

**From:** Terrie Barrie [ ]  
**Sent:** Monday, February 06, 2017 1:08 PM  
**To:** To: ; Munn, Wanda I. (CDC/NIOSH/DCAS); Phillip Schofield ; Bill Field ; Dr. James Melius  
**Cc:** Katz, Ted (CDC/NIOSH/OD) ; Rutherford, LaVon B. (CDC/NIOSH/DCAS) ; ; Dan McKeel  
**Subject:** Review of Rocky Flats worker interview concerning magnesium/thorium alloy

Hello Dr. Kotelchuck,

Please see the attached memo developed by myself and Dr. McKeel. Despite the short notice, we would appreciate if this could be discussed during the February 9, 2017 work group teleconference.

Thank you for your consideration.

Terrie Barrie  
ANWAG/Rocky Flats SEC co-petitioner

Daniel W. McKeel, Jr., MD  
SINEW cofounder  
Phone:

Dear Dr. Kotelchuck:

Dr. Dan McKeel recently received new evidence via the FOIA process from unclassified notes of a secure phone interview that NIOSH/SC&A/ORAU conducted with a Rocky Flats worker ( ) and shared the document with me. The worker interviewed is known to us.

1. The secure interview concerns the suspected use of large quantities of magnesium-thorium alloy metal plates at the Rocky Flats CO plant in Building 440 (Transport Modification Center or TMC). This worker had previously addressed the ABRWH in a Public Comment, stating he worked at the RF Mod Center for . The worker requested the Board grant him a secure interview.
2. The worker testimony (Name redacted PA-cleared copy attached) from Dan McKeel's CDC FOIA 17-00140) is that he bolted plates of metal housed in 4 x 4 ft. wood boxes marked "RADIOACTIVE MATERIAL" to railroad cars and semi-trucks for shielding and or strengthening during his work in Building 440 (TMC). His supervisor stated the metal in the wood boxes was safe and was NOT radioactive (see discussion of HK-31 and HM-21 alloys in [4]). According to the interview notes, this process occurred at the Rocky Flats plant between **1984 and 1989**. Additionally, the worker relayed in the interview that he was well acquainted with depleted uranium and its use in Building 440. It is logical to assume that unidentified material housed in 4 x 4 ft. wood boxes marked "RADIOACTIVE MATERIAL" was not depleted uranium.
3. The worker's description in item [2] fits perfectly the extant literature and affidavit testimony of a dozen Dow Madison, IL workers who manufactured magnesium-thorium (2.5-4.0%) alloys HK-31 and HM-21 and shipped same to many military, commercial and DOE EEOICPA sites. In particular, they are 100% certain a major client was the Rocky Flats Plant on CO, where Dow Chemical was prime contractor form 1952 to 1975. The same Dow IL workers testified RF shipped Mg-thor scraps back to the Dow Madison IL site and remelted it. The workers cited the B-Mac and Anderson trucking companies as ones that shipped HK-31 Mg-thor alloy plates to RF.
4. Moreover, certain NRC regulations exempt Mg-thor with less than 4% thorium for use in commercial product such as lantern mantles and welding rods. However, Mg-Thor is definitely radioactive, so the RF worker interview demonstrates that workers were being deliberately misled by the supervisor.

5. DOE HSS chief Glenn Podonsky on January 8, 2008, wrote a letter to DOL DEEOIC chief Peter Turcic urging that Dow Madison IL sit be designated as a thorium AWE EEOICPA site based on the use of mag-thorium HK-31/HM-21 type alloys in certain classified nuclear weapons. DOE knew that the mag-thor was used in nuclear weapons through 1969, but could not state it was used at Dow Madison IL site other than during years 1957-1960, which coincides with the current period for the Dow SEC-00079.

6. You may also note that, as with Building 460, workers in Building 440 were not monitored for radiation exposure.

Based on this new information, we ask that additional interviews be held with Rocky Flats personnel who were knowledgeable especially about shipping manifests of metal products that arrived in wooden boxes marked RADIOACTIVE that shipped both to and from Illinois from Dow Chemical plant (aka Dow Metal Products, Dow Madison site through 1975; later Conalco and Spectrulite Consortium).

We also ask that the secure interviewee ( ) should be reinterviewed with these new more specific facts about the radioactive plates being magnesium-thorium alloy steel plates from the Dow Chemical plant located in Madison IL as the prime focus of the second interview. The first interview was alluded to as showing no evidence of mag-thor use at RF by ORUA co-authors Bogard and Stempfley.

Sincerely,

Terrie Barrie (RF SEC co-petitioner)  
Dan McKeel (Dow IL SEC co-petitioner)

enclosure: secure 4 page interview from CDC FOIA 17-00140

Terrie Barrie  
ANWAG

Daniel W. McKeel, Jr., MD  
SINEW

Rocky Flats Interview  
(b)(6) December 13, 2013  
Interview Questions – RFP Mg-Th Plates

**Interview Participants:** LaVon Rutherford (DCAS), James Bogard (ORAUT), Joe Fitzgerald (SC&A, via secure telephone), (b)(6) (interviewee)

**Required Project Statement:** Please be informed that your participation in this discussion is voluntary. Information you provide will be treated in a confidential manner and will not be attributed to you in a public manner without your express permission. Please exercise judgment in your answers and do not disclose or divulge any information that you know to be classified or be security sensitive. This project is based on working with unclassified information. However, the information you provide may be shared with officials from NIOSH, other federal agencies, and the Advisory Board on Radiation and Worker Health who are involved in implementing EEOICPA. In addition, information that you provide may be referenced (without identifying your name or personal information) in technical documents that are posted on the NIOSH website and made available to the public.

**NIOSH/DCAS Statement:** Thank you for taking the time to speak with us today. We really appreciate your help. This interview is being conducted as part of the follow up to an SEC Petition Evaluation for the Rocky Flats Plant. You have been selected as an individual with intimate knowledge of the operations at the RFP site. Please note this interview and your responses are not a formal affidavit, or legal document, but a tool to assist NIOSH and/or its contractors in understanding the site's operations and/or radiation monitoring practices. Since this site was part of the DOE Nuclear Weapons complex, there are certain restrictions as to what can be discussed here today in an uncontrolled area (open forum). We ask that you not disclose any sensitive or potentially sensitive information with us today. If you believe this type of information is necessary to our understanding of the site operations and/or radiation monitoring practices, we will be happy to arrange a follow-up interview with you at a secure federal facility of your choosing where you will be allowed to discuss sensitive information. Do you have any questions? Do you wish to continue or do you request we conduct this interview in a secure Federal facility?

**General Questions:**

1. We are performing this interview to follow-up on issues related to the Board review of the SEC00192-RFP petition evaluation. Please inform us of your employment period(s) at RFP and your work locations/responsibilities/job titles during those periods.

You indicated that you started at Rocky Flats on (b)(6) as a vehicle modification mechanic working in Building 334 supporting unclassified work. You discussed that you were transferred to Building 440 in 1978 after receiving a Q Clearance supporting the ATMX rail car modifications on the night shift. Your work involved the addition of various deterrent

Rocky Flats Interview  
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devices for SSTs (safe, secure transports) including tractor-trailers and railcars. You indicated there was an active R&D program involving armor and deterrent designs. Test panels were fabricated at Rocky Flats and sent to Sandia for destructive testing. The Modification Center grew from an operation working out of the parking lot at Building 334 to employing over 100 people in Buildings 440 and 439 with some support work in Building 664. You informed us that the primary customer of the facility was the Sandia Transportation Safeguards Division and principally involved SSTs. In 1984 a special project was performed involving depleted uranium punching and fabrication. This was performed in the General Shop area of Building 440 and required DOD security clearance. Employees were assigned to "Temporary Sheetmetal Worker Classification" for the duration of the work assignment. This work was usually concealed from other workers and performed during off-shift hours. Information on this work was passed on a 'need-to-know' basis. You informed us that from 1984-1986 DU was worked in the Modification Center and workers were informed that DU had no real hazards. A 110-ton Pacific press brake was used to perform "gang-punching" of the metal sheets. The processing mostly involved punching of the 1/8 inch thick DU plates, and involved very little grinding.

You informed us that Building 440 was originally used for shipping of high level waste and pit staging. It had a three-stage HEPA ventilation system and a storage vault that was later turned into a shop. At the time the Building was used by the Vehicle Modification Group it was a 'cold' (i.e., non-radiological) building. The plant Radiological Control Technicians were unable to access the Modification Group work area because of PSAP (Personal Security Awareness Program - high security) clearance requirements, which the 400-Area RCTs did not have. Because of the clearance requirements, there was only intermittent RCT monitoring in the facility. You relayed as the project grew from the mid to late-1980s, there were a number of additions made to the building (facility almost doubled in size) and included customers such as the Army and Air Force. The building additions required penetrations into contaminated walls and into the vault - the walls that were contaminated had purple paint on them that marked they were contaminated. The limited surveys performed by the RCTs did identify some Pu and gross alpha contamination that required cleanup. Even though some contamination was discovered during addition construction, the building was cleaned and decontaminated and always treated as a radiologically cold building. Over the operational period the workers wore security badges without dosimeters and had very little, if any internal or external personal monitoring - maybe a bioassay sample every few years, but no routine bioassay monitoring.

You informed us that you were reassigned to another group when the Mod Center closed in 1993, and noticed that the press brake that was used in the DU punching was moved outside and was covered because it was contaminated.

**Rocky Flats Interview**  
**(b)(6) December 13, 2013**  
**Interview Questions – RFP Mg-Th Plates**

**2. Are you aware of the existence of Mg-Th Alloy material at RFP?**

With the knowledge of vast armor installations in the majority of buildings, It's hard to say. Guard shacks, vaults, vestibules, vehicles, barriers – almost all contained a sort of armor or reinforced impenetrable material designed to protect and secure personnel or material. You indicated that you had never heard of Magnesium-Thorium (Mg-Th) alloy and were not aware of the existence of any Mg-Th alloy at RFP-Modification Center. You were aware of 4x4 foot square crates being brought in that were marked as radioactive but you were not aware of what the composition of the material was. We were under the impression this was annealed armor plates. We formed this material into various shape configurations by shearing, punching and bending. When we did question what the material was, we were told we did not have the need to know. You informed us that you did not perform any welding on that material but that any scrap that was collected was shipped presumably to Sandia. You indicated that the management told you that this material was not monitored because it was not radioactive; it was probably just coming from a radiologically controlled area.

- a. **If so, are you aware of where this material originated from (either on-site or off-site)?**  
Some material fabricated by punching and bending originated offsite and did not remain onsite.
- b. **If you are aware, can you relay where this material was handled at RFP?**  
Only at Mod Center Building 440.
- c. **Can you explain the purpose of this material or what operation it is was used for at RFP?**  
Test panels, armor.
- d. **Do you know the time frame of operations relating to this material at RFP?**  
1984 - 1989
- e. **Were there any special controls or monitoring related to operations at RFP?**  
Restricted by RCT access.

In your closing statements, you discussed a union concern regarding work with radioactive materials on Building 440, that you did not do any grinding in 440, and that there was a fire hazard concern associated with uranium. You indicated that the test panel projects at Rocky Flats occurred from about 1984 through about 1989. As far as incidents, you recalled that an SST and a spent fuel rod container had to be sandblasted for cleanup purposes after a deterrence system failure. There was very little RCT coverage at the Modification Facility and you were not clear if the trailers were surveyed every time they came to Rocky Flats; you had heard rumor

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that some trailers were contaminated with tritium. You noted that the Kansas City Plant (KCP) and Sandia were major customers of the Modification Facility and that there was a considerable technology transfer to KCP as the Rocky Flats Modification Facility was winding down operations. You informed us that nearing the end of the operations period at the Modification Center (1988-1990), metal tops were welded to waste containers filled with contaminated waste – performed with RCT coverage.

You indicated that most of the people that worked on the DOD special project in the Modification Shop with you were gone now, but you did mentioned (b)(6) (manager) and (b)(6) as individuals that may have other pertinent information.

You also indicated that the early designs for the work performed at the Rocky Flats Modification Center were developed at Sandia-Albuquerque. You discussed that there may be relevant records at Sandia (the design agency) and Bendix/Kansas City (took over the Modification Contract after Rocky Flats). You informed us that the ATMX 500 rail cars were built before Rocky Flats built the Modification Center (which modified these rail cars), but you were not aware of who originally designed or built the cars.