Daniel W. McKeel, Jr., M.D.
5587 Waterman Blvd., Unit C
St. Louis, Missouri 63112
Phone (314) 367-8888 • FAX (314) 367-7663

April 19, 2005

Larry Elliott
Director, OCAS
4676 Columbia Parkway, MS C-46
Cincinnati, Ohio 45229

Dear Mr. Elliott:

Would you please circulate the attached Comments on the Mallinckrodt SEC00012-2 petition to members of the Advisory Board on Radiation and Worker Health prior to their next meeting in Cedar Rapids, Iowa on April 25-27, 2005. I also made the same request to Dr. Lewis Wade.

Since the Comments are also pertinent to the Mallinckrodt Chemical Works Site Profile (embodied in Technical Basis Documents Rev 00 of 10/24/03 and Rev 01 of 3/10/05), could you please also include them as Site Profile Comments on the appropriate part of the OCAS website. This request was also made to Dr. Lewis Wade.

I hope to able to attend the April 25-27 ABRWH meeting in Cedar Rapids. Thank you for your assistance.

My mailing address, phone and FAX numbers are on the letterhead if you should need to contact me. My e-mail address is: *dan@pathbox.wustl.edu*.

Very truly yours,

Dan McKeel

Daniel W. McKeel, Jr., M.D.

cc: Dr. Lewis Wade (ABRWH/NIOSH)
Sanford, Cohen & Associates
Denise Brock, petitioner
Senator Kit Bond
Senator Jim Talent
Congressman Todd Akin

STATEMENT IN SUPPORT OF THE ADVISORY BOARD OF RADIATION AND WORKER HEALTH APPROVING THE MCW 1949-57 CLASS SEC00012-2 PETITION

Remarks submitted by
Daniel W. McKeel, Jr., M.D.

to

NIOSH and the ABRWH for consideration at the April 25-27, 2005 Cedar Rapids, Iowa meeting

April 18, 2005

Overview of Comments

The major points I will address in the following comments are as follows:

1. Many uncertainties and ambiguities exist about the completeness of the data regarding the Mallinckrodt Chemical Works employees, including the 1949-57 class cohort which is the subject of SEC00012-2. That is, the data assembled for the NIOSH Technical Basis Documents for this period are obviously incomplete to an undefined extent. It is therefore highly unlikely that NIOSH can perform accurate radiation dose reconstructions with today's knowledge.

2. We have no assurance that complete data are available for *any individual* MCW worker. In October 2003 I asked NIOSH to state for what percentage, if any, of the workers has complete data been compiled that would permit an accurate radiation dose calculation. That is, such data as: (a) the worker's total period of employment at discrete facilities; (b) complete history of his or her job responsibilities in locations and activities at which radioactivity was present; (c) the potential exposure to radiation at each of those jobs; and (d) all additional sources of radiation to which a worker may have been exposed as a bystander.

3. The scientific bases of the original October 2003 Technical Basis Document and its March 2005 Revision are not sufficiently thorough. For example: (a) NIOSH failed to incorporate findings from the 1995 study by Elizabeth Dupree titled: "Uranium dust exposure and lung cancer risk in four uranium processing operations" (Ref 14) that analyzed the internal exposure to uranium dust by the downtown MCW workers, including the 1949 through 1957 period under controversy. The other known peer-reviewed study of these workers, which was cited by NIOSH, was the July 2000 study (Ref 17, Am J Epidemiology, volume 152, pages 91-95), also by Dupree as principal investigator, but this latter study analyzed only external radiation doses; (b) a complete list of documents that is potentially available for dose reconstruction has yet to be compiled. As evidence of this, five (or six?) boxes of documents pertinent to the MCW SEC petition were belatedly discovered in mid-2004, that have not been thoroughly analyzed by the Advisory Board's auditors; (c) it is not noted if, or what, or to what

extent other obvious sources of information about the MCW workers have been researched, such as the Federal Records Center in St. Louis, the Federal Archives elsewhere, and records held at the Environmental Protection Agency's Region VII Superfund Library in Kansas City, Kansas, which contains many MCW and Weldon Spring reports.

Please see my following more detailed comments that address these highlighted points

Detailed Comments

1. The Mallinckrodt Chemical Works (MCW) Technical Basis Documents (TBD) of October 24, 2003 (Rev 00) and March 10, 2005 (Rev 01) show that an expanded safety program was initiated in 1949 at MCW (also see Ref 1: Fleishmann-Hillard, 1967; M. Mason ERDA, 1977), which included improved dust protection measures for workers. Abundant direct testimony from workers exists of poor and spotty overall enforcement of, and compliance with, these new provisions at both the Destrehan Street (1942-57) and Weldon Spring facilities (1955-66), that were operated jointly by the Uranium Division and the AEC (Refs 2, 3: ABRWH transcripts of St. Louis meetings held October 28-29, 2003 and February 7-9, 2005). This latter testimony indicates reduced effectiveness of the enhanced worker safety initiatives.

2. DOE field office reports (Refs 4, 5), a line item in recently retrieved documents from Oak Ridge (Ref 6a) and a handwritten memo (see reproduction page 2, reproduced below from notes made by an unidentified participant in the symposium in Ref. 6b) indicate that 74,000 metric tons of recycled uranium, containing small amounts of plutonium, neptunium and americium, were delivered to "Mallinckrodt" and/or "Weldon Spring/s," even though this fact is denied by current ORAU/NIOSH officials and in the Rev 01 MCW TBD for the Destrehan street site. Conversely, officials of DOE WSSRAP (Weldon Spring Site Remedial Action Project) team denied that their site ever received these RU shipments as claimed in DOE field office reports (Refs 7, 8). In addition, MCW records alluding to urine sampling for plutonium were obtained in the most recent reports retrieved from the OROO CER vaults (Ref 9). Yet, guidelines for assessing exposure to plutonium or other transuranics is not included in the Rev 01 MCW TBD.

3. There remains much uncertainty over the completeness, reliability and integrity of the 1949-57 MCW radiation exposure data as shown by a August 11, 1987 interview of "Mont Mason, age 72, at his home in Hillsboro (a small southern Missouri town)" by Carolyn Sowers (now Bower) and Teresa Tighe of the St. Louis Post-Dispatch (Ref 10). Mason affirmed that prior to 1966 he had gathered very complete names, employment, medical and radiation exposure data for 1,000 members of the MCW worker cohort, making it clear he was not referring to Weldon Spring workers for the MCW Uranium Division. Under questioning by the reporters at his home, Mason avowed "... So here is the name of every individual. Here is the year by year by year medical history." The sense of the interview notes was that Mason, who stated that "all records were turned over to the AEC December 31, 1966," was nevertheless able

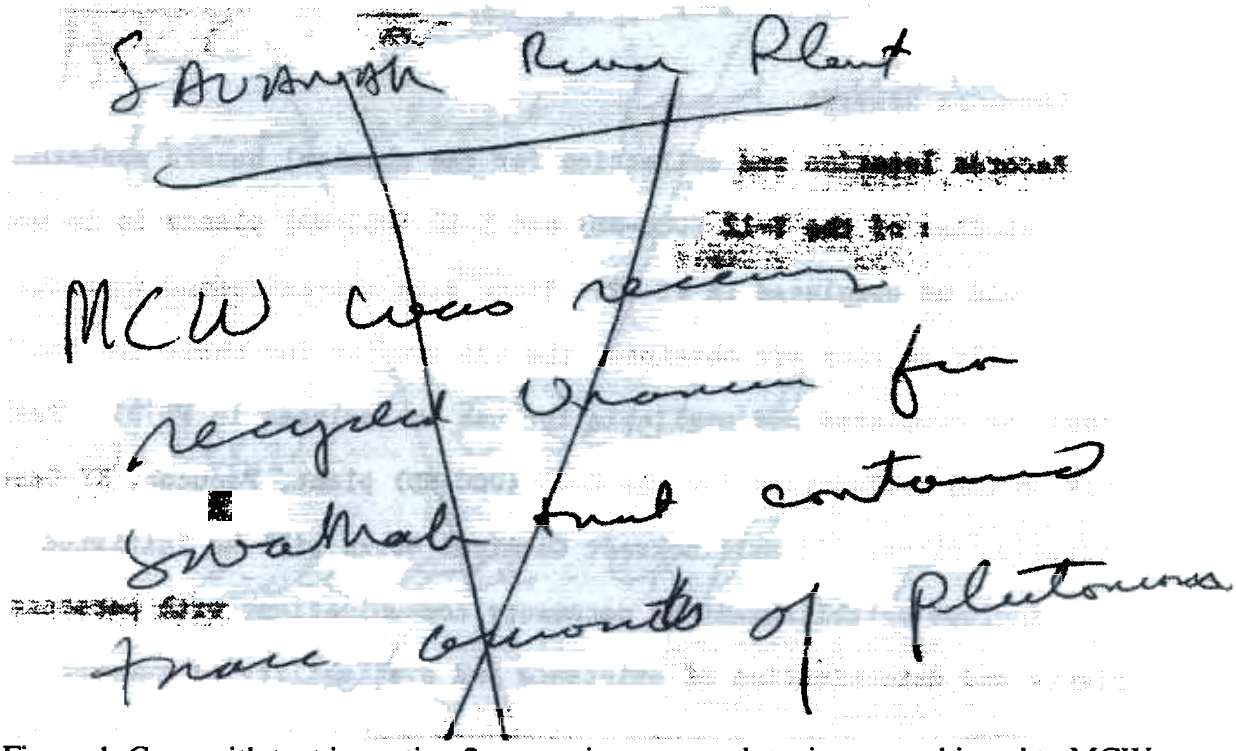

Figure 1. Goes with text in section 2 on previous page; plutonium was shipped to MCW

to demonstrate to the reporters some (or all) of this data that reporter Sowers stated to be "... a perfect accumulation" based on interview statements made to her by Mason. For example, Mason answered, "If you were a person working in the plant (context indicates he meant MCW-Destrehan Street)." Teresa Tighe responded, "You even have the doses don't you?" Thus, it is presumed that Mason, in November 1987, either had access to copies of the original MCW data accumulated by late 1966, or somehow had gotten access to the AEC owned files in the intervening 21 years. This interview material is especially interesting in light of the 1972 memo by Mason that Denise Brock introduced as part of the MCW SEC original petition, which indicated that Mason had misgivings that the "V2161 shelf" MCW records, which we are now assured by NIOSH were not destroyed, might be destroyed. Why would Mason be so worried six years later in 1972 (see also Ref 16)?

Larry Elliott and James Neton of NIOSH claimed at the February 2005 ABRWH meeting in St. Louis that all of the MCW data that Mason worried about was in their hands. The NIOSH officials produced a purported letter dated September 2, 1975 from "M.Mason," initialed by some other person, which they interpreted as showing that the V2161 data, in fact, had been preserved (Ref 11). **Note that no direct evidence, except for a brief listing, of the degree of completeness of this NIOSH held MCW data has yet been produced, however, despite challenges from the public to do so (Ref. D.W. McKeel, Jr., M.D. public comments, transcript of the ABRWH St. Louis meeting** (Ref 12 and 13). There is no indication, for example, that the 22 documents found at the federal records center were the *complete set* of documents on the V2161 shelf that Mont Mason referred to in his 1972 memo cited by co-petitioner Brock for the MCW SEC-00012-1 and -2. Rather, the records of the October 2003 and the February 2005 ABRWH Public Comment periods are replete with numerous testimonies of bureaucratic roadblocks to the MCW claimants and their survivors being able to obtain basic

employment and medical and dose reconstruction information from Mallinckrodt and governmental agencies who control this information at DOE, ORAU, NIOSH and DOL. **And why then, if the MCW data was perfectly complete in 1966 as Mont Mason claims, and was not subsequently destroyed in the 1972-75 time frame as NIOSH now asserts, was the MCW worker data not in the same "perfect" state during the EEOICPA years when numerous requests from former MCW workers and their survivors have been questioned or left unanswered by DOL, Mallinckrodt, NIOSH, OCAS, ORAU and DOE personnel?**

The foregoing background analysis implies that claimant employment, medical and radiation exposure information, if it is indeed as complete as NIOSH now claims, may be being deliberately held back from those who need it most, the claimants under EEOICPA. NIOSH's response and that of the Advisory Board has been, in general, such statements as "we are sorry" and "I wish we could help," and other inadequate sentiments that fail to meet petitioners pleas for assistance. Congress was so upset when it was realized that their original intent behind EEOICPA was being hindered and unacceptably delayed, that they recently took over the administration of Subtitle D of EEOICPA away from DOE and transformed it into Title E to be administered by the U.S. Department of Labor (DOL). This action indicates an ultimate lack of confidence by Congress in DOE, the parent agency that still controls the MCW former worker data. In case one disputes this interpretation of events, witness the recent delayed release of classified dust study and film badge records from MCW that was residing in DOE vaults at ORAU/ORISE and ORO as classified documents in 2004! (Refs 6a, 9: Supplement to the NIOSH evaluation of the MCW SEC00012-2 petition). The basis for this information being classified is still very unclear and the legitimacy of the basis for its being classified is at issue as set forth in the following section.

Dan McKeel and Ted Heisel, Executive director of the Missouri Coalition for the Environment, co-filed an FOIA request 3/10/05 to clarify the content of the six (now said to be five) ORO MCW boxes and the reasons and extent of classification of those documents plus MCW documents still remaining at ORAU, and DOE/ORISE and ORO. Thus far (as of 4/18/05) no response, other than from Larry Elliott of NIOSH during the Public Comment portion of the April 11 ABRWH teleconference meeting who answered Dan McKeel that "we are working on your FOIA," that has been obtained from any of the four agencies—NIOSH, CDC, ORAU, ORO-DOE—to whom the FOIA request was directed. **Further delay will materially impair the ability of the petitioners to support MCW SEC00012-2**. While it is true that a NIOSH supplement to the MCW SEC-00012-1 and SEC-00012-2 may cover some points of the McKeel-Heisel/MCFE FOIA partially, it does not cover the issue of MCW documents being classified. That is, why and how many MCW-related documents were classified in the first place? And how many MCW documents are still classified and for what specific reasons? Why were these classified and now declassified documents not sought out until late in 2004?

It appears from the transcript of the January 15, 2005 SC&A-NIOSH and ORAU meeting in Cincinnati, that ORAU's Janet Westbrook, the chief author of MCW TBD revs 00 and 01, did not know the content of the six MCW boxes. Yet the NIOSH supplement states that the information in 19 of 22 documents in the six boxes was already referenced in the Rev 01 TBD released 3/10/05. These two statements appear to be at odds with one another, and lessen my confidence in the sequence of events according to NIOSH's scenario of events.

4. The MCW Rev 01 TBD, although now more complete, contains portions that indicate extensive key MCW data remain unaccounted for, as follows:

(a) The 1995 Epidemiology uranium dust study by E. Dupree and colleagues (Ref 14), that includes crucial data on internal radiation exposures for the MCW 1949-57 cohort, is still not included in the list of references, even though I have pointed out this glaring omission in both my October 2003 and February 2005 ABRWH public comments (Refs 2 and 3: Dan McKeel public comments, ABRWH October 28-29, 2003 transcript pages 203-207; ABRWH February 7-9, 2005 transcript pages 166-169). I even supplied the Board with a copy of this article to facilitate its inclusion within the revised Rev 01 MCW TBD. It should be noted that the article suffers from many of the same data description inconsistencies, ambiguities and gaps that are apparent throughout the MCW Rev 00 and 01 TBDs. Nevertheless, this document should be known by NIOSH dose reconstruction personnel.

(b) Section 5.5.1, page 97, on "Number of workers" remains woefully incomplete. Why, if NIOSH actually has on hand complete worker data? Does Janet Westbrook, who primarily compiled the Rev 00 and Rev 01 MCW TBD reports, somehow not have access to this data? Or, does the data not really exist? Again, there is strong *prima facia* evidence of a significant data gap for the 1949-57 MCW cohort related to this most basic type of cohort characterization data.

(c) On page 10, paragraph 3 of the MCW Rev 01 TBD, the statement is made that:

> "*Records for the postoperations decontamination and decommissioning should be found with the Weldon Spring records since the film badges were issued from Weldon Spring (MCW 1961B), but to date the Weldon Spring records are not available except by request for individual claim subjects.*"

The lack of research effort underlying this statement is evident in light of the fact that *736 legacy documents* about the Weldon Spring site are posted on the DOE website at `www.doe-gjo.gov`. DOE further claims (see: `www.wssrap.com`) that the complete Weldon Spring site Administrative Record currently resides at the on-site Interpretive Center and parts thereof are deposited at the local St. Charles county library, the Middendorf-Kredell branch located on highway K, which is a federal records depository. And why were the DOE-WSSRAP (Weldon Spring Site Remedial Action Program) staff not consulted by NIOSH and/or Janet Westbrook about this aspect (MCW film badges) during the active site remediation period? Active remediation extended from 1986 until October 31, 2002 when the Weldon Spring site reverted to long term surveillance and maintenance status (it is now managed by the DOE Office of Legacy Management and no full time DOE employees are at the Weldon Spring site); this was a major opportunity missed by NIOSH. The quoted passage further indicates the intimate relationship between the two MCW Uranium Division sites and the problem created by NIOSH's decision not to issue the two site profiles (MCW-Destrehan Street and Weldon Spring site) contemporaneously. **The inclusion of such a misleading and inaccurate statement in a key NIOSH document, the Rev 01 MCW TBD that took 17 months to produce, casts serious doubt on the thoroughness of the research forming the scientific basis for the Rev 01 MCW TBD**.

It is well established from direct testimony at two St. Louis ABRWH meetings in 2003 and 2005 (Refs: ABRWH meeting transcripts, meeting held 10/28-29/03 pages 90-110 and 189-233; meeting held 2/7/05 on **day 1** pages 68-86 and 153-233, **day 2** on 2/08/05 pages 62-134 [SEC petitioners portion] and 154-274, and **day 3** on 2/09/05 pages 109-146) that many former MCW workers worked for significant amounts of their employment time at both MCW-Destrehan Street and at the Weldon Spring site in St. Charles county, Missouri. Therefore it seems especially unfortunate that no Site Profile yet exists for the Weldon Spring site, since NIOSH claims their goal is always to ensure the most claimant-favorable radiation dose reconstructions that are possible. NIOSH offered at the February 2005 St. Louis ABRWH meeting, as an explanation why the Weldon Spring (WS) TBD had not been created, the explanation that WS was a minor site with few employees and thus had a lower priority for Site profile development. Judson Kenoyer presented a "Status Report on Site Profile Modifications and Schedule" at the 2/9/05 St. Louis ABRWH meeting. In a Slide titled "Current DOE Site Profiles under Development," Weldon Spring was listed as "4/30/05." As I understood what this meant, this date was explained as "the due date to focus, 60 day implementation." It was also stated that the Weldon Spring site profile was "in review right now" so the two statements in juxtaposition are doubly confusing. The statements could mean that a Weldon Spring site profile would not be available prior to April 9, 2005 at the earliest, and that date has passed without the document being posted as approved on the OCAS website. If there would be an additional period of "focus" then this time would be delayed even further. The net result will likely be, therefore, that many MCW *and* Weldon Spring EEOICPA claims will be adjudicated, and a vote taken on MCW petition SEC-000012-2, before a Weldon Spring initial Rev 00 TBD will be released. Logic argues that the MCW and Weldon Spring site profiles should have been constructed and issued together, since both facilities were operated by the same MCW Uranium Division as a sequential operation under contract with MED (1942-46) and the AEC (1942 to 1955/56 at Destrehan Street and 1955/56 to 1966 at Weldon Spring site in St. Charles county). James Neton stated that "the Site Profiles already created cover 80% of claims." However, my information indicates that more people worked at Weldon Spring than at MCW-Destrehan Street, so numerically the Weldon Spring cohort was the larger. The MCW Rev 00 and 01 TBD sections on "number of workers" are very incomplete and confusing on this point which is regrettable. One result of all this, in my opinion, is that the Weldon Spring site MCW Uranium Division workers have been treated unfairly compared to the MCW-Destrehan cohort. There is no facile way to correct this unfortunate and unnecessary situation.

(d) Pertinent to section (c) above, I state explicitly that the lack of a Weldon Spring site profile document impairs the ability of NIOSH to obtain as accurate as possible radiation dose reconstructions, compared to their ability if the Weldon Spring TBD had existed while SEC00012-2 was being considered by the ABRWH. If a Weldon Spring site profile document should be released by NIOSH between the date of this submission (April 18, 2005) and the start date of the next scheduled ABRWH meeting on April 25-27, 2005 in Cedar Rapids, Iowa, the Board, SC&A and the public would not have sufficient time to review and critique it.

(e) There is conflicting testimony before the ABRWH as to the status of a SEC petition for the Weldon Spring site. The status of this petition reflects on the MCW SEC00012-2 petition MCW 1949-57) as shown in sections (c) and (d) above. Denise Brock (Ref: ABRWH St. Louis meeting transcript 2/7-9/05) claimed that she and her co-claimant submitted two SEC Petitions

simultaneously, one for MCW and the other for Weldon Spring. She further stated that NIOSH required her to separate the two petitions. At the same meeting, NIOSH officials (see Ref 15, ABRWH St. Louis meeting transcript 2/7-9/05, page 49-50 for status of the Weldon Spring TBD) stated that no Weldon Spring SEC Petition had been submitted, and a new petition would have to be refilled in order to be considered by NIOSH and the Board. These statements are in direct conflict and the record needs to be resolved and clarified which is accurate.

(f) There are innumerable qualified statements about adequacy of radiation exposure in the Rev 01 MCW TBD. I cite but a few: (**example a**) "Plant 4 work records were *somewhat deficient,*" p. 35 (note: how many and which records, or what percentage, were deficient and what were they deficient in, does that mean missing?), (**example b**) "Some of the estimates were difficult for Mallinckrodt to do because the particular type of work was variable," p.35 (note: How is this passage helpful to dose reconstruction personnel? What does this passage mean?), (**example c**) "Still, correlation of the urinary uranium concentrations with calculated dust exposures was considered *good* for plant 6, although *poor* for plant 4," also p. 35 (italics are mine, MCW 1950c is cited) - What is the magnitude of the correlations designated as "good" and "poor"? Correlations are usually expressed in science as, for example, a Pearson correlation coefficient with a definite "r" value and good would be above r = 0.7, for example, and poor would be less than r = 0.3, (**example d**) on page 11 contains another example: "Thus the film badge records for airport workers from 1946 until at least 1958 *should be found* (emphasis mine) among the Mallinckrodt film badge records; film badge records after that *may possibly be* (emphasis mine) among the Weldon Spring records." In addition, there are innumerable ambiguous statements, such as **example** (e) found on p. 35 in paragraph 3, referring to plant 6 (MCW 1955d is cited here): "*... in the last few years some hazards were allowed to continue for extended periods before being addressed and some exposures were seen to go up.*" In the context of the foregoing excerpt, the terms "last few years" and "some exposures" and "up" are all ambiguous. Question: how many years and exactly what time period is being referred to? Is it 1949-57 or 1952-57? Which exposures? How far up did the exposures go, i.e., 10% or 100% or 500% and for how long were the workers exposed? These are the two parameters needed to determine a basic radiation exposure dose. **Example** (f) from page 66: "About 52 tons of uranium was *estimated* to have been discharged in the stack effluents since the beginning of operation" (emphasis mine). **Example** (g) from page 39 is offered as one final documentation of innumerable ambiguities in the MCW TBD Rev 01: "*No information is available as to Mallinckrodt's approach to effluent control, e.g., whether it followed the AEC recommendations.*" Here, the ambiguity is, did the authors of the MCW TBD Rev 01 fail to look hard enough for the answer, or did MCW deny the information to them, or did the information never exist in the first place? The latter is hard to imagine. And finally, how extensive a search was made to locate this important information (relative to examples (f) and (g)) that bears potentially on the legal liability of both Mallinckrodt and the DOE as the successor agency to the AEC?

One gets the impression that the authors of Rev 00 and Rev 01 of the MCW TBD reports may not have actually consulted the cited original documents or delved farther into the many ambiguities. Taken altogether, these qualifications and expressions of scientific uncertainty compound to the extent that reasonable people can legitimately question whether any dose reconstruction made by NIOSH for the MCW cohort can be made in a timely accurate fashion. I do not see how such ambiguous statements about happenings in vague time periods that are not

adequately quantified could materially assist in NIOSH making quantitatively more accurate dose reconstructions. **Because of these major weaknesses in the scholarship (and hence scientific validity and utility) of the MCW TBDs, and the residual gaps in necessary knowledge to calculate *actual* radiation doses to workers, major weaknesses which the writer firmly believes seriously compromise the overall scientific capability of NIOSH to perform adequate dose reconstructions, then ABRWH should recommend that the MCW SEC00012-2 be approved and forwarded to the Director of NIOSH and to the Secretary of HHS and Congress for final approval**.

(g) There are also numerous instances in the MCW Rev 01 TBD where violations of Destrehan plant safety rules were identified that undoubtedly contributed to excess worker radiation exposures in unquantifiable ways. Here is one glaring example found on page 41 of the Rev 01 MCW TBD: "(referring to the Ore Room) " Manual handling of drums was common in 1954 ... The dust released was not confined to the ore area, since the door to the Ore Room and Ore Room addition were often left open through *negligence or for convenience* ..." (italics added for emphasis) (MCW 1954c is cited to support this). It is impossible to quantify this type of "extra" radiation dose exposures absent information what each former worker claimant was doing (how many barrels containing specific ores did each person open manually) on specific times on specific days at specific plant locations, data which is clearly not in hand. Another even more egregious example of AEC contributing to extra radiation exposure of MCW-Destrehan workers is documented on page 42, paragraphs 2, 3 and 4: "AEC rejected extra shielding ... MCW wanted around K65 (note: pitchblende ore raffinates) tanks ... Mallinckrodt protested ... tank lids were left open unnecessarily..." A final example is on page 44, paragraphs 2 and 3, where two examples are cited of hand scooping of uranium ore in the newer plants 6E and 7, which were fitted with conveyor belts, continuing the practices in plants 4 and 6 where manual uranium ore handling was necessary. The newer plants were supposedly safer, at least on paper.

(h) I have had a chance to review the SC&A partial report on the Rev 01 MCW TBD. They find, as do I, that although Rev 01 is more complete than Rev 00 (as it should be since 17 months separated the two revisions), many important information gaps still remain. Section 7 is "on hold" for unclear reasons, and Section 8 on SLAPS, the airport site, is new and has not been adequately reviewed by SC&A. Thus, as the final decision time for ABRWH approving or disapproving the MCW SEC-00012-2 fast approaches on April 25-27, 2005, one prime document pertinent to this decision is incomplete and has major omissions. Important among these issues identified by SC&A are the lack of NIOSH addressing the thorny issue of data integrity (see Ref 16) and of NIOSH not responding to SC&A's constructive critique of the MCW TBD Rev 00 from the January 2005 Cincinnati meeting. Again, neither the Board nor the claimants nor the public are not well served by these very serious, and possibly self-serving, NIOSH analytic omissions. Massive direct testimony from workers and survivors, cited in Refs 2 and 3 from ABRWH St. Louis meetings in 2003 and 2005, dramatically illustrates that impaired data flow from DOE and ORAU to NIOSH, DOL, ABRWH and SC&A seriously impacts the ability of these agencies to process EEOICPA claims in a fair, timely and scientifically unchallengeable manner.

To this observer, it appears that NIOSH, via data supplied by DOE (ORISE and ORO archives) and ORAU, is striving, above all other considerations and to the detriment of

claimants, to protect their role as the sole agency to be able to produce human radiation dose reconstructions. They do so in the face of massive data gaps and compounded scientific uncertainties using computer models such as IREP that rely on numerous assumptions that could be challenged on many scientific and medical grounds. Ref 16, pages 9-11 contains specific information alleging that DOE and ORAU have supplied falsified data sets during the 1970s and 1980s to suit their ends of discrediting scientists, in particular Dr. Thomas Mancuso, who produced epidemiologic mortality data on atomic weapons workers at Hanford and other sites that DOE-ORAU did not wish to accept. Dr. Mancuso did extensive work for AEC assembling the MCW data before ORAU and DOE possessed it. Knowledge of these recent historical occurrences is necessary to understand the well documented problems that some federal agencies responsible for administering EEOICPA 2000 are having today in producing timely and satisfactory claims processing for former MCW-Destrehan Street and Weldon Spring workers and their survivors, among those at many other sites. The NIOSH team has not adequately addressed the challenge of the MCW SEC petitioners as to the ultimate integrity of the MCW data. Nor has NIOSH answered my challenges (Refs 2 and 3) to comprehensively document the overall completeness of the current MCW-Destrehan Street dataset. The qualitative inferences of MCW TBD Revs 00 and 01 should now be matched by rigorous exposition of the *full extent* of existing quantitative radiation exposure data, classified and unclassified, *for individual MCW workers*. Congress, ABRWH and SC&A should insist that they do so.

I am convinced that NIOSH working through ORAU-DOE and ORO cannot do dose reconstructions in a timely, scientifically acceptable and accurate manner. There is a strong economic incentive to get contracts for dose reconstructions. Richard Miller at the February 7-9, 2005, St. Louis ABRWH meeting indicated that the EEOICPA program had been initially scoped by the Congressional Budget Office at the $2.8 billion funding level. This is but a small percentage of the amount of money American taxpayers have paid. They paid for the initial construction of the plants (see Ref 1 (1967) for MCW cost analysis), their multiple remediation attempts (the bill for the Weldon Spring site is about $ 900 million during the latest remediation phase, with ongoing annual costs of over $1,000,000 for the LTS&M phase) which are still ongoing, and will pay for at least a hundred more years while, for example, the groundwater uranium contamination at the Weldon Spring site returns to U.S. Environmental Protection Agency (EPA) maximum concentration levels (MCL) levels during the process of "monitored natural attenuation." This latter remedy includes implementation and enforcement of legal institutional controls which themselves will be costly to enforce.

I therefore end with the same plea made by several members of the public and claimants at the February 2005 ABRWH meeting. I now pose this essentially moral issue as a question: **Would it not be more just and cost effective, and far more humane and more in line with Congressional intent in creating EEOICPA 2000, to pay all claimants under a blanket SEC mechanism, and forego further radiation dose reconstructions altogether?** Surely the MCW-Destrehan Street 1949-57 cohort deserves to be recommended for Special Exposure Cohort status by ABRWH during their April 25-27, 2005 meeting in Cedar Rapids, Iowa.

A list of references to documents and official reports cited in these Comments follows.

References Cited

1. Mason M.G. report titled "History and Background Relative to the Radiological Remonitoring of Mallinckrodt by the Energy Research and Development Administration Report Prepared for Mallinckrodt, Inc. to ERDA dated August 19, 1977; also see: Fleishmann-Hillard report "Fuel for the Atomic Age. Completion Report in St. Louis-Area Uranium Processing Operations, 1942-1967", September 30, 1967, pages 151ff.

2. Advisory Board on Radiation and Worker Health (ABRWH) meeting transcript, St. Louis, MO 10/28-29/03, pages 90-110 and 189-233 (multiple persons testified) [examples of safety rules violations and non-enforcement]

3. Advisory Board on Radiation and Worker Health (ABRWH) meeting transcript, St. Louis, MO 2/7-9/05, as follows: 2/7/05 on **day 1** pages 68-86 and 153-233; **day 2** on 2/08/05 pages 62-134 [SEC petitioners portion] and 154-274 of main transcript for that day; and **day 3** on 2/09/05 pages 109-146 (multiple persons testified) [examples of safety rules violations and non-enforcement]

4. "DOE Ohio Field Office Recycled Uranium Project, Final, May 15, 2000," Table 3-2D on page 3-6, indicates that between 1962-67 (Table 3-4 on page 3-11) the Weldon Spring site had shipped to and sent from it 71,413 and 74,804.6 metric tons of RU involving 2.4 grams plutonium received, 324.6 grams of neptunium-237 received, and 7,206.4 grams of technetium-99 received, naming very specific amounts of transuranic radionuclides. MCW-Destrehan Street uranium plants had ceased operations before 1962.

5. DOE-WSSRAP, the Weldon Spring site remediation program, however, denied the accuracy of the field office report (Ref 4) in a personal communication to the author of these Comments. Instead, DOE stated that RU was actually sent to the downtown Mallinckrodt plant on Destrehan Street and that "Weldon Spring" and "Mallinckrodt" were often used synonymously in legacy DOE reports. In short, DOE-WSSRAP said their own Ohio DOE field office report was in error. Which version is correct remains unclear, however, the information does indicate that some component of the MCW Uranium Division got very large amounts of recycled, previously irradiated in a reactor uranium (RU) ore, while the plants in downtown St. Louis and St. Charles county were operating during 1942-66. Ref 6b again points to "Mallinckrodt" receiving plutonium from another source, the Savannah River site.

6a. NIOSH document, title: "Supplement to Mallinckrodt SEC Petition Evaluation Reports (SEC-00012-1 and 2). Discussion of Issues Identified During the Advisory Board , Deliberation of the Mallinckrodt Evaluation Reports on 2/08-2/09/2005 in St. Louis", dated March 30, 2005. Line item marked as: "**030002743, ORO Vault, MCW, determination of Pu in urine**" (Pu being the abbreviation for plutonium), page 16. This reference strongly implies that plutonium *was* present in the Mallinckrodt work place, otherwise why would AEC test the urine of MCW workers for it's presence?

6b. Anonymous, participant's handwritten notes on back of printed program material (Program and Working Papers for the DOE Radiology Epidemiology Contracts Workshop" held April 13-14, 1982 at the Sheraton, Potomac Inn, Rockville, MD) under heading "Savannah River", indicating that RU was shipped to "Mallinckrodt that contained traces of plutonium." Taken together, Refs 4-6 provide evidence that plutonium and transuranic radionuclides were handled by the MCW Uranium Division.

7. Ibid. Ref. 4

8. Ibid. Ref. 5

9. Allusions to 6 boxes of new MCW material: (a) December 18, 2004 Cincinnati NIOSH, SC&A and ABRWH transcript; (b) December 31, 2004 SC&A review of MCW TBD Rev 00 of Oct. 24, 2003; (c) NIOSH Supplement to MCW SEC issues discussed at the February 7-9, 2005 St. Louis ABRWH meetings, release date 3/30/05, including a reference to plutonium testing in urine at MCW [see Ref 6a].

10. Transcript of 10/11/87 interview by Carolyn Sowers (married last name used in publication was Bower) and Teresa Tighe of Mont Mason at his home in Hillsboro, Missouri. Prelude for the series of seven St. Louis Post-Dispatch articles on MCW which ran in February 1989.

11. Letter from Kenneth N. Fleming to Mr. Dave Sundin, OCAS, dated February 9, 2005, produced by NIOSH at the 2/7-9/05 St. Louis meeting of ABRWH and copies made available to the public. It is purportedly a 26 page letter characterized by NIOSH as a "trip report" from M. Mason, initialed by some other person, and dated 9/2/75. The exact origin and date and circumstances of acquisition of this document were never clarified.

12. Daniel McKeel, M.D. public comment ABRWH St. Louis meeting transcript Oct. 28-29. 2003, pages 203-207.

13. Daniel McKeel, M.D. public comment ABRWH St. Louis meeting transcript February 7-9, 2005, **day 1** (2/7/05), pages 166-169, **day 2** (2/8/05), pages 270-274 and pages 64-70 of the SEC Petition remarks (mall2805.pdf) transcript; **day 3** (2/9/05), pages 140-144.

14. Dupree EA, Watkins JP, Ingle JN, Wallace PW, West CM, Tankersly WG. Uranium dust exposure and lung cancer risk in four uranium processing operations, Epidemiology volume 6 (number 4): 370-375, 1995

Manuscript:

Dupree EA, Watkins JP, Ingle JN, Wallace PW, West CM, Tankersly WG [1995]. Uranium dust exposure and lung cancer risk in four uranium processing operations. *Epidemiology* 6(4): 370-375.

Summary:

This study sought to examine the relationship between uranium dust exposure and lung cancer mortality among workers employed in four uranium processing or fabrication operations located in Missouri, Ohio, and Tennessee. A total of 787 cases were identified. Odds ratios for lung cancer mortality for seven cumulative internal dose groups did not demonstrate increasing risk with increasing dose. However, an exposure effect was suggested for workers hired at age 45 years or older. Categorizing workers by facility, and further analyses for cumulative external dose and exposures to thorium, radium, and radon did not reveal any statistically significant association between exposure and increased risk.

15. Judson Kenoyer commenting on Weldon Spring TBD status, ABRWH St. Louis 2/7-9/05 meeting transcript, day 3 (2/9/05, pages 49-50), "in process, due 4/30/05."

16. A general reference which pertains to MCW data integrity, alleging that DOE has falsified data at atomic weapons sites doing similar work as at MCW, may be found in the following citation: Robert Alvarez, Director, Nuclear Power and Weapons Project, Environmental Policy Institute, "Occupational Radiation Health Risks: Folklore and Risks," June 1985, pages 9-11.

17. Dupree-Ellis, E, Watkins JP, Ingle JN, Phillips JA. External radiation exposure and mortality in a cohort of uranium processing workers. Am J Epidemiol 152 (July): 91-95, 2000.

Respectfully submitted,

Dan McKeel

Daniel W. McKeel, Jr., M.D.

Contact Information:
Daniel W. McKeel, Jr., M.D.
Associate Professor of Pathology and Immunology
Pathology Box 8118 (campus mail stop)
Washington University School of Medicine, St. Louis
660 S. Euclid Ave.
St. Louis, Missouri 63110
Board member, United Nuclear Weapons Workers
Phones: (H) 314-367-8888, (W) 314-362-7421
Fax: (H) 314-367-7663, (W) 314-362-4096
E-mail: (W) dan@pathbox.wustl.edu (preferred); (H) luez@aol.com (shared)

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