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

From: DanMcKee
Sent: Monday, April 22, 2013 4:20 PM
To: pl.ziemer@comcast.net; Ziemer, Paul (CDC/NIOSH/OD); Katz, Ted (CDC/NIOSH/OD); wimunn@aol.com; j-poston@tamu.edu; Hinnefeld, Stuart L. (CDC/NIOSH/DCAS); josiebeach@charter.net; Allen, David (CDC/NIOSH/DCAS); Neton, Jim (CDC/NIOSH/DCAS); Hinnefeld, Stuart L. (CDC/NIOSH/DCAS); NIOSH Docket Office (CDC)
Cc:

Subject: Discussion paper for 4/26/13 TBD-6000 work group meeting
Attachments: GSI_Bldg6_RadiographyRoomF.pdf

Dear Dr. Ziemer, members of the TBD-6000 work group, Dr. Neton, Dave Allen, Mr. Katz, and the NIOSH Docket 140 officer,

Attachment: <GSI_Bldg6_RadiographyRoomF.pdf> 286 K

I am enclosing a new Discussion paper by myself and GSI site expert for the 4/26/2013 TBD-6000 work group meeting to further discuss a revised APPENDIX BB. This paper includes important new information about the GSI building 6 radiography room. New eye witness direct testimony indicates: (a) the inner concrete block structure was constructed in 1955, (b) the walls of the inner bldg. 6 structure were constructed of concrete blocks each with two holes; (c) the holes were filled with coarse river sand (not mortar as claimed in the NRC FOIA 2012-0012 license documents), (d) the walls were only 6 inches thick, and (e) no blocks were added to augment the thickness of the Bldg. 6 walls in 1962 as claimed in the NRC FOIA documents. **The new information reinforces our belief that GSI radium era MCNPX models need to be revised to accommodate these new factual data**.

The paper also reinforces the need for NIOSH and the Board and SC&A to acknowledge that **RADON** (Rn-222) gas leaking from the GSI twin Ra-226 sources is almost a certainty given the fact these sources were in use for NDT inspections at GSI from October 1, 1952 through December 31, 1962.

The fact the inner Bldg. 6 radiography room was not built until sometime in 1955 indicates there was an approximate three year period where Ra-226 fish pole NDT radiography was conducted in the GSI plant at large, including buildings 6 through 10. Attachment C of the new discussion paper indicates that two GSI workers saw Ra-226, welding rods and MCW uranium stored in a locked metal cage in GSI building 5. One of the affiants was the store keeper for GSI. The other worker was the isotope radiographer interviewed by Dr. Anigstein who provided SINEW with an 18 month radiation summary
marked NCC.

Coincidentally, this morning (4/22/13) of DOE indicated that DOE's latest search has located no By-Product licenses for either Nuclear Consultants Corporation or for St. Louis testing Laboratories using the AEC license numbers provided for those two facilities in NRC FOIA 2010-0012. Dan McKeel's FOIA to the NRC also failed to produce those documents (NRC FOIA 2013-00142 and NRC FOIA 2013-00191).

Ted Katz, please distribute this memorandum to all members of the Board.

NIOSH Docket 140 officer, please post this e-mail and the attached 12 page white paper on the DCAS website under Docket 140 and as a Discussion paper for the TBD-6000 work group 4.26.13 meeting.
The title of the paper is **"General Steel Industries Radium Era: 1952-1962 New Co-petitioner and Site Expert Information on the Building 6 Inner Radiography Facility."**

Thank all of you for your consideration of this new GSI information.

Sincerely -- Dan McKeel and 4/22/13

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

"General Steel Industries Radium Era: 1952-1962 New Co-petitioner and Site Expert Information on the Building 6 Inner Radiography Facility"

Submitted by

Daniel W. McKeel, Jr., M.D., SEC-00105 Co-petitioner and GSI Site Expert

April 22, 2013

Overview

We previously provided conclusive documentation that the General Steel Industries ("GSI") building 6 nondestructive testing ("NDT") inner structure was in existence in 1957 [**REF 1**]. The proof was a large format (~3 x 4 feet) and highly detailed engineering drawing of the complete GSI complex. A structure marked "Radiography Room" was clearly marked on the map. We refer to this inner structure within GSI building 6 from now on as "B6 Radiography room" to be consistent with the 1957 map.

David Allen (DCAS) and SC&A both modeled the radium-226 gamma exposures to the operator and to those working outside the B6 radiography room predicated on several premises we now believe are based on incorrect facts and assumptions used in the MCNPX computer models, as follows:

(a) The B6 radiography room existed for the entire October 1, 1952 through 12/31/1962 radium era at GSI (incorrect fact);

(b) Based on NRC FOIA 2010-0012 GSI AEC cobalt source license documents, that two Ra-226 sealed sources were used for NDT work at GSI. However, it is not known what year the two Ra-226 GSI sources were obtained?, who was the radium source vendor?, what their tested and calibrated strength was during 1952-1962?, and how many times had they been leak tested and by whom? and, very importantly, **were radon daughters monitored?** (incomplete fact);

(c) The two GSI Ra-226 sealed sources were used "mostly inside" the inner B6 radiography room (incorrect fact);

(d) SC&A modeled the walls of the B6 radiography room as if the concrete blocks were "mortar filled" to conform to the 1962 Nuclear Consultants Corporation ("NCC") Co-60 source survey [**REF 2**] (MCNPX model based on incorrect fact) ;

(e) There was a locked door to the B6 radiography room (incorrect fact at least part of the time the B6 radiography room facility was used);

(f) That sufficient information is known about the two GSI Ra-226 sources to bound doses with sufficient accuracy (incorrect fact, radon gas has not been bounded).

To be specific, the petitioners and site expert now have compelling new eye witness evidence of the following facts that we believe to be true and accurate:

(a) The inner B6 radiography room in GSI building 6 was first constructed sometime during 1955 by a unionized GSI brick layers special crew ([**REF 3a**] former GSI worker personal communications to

(b) The walls of the B6 radiography room were constructed of a single row of concrete blocks that were 16 x 6 x [8?] inches. The 16 inch side was laid lengthwise along the row and the walls were thus only 6 inches thick [**REF 3b**];

(c) The blocks were not solid as claimed by Allen/DCAS. Rather, each block was observed to have two interior holes that were filed with "river sand."

McKeel footnote 1: River sand is coarser and has more variable sized grains than "core sand" used at GSI and other steel factories to produce molds for steel castings [**REF 3c**: URL: **faculty.pasadena.edu/dndouglass/sand/SandPile/MisStLou.htm**

McKeel/ footnote 2: We enclose an 8 page brochure downloaded from the Internet in April 2013 that displays the entire array of "standard" concrete block shapes and sizes used in the US construction building trades industry [**REF 4**]. Of the 85 block types displayed, only 20 (**23.5%**) are solid, while the rest have interior spaces (N=56 or **65.9%**) or holes, and the rest (n=9 or **10.6%**) are U-shaped or irregular.

In addition, certain well known facts have not been clearly stated to have been incorporated into the existing NIOSH and SC&A Ra-226 source models. Those facts include the knowledge that:

(a) Ra-226 sources were highly prone to accumulate various internal gases that caused frequent and dangerous leaks [**REFS 5-8**],

(b) Ra-226 salt sealed sources emitted "**5 alpha particles** with energies up to 7.7 Mev, beta energies up to 2.8 Mev, and main gamma energies up to 2.4 Mev." Ra-226 sealed sources also frequently leaked **Radon**-222 **gas** [**REFS 9, 10**]. Both established facts need to be incorporated into the GSI radium era MCNPX exposure models.

(c) HVL of concrete blocks of the type now known to have been used at GSI in the B6 radiography room with Ra-226 sources has not been established [**REF. 11**].

NIOSH and SC&A need to furnish detailed proof to the TBD-6000 work group and to the full Board that these crucial factors have been incorporated into external and intake exposure models destined to be part of a revised Appendix BB for use in the GSI dose reconstruction program. To our knowledge, this has not been done thus far.

Conclusions and needed actions with respect to a revised Appendix BB:

1a. The B6 radiography room did not exist during part of the GSI AEC operating period from October 1, 1952 to sometime in 1955 when eye witness testimony indicates it was first constructed. Thus, doses must be bounded prior to 1955 assuming that the two GSI Ra-226 sources were used throughout building 6 and elsewhere in bldgs. 7-10.

1b. Since there is now testimony from two former GSI workers (and) [**REF 12**] that Ra-226 sources were stored in a locked cage in GSI building 5, that scenario must also be modeled and bounded with sufficient accuracy.

2. NIOSH Ra-226 source models of the GSI B6 radiography room, to be maximally and plausibly claimant favorable, must **model doses outside a B6 radiography room that has 6 inch thick concrete walls with interior spaces that are filled with river sand. The sometimes presence of a large diesel locomotive within Building 6 needs to be factored into this dose estimation (see attachments A and B).**

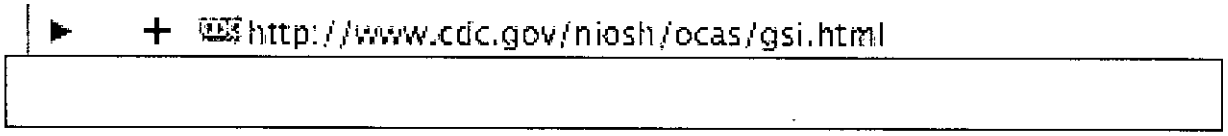
For this purpose, the **HVL of river sand** and the **physical characteristics of concrete blocks of the type now known to be used at GSI in 1955** must first be determined. All MCNPX model assumptions and parameters must be explicitly listed in order to validate the model in the absence of any real measured concrete gamma radiography data for GSI B6 radiography room concrete block walls. That is, the pedigree of the MCNPX input parameters must be firmly established in order for the models to have full scientific credibility, which, at this moment, is not the case.

3. The B6 radiography room doses must be bounded with sufficient accuracy based on the **absence of a door** for the entire radium era, in order to be maximally claimant favorable and in the absence of knowledge by anyone as to if, or when, a door was actually installed in the B6 radiography room NDT facility at GSI.

4. **Radon gas doses must be bounded with sufficient accuracy** at GSI making the claimant favorable and plausible assumptions that (a) sealed source leaks did occur, and (b) and that Ra-226 NDT was performed throughout buildings 6 through 10; and (c) that the Ra-226 sources for an unknown period of time, probably 1952-1955, were stored in a locked cage in building 5 (**Attachment C**).

References

1. McKeel, DW Jr. White paper dated 3.21.12 "Docket 140 General Steel Industries: Addendum 1 and Addendum 2 to 2-28-2012 submission" to the TBD-6000 work group for its 3/28/12 meeting. Posted under Docket 140 on the DCAS website:



- Docket 140 (GSI) Submission from Daniel W. McKeel, Jr., M.D. (March 11, 2012)
  PDF 82 KB (1 page)

  Docket 140 General Steel Industries: Addendum 1 and 2
  PDF 4.8 MB (37 pages)

2. Robert Anigstein (SC&A) testimony the GSI building 6 radiography room early model was used by DCAS, and that assumptions the concrete block walls were hollow was discarded to force the MCNPX model to conform to a mortar-filled solid concrete block to match the 1962 post-radium era NCC Co-60 radiologic survey. TBD-6000 work group 3/15/12 meeting transcript, pages 61-65 and 201-203. **Attachment A**

3a. statement, personal communication to on April 17, 2013 (e-mail to Dan McKeel dated 4/17/13). **Attachment B-1**

3b. statement, personal communication to on April 20, 2013 (e-mail to Dan McKeel dated 4/20/13). **Attachment B-2**

3c. statement, personal communication to Dan McKeel (e-mail dated 9/26/2011). **Attachment B-3**

3c. Virtual river sand photographs of different Mississippi River St. Louis, Missouri sand samples. URL: **faculty.pasadena.edu/dndouglass/sand/SandPile/MisStLou.htm.**

4. Block USA company brochure: "Concrete Masonry Units, Size and Shape Guide," Franklin and Jefferson Series, 2013, 8 pp.

5. Ziemer PL. Leaking Ra-226 sources. ABRWH TBD-6000 work group transcript 12/16/2009, p. 137

> CHAIRMAN ZIEMER: Okay, thanks 1
> Dan. We appreciate that input. Let me also 2
> mention, I think you talked about, also, leak 3
> test records and things like that, and I think 4
> I would certainly be interested myself in what 5
> they found there, particularly since they 6
> apparently had radium sources. And radium 7
> sources, historically, have been notorious for 8
> leaking, and that would be very interesting to 9
> learn what they found on those radium sources. 10

6. Paredes CH, Kessler WV, Landolt RR, Ziemer PL, Paustenbach DJ. Radionuclide content of and 222Rn emanation from building materials made from phosphate industry waste products. Health Physics 1987 Jul:53(1):23-9

7. ORAU: Dangers of leaking Ra-226 sources and fishpole technique (ORAU Museum, link: **http://www.orau.org/ptp/collections/sources/radiumradiog.htm)**

8. NRC: Frequently Asked Questions (FAQs) Regarding **Radium-226** Overview. **URL: nrc-stp.ornl.gov/narmtoolbox/radium%20faq102008.pdf**

9. Villforth JC. "Problems in Radium Control," Public Health Reports, Vol. 79, No. 4 (April), 1964, pp. 337-342.

10. IAEA TECDOC-620 T2: "Nature and magnitude of the spent Radiation Sources, Appendix III, Characteristics of ^{226}Ra, ^{60}Co, ^{137}CS, ^{192}IR and ^{241}Am used in sealed radiation sources, [Table A.III.I]," September 1991, pp. 51-54.

11. Carino NJ. "Nondestructive Test Methods," Section 19.3 Nuclear (Radioactive) Methods. In: Concrete Engineering Handbook, Chapter 19, CRC Press, Boca Raton, FL, Nawy EG (editor), 19/1-68 pp, 1997.

12. Testimony from , and that GSI Ra-226 NDT sources were sometimes stored in a locked cage in GSI building 5 (Personal communication to at a meeting the second week in June, 2006). This and testimony on the Ra-226 sources inside a locked cage in building 5 is included as **Attachment C** (more details are being sought).

Supplementary references:

S-1. Jones R. **1949b**. The nondestructive testing of concrete. Mag. Concr. Res. 1:31-34.

S-2. Forrester JA. **1970**. Gamma radiography of concrete—a comparison of two test systems. Proc. Symp. Non-Destructive Test. Concr. Timber, pp 13-17, Institution of Civil Engineers, London.

S-3. Mitchell TW. **1991**. Radioactive/nuclear methods. In: Handbook of Nondestructive Testing of Concrete, V.M. Malhotra and N.J. Carino, eds., pp 227-252,. CRC Press, Boca Raton FL.

ATTACHMENT A

TBD-6000 work group transcript, 3/15/12 meeting in which McKeel and Ramspott participated in person: [Note: numbers not bolded within text are line numbers]

Transcript pages 61-65, TBD-6000 work group 3/15/13 meeting in Cincinnati that Dan McKeel and John Ramspott attended in person. [begin quote...]

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20 **MEMBER BEACH**: The only other
21 question I would ask: is there any contention

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between NIOSH and -- the wall, **how thick the 1 walls were**, between where you shot and the 2 control room? Was that a contention -- I read 3 some differences on two block walls, one block 4 wall, filled, not filled, **is there a 5 contention on that or not?** 6

MR. RAMSPOTT: I think the workers 7 could answer that, but yes, there are 8 definitely disagreements on that. 9

DR. McKEEL: I can answer that. I 10 think the issue is that different drawings 11 from different time periods show different 12 thicknesses and even quantitative -- 13 qualitative differences, which is -- there is 14 a **drawing** which we'll show you a little bit later on that says that the **concrete blocks** 16 and the **walls had mortar in them** and mortar 17 has a different density, et cetera. 18
I think the point that's not 19 emphasized enough is that one wall of that 20 tunnel with the railroad tracks, where the 21 control room was, and the thin metal control 22

p. 63

room door, was just a very thin wall. It 1 wasn't a 10-foot thick wall. 2
So I think there are certainly 3 those kinds of differences. 4

CHAIRMAN ZIEMER: For clarity, on 5 your model, Dave, on the new betatron, your 6 walls were -- you assumed the concrete blocks 7 were filled with -- was it with sand or with 8 mortar? 9

MR. ALLEN: The 10-foot thick or 10 the -- 11

CHAIRMAN ZIEMER: The big walls -- 12

MR. ALLEN: -- was two, I think, 13 one-foot concrete walls with sand --

CHAIRMAN ZIEMER: Sand-filled -- 15

MR. ALLEN: between them. 16

CHAIRMAN ZIEMER: Yes. And what 17 about the other -- 18

MR. ALLEN: The dimensions are in 19 the paperwork, but **I think it's 16-inch**, if I 20 remember right, that wall that Dr. McKeel's 21 talking about.
22

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CHAIRMAN ZIEMER: Okay, thanks. 1

DR. ANIGSTEIN: Actually **David's** 2 **model was based on the early SC&A model** and we 3 had -- we made a minimum thickness to the 4 control room. We **had the hollow walls, hollow** 5 **concrete block**, and **I looked up commercial** 6 **concrete block and I picked the one** that would 7 give you the **lowest overall average density**, 8 which was **like less than one, that's the** 9 **density of water.** 10
But I ran the -- first of all **when** 11 **I saw that it was mortar-filled so that** 12 **immediately mean, no, it wasn't hollow**, it 13 **wasn't empty**.
And second of all, I **ran the model** 15 **to get the dose on the outside. I ran the** 16 **cobalt-60 and to get the dose on the outside**, 17 and **I have extremely high doses, assuming that** 18 **those outside walls, not the 10-foot thick** 19 **wall but the thinner ones, were also of this** 20 **light weight. I said no, this is not 21 consistent with their survey information.** 22 [*underline emphasis also added*]

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So what is consistent with the 1 **survey information is all the walls, all those** 2 **smaller walls would be solid -- the equivalent 3 of solid concrete. Mortar is about the same** 4 **as concrete, they're about the same density**, 5 **comparable materials**. 6
So **that's much more consistent** 7 **with the survey -- the cobalt survey** and as a 8 matter of fact **our number -- my numbers** 9 **actually came out higher than the ones that** 10 **were actually measured, but not by that much**, 11 **so I consider that to be consistent.** 12
So there's **no evidence** and there's 13 **no logic why they would be -- I mean the** 14 **building would not be built.** 15 [*underline emphasis added*]
CHAIRMAN ZIEMER: Thanks. Okay. 16 **Does that answer your question?** Let's go to 17 residual radiation from uranium, and, Dave, do 18 you want to just give us a quick overview of 19 the concepts here that you followed and --
22

p. 201 (24 inch thick walls, Oct 1962 drawing of B6 radiography room)

7 top. 8
And it points to this shield here 9 and then there's another shield here on the 10 opposite side of the radiographic facility, 11 it's four by four-foot by six-inch steel 12 plate. 13
And then it also shows that **the** 14 **walls of this are 24 inch, concrete block wall** 15 and the idea is that those are two new 16 findings, added shielding. 17
But here's the thing that's 18 interesting that's not on the drawing shown in 19 the SC&A and the NIOSH reports. This drawing 20 has this annotation, shows additional 21 shielding added during June/July 1962, not 22

p. 202

drawn to scale, and and it's 1 signed 8-15-1962. 2
So we looked at the timeline for 3 all of this and this was about the time the ' **4 identifying information redacted'** survey 5 report, the letter from ' **identifying 6 information redacted'**, Nuclear Consultants 7 Corporation, to GSI, to insert in their 8 license application. That letter is dated 9 August the 1st, 1962. So that was actually 10 after these changes had been done. 11
So what our point is, is that 12 prior to June and July of 1962, this **shielding** 13 **was not there and the walls -- the men still** 14 **dispute the fact that the walls were ever 15 enlarged to be 24 inches thick.** 16
Most of them say that it was a 17 **single concrete block thick**. But in any case, 18 **before 1962, the lead shields were not in** 19 **place, the walls were certainly one block and** 20 **not two blocks thick**, and so for **all the** 21 **radium-226 modeling, 1962 back to 1953, you** 22

p. 203

have to use a different set of conditions, and 1 **we don't believe that that has yet been done,** 2 **so that's a very important thing for future** 3 **work**, I would say. 4
Okay. I want to show you quickly 5 the point I was continuing to make about the 6 **radiographic room in Building 6**. This is a 7 photograph that we got of the area between the 8 new betatron building here, which you can see 9 at the top. The 10 Building is in the 10 background, and there's the walkway between 11 those, that tunnel, was, you know, 30 or 50 12 feet at the most. It was very close to that. 13 There's a lot of stuff in the 14 middle outside of this facility. These are 15 molding casks, there were railroad tracks as I 16 will show you, and there was a road that 17 passed one of them for 30 feet of this new 18 betatron building, that was heavily 19 trafficked. 20
And inside the radiograph room, 21 there were these **walkways** -- here's one and 22

p. 204

here's another one -- **on either side of the** 1 **radiograph room, and they were actually very** 2 **close to the radiograph building**. 3

So the whole point of this slide 4 is there were a **lot of non-badged people** on 5 the outside that were exposed to radiation 6 both from the betatrons and **on the inside, 7 from the radiograph room, who really haven't 8 been accounted for in the dose reconstruction 9 models so far.** (bolding emphasis added)
[end quote]
end of transcript excerpt

==========
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McKeel comment on Attachment A. These excerpts portray several highly important points that reflect on the NIOSH and SC&A MCNPX models of the building 6 radiography room:

(a) No one was aware at that time (3/15/12) the inner concrete structure was first constructed in 1955 (Attachment B of this paper);

(b) SC&A did the first modeling of the B6 radiography room and NIOSH copied that model;

(c) DCAS was confused about the thickness and concrete block composition of the B6 radiography room at various points in time;

(d) SC&A fit their MCNPX model of the B6 radiography room to a cobalt source, and discarded their original assumption of light weight "hollow" concrete blocks with a density less than 1 for "mortar filled" concrete blocks that were "similar materials" to solid concrete blocks;

(e) NRC FOIA 2010-0012 GSI AEC license document information indicating that the B6 radiography room walls were two blocks thick, and the walls were 16 or 24 inches thick shown in FOIA drawings, and that an outer layer of concrete blocks was being added in 1962, conflicts with eye witness direct worker testimony (**Attachment A**) the petitioners and site expert believe is incontrovertible. We believe Mr. Woodard's direct eye witness detailed testimony should be weighed as being far more credible than the NRC FOIA 2012-0012 documents that Dan McKeel first obtained and has evaluated longer than anyone else. The petitioners and chief site expert have pointed out many inaccuracies in the NRC FOIA documents by GSI officials who wrote the GSI 1962 By-Product materials license (AEC No. 12-8271-1) application and later amendments to it.

ATTACHMENT B-1

April 20, 2013

Dan:

I just spoke with [redacted] GSI Railroad Yard

again confirmed 1 block thickness of the 6 Bldg. NDT building walls.
said the blocks were "standard size" aprox. 16-18 in. long, 6 in deep, with 2 holes . "He never saw any additional blocks added" .

. said he spent a lot of time in six building delivering and picking up GSI railroad trucks (train wheel assemblies) especially when GSI got the New York Railroad Authority contracts (Subway cars). Saint Louis Car Company (Div of GSI) built the cars, and GSI provided the trucks/ wheels. (4 and 6 wheels per Dave)

Mr. said there was "no" door on this small building, but they did frame out a door opening, so the blocks had something to sit on (top), and butt up to (on sides). As . very clearly said: "No door, no roof".
If a door was ever added, "it was never closed".

He has no problem telling anyone exactly what he knows to be fact, he was there from 1950 on.

ATTACHMENT B-2

From:
Date: April 17, 2013 2:06:45 PM CDT
To: Dan McKeel
Subject: #6 Building Radiography Building

Dan:

Feel free to share this information

John

I had a chance to speak with regarding the email we had received from (attached)

Subject: **#6 Building Radiography Building**

As always I wanted to make sure I understood everything in email correctly. I therefore contacted Mr. yesterday.

Of special interest was the construction date of the block NDT area in #6 Building.
again said it took place in 1955. "No doubt"!

He knew this because he oversaw the labor work, and was the GSI timekeeper for the Yard labor gang who assisted with the materials, etc.

There was a "special" group of bricklayers (Union) who actually did the "block" work.
said those bricklayers were the same men who repaired, installed, the "heat bricks" in the GSI Open Hearth area and all the heat treatment ovens.
He added the Manager of that "Specialty team" lived in Pontoon Beach Illinois, not very far from Granite City . (He could not recall his name, but will think about it).

explained/ described the small NDT area construction:
Single row, blocks, placed "lengthwise" towards the front (approximately 18 inches long by aprox. 6 inches deep). They were standard, hollow/ 2 hole blocks.
He said they laid a row at a time, and they would fill each row with "common river sand", NOT the expensive "core" sand.

also told me that he was very familiar with #6 building because that is where they parked the GSI owned locomotive at night . (especially during the winter so as to make sure the engine would start after it was shut down. (There were heating cores for the diesel locomotive engines) They actually "plugged it in".
He said that those RR tracks are still there today (I also saw them recently as well).
Keep in mind, ... worked with the Rail Yard Dept. at GSI all of his GSI years. (1950-76 confirmed records).

said the Locomotive was approximately 25-30 feet away from the "testing area".
and the other men worked "in between" the "testing area" and the locomotive.
The NDT testing continued while the workers , RR crew, Yard workers, laborers, chainers, chippers, grinders, inspectors, overhead crane operators, etc., went about their R.R. related jobs. (we have photos & they are in The GSI Workbook).
They moved RR flat cars in and out all day long.

Mr started at GSI IN 1950 and worked there until after the Plant closed 1974.
He then worked as a consultant for the new owners.
He is recognized as "THE" GSI Site expert by all of the GSI workers. I totally agree .
Mr. has participated in all of the worker Meetings, Plant visits, affidavits.

I request that I be included in any possible future interviews.

Thanks,

ATTACHMENT B-3

From: "
Date: September 26, 2011 12:58:53 PM CDT
To: "dan mckeel" <

Subject: #6 Building Radiography Building

9/26/11

Dr. Dan--I spoke with , early this afternoon. worked at GSI FOREVER! I asked "Do you remember the concrete block radiographic building in # 6 building?" replied "that he did remember and that it was on the West end of # 6 building." I asked "what year was the block building built.?" replied" it was built in 1955 to radiograph railroad work--part of it being the four wheel trucks." I again asked- ' are you sure about the year/" replied, "I am sure!" had a lot of years in at GSI and his input has always been accurate! THANK YOU.,

24 & 25 MEV Betatron & Magnaflux Operator
General Steel Castings

ATTACHMENT C

and agreed at an August 2006 meeting that Ra-226 sealed sources, welding rods, and MCW uranium metal were stored in a locked metal cage in GSI building 5, personal communications to who confirmed this potentially important information to Dan McKeel by phone on April 22, 2013.

Respectfully submitted:

Daniel W. McKeel, Jr., M.D. 4/22/13
GSI SEC-00105 co-petitioner

4/22/13
GSI site expert

Contact information:
Daniel McKeel