues for GSI 1964-66. It is NOT SC&A's job to "get a handle on" (if that equates with "solve") anything. It IS their job to review NIOSH's scientific approach. If NIOSH's "solution" to reconstruct doses with sufficient accuracy falls scientifically short, then it is inappropriate for SC&A to "rescue" them. In fact, SC&A should then recommend to the Board/work group that NIOSH cannot do what it must, that is to perform sufficiently accurate reconstruction of ALL SOURCE term doses. This would add support to the work group and/or Board recommending that GSI SEC-00105 should be approved.

The second part of the statement also adds greatly to my level of concern. There has been growing alarm over the past two years within the advocate community that SC&A is inappropriately performing work that solely belongs to NIOSH. Dr. Mauro states unequivocally on line 2 above: "I know we can solve this" referring presumably to 1964-66 issues. The use of "we" is concerning. NIOSH must propose a solution to SC&A findings that come to light when the Board technical contractor reviews NIOSH work. The implication of this remark is that SC&A's role is to assist NIOSH to bound GSI exposures with sufficient accuracy, when that responsibility is NIOSH's sole responsibility.

I'm not sure you can solve 3
that." 4
CHAIRMAN ZIEMER: You're talking 5
about the pre-film badge era? 6

MCKEEL COMMENT: We have supplied the work group with two 1962/1963 AEC/Nuclear Consulting Corp. (NCC) film badge reports from two GSI workers. NCC was the company that did the GSI Building 6 radiography facility survey and was crucial to GSI obtaining and maintaining its Cobalt-60 license as described in great detail in the documents that Dr. McKeel obtained by NRC FOIA 2010-0012 for the Board and NIOSH. There were two FB programs at GSI, not just one. NIOSH, SC&A and the TBD-6000 work group have done nothing that has been put into the record to follow up on the "extra" pre-Landauer NCC FB program. This seems to be scientifically inexcusable to me.

DR. MAURO: Pre-film badge. I'm 7
saying right now, the critical path on whether 8
this goes down as an SEC or not is going to be 9
how the pre-1962 time period is going to be 10
dealt with for the issues that I just described. 11

MCKEEL COMMENT: I understand that all parties may express their opinions, but this is a very direct statement. The Board will hopefully determine "whether this goes down as

Because if we can't -- then
we could polish that apple, and say, "Okay, what
can we do about that?"
I'm not -- I'm not saying that's a
done deal, but I feel a degree of confidence as
a health physicist that these are tractable
issues. They may or may not be in the judgment
of many people, but right now, my sensibility
about it is it can.
But I got to tell you, this other

255

basket of questions, I don't see it. I see some
serious challenges to trying to get over that
hump.
CHAIRMAN ZIEMER: I guess what
you're suggesting is you want to prioritize part
of this, and try to come to early closure, and
take the early years, and tell us how you will
treat them, then deal with the details on the
later years: the film badge records.
DR. MAURO: Yes.
DR. NETON: I don't disagree with
John. I mean, this is something he said many
times. I mean, if we're going to prioritize
anything, this ought to be the one because
clearly, he's voiced his concerns --

MCKEEL COMMENT: Dr. Neton's statement that he "doesn't disagree" with John Mauro (that is, to recommend approving a GSI SEC for the first 10 covered period years) adds further emphasis that NIOSH's original recommendation in its evaluation report to deny SEC-00105 was flawed. Furthermore, Dr. Neton and the Allen path forward white paper indicates that NIOSH has changed its mind as to feasibility of reconstructing GSI doses during those first ten years. SC&A states pretty unequivocally it now doubts that NIOSH can do sufficiently accurate DR in the first ten years of the GSI covered period. The implication of this change for Board action on the SEC is rather obvious.

CHAIRMAN ZIEMER: Suppose we did
that, and -- and agreed that you really are not
able to bound the early years. Then what --
what, procedurally, would the petition get? How
would it --
DR. NETON: Well, if we all agreed
technically, then it would be a matter of
Page 256
revising the Evaluation Report to say that, and
then we could re-present it. I'm not saying

we're agreeing. 3

MCKEEL COMMENT: The DCAS Director wrote Dr. McKeel stating that NIOSH was NOT Planning to revise its evaluation report. McKeel had asked NIOSH for a response precisely because of Dr. Neton's comment captured in line 22 of page 255 and in line 1 of page 256 of the 10/12/10 work group transcript. Dr. Neton's comment is both confusing and disturbing. *NIOSH needs to clarify more precisely for the record at this point exactly what path forward they are working on, and if and when they plan to revise APPENDIX BB and to reissue the evaluation of SEC-00105.*

CHAIRMAN ZIEMER: No, this is 4
hypothetically. 5
.....
Continued:
Page 258
DR. MAURO: And a plausible upper 16
bound can be assigned, but we disagree on some 17
of the assumptions.

MCKEEL COMMENT: We believe that Dr. Mauro is making a very premature judgment that a plausible upper bound can be assigned for the last three years of the covered period. In saying this, he begs two questions: (a) if that is possible, why has it not been done already? (b) The petitioners assert that a plausible upper bound has NOT been assigned by NIOSH, because large quantities of the source and monitoring data and FB questions (such as sensitivity to 1 to 25 Mev photons) have been addressed very superficially or not at all, or have been ignored altogether.

I'm more concerned about 18
the time period where they were working with 19
sources, and there is some uncertainty to what 20
sources those are, but sources, whether it's the 21
radium source, iridium source or even a cobalt 22
Page 259
source. 1
I'm more concerned about those ten 2
years where you're working with sources, and 3
I'll say it again, and you don't have film badge 4
data.

MCKEEL COMMENT: Dr. Mauro continues to ignore the facts that SC&A and NIOSH computer dose modeling deviate substantially from each other and from the very limited FB data for male radiographers only that represent at most only 3% of the GSI work force. I am frankly very upset that NIOSH and the Board appear to ignore SC&A and our data and worker affidavit data that indicate the GSI FB data is not representative and is incomplete. Finding 1 of the SC&A review of the SEC-00105 evaluation report on page 7 of 50 underscores this point. I reject outright SC&A's contention that the highest GSI FB data are spurious based on conversations that Dan McKeel had with RS Landauer 13

months before NIOSH obtained their FB dataset and subsequent discussions with the GSI workers and their survivors that were involved in the building 6 exposed source incident.

See, to me, that's a class of problem 5
that's different than we've ever seen before. 6
And I don't know if you would agree 7
or not, but we've never been in the circumstance 8
where you're dealing with a fairly volatile 9
subject, namely radiography, where these things 10
happen.

MCKEEL COMMENT: I am amazed by this statement. Many other sites besides GSI had NDT (radiographic nondestructive testing) activities including Betatrons and cobalt-60 isotope sources (Los Alamos, Oak Ridge, Rocky Flats, many steel companies, West Allis, WI/Allis-Chalmers, for example). All parties have avoided dealing with NDT related doses even though these techniques were widely used at both EEOICPA AWE and DOE sites and that OCAS-IG-003 demands that ALL sources MUST be factored in doses that NIOSH calculates using IREP and IMBA. This clearly has not been done at many AWE and DOE sites. Has LAMS-2064 been forgotten? and McKeel first identified this key classified report that detailed the DOE NDT program for nuclear weapons at Rocky Flats, Los Alamos, and Oak Ridge. Review of LAMS-2064 required Q-clearance review by the Board, SC&A, IL Senator Obama's staff, and NIOSH). *These review reports and notes were not supplied to the petitioners.*

Things do happen, and they're a 11
continuum up to some serious things. 12
We have a ten-year period, where 13
people are doing some -- it's in the `50s, a 14
time period where a lot of things happened that 15
were unpredictable, and you don't have film 16
badge data. I think this is -- and if you go to 17
a two-prong process, well, sure. Let's keep 18
that basket moving. All of the betatron issues, 19
all of the post-`62 issues, and move that 20
forward as best you can. 21
But in parallel, perhaps, as quickly 22

Page 260
as possible, try to get through the pre-`62 1
issues. Bring that before the Work Group. 2
Bring that before the Board as quickly as 3
possible, and at a minimum, the outcome of that 4
would be one, I don't think we can't reconstruct 5
those doses. 6

MCKEEL COMMENT (typo identified): With respect to recommending that SEC-00105 be approved, lines 1-6 are very important. We believe the word *"can't"* underlined in line 5 is a typographical error. *It completely changes the sense of this passage.* We believe this

error needs to be brought to the attention of Dr. Mauro and then it needs to be corrected to change the word "can't" to "can." The corrected passage needs to be brought to the attention of the work group and full Board and read into the record.

Now, this would be a judgment the 7
Work Group or the Board makes. **And if it ends 8**
that way, at a minimum, there's at least some 9
resolution for the workers and the claimants to 10
get the SEC up to `62. 11

MCKEEL COMMENT: Again, the GSI petitioners strongly object to splitting the GSI SEC-00105 into two parts. Dan McKeel's co-petitioner position is that NIOSH has NOT demonstrated it can reconstruct all external and internal doses for all GSI workers for 1964-66 as the many Findings in SC&A's October 2009 review of SEC-00105 signify.

What happens after `62? I don't 12
know. In other words, I'm trying to find a way 13
to deal with the heart of the problem. That's 14
the tough nut. I think the other half is 15
tractable, but I could be wrong. 16

Page 259
I'm more concerned about those ten 2
years where you're working with sources, and 3
I'll say it again, and you don't have film badge 4
data. **See, to me, that's a class of problem 5**
that's different than we've ever seen before. 6

MCKEEL COMMENT: This comment by John Mauro is subject to challenge. Two other sites where no direct personal monitoring data existed are Dow Madison site (SEC-0079) and Texas City Chemicals (SEC-00088). And as we cite above, LAMS-2064 details at least three major DOE sites that had NDT radiography operations that utilized Betatrons and/or cobalt-60 sources. I have been mystified why NIOSH, this work group, the full Board and SC&A seem to systematically appear to ignore in their deliberations under EEOICPA the entire field of NDT radiography in technical documents such as site profiles, SEC evaluation reports, and program wide technical documents such as TBD-6000. Ms. Munn addressed the NDT issue in this key document by saying the subject of industrial NDT radiography is so *complicated and diverse* that it would be impossible to cover all its aspects adequately in TBD-6000. Co-petitioner McKeel strongly disagrees that this is beyond the expertise of a group of expert health physicists.

And I don't know if you would agree 7
or not, but we've never been in the circumstance 8
where you're dealing with a fairly volatile 9
subject, namely radiography, where these things 10
happen. Things do happen, and they're a 11

continuum up to some serious things. 12
260
as possible, try to get through the pre-`62 1
issues. **Bring that before the Work Group. 2**
Bring that before the Board as quickly as 3
possible, and at a minimum, the outcome of that 4
would be one, I don't think we can't reconstruct 5
those doses. 6
Page 266
MEMBER BEACH: I'm in agreement with 7
looking at that -- Dave, looking at it, I'm 8
assuming you're going to get back to the Work 9
Group and let us know the time frame, **but I 10**
think it's a good approach to move forward with 11
the earlier years if possible. 12

MCKEEL COMMENT: Board member Beach's assumption expressed here is logical, yet 5 a full five (5) months later Dave Allen and NIOSH *have not* gotten back to the work group with a time frame for moving forward on GSI.

Page 266
MEMBER MUNN: Well, the Board 21
certainly has adequate precedent for parsing, 22
Page 267
MEMBER MUNN:
especially SEC issues, when there is a clear 1
design in mind where technical improvements or 2
changes in process have occurred, any over a 3
given size. I see no reason why the 4
introduction of film badge data should not be 5
considered a major technical change in how this 6
facility was operated.

MCKEEL COMMENT: Ms. Munn's statement can be stated more straightforwardly as the advent of film badge data at GSI should be considered a major technical change. However, the simple existence of FB data on a very limited number of 89 men in a single job category does not constitute adequate representational monitoring data on which to deny an SEC. I am alarmed that this assertion was not challenged. How does Ms. Munn reconcile the fact that NIOSH and SC&A computer models disagree quantitatively on worker doses received during 1964-66, and that limited FB readings are much lower? Also, Appendix BB Rev. 0 (issued 6/25/07) does not utilize film badge data to calculate external doses at GSI because that document was released before NIOSH obtained their dataset in January 2008. This is important because 94.2% of dose reconstructions at GSI have been completed and all but 4 GSI DR relied on Appendix BB. *The limited GSI FB data is being endorsed as valid on flimsy scientific evidence and is largely unchallenged by other work group members.* The fact that very limited FB data at GSI cannot be construed as being reflective of doses received by but one small group of GSI workers seems not to be weighed by the Board, SC&A or NIOSH. In many other instances, sites with such limited

external and no internal monitoring data as GSI has have been recommended for SECs by the Board and granted SECs under EEOICPA. A different set of criteria is being unfairly applied to GSI.

And therefore, it's a 7
logical point on which to consider the 8
possibility of splitting up the SEC. 9

Page 267
CHAIRMAN ZIEMER: Well, I think we 21
have consensus on taking that approach to the 22
Page 268
Path Forward, focused initially on the early 1
years in an effort to get more rapid process or 2
progress, particularly vis-a-vis the SEC issues. 3
We can put that to bed one way or the other in 4
perhaps a quicker fashion. 5

MCKEEL COMMENT: Dr. Ziemer does NOT speak for the signatories of this letter or for the GSI SEC-00105 signatories that "parsing" or splitting the SEC is the fair way to go. When Dr. Ziemer made this assertion, he certainly did not elicit the petitioner's view in mind.

So let us agree to proceed on that 6
basis,

MCKEEL COMMENT: The proper way to proceed would have been to make a recommendation to approve SEC-00105 and record the votes of all 5 TBD-6000 work group members as Dr. Mauro was urging throughout this meeting.

and ask if possible at our full Board 7
meeting that, if you can, to give us an estimate 8
of -- well, we still have to talk about the 9
prioritization, but maybe you will be in a 10
position to lay this out with other items for 11
the Board to consider, I suppose. 12
I'll raise the issue from our point 13
of view, but there will be other priorities. 14
So, I don't think we're asking you to commit to 15
this above everything else at the moment. 16
Simply be aware of our concerns, and make sure 17
that we have this on the agenda,

MCKEEL COMMENT: Substantial discussion of unresolved GSI issues was not on the agenda of the just completed 2/16/11 TBD-6000 work group meeting or on the September 23-25, 2011, full Board meeting in Augusta. Thus, two opportunities were missed to move SEC-00105 forward.

and 18
specifically raise this and ask other Board 19
Members the extent to which we can sort of move 20
it up in the queue, if there is a queue. 21
Page 271

CHAIRMAN ZIEMER: Comment? 4
DR. ANIGSTEIN: Before we leave GSI, 5
I'd like to get clarification. There are a 6
couple of -- there's some unfinished business 7
that SC&A has started that frankly for lack of 8
time, I got drafted ten days ago for work on 9
Linde, which I had not anticipated. 10
So, the air activation issue, we're 11
basically being asked to look at all portable -- 12
all other radiography sources, and the air 13
activation sort of came under that category. 14
And so, as I said, we did the analysis, but 15
haven't quite finished it to give you a result. 16
So, I would -- I mean I'm just 17
asking for direction. My plan had been to 18
submit a small White Paper on this with these -- 19
with the conclusions and with the -- 20
CHAIRMAN ZIEMER: On the air 21
activation? 22
Page 272
DR. ANIGSTEIN: Yes. 1
CHAIRMAN ZIEMER: Well, I'm 2
wondering if we shouldn't hold that until we see 3
what NIOSH does with it. Hold that in reserve 4
so that there's not at least a perception that 5
you're out in front on this. Not that you're 6
not out in front, but -- and I think Ted's 7
points are well made, but there is a perception 8
that we need to be cognizant of what -- **let 9**
NIOSH have a chance to see how they deal with 10
air activation. 11
Then you can easily say, "Yes, we 12
agree with this or we disagree based on our 13
analysis." 14

MCKEEL COMMENT: The take away point, however, is that SC&A was working on the air activation issue BEFORE NIOSH had submitted any white paper on the same subject. This fact reinforces my earlier comments that SC&A is playing an active "solver role" at GSI that is inappropriate to its basic mission.

-[end of 10/12/11 TBD-6000 work group transcript excerpts]

2b. Four GSI radiation overexposure incidents were also mentioned in FINDING 1 and one in FINDING 2 of the SC&A October 2009 review of the NIOSH evaluation report of SEC-00105. Several other not cited GSI overexposure incidents are on the record. The text on page 7 of 50 follows:

[transcript FINDING #1] "**Finding 1. Lack of Radiation Monitoring Data for 1953–1963**

The lack of radiation monitoring data for the 11-year period 1953–1963 precludes a bounding assessment of external exposures to direct penetrating radiation. There were four reported incidents during this period: (1) a worker who was not a radiographer mistakenly took home a 60Co source; (2) [REDACTED] who was not a radiographer, remained inside an Army tank being radiographed with the betatron; (3) [Worker A], a betatron operator, reported he was involved in an incident with "Betatron II" (presumably the new betatron) just prior to the beginning of the Landauer film badge monitoring program; (4) an employee, of St. Louis Testing, a GSI contractor, reported finding an unsecured 60Co source that may have exposed GSI employees. These incidents, especially the worker's taking home a 60Co source, indicate a serious breakdown of radiation controls."

MCKEEL COMMENT: Then the Finding is added that even the FB data for 1964-66 for 89 workers is limited. Note FB data from 108-89 = 19 GSI workers is for the period after 1966 (1967-73), which is part of the residual contamination period at that AWE facility:

[transcript FINDING #2 Pages 9 and 10 of 50]

Page 9. "**Finding 2. Incomplete Monitoring of Workers: 1964–1966**

The film badge dosimetry records for 1964–1966 list the names of 89 workers, who are believed to have been members of the betatron teams or radiographers who used sealed sources. Former workers have reported that the badges were stored in a rack just outside the New Betatron Building, and that they were required to take off their badges whenever they left the betatron buildings. Consequently, the monitoring of even these workers was incomplete, since it did not cover exposures they might have received outside the betatron building. Areas in 10 Building, including the restroom, were potentially exposed while the betatron was in operation. Furthermore, some of these workers may have worked as layout men who were in intimate contact with castings immediately after betatron radiography. They would not have been wearing their badges while performing such duties."

Page 10. "The monitored workers represent a small fraction of the total GSI workforce. One incident that occurred during this period involved a worker who was inside a casting while it was radiographed with a betatron. He was not a radiographer and was therefore not monitored."

4. FILM BADGE DATA REPRESENTATIVENESS. I have asserted as vociferously as possible that film badge data from 1964-66 (3 of 13 years) on 89 male GSI Betatron and isotope radiographers (but not Magnaflux operators), a single job class, out of a work force that numbered more than 3,000 men and women is NOT a representative sampling of the entire GSI work force. At peak hiring, more than 3,000 men and women worked at GSI in dozens of job capacities. GSI advocates have proven these workers functioned in multiple other building areas of GSI, other than the two Betatron buildings, where they were exposed to substantial levels of radiation from all GSI radiation sources not only the Betatrons. *NIOSH has NOT demonstrated it can adequately bound external and internal doses from these other building sites or from the other non-Betatron source terms at GSI even though OCAS-IG-003 mandates that it do so* (see #5).

5. David Allen and NIOSH have not demonstrated they can bound with sufficient accuracy radiation doses from the two (not one) portable industrial GSI 250 Kvp x-ray machines. Note the 1973 GSI auction documents supplied to the Board by McKeel lists three 250 Kvp x-ray units. One was used for medical purposes. That unit has not been factored in as called for in OCAS-IG-003. NIOSH has no documentary proof where these units were used, how frequently they were used, exactly what purposes they were used for, where they were used in the GSI campus, or what external doses were delivered to the operators or bystanders. *I believe that sufficiently accurate determination and bounding of the three (3) GSI portable x-ray unit doses IS NOT POSSIBLE to do with sufficient scientific accuracy during the full 1953 to 1966 AEC contract period.* Too many necessary parameters are missing.

6. There remain substantial GSI technical issues that the TBD-6000 work group has not yet fully addressed or addressed at all, much less resolved.

(a) One unaddressed issue is the insensitivity of (red) Landauer film badges containing unfiltered "standard dental film" to greater than 1 Mev to 25 Mev very high energy photons emanating from the two GSI Allis-Chalmers Betatrons. This basic fact was identified by our expert, physicist former head of the Physics Department at the Milwaukee School of Engineering (MSOE) that also operated a twenty-five Mev Betatron during the same period as the ones at GSI. Dr. McKeel has brought this issue before the TBD-6000 work group. The issue remains inadequately addressed.

(b) A second issue is the utterly ineffective design of the control room doors in the Old and New Betatron buildings at GSI during the AEC uranium contract period. These were 1.5-2 inch thick steel clad wood doors that would offer essentially no effective shielding to very high energy Betatron photons. Dr. McKeel recently sent the TBD-6000 work group photos of both GSI and MSOE doors that Mr. Ramspott had supplied to him. We believe the radiation dose to workers in the control room would be substantially higher than the models used by SC&A and NIOSH and limited 1964-66 film badge readings have shown. In stark contrast, the steel shooting room door at MSOE's Betatron was 30 inches thick and weighed 70 tons due to its construction with heavy steel plate and steel pellets. Obviously, the MSOE Betatron facility design team, which also must have had input from Allis-Chalmers, believed the much greater expense of the huge steel door was absolutely necessary to protect faculty, researchers, students who attended classes on the other side of that door, as well as their Betatron operating crew. The 70 Ton door was donated by Allis-Chalmers in 1967. This confirms the A-C concern for the

MCKEEL FOOTNOTE TO FINDING #2: FB data from 89 of 3,000+ [2.9%] (ignoring turnover that would increase this number) is not remotely representative of the entire work force during the covered period.

CONCLUDING CRITIQUE OF SECTIONS 2a,b. Dan McKeel's overarching comment to the foregoing October 12, 2010 TBD-6000 work group transcript excerpts is that *he strongly DISAGREES with the scientific validity of splitting SEC-00105 into two parts (1953-1962 and 1963/4-66)*. McKeel will strongly object to NIOSH *post hoc* forming two SEC Classes at GSI given that all completed GSI dose reconstructions to date, except for the four cases that are included in PER-24, have been processed under Appendix BB Rev. 0. Such a maneuver would be highly unfair to the 1964-66 workers who, in the co-petitioner's opinion, equally merit that an SEC be approved as do 1953-63 GSI workers. It is far too late in the game to change the rules. It needs to be highlighted here that at most NIOSH possesses standard dental (unfiltered) film badge data from only 89 of 3,000 male workers in a single job category for 1964-66, three years out of 13 years in the covered period, at GSI. These FB data are distinctly NOT representative of the entire work force, all of whom should have been badged and monitored with *both* FB and urine uranium bioassays regardless of whether AEC uranium work was ongoing at the plant.

It is important to note for the record that GSI co-petitioner McKeel obtained his summary GSI film badge (FB) data directly from Landauer in January 2007 thirteen months *prior to* the time that NIOSH obtained the full FB data for 1964-73 from Landauer. I have placed on the record that Dan McKeel alerted NIOSH to the presence of GSI film badge data on at least 30 GSI workers at Landauer several times during 2006 and 2007, yet the agency did not obtain the R.S. Landauer FB data from GSI workers until January 2008 according to David Allen's response to a McKeel question. I strongly believe and have offered voluminous new scientific data and analysis over the ensuing 4+ years which shows that the film badge data (a) is not representative of the work force at GSI over 13 years, (b) is incomplete in that radiographers under company orders removed their badges upon exiting the Betatron facilities to work or recreate in other areas of the GSI complex with substantial risk of radiation exposures (Building 10 overpass break area, Buildings 6 radiography facility and within Building 10, for example), and (c) that the limited GSI FB data from 1964-66 is not remotely representative of the entire workforce during 1964-66. *Therefore, I conclude that the very limited FB data from 1964-66 cannot accurately bound even the 1964-66 portion of the covered time period.*

3. Film badge sensitivity to greater than 1 to 25 Mev Betatron photons remains essentially unaddressed by NIOSH, the work group or by SC&A. I believe it is unreasonable to only be addressing this fundamental issue now. If the GSI FB were highly insensitive to 1 to 25 Mev photons, as the co-petitioner believes is likely, then the FB data would be not only not be representative, it would also be misleading as to doses received as both SC&A and NIOSH computer models now indicate. The SC&A model showed highest doses in the control room. There is abundant worker testimony in the 10/09/2007 SC&A worker meeting minutes of poor shielding throughout the Betatron buildings at GSI. *A thorough assessment of the hugely important scientific issue of Red R.S. Landauer standard, unfiltered dental film badge sensitivity must be done.* Or, *the TBD-6000 work group should recommend that SEC-00105 be approved forthwith.*

workers at MSOE. *It also highlights the obvious inadequacy of shielding to GSI workers that was provided by the Betatron railroad track entry and exit doors and of the control room doors.*

I believe the work group, SC&A and NIOSH have overlooked the inadequate shielding of the GSI Betatron control rooms and the door between the New Betatron Building that was attached by a causeway shielded by a thin ribbon steel door from Building 10. The *facts* were established at the SC&A 10/09/07 outreach meeting. McKeel and a group of GSI workers and site experts examined and photographed these doors in 2006 during a site visit and could find no evidence of any lead shielding being present then or previously. The photos were shared with the Board, Grossly inadequate shielding and protection from scattered x-rays and photons and electrons as well as neutrons should have been weighted far more heavily as an important factor in NIOSH and SC&A assessments of external dose to GSI Betatron operators. The computer modeling using MCNP and ATILLA codes was based on arguably incorrect assumptions made at the input end. *Were the thin metal doors that guarded the railroad track exits and the control rooms of both Betatron facilities factored into the analyses performed by SC&A and NIOSH, respectively?*

It is time for the TBD-6000 work group to take definitive action and to vote on the GSI SEC-105 and make a firm recommendation to the full ABRWH for the Board to act on at its May meeting in St. Louis. NIOSH should only be allowed time between now and the next TBD-6000 work group meeting to complete their path forward white paper #2 (the actual work plan).

I also request that GSI be addressed in Saint Louis at the May 2011 meeting so that the petitioners, former workers, family, political staff, union officials and local media may be present. This type of courtesy has been displayed in past Board Meetings (Los Alamos, Savanna River, Fernald, etc.) I would hope that Board Members would also support this request. The May full Board meeting was originally scheduled for Saint Louis because of Weldon Spring, not GSI.

I cannot express how worrisome it is that at this late date, five months after the October 2010 TBD-6000 work group meeting, that neither white paper promised by David Allen on the path forward or the one Dr. Anigstein of SC&A said he was preparing (see transcript pages 271 through 272 on air activation has been released. I would hope the work group is not only concerned about these delayed reports but will soon take action to address them. For example, *we believe that a letter from Dr. Ziemer to NIOSH and to SC&A urging prompt release of these promised deliverables would be highly appropriate at this juncture.*

I am concerned that *there is no scheduled future meeting of the TBD-6000 work group to address GSI issues.* Dr. Ziemer, chair of the TBD-6000 work group and former ABRWH Chair, assured Dr. McKeel before the 2/16/11 work group met that such a meeting would take place. The 2/16/11 last TBD-6000 work group meeting was devoted to getting the more recently submitted SEC at Bliss and Laughlin out the door and to the full Board. We protested the unfairness of this handling of the respective SECs to GSI workers, whose SEC was filed earlier. We still feel a tremendous injustice has been done to the GSI workers and is being perpetuated.

- The Allen "path forward" white paper of October 2010 asserts at the top that NIOSH is revising their dose reconstruction plans for GSI. This is astounding considering that more than 94% of all GSI DR have already been completed using Appendix BB Rev 0 from June 2007!

• As the months and years tick by and GSI workers continue to die from their occupational exposure, the petitioners and expert/worker team at GSI have continued to bring to the table to a vast body of new knowledge of GSI source terms. Yet DOL refuses to ratify these data and reconsider opening denied GSI claims until the Board and SCA and NIOSH completely resolve all the outstanding issues. NIOSH should not be permitted to take unlimited to time to address these new data. I firmly maintain as I have from the beginning that all the GSI workers deserve an SEC for the full covered period of 1953-1966. They deserve this recommendation now, at the May Board meeting in St. Louis.

I fervently hope that the TBD-6000 work group will soon support the petitioner's position by taking positive action on getting Appendix BB revised and by resolving all outstanding technical meetings and by recommending approval of SEC-00105 to the full Board.

Respectfully submitted,

Daniel W. McKeel, Jr.

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Enclosures as e-mail attachments (redacted versions from the DCAS website):
• Minutes of the October 9, 2007 SC&A outreach meeting with GSI workers
• Transcript of the Oct. 9, 2009, SC&A review of the NIOSH evaluation report of SEC-00105
• Transcript of the October 12, 2010, TBD-6000 work group meeting on GSI issues