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

From: DanMcKeel2@aol.com
Sent: Saturday, December 12, 2009 8:53 PM
To: NIOSH Docket Office (CDC)
Cc: DanMcKeel2@aol.com
Subject: PUBLIC DOCKET SUBMISSION: GSI SEC-00105
Attachments: DM_SEC105_PublDocket.pdf

December 12, 2009

Public Docket Office
Department of Health and Human Services
National Institute for Occupational Safety and Health (NIOSH)
Robert A. Taft Laboratories
MS-C34
4676 Columbia Parkway
Cincinnati, OH 45226

Public Docket Office:

Please accept the attached PDF file as a submission to the PUBLIC DOCKET as a comment on SEC-00105 (General Steel Industries [GSI]). I am the co-petitioner on this SEC petition. The contents contain newly obtained FOIA information from the NRC related to Byproduct Materials (sealed isotope source) AEC licenses issued to GSI during 1962 to 1974. This informational summary is also being transmitted directly to Ted Katz, DFO, on behalf of the Advisory Board on Radiation and Worker Health (ABRWH) and its TBD-6000 work group that is considering SEC-00105.

Sincerely,

-- Daniel McKeel, Jr.

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Nuclear Regulatory Commission FOIA/PA 2010-0012 Related to General Steel Industries (GSI) AEC Sealed Source Licenses -- Part 1. SUMMARY --

Provided for the ABRWH and the
OCAS/NIOSH PUBLIC DOCKET on the
NIOSH SEC-00105 Evaluation Report
and the SC&A Review
by
Daniel W. McKeel, Jr., M.D.
GSI SEC-00105 Co-petitioner
(December 12, 2009)

Historical Background

❑ [1] , husband of a GSI claimant/survivor, brought the story of an AWE facility, General Steel Industries, Inc., 1417 State Street, Granite City, IL, to the attention of the ABRWH in mid-July 2005. This was in the midst of the MCW-Destrehan Street SEC-00012 deliberations. GSI is an AWE site based on its AEC contract from 1952 to 1966 for high Mev (Betatron) x-ray radiographic nondestructive testing (NDT) of Mallinckrodt Chemical Works (MCW) Uranium Division uranium metal products.

❑ [2] At <u>least seven [7] different GSI radiation source terms</u> were identified by Mr. and by **Daniel W. McKeel, Jr.**, current GSI SEC-00105 co-petitioner. Those GSI sources included AEC uranium metal products from MCW facilities in St. Louis and Weldon Spring, Missouri, two 24 and 25 Mev Betatron x-ray machines, a large and a small Cobalt-60 gamma source, an iridium-192 gamma source, and a 250 Kvp portable x-ray unit. A few Betatron related documents were captured by ORAU and NIOSH, while the three gamma isotope sealed sources and 250 Kvp standard industrial x-ray unit remain essentially uncharacterized except for brief descriptions by workers.

❑ [3] NO AEC licenses or radiation device registration records were captured by NIOSH, SC&A or DOE for the GSI AEC uranium contract period of 1952 through 1966. McKeel and informed the Board of a 1957 Illinois state law that required registration of radiation devices. DOE and HHS/CDC/NIOSH/OCAS as two of the EEOICPA implementing agencies, and the Board contractor SC&A, reported they expended extensive efforts to capture this sealed source license material but were unsuccessful. None of the letters that attempted to obtain the licenses was provided to the GSI petitioners to be able to judge the adequacy thereof.

❑ [4] GSI SEC-00105 co-petitioner Dan McKeel submitted a FOIA request to NRC on 05/23/2006 asking for Granite City Steel and/or General Steel Castings sealed source licenses for Co-60 and Ir-192 during the 1953 to 1966 AEC contract period. NRC responded saying no responsive records were found.

❑ [5] GSI co-petitioner Dan McKeel submitted another NRC FOIA request on 10/14/2009 that became NRC FOIA/PA 2010-0012. The first NRC response was that almost 600 pages were found that would cost in excess of $400. McKeel focused his request to GSI sealed source licenses 1952-1973 and more than 800 pages were found at a cost of $227. McKeel then filed a fee waiver request that NRC approved. He received 1,016 (including section dividers McKeel added for readability) printed pages of responsive documents from the NRC FOIA office on 11/23/09.

NRC included an index for the 37 sets of documents that are included with this letter. All but two of the documents (#36 and #37) were dated. The sections ranged from 1 to 218 pages in length.

The documents included the initial and several renewal applications of Byproduct Materials Cobalt-60 license 12-08271-01 issued by the AEC to General Steel Industries, 1417 State Street, in Granite City, Illinois in 1962 and terminated in January 1974 when the Granite City plant ceased operations.

Of great importance were the identification of four new source terms and definite confirmation of a second film badge program at GSI. The newly identified source terms used for industrial nondestructive testing (NDT) included two radium-226 sources, a second small (260-280 mCi) Co-60 gamma source, and a second standard industrial x-ray unit that were identified at GSI during the AEC contract period. These were 4 GSI source terms not heretofore characterized by either NIOSH or SC&A. Nor have they been considered before by the TBD-6000/6001 and Appendix BB work group.

Source Document Attempted Submission to ABRWH:

❑ [6] Co-petitioner McKeel drove 170 miles to St. Louis and he and then copied the NRC FOIA pages at a commercial vendor. McKeel returned to Van Buren and Mr. recruited the IT section of his former employer, IKON copier company of St. Louis, to scan the documents and save them onto CD-ROM media. The commercial business center quoted a price of $0.99 per page to do this scanning work. IKON provided its services for free, thereby saving the US Government more than $1,000 in scanning and CD-ROM preparation fees.

❑ [7] McKeel then offered to supply the ABRWH through its DFO with copies of the NRC FOIA 2010-0012 information on CD-ROM. He asked that the Board defray the costs of copying and overnight mailing of the CD from St. Louis to McKeel in Van Buren, and by McKeel to Mr. Katz in Atlanta. Cost was estimated at around $150. Mr. Katz replied CDC could pay the FedEx fee from Van Buren to CDC, but not the other costs.

McKeel believed this position taken by the DFO and CDC was unreasonable, and therefore decided to send this Summary to the DFO and to all members of the TBD-6000/6001 and Appendix BB work group directly to consider at its meeting on December 16, 2009. Petitioner McKeel believes he and Mr. have located and obtained key records to the proper consideration of GSI DR and SEC-00105 under OCAS-IG-003 that *all* radiation sources *must be* utilized during the AEC production

period. CDC should thus be willing to share part of the costs. This Summary of NRC FOIA 2010-0012 GSI material will also be submitted to the NIOSH PUBLIC DOCKET.

Mr. Katz indicated that Acting Director of OCAS/NIOSH, Mr. Stuart Hinnefeld, would look into the possibility that his office could pay for the McKeel- . copying and overnight carrier invoices incurred with providing this FOIA material to the ABRWH.

Attribution of NRC FOIA/PA 2010-0012 in Technical Papers and Reports:

❑ [8] This material should be attributed as follows (the complete paragraph should be included) when cited or used in part or whole in ABRWH or work group documents, or by NIOSH, DOL or SC&A:

> "*This material was provided directly to the ABRWH by Daniel W. McKeel, Jr., M.D., SEC-00105 co-petitioner, on 12/12/09. The documents were obtained from the Nuclear Regulatory Commission (NRC) via FOIA/PA 2010-0012 submitted by Dr. McKeel. NRC waived research and copying fees based on the premise these documents would be shared widely with the public on behalf of GSI workers and claimants. The records were provided to Dr. McKeel by NRC in their entirety, unredacted, with nothing having been withheld or removed. It would be inappropriate for such documents to be redacted by HHS, CDC or NIOSH. NRC noted that these documents had not been released previously under FOIA.*"

Full reference/literature citation: McKeel DW Jr. "Summary: Thirty seven documents related to AEC sealed source Byproduct Materials licenses 1962-1974 to General Steel Industries, Inc., of 1417 State Street, Granite City, Illinois." NRC FOIA/PA 2010-0012 received November 23, 2009. Pages 1-1016. [Please use this in all technical publications]

❑ [9] **NRC FOIA/PA 2010-0012 Index of Documents:**

APPENDIX A
RECORDS BEING RELEASED IN THEIR ENTIRETY
(If copyrighted identify with *)

NO.	DATE	DESCRIPTION/(PAGE COUNT)
1.	03/07/1962	Letter to from enclosing an application for two Cobalt-60 radiographic sources. (1 page)
2.	04/04/1962	Letter to from regarding a request from Dr. of Nuclear Consultants Corporation. (1 page)
3.	04/18/1962	Letter to General Steel Industries from in

		response to an application for a byproduct materials license dated March 7, 1962. (1 page)
4.	09/07/1962	Letter to from regarding an area radiation survey that was made of the Radiographic Exposure Facility in Granite City, Illinois. (9 pages)
5.	11/6/1962	Compliance Inspection Report from General Steel Industries for License Number 12-8271-1 (9 pages)
6.	121/11/1962	Memorandum to from regarding Inspection Report -- General Steel Industries, Granite City, Illinois. License Number 12-1271-1. (1 page)
7.	01/07/1963	Letter to General Steel Industries from in reference to the inspection conducted on November 6, 1962. (2 pages)
8.	01/18/1963	Letter to from regarding a registered letter directed to Mr. , calling attention to noncompliance on certain regulations of the AEC's "Standards for Protection Against Radiation," Part 20, and "Radiation Safety Requirements for Radiographic Operations," Part 31, Title 10. (4 pages)
9.	01/29/1963	Letter to General Steel Industries from thanking them for their letter of January 18, 1963, informing them of the steps taken to correct their definitions in the AEC licensed program. (1 page)
10.	04/22/1963	General Steel Industries Byproduct Materials License for Cobalt-60 Sealed Source (Budd Company Model 41706) not to exceed 1 curie, handwritten notes. (38 pages)
11.	03/07/1963	Letter to General Steel Industries from regarding an application dated February 15, 1963, for renewal of their byproduct materials license. (2 pages)
12.	03/15/1963	Letter to from in reference to a letter dated march 7, 1963, listing deficiencies in General Steel Industries license renewal application and tentative training program. (4 pages)
13.	04/02/1963	Letter to General Steel Industries from in response to their March 15, 1963 letter. (1 page)
14.	04/09/1963	Letter to from in reference to General Steel Industries training program. (4 pages)
15.	1962	General Steel Industries Byproduct Materials License for Cobalt-60 Sealed Source not to exceed 1 curie. (3 pages)
16.	04/30/1963	General Steel Industries Byproduct Materials License for Cobalt-60 Sealed Source not to exceed 1 curie (27 pages)
17.	01/01/1964	Application for Renewal from General Steel Industries, AEC License 12-8271-1 (54 pages)

18.	02/27/1964	Letter to from in reference to their letter dated February 18, 1964 regarding license application form AEC 313R. (1 page)
19.	12/22/1964	Letter to from in reference to Byproduct Materials License 12-8271-1 where several changes were made in the organizational structure of the General Steel Industries radiography program at Granite City, Illinois. (1 page)
20.	06/22/1965	Byproduct Materials License for General Steel Industries for Cobalt-60, Sealed Source (Budd Company Model 41706) not to exceed 1 curie. (62 pages)
21.	04/14/1965	Letter to General Steel Industries from regarding their application dated January 21, 1965 for renewal of Byproduct Materials License 12-8271-1. (1 page)
22.	06/01/1965	Letter to AEC from regarding their radiographic training program. (1 page)
23.	1966	Application for renewal from General Steel Industries for AEC License 12-8271-1. (53 pages)
24.	1968	Application for renewal from General Steel Industries for AEC License 12-8271-1. (58 pages)
25.	04/22/1968	Letter to from , regarding their new Radionic Panoramic Camera P60-100-2. (4 pages)
26.	08/23/1968	Letter to General Steel Industries from , regarding a phone conversation with on May 13, 1968 requesting authorization to use an 80-curie cobalt-60 radiographic source in the yard area at the Granite City plant site. (1 page)
27.	09/16/1968	Letter to , from , regarding the use of 80 cobalt-60 radiographic source in General Steel Industries facility. (1 page)
28.	10/03/1968	Letter to General Steel Industries from regarding AEC's consideration for performing radiography using an 80-curie cobalt-60 source outside of the Betatron. (1 page)
29.	11/04/1968	Letter to from regarding AEC License 12-8271-1 revision to restrict the use of 80 curie cobalt-60 source. (3 pages)
30.	1969	Application for renewal from General Steel Industries, Inc. for AEC License 12-8271-1 Radiograph with Cobalt-60. (148 pages)
31.	03/17/1969	General Steel Industries Byproduct Materials License for License Number 12-08271-01 to amend item 4. (12 pages)
32.	10/12/1970	Letter to for regarding a telephone call from Mr. on September 29, 1970 inquiring as to training and experience requirements for radiographers. (9 pages)

33.	07/28/1972	General Steel Industries Byproduct Materials License for Cobalt-60, Budd Company Model 41706 Sealed Source not to exceed 1 curie in a single source. (164 pages)
34.	08/28/1972	Letter to from regarding their AEC License for the period through July 1977. (218 pages)
35.	12/17/1973	Letter to from regarding License Number 12-08271-01. (10 pages)
36.	Undated	Application for Byproduct Materials License Use in the Metallurgy Department from General Steel Industries for metallic source of Cobalt-60 in a sealed source, w/handwritten notes. (32 pages)
37.	Undated	Application for Byproduct Materials License Use in the Metallurgy Department from General Steel Industries for metallic source of Cobalt-60 in a sealed source, w/handwritten notes. (35 pages)

Key Findings of NRC FOIA/PA 2010-0012: the Petitioner's View:

- ❑ [10] AEC Byproduct Materials License 12-08271-01 governed the use of three (3) cobalt-60 sealed gamma sources from 1962 to license termination in 1/74.

- ❑ [11] The two smaller Co-60 sources were 280 and 260 mCi units in Budd Unitron cameras. Use was at first confined to the 6 Building inner Radiography facility. This facility is described as having a 22 x 60 foot area with 10 foot high walls topped by three strands of barbed wire that was guarded by a single door to be always closed. The Safety/Control officer always had to be notified when work was done on the roof above this facility or when a crane was used to bring target castings or rail trucks to be imaged.

  Multiple GSI workers say this Building 6 Radiography facility description is not accurate in several aspects: smaller overall dimensions, walls more like 7 feet tall, no barbed wire, and for a period no door was on the facility.

  Both C0-60 sources had decayed to 100 mCi by 1968 when license 12-08271-01 shows the large 80 Curie Co-60 source was purchased from Radionics and used at GSI initially in the New Betatron building.

- ❑ [12] Dr. (a Ph.D.) of Nuclear Consultants Corporation (NCC) was the chief expert GSI named in its License 12-08271-01 application. NCC administered a GSI film badge program in 1962-63 (at least) and a GSI accountant maintained the AEC required records. The required records included AEC/NCC film badge reports such as the one the petitioner McKeel provided to SC&A before the 11/10/09 TBD-6000 work group meeting.

  NCC and Dr. were also instrumental in doing a 1962 radiologic survey of the Building 6 Radiography facility that is included in the NRC material. NCC performed GSI survey instrument calibration and sealed source leak tests.

- ❑ [13] NCC and Dr. set up the GSI AEC required radiography training program in 1964 at least two years after the GSI NDT gamma inspections were well underway. Course topics taught, sample test forms, and one completed test were included in the NRC-2010-0012 documents.

- ❑ [14] GSI was cited for various deficiencies in its instrument testing and training programs. GSI management apparently responded adequately to satisfy AEC concerns. A specific concern was lodged by GSI union representative Tom Hawkins (still alive, interviewed recently by SINEW) to the AEC concerning inadequate training in the use of the large 80 Ci Co-60 gamma source.

- ❑ [15] No records were supplied by NRC under FOIA 2010-0012 during the 1950s when GSI isotope operator , testified GSI owned and used an iridium-192 source (see ATTACHMENT 1).

- ❑ [16] Prior to purchasing the two NCC/Budd-Unitron 260 to 280 mCi Co-60 sources in 1962, apparently two radium-226 sources were used at GSI with the "fishpole" technique in the Building 6 Radiography facility during the 1950s. The AEC insisted the fishpole practice was too dangerous and must be discontinued.

- ❑ [17] Mr. of GSI was the contact for AEC inspections with the **Illinois State Board of Health** and, later, with the **Illinois Dept. of Public Health**. Both state agencies held regulatory powers over GSI radiography operations and cooperated in GSI radiography inspections and regulation. An example was a request by , head of GSI Quality Control, who requested that the AEC allow GSI to operate the large 80 Curie Co-60 source outdoors. The state of Illinois denied the request, saying the operation was too dangerous. AEC agreed, and GSI was forced to abandon the operation.

- ❑ [18] **St. Louis Testing Corporation**, an employee of which ( ) testified at the Oct. 9, 2007, SC&A sponsored GSI workers meeting in Collinsville, IL., also performed survey instrument calibration and leak testing after 1968.

- ❑ [19] St. Louis Testing succeeded NCC in this instrument calibration/leak testing work for GSI. NCC was purchased in 1966 by MCW as co-petitioner Dan McKeel informed the TBD-6000 work group at its November 10, 2008 meeting.

- ❑ [20] GSI isotope operator was recently interviewed by the chairman of the ABRWH and TBD-6000 work group. Mr. testified he once had to shut down a St. Louis Testing Co-60 NDT inspection of a large GSI casting being performed outdoors near the Betatron buildings. The alleged cause of this shut down was exceeding the exposure limits of 2 mR/hr.

GSI Worker Concerns with NRC FOIA 2010-0012 Content and GSI Operations:

❑ [21] Preliminary GSI worker concerns related to the NRC FOIA documents center of several specific areas, as follows:

(a) Many workers believe the large 80 Curie Co-60 source was used at GSI prior to 1968, and as early as 1964. These concerns were all expressed by workers trained as GSI radiographers who assisted in its use.

(b) The description of many written aspects of the 6 Building Radiography Facility safety and Radiography Training programs were not actually practiced.

(c) The **Nuclear Consultants Corporation** (NCC) GSI film badge program on paper sounds like a daily activity with regular badge exchanges, readings and detailed record keeping. The reality is perceived as different with almost casual attention to details and little to no accountability to the workers. Mr. perceived as a very aggressive manager who was will to compromise safety procedures in order to maximize productivity.

(d) The physical characteristics of the 6 Building Radiography Facility as perceived by the workers were significantly different from the license drawings. The actual characteristics were such as to result in a higher radiation exposure to workers outside of the building. More people worked closer than license 12-8271-1 indicates. Supervisors were not routinely warned before workers did tasks on the Building 6 roof or the crane brought target castings to be radiographed.

(e) The use of Co-60 sources was not confined to just the locations named in AEC license 12-8271-1 but elsewhere in the GSI building complex. Building 10 was named by workers specifically as a place the gamma sources were used.

Respectfully Submitted,

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11/16/08

I, , in conversation with , a fellow radiographer, established that . started to work in the Non-Destructive Testing department of General Steel in 1953. stated that , at that time, there was iridium present and used at the GSI sight by GSI workers did military service time till 1956 and returned to the GSI non-destructive department and did receive source training along with fellow workers, on a one time basis. . There was also iridium, being used at the plant, after his return from service in 1956. stated that at this time, there was no large 80 Curie Cobalt source present said that the iridium source was in use in 6 building railway work. , , , , and stated that there were cable ports in both Betatrons From 1964-1965, , , , , worked with, and were aware of an 80 Curie Cobalt source used at GSI by the workers. was himself an isotope operator and safety man and used the 80 Curie Cobalt source in **both Betatrons**.. The old 24 MEV Betatron, in 1953, was in operation followed in 1964 by THE New 25 MEV Betatron was hired by GSI in October of 1963. also served as SHOP STEWARD for a number of years. I , worked with , , in 64 or 65 with the large Cobalt source, worked with handling the Cobalt, worked with operator , also using the large Cobalt. I , had conversations with all of the above listed people and had worked with all of the above at GSI.

All of the above were members of GSI Non-Destructive Testing Department and are signing this statement