

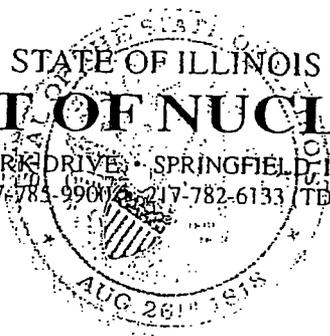
COPY

STATE OF ILLINOIS  
**DEPARTMENT OF NUCLEAR SAFETY**

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Rod R. Blagojevich  
Governor

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Director



January 16, 2003

601 127-3696

Philip Ting, Chief  
Fuel Cycle Licensing Branch, FCSS  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Re: Honeywell International uranium hexafluoride conversion facility in  
Metropolis, Illinois

Dear Mr. Ting:

The Illinois Department of Nuclear Safety (Department) has received and carefully reviewed a copy of the September 20, 2002, letter to you from Percy L. Angelo of Mayer, Brown, Rowe & Maw regarding the classification of certain radioactive wastes from the Honeywell International uranium hexafluoride conversion facility in Metropolis, Illinois (Metropolis). Ms. Angelo requested that you consider the significance of the decision of the Commission in SECY-02-0095 for the contaminated crushed drums and chipped pallets that were generated at Metropolis. The Department has carefully reviewed the Commission's July 25, 2002, decision in SECY-02-0095 (including the comments of Chairman Meserve, Commissioner Dicus and Commissioner McGaffigan) and the June 4, 2002, memorandum from EDO Travers to the Commissioners (EDO memorandum). The Department agrees that you should consider the record in SECY-02-0095 but disagrees that SECY-02-0095 supports Honeywell's arguments. To the contrary, SECY-02-0095 supports the Department's position that Honeywell wastes at issue are source material.

Mischaracterization of the Department's position

The Department initially disagrees with the posture attributed to the Department by Ms. Angelo. Ms. Angelo makes several arguments regarding background facts and the Department's purported motivation that are incorrect and have presumably been made to taint your objective review of the issues that the Department has raised. The first such argument is that the wastes in question have

January 16, 2003

Page 2

always been classified as byproduct material as defined under Section 11e.(2) of the Atomic Energy Act (11e.(2) material), and it is the Department that has undertaken to reclassify them as source material. Ms. Angelo has it wrong. At the core of the Department's position is the fact that the Metropolis conversion facility is a source material licensee. To our knowledge, the facility is not licensed, and has never been licensed, for 11e.(2) material. The facility is a uranium conversion facility, not a mill. As stated in my previous letter of February 16, 2001, the NRC retained jurisdiction over the facility's source material license when it discontinued, and the State of Illinois assumed, jurisdiction over other source material licenses when Illinois became an Agreement State in 1987. The order issued by NRC at that time expressly stated that,

Notwithstanding the provisions of a Section 274b Agreement with the State of Illinois as approved by the Commission the NRC jurisdiction over the possession and use of source material by Allied-Chemical<sup>1</sup> (license SUB-526) shall be retained by the NRC ....

Order to Protect the Common Defense and Security (In the Matter of Allied-Chemical Corporation, Metropolis, Illinois, Docket No. 0400-3392, License No. Sub-526).

The Department would also like to point out that the owners of the Metropolis facility have paid state fees assessed upon the generators of low-level radioactive waste every single year from 1983 through 2001. Source material wastes fall within the definition of "low-level radioactive waste." 11e.(2) material does not.

NRC, the owners of the Metropolis facility and the Department have all been in agreement, until recently, that the facility is licensed by the NRC for source material and produces waste that is classified as source material. The Department submits that it is Honeywell that is seeking to change the classification of the subject waste from source material to 11e.(2) material.

Second, Ms. Angelo alludes several times to the importance of the Metropolis facility remaining under NRC jurisdiction. Suffice it to say that the Department is not requesting jurisdiction over the facility. We have pointed out, however, that if the NRC agrees with Honeywell (wrongly, in our view) that wastes produced at the facility are 11e.(2) material instead of source material then the wastes are subject to the Department's jurisdiction based on NRC's previous

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<sup>1</sup> Honeywell's predecessor in interest.

January 16, 2003

Page 3

decisions to retain authority over source material at the facility but to discontinue jurisdiction over 11e.(2) material within the State of Illinois.<sup>2</sup>

Finally, Ms. Angelo states that,

it appears that [the Department's] interest in the Metropolis facility is almost entirely monetary: the State seeks to collect fees from Metropolis for those materials under its low-level radioactive waste rules, even though Illinois' compact has no facility and no current plan to construct such a facility and even though the Metropolis materials are sent out of state for disposal.

Ms. Angelo's factual statements are largely correct, although incomplete. Her conclusion is incorrect. Ms. Angelo is correct in that generators of low-level radioactive waste are subject to fees under Illinois law and that Illinois has no operating low-level radioactive waste disposal facility. She neglects to point out that the owners of the Metropolis conversion facility have paid the fees for other, essentially identical, radioactive wastes for almost two decades and that Illinois has not had an active radioactive waste disposal facility for over two decades. Ms. Angelo is correct that radioactive wastes from the Honeywell facility are sent out of the state for disposal. That also has been correct for over two decades, not just for Honeywell but also for all Illinois radioactive waste generators, including the class of generators that generates more waste than Honeywell—the nuclear power plants.

The Department is supported by fees and collects fees assessed by law—as does NRC. The Department disagrees with Ms. Angelo's statement that the Department's interest is "almost entirely monetary." The Department's primary interest is that the law that applies to its programs and the NRC's programs is interpreted logically, consistently, and in accordance with legislative intent.

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<sup>2</sup> Honeywell's previous argument that the NRC discontinued jurisdiction over the Kerr-McGee facility in West Chicago but retained jurisdiction over all other 11e.(2) licensees in the state reflects a misunderstanding of the Agreement State process and a misreading of NRC's clear statements that Kerr-McGee was the only 11e.(2) licensee in state. If you have any uncertainty regarding the scope of Illinois' agreement under Section 274b of the Atomic Energy Act, we suggest that you consult with the Office of State and Tribal Programs. There is no basis whatsoever for an argument that NRC has retained regulatory jurisdiction over Section 11e.(2) licensees in the State of Illinois other than the Kerr-McGee facility.

SECY-02-0095 (Applicability of Section 11e.(2) of the Atomic Energy Act to Material at the Sequoyah Fuels Corporation Uranium Conversion Facility)

Having addressed Ms. Angelo's attempts to taint the Department's request, I will now proceed to discuss the Commission's Sequoyah Fuels decision in SECY-02-0095.

The Sequoyah Fuels proceeding and decision

The Sequoyah Fuels Corporation (SFC) facility in Gore, Oklahoma is an inactive uranium conversion facility included in the Site Decommissioning Management Plan.<sup>3</sup> Operations at the facility ceased in 1992. In 1993, SFC submitted a preliminary decommissioning plan in which it argued that wastes resulting from the concentration of uranium from yellowcake met the definition of 11e.(2) material, and that the site could be remediated under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). NRC declined to allow remediation under UMTRCA based on advice from the Office of General Counsel to the EDO that, "hexafluoride conversion plants were never considered as uranium mills and were not contemplated as such in [UMTRCA]." EDO memorandum, pp. 2-3. The EDO concluded in a July 6, 1993, memorandum to the Commission that, "The uranium contaminated decommissioning wastes at Sequoyah Fuels do not fit the definition of 11e.(2) byproduct material." EDO memorandum, Attachment 8, p. 3.

In 1999, SFC proposed a decommissioning plan that involved remediating the site and terminating the license under restricted conditions pursuant to NRC's license termination rule (LTR) in 10 CFR 20.1403. EDO memorandum, Attachment 1. The plan foundered, however, when SFC was unable to obtain an independent third party/custodian for institutional control. The State of Oklahoma, the U.S. Army Corps of Engineers and the Cherokee Nation declined to be responsible for institutional controls and DOE indicated that it was not interested in accepting ownership of the site under the Nuclear Waste Policy Act of 1982. Subsequently, in January 2001, SFC asked NRC staff whether waste from the front-end process at the facility could be considered to be 11e.(2) material, allowing decommissioning under 10 CFR Part 40, Appendix A. EDO memorandum, p. 2. If decommissioned under Appendix A, DOE would be required under Title II of UMTRCA to assume responsibility under a general license after termination of SFC's license by NRC.

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<sup>3</sup> The background of the SFC proceeding has been extracted from the EDO memorandum and the attachments thereto.

January 16, 2003

Page 5

In response to SFC's request, NRC's Division of Waste Management prepared a Commission Paper that discussed two options: Option (1), adhering to the previous position and continuing with decommissioning under the LTR, and Option (2), agreeing with SFC's arguments and allowing some of the wastes at the site to be classified as Section 11e.(2) byproduct material. The staff concluded that both options were viable and recommended Option 2.

The Commission Paper gave rise to a Differing Professional View (DPV) submitted November 9, 2001, by a senior project manager and a health physicist in the Fuel Cycle Licensing Branch. EDO memorandum, Attachment 9. The DPV identified several legal, programmatic and technical issues and concluded that the SFC wastes should not be reclassified as 11e.(2) byproduct material, and that Option 1 should be chosen.

The DPV was then reviewed by a three-member Differing Professional View Panel, which issued a report on March 8, 2002. The panel concluded that, "it did not appear that the Draft Commission Paper has made a complete case for recommending Option 2, i.e., the acceptance of the SFC proposal" and identified seven areas in which the paper was lacking. EDO memorandum, Attachment 8, pp. 8-9. The last such deficiency was that, "the Draft Commission Paper does not address the possible unintended consequences of its recommendation with regard to other facilities in the fuel cycle making similar arguments." Finally, the panel stated:

The Commission will need a clear presentation of all the issues discussed above to make a well-informed policy decision. The Panel recommends that the Draft Commission Paper be revised to address the areas itemized above. With this additional information included in the Commission Paper, the Panel's opinion (given the information available to it and the regulatory framework as it exists) is that the case for Option 2 as it stands is not a strong one, and that the staff may wish to consider other options.

EDO memorandum, Attachment 8, p. 9.

On June 4, 2002, the EDO sent the Policy Issue (Notation Vote) memorandum to the Commissioners in SECY-02-0095. The memorandum included nine attachments, providing the background documentation for the Commissioners. The Policy Issue memorandum discussed the advantages and disadvantages of the two options and concluded with the following recommendation:

January 16, 2003

Page 6

Both options are legally viable and protective of public health and safety and the environment. Based on the above considerations, and after weighing the advantages and disadvantages of the options, the staff recommends that the Commission approve Option 2 -- that SFC front-end waste can be classified as Section 11e.(2) byproduct material.

EDO memorandum, p. 10.

In the discussion of the disadvantages of Option 2, the EDO expressly addressed the issue raised by the DPV Panel regarding possible unintended consequences:

There is the potential for unknown and unintended consequences from this change in the staff's position on the classification of this waste as 11e.(2) byproduct material. The staff position limits the flexibility offered in this case to the milling process (i.e., activities involved with the extraction or concentration of uranium). The staff cannot foresee any adverse consequences in this limited decision. The only other commercial conversion facility in the U.S., the Honeywell plant at Metropolis, IL, currently does not perform milling operations.<sup>10</sup> The three other sites in the SDMP that are considering restricted release, and in need of a third party/custodian, are clearly not involved in milling activities, and therefore could not be considered for an 11e.(2) byproduct material classification of their wastes. Once the fuel cycle is beyond natural uranium oxide, and the conversion processes take place, the milling process is clearly completed. Although the staff is mindful of a concern that there may be unintended consequences from Option 2, each case must be considered on its own merits to determine if the milling process is involved. If, however, other licensees were to argue for additional flexibility in classification of their wastes, in order to reduce disposal costs, for example, it is possible that schedules for remediating sites could be affected and additional staff resources would be needed to address any licensee proposals.

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<sup>10</sup>Although uranium milling was not performed at Honeywell in the recent past, the staff is determining whether uranium milling was ever performed at this facility. If so, some wastes could be potentially be classified as 11e.(2) byproduct material. Honeywell has not indicated that it would pursue this classification with NRC.

EDO memorandum, p. 9.

On July 25, 2002, the Commission, by a 3-1 vote, approved Option 2. Chairman Meserve submitted comments in which he concluded that the staff's

January 16, 2003

Page 7

recommendation was defensible. The Chairman focused on the statutory definition of 11e.(2) byproduct material as "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." 42 U.S.C.A. § 2014(e)(2). With regard to the "processing" element of the definition the Chairman stated,

There is a strong basis for concluding that the wastes at issue arise from the extraction or concentration of uranium primarily for its source material content. SFC's front-end processing is intended and does serve to concentrate uranium. In fact, the processes are largely identical to similar stages at a uranium mill. And there is no suggestion in the definition of 11e.(2) byproduct material that all stages involved in the extraction or concentration of uranium or thorium must take place in a mill in order for the wastes to be encompassed by the definition.

Commissioner Comments on SECY-02-0095, Comments of Chairman Meserve.

The Chairman then addressed "the question of whether the extraction or concentration should be deemed to be from an 'ore'" and concluded, based on the precedent of the two proceedings cited in my previous letter to you, that wastes from the processing of material other than virgin ore for its source material content did constitute 11e.(2) byproduct material. Referring to the decision of the United States Court of Appeals in *Kerr-McGee Chemical Corp. v. NRC*, 903 F.2d 1 (D.C. Cir. 1990),<sup>4</sup> the Chairman stated that, "the Court determined that the fact that certain material had previously been processed through a mill did not preclude that material from being considered "ore" if it were processed again for source material." Id. at 7-8 (emphasis added). In addition the Chairman commented that the Commission's holding in *International Uranium (USA) Corp.*, CLI-00-1, 51 NRC 9, 23 (2000), that tailings from processing FUSRAP material are 11e.(2) byproduct material, was directly applicable to the SFC petition: "the fact that the SFC feedstock had previously been processed at a uranium mill does not preclude the wastes from the subsequent processing at SFC from being 11e.(2) byproduct material." (emphasis added)

Having concluded that the SFC wastes could be classified as 11e.(2) byproduct material, the Chairman then assessed whether it was appropriate to do. He concluded that it was because Option 2 enabled resolution of the long-term control of the wastes in that DOE had indicated that it was prepared to take title to the land and the 11e.(2) byproduct material whereas selection of Option 1 "would

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<sup>4</sup> The Illinois Department of Nuclear Safety was an aligned party with Kerr-McGee Chemical Corp. in opposing NRC's interpretation of the definition of 11e.(2) byproduct material in the litigation.

unnecessarily impose the difficult challenge of finding an independent custodian for long-term institutional controls if on-site disposal is pursued.”

The following key elements are to be discerned from the Chairman’s comments:

1. The wastes were created from the front-end processing at the SFC facility, processing that was largely identical to similar activities at the mill.
2. Based on precedent, it was not determinative that the material processed at the SFC facility was not virgin ore, the more significant issue being that the material was processed at the facility for the source material content.
3. Selection of Option 2 was appropriate because it facilitated a long-term solution to the decommissioning of the facility whereas Option 1 did not.

Commissioner McGaffigan commented that he agreed with the Chairman’s vote and approved Option 2. He concluded by stating that since the SFC wastes could be classified as 11e.(2) byproduct material, it was appropriate to do so because a determination otherwise “would only serve to slow the decommissioning at the Sequoyah Fuels’ facility.” Commissioner Comments on SECY-02-0095, Comments of Commissioner McGaffigan. Commissioner Diaz also voted in favor of Option 2 but had no comments.

Commissioner Dicus was the only Commissioner voting to approve Option 1 and to disapprove Option 2. Commissioner Dicus stated in her comments as follows:

I do not believe that the front-end of the SFC  $UF_6$  conversion process is a continuation of the milling process or that the  $U_3O_8$  milling process product, which is the feedstock to the SFC  $UF_6$  conversion process, is ore. The very nature of SFC's  $UF_6$  front-end operations (i.e., nitric acid dissolution, solvent extraction, and evaporation/concentration) were designed and sequenced to accommodate the complete  $UF_6$  process. In my view, a fair comparison of this example is the  $UF_6$  conversion process currently in operation at the Honeywell facility.

Commissioner Comments on SECY-02-0095, Comments of Commissioner Dicus (emphasis in the original). No other Commissioner agreed with Commission Dicus’s comment that the front-end process at SFC, which produced the wastes

January 16, 2003

Page 9

that the Commission agreed could be classified as 11e.(2) byproduct material, was like the process at Honeywell's facility.

Relevance of SECY-02-0095 to Honeywell's waste

The Department submits that the first important point from SECY-02-0095 is that the proceeding involved a drawn out licensing process to decommission a facility included in NRC's Site Decommissioning Management Plan. Despite years of effort, the decommissioning project faced failure because of the inability of the licensee to obtain an independent custodian for long-term institutional controls under the LTR. In his memorandum to the Commissioners on the two options in SECY-02-0095, the EDO listed the following as the first advantage of Option 2:

This option provides a more certain resolution of long-term control for most, if not all, of SFC's waste, by using DOE as the long-term custodian under UMTRCA, if these wastes are left on site. This option provides what may be the only viable path forward for site decommissioning, given the uncertainties associated with implementing the existing restricted release provisions of the LTR.

EDO memorandum, p. 7.

The importance of allowing SFC to proceed with decommissioning was clearly important to NRC staff and was expressly mentioned in the comments of Chairman Meserve and Commissioner McGaffigan. Considering the staff's original position in 1993, the numerous problems raised in the DPV and the concerns of the DPV Panel, it appears very doubtful that Option 2 would have been selected were it not necessary to allow the licensee to proceed with decommissioning. In contrast, the Metropolis facility is not in decommissioning, is not in the Site Decommissioning Management Plan and is not facing the near intractable dilemma faced by SFC.

Second, as is clear from Chairman Meserve's comments and his reliance on the precedent from *Kerr-McGee Chemical Corp. v. NRC* and *International Uranium (USA) Corp.*, the wastes at issue in SECY-02-0095 resulted from continued processing activity at the SFC facility. In contrast, the Metropolis wastes at issue did not result in any way from processing at the Honeywell facility. As IDNS has stated repeatedly, they are source material wastes from a uranium conversion facility. Source material is not transformed into 11e.(2) byproduct material merely by becoming a waste.

Third (and perhaps most important to the decision in SECY-02-0095), SFC argued and the staff concluded that, "the front-end of the Sequoyah processing was uranium milling ... and can reasonably be viewed as a continuation of the milling process that was started at a licensed uranium mill." EDO memorandum, p. 3. Chairman Meserve adopted this position in his comments. The processing consists of source material purification and is performed at the front-end of the SFC process for the same reason it is conducted at end of the process at the mill. EDO memorandum, Attachment 5, p. 5.

In contrast, the crushed drums and wood chips from Metropolis did not result from any process at Metropolis that could be viewed as a continuation of the milling process at a mill. The front-end source material purification process performed at SFC is not performed at Metropolis. *Id.*

As discussed above, the staff revised SECY-02-0095 upon the recommendation of the DPV panel to more fully advise the Commission on possible adverse consequences of allowing the front-end processing wastes at SFC to be classified as 11e.(2) byproduct material. In the June 4, 2002, memorandum from the EDO to the Commissioners, which provided the basis for the Commission's action, the staff expressly stated, "The staff cannot foresee any adverse consequences in this limited decision. The only other commercial conversion facility in the U.S., the Honeywell plant at Metropolis, IL, currently does not perform milling operations." EDO memorandum, p. 9.

The EDO's statement that Metropolis does not currently perform milling operations had the footnote quoted above that although milling was not performed at Metropolis in the recent past the staff was determining whether milling was ever performed at the facility, and if so, some of the wastes could be potentially classified as Section 11e.(2) material. The EDO also stated that, "Honeywell has not indicated that it would pursue this classification with NRC."<sup>5</sup> *Id.* The staff's determination of whether milling was ever performed at Metropolis would of course be irrelevant to the crushed drum and wood chip wastes, which were clearly not the result of any milling at Metropolis.

The EDO's memorandum to the Commissioners of June 4, 2002, advised the Commissioners that selection of Option 2 was "a limited decision," and that staff could not foresee any adverse consequences of selection of Option 2. One of the reasons that there would not be adverse consequences is that Honeywell does not conduct uranium milling at the Metropolis facility. We suspect that the

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<sup>5</sup> Apparently, the EDO had not been advised of Ms. Angelo's correspondence of March 2, 2001, on behalf of Honeywell. The Department assumes that the EDO will be properly informed.

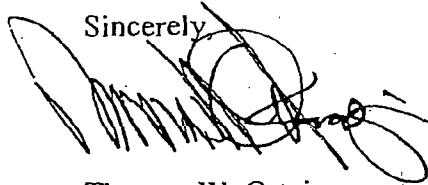
January 16, 2003  
Page 11

Commission will be surprised indeed if the staff were now to conclude that the processes at Metropolis are in fact comparable to the processes at SFC as argued unsuccessfully by Commissioner Dicus, the only Commissioner voting against Option 2 in SECY-02-0095.

Thank you for your assistance. We believe that a thorough review of SECY-02-0095 will lead you to concur with the Department that the Commission's decision in that proceeding supports the Department's position that the Honeywell wastes in issue should be classified as source material. If you have any questions, please contact the Department's Chief Legal Counsel Stephen J. England at 217/524-5652.

785-9884

Sincerely



Thomas W. Ortziger  
Director

GARY WRIGHT

TWO:kw

cc: Paul Lohaus  
Percy Angelov ✓