LBP-04-08
RAS 7830 **DOCKETED 05/26/04**
SERVED 05/26/04

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judges:

Alan S. Rosenthal, Presiding Officer
Dr. Richard F. Cole, Special Assistant

In the Matter of	Docket No. 40-7580-MLA-3
FMRI, INC. [formerly FANSTEEL, INC.]	ASLBP No. 04-816-01-MLA
(Muskogee, Oklahoma Facility)	May 26, 2004

INITIAL DECISION
(Upholding Issuance of License Amendment)

This proceeding involves an application filed in July 2003 by Fansteel, Inc. (the predecessor of FMRI, Inc.) (Licensee) for an amendment to its materials license (No. SMB-911). Issued under 10 C.F.R. Part 40, and subject to the provisions of that Part of the Commission's regulations, that license authorizes the possession at the Licensee's site on the Arkansas River near Muskogee, Oklahoma, of source material consisting of up to 400 tons of natural uranium and thorium in any form. The sought amendment relates to a decommissioning plan for the Muskogee site that had been submitted by the Licensee in January 2003 and thereafter supplemented.

In response to a Federal Register notice of opportunity for hearing published in August 2003 (68 Fed. Reg. 47,621), the State of Oklahoma filed a timely hearing request with regard to the license amendment application. In LBP-03-22, 58 NRC 363 (2003), the request was granted.[1]

[1]The hearing request was submitted and acted upon in the context of the then provisions of Subpart L, the portion of the Commission's Rules of Practice applicable to the adjudication of materials license proceedings. 10 C.F.R. § 2.1201 et seq. Thereafter, effective February 13, 2004, the Rules of Practice codified in 10 C.F.R. Part 2 underwent a substantial revision. See 69 Fed. Reg. 2,182 (January 14, 2004). The Commission not having directed otherwise, however, this proceeding remains subject to the provisions of the now-superceded Subpart L and any references to the Rules of Practice in this decision will be to those provisions.

In the wake of the grant, and in accordance with an established schedule, Oklahoma filed its written presentation on January 30, 2004; the Licensee and NRC Staff filed their responsive written presentations on March 4, 2004; and Oklahoma filed a rebuttal written presentation on April 1, 2004.[2] It appearing to Judge Cole and this presiding officer that the several presentations are sufficient to enable an informed consideration and disposition of the issues raised by Oklahoma, no supplemental oral presentations are being solicited.

On December 4, 2003, shortly after the grant of Oklahoma's hearing request, the NRC Staff approved the issuance of a license amendment authorizing the decommissioning of the Muskogee site, subject to the observance of certain specified license conditions. Effective January 23, 2004, the license and "all equipment, real property, improvements, and all other assets of Fansteel comprising the Muskogee facility were transferred to FMRI, a subsidiary of Reorganized Fansteel" See Licensee's Written Presentation at 12.[3] In an April 12 memorandum and order (unpublished) at n. 1, FMRI was substituted as the party to the proceeding on the strength of a January 29 letter from Licensee's counsel calling attention to this development. Henceforth in this decision the term "Licensee" will be employed to refer to both Fansteel and FMRI.

For the reasons set forth hereinafter, we uphold the NRC Staff's issuance of the license amendment in question.[4]

---

[2]The rebuttal presentation is dated March 31, 2004 and will henceforth be referred to by that date.

[3]As will be further discussed, the transfer was the culmination of action on a petition that Fansteel had filed under Chapter 11 of Title 11 of the United States Code seeking reorganization in bankruptcy.

[4]While the ultimate decisional responsibility in Subpart L proceedings may lie with the Presiding Officer, the applicable Rules of Practice also contemplate that a member of the Licensing Board Panel with technical expertise will participate actively in the adjudication of any proceeding to which assigned as a Special Assistant. See 10 C.F.R. § 2.722. In this instance, Judge Cole played an important role in the assessment of the record pertaining to the several presented issues, particularly those relating to site characterization. Each of the determinations reached in this decision has his endorsement.

I. BACKGROUND

A. The materials license in question was issued in 1967 and, under its aegis, until 1989 the Licensee operated a rare metal extraction facility on its Muskogee site. As a result of those operations, the site apparently now contains material in the form of uranium, thorium, radium, and other decay-chain products in process equipment and buildings, soil, sludge, and groundwater.

Although some earlier developments are discussed below, the starting point of the proceeding at bar may here be taken as the Licensee's January 14, 2003 submission of a decommissioning plan for NRC Staff review. As described in the Staff's presentation (at 2), the Licensee proposed to remove the contaminated materials in the soil and groundwater to meet the unrestricted release requirements of the Radiological Criteria for License Termination rule (10 C.F.R. Part 20, Subpart E). The submission went on to note that, given the pending bankruptcy reorganization proceeding (see n. 3. supra), the amount and type of financial assurance to be provided in connection with the decommissioning plan would be set forth in a plan of reorganization to be filed with the bankruptcy court. In addition, the Licensee had indicated in the submission an intent to file an alternative schedule for completion of decommissioning, as well as a request for exemption from the regulatory funding requirements in 10 C.F.R. § 40.36(d), (e) to support the terms and conditions of the reorganization plan.

On May 8, 2003, at the Staff's insistence, the Licensee supplemented the decommissioning plan with additional information. It also referred to the forthcoming transfer of the materials license to FMRI as part of a confirmed reorganization plan. That wholly-owned subsidiary of the reorganized Fansteel would undertake a four-phased approach to decommissioning the Muskogee site.

The Staff deemed the supplemental information provided in the Licensee's May 8 letter to be sufficient to enable it to commence a technical review of the tendered decommissioning plan. On June 26, 2003, however, the Licensee withdrew that plan. A month later, on July 24,

the plan was resubmitted with the requests that the materials license be amended to reflect its approval; an alternate decommissioning schedule be approved pursuant to 10 C.F.R. § 40.42(i); and an exemption be granted from the financial assurance requirements of 10 C.F.R. § 40.36(e). In a supplement to the July 24 submission, the Licensee outlined the means by which it proposed to provide financial assurance for the decommissioning.

As earlier noted, upon review of these requests the Staff on December 4, 2003, approved a license amendment authorizing decommissioning of the Muskogee site subject to certain conditions that were incorporated in the amended materials license. The imposition of these conditions was supported by a Safety Evaluation Report that had been issued the previous day.

Prior to the approval of the license amendment, the Staff had conducted an environmental assessment of the decommissioning plan that had led to the conclusion that the proposed license amendment would not result in any significant environmental impacts. Accordingly, it determined that the preparation of an environmental impact statement was unnecessary and, on October 31, 2003, had issued a Finding of No Significant Impact (FONSI).

Also as a precursor to authorizing the sought license amendment, the Staff had addressed the financial assurance matter. In a November 7, 2003 letter, it had advised the Licensee of its determination that the financial instruments that the Licensee proposed to use -- although different from those specified in the Commission's regulations -- would nevertheless be adequate to ensure the availability of sufficient funding for decommissioning. Accordingly, as long as certain prerequisites pertaining to the implementation of the proposed financial instruments were met, a sufficient basis existed for exempting the Licensee from the financial assurances requirements of 10 C.F.R. § 40.46(e).

B. Oklahoma's January 30 presentation challenges the Licensee's decommissioning plan and the NRC Staff's grant of the license amendment application on a variety of grounds. At the outset, the State maintains (Presentation at 10-35) that the plan rests upon a

characterization of the site that is incomplete and inaccurate, as well as not reflective of current site conditions. As a consequence of these asserted deficiencies, the plan is said not to address appropriately all of the contamination present on the site. Further on the matter of site characterization, Oklahoma maintains (id. at 35-37) that the Staff failed to follow its own guidance in accepting the plan notwithstanding the inadequacy of the data supplied by the Licensee.

The State's second claim (id. at 38-40) is that the plan was improperly predicated on the site being used in the future for solely industrial purposes. Third, Oklahoma attacks (id. at 41-42) the Staff's waiver of the regulatory financial assurance requirements. Fourth, the State would have it (id. at 42-44) that the cost estimates for decommissioning supplied by the Licensee were based on undocumented and unreasonable assumptions and, as such, should have been rejected. Finally, it insists (id. at 44-47) that the Staff issuance of the FONSI was improper.

In their March 4 responsive presentations, both the Licensee and the Staff addressed each of the Oklahoma assertions, in most instances buttressing their positions on the assertions with affidavits. As above noted, in a March 31 filing, the State took advantage of the opportunity to submit a rebuttal to the Licensee and Staff submissions.

II. ANALYSIS

Before turning to a consideration of the specific claims advanced by Oklahoma, a few preliminary observations are in order so as to put the inquiry into its proper context. In significant measure, particularly with regard to the site characterization issues it raises, the State's challenge to the adequacy of the Licensee's decommissioning plan rests upon assertions that there was a failure to comply with the provisions of certain NRC guidance documents (NUREGs). In addition, in connection with several claims, Oklahoma questions the sufficiency of the NRC Staff's review of the decommissioning plan and insists that further review activities be undertaken.

As the Staff observes (Presentation at 5-7), it is quite apparent that Oklahoma has misapprehended both the significance of the NUREGs and the outer bounds of what might be considered in an NRC adjudicatory proceeding. In that connection, the Staff points to 10 C.F.R. § 40.42(g)(5), which provides that a proposed decommissioning plan will be approved "if the information therein demonstrates that the decommissioning will be completed as soon as practicable and that the health and safety of workers and the public will be adequately protected." Given this directive, the Staff insists, Commission rulings make it clear that the inquiry here must be confined to whether the decommissioning plan tendered by the Licensee meets the regulatory requirements and thus does not embrace the sufficiency of the Staff review of that plan. For this proposition, the Staff directs attention to the very recent decision in Duke Energy Corp. (Catawba Nuclear Station, Units 1 and 2), CLI-04-06, 59 NRC __,__ (Feb. 18, 2004) (slip op. at 11 and n.23), which, in turn, cites Baltimore Gas & Elec. Co, (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 349 (1998) and Curators of the University of Missouri, CLI-95-1, 41 NRC 71,121 (1995).[5]

On the matter of the significance of the NUREGs upon which Oklahoma heavily relies in its attack upon the sufficiency of the Licensee's decommissioning plan, the Staff points (Presentation at 6) to the holding in Curators of the University of Missouri to the effect that only "statutes, regulations, orders, and license conditions can impose requirements" with the consequence that, because guidance documents such as NUREGs do not purport to establish enforceable requirements, "nonconformance with such guides does not equate to noncompliance" with Commission regulations. CLI-95-1, 41 NRC at 98. Rather, the

---

[5]Of course, whether the Staff has complied with the obligations imposed upon this agency by the National Environmental Policy Act is always open to adjudicatory consideration at the behest of a petitioner. That is, however, a quite different matter than the adequacy of the Staff's review of a decommissioning plan to determine whether it satisfies all regulatory requirements. Even if, in the minds of some, the review was deficient in some respects, what is of pivotal importance is whether the licensee has nonetheless established that, in fact, the plan meets those requirements.

Commission ruled, although an NRC guidance document sets forth one way in which compliance with a regulatory requirement might be obtained, other approaches to such compliance might prove just as acceptable. Id. at 100.

In evaluating Oklahoma's challenges to the decommissioning plan, the foregoing settled principles must be kept in mind. Specifically, our task here is to determine whether, in the words of the governing regulation (section 40.42(g)(5)), there is cause to conclude, on the basis of what has been put before us by Oklahoma, the Licensee and the NRC Staff, that the decommissioning plan will be completed as soon as practicable and adequately protects the health and safety of workers and the public. If the answer to that question is in the affirmative, it necessarily follows that the Staff's December 4, 2003 conditioned approval of the plan must be upheld. On the other hand, if the plan is found not to meet the regulatory standard, that approval cannot stand.

With regard to this inquiry, the Staff takes note (Presentation at 5, n.4) of the fact that Oklahoma has supplied no expert opinion to support any of its claims. In contrast, the Staff (and the Licensee as well) responded on each of those claims with expert evidence of its own in the form of affidavits. None of those affidavits was countered by an expert on the particular subject as part of the State's March 31 rebuttal presentation. To be sure, that absence cannot be taken as fatal per se to Oklahoma's cause. It was open to the State to endeavor to establish, by argumentation without more, that the Staff's and Licensee's expert testimony was so flawed or unpersuasive as to warrant receiving little, if any, weight. Needless to say, however, that is a difficult undertaking that is not invariably successful.

A. The major portion of Oklahoma's written presentations is devoted to the State's claim that the decommissioning plan is founded upon a characterization of the Licensee's site that is incomplete, inaccurate and, as such, not reflective of current site conditions. Accordingly, we are told, the plan fails to address adequately all contaminants present on the site. As earlier

noted, in advancing this claim, Oklahoma maintains that the NRC Staff's approval of the plan was not consistent with the guidance provided in NUREGs.

1. So that the State's claims in that regard might be addressed in context, it is necessary first to consider both what is involved in the site characterization undertaking and what the plan contemplates with respect to its fulfillment.[6]

The specific function of the Muskogee facility between 1967 and 1989 was the production of the rare metals tantalum and columbium (formerly niobium). This production was obtained through extraction from natural ores, ore concentrates and tin slags that, overall, contained approximately 0.15 percent of each of two radionuclides–uranium and thorium–as naturally occurring constituents. Those raw materials were digested in a hydrofluoric acid (HF) solution, following which a series of unit processes were conducted to separate the metal products.

The "work in progress" (WIP) byproducts of the separation processes, including the radioactive uranium and thorium residue, were deposited in Ponds Nos. 2, 3, and 5. Stored in Ponds Nos. 6, 7, 8, and 9 were primarily precipitants in the form of calcium hydroxide and calcium fluoride, with the occasional minor addition of several metal oxides. As later determined in a 1993 Site Assessment Survey, the highest concentrations of radiological contaminants were in Ponds Nos. 2 and 3, with an average ranging from 360 to 640 picocuries

---

[6]The factual recitation that immediately follows has been drawn in large measure from the affidavits of Gary L. Tessitore and Marcel David Tourdot, both of which were appended to the Licensee's Presentation as Tab A and Tab C respectively. Mr. Tessitore is the Board Chairman, President and Chief Executive Officer of the Licensee. Before he recently assumed other employment, Mr. Tourdot was employed by Earth Sciences Consultant, Inc. That corporation had worked with the Licensee for over 14 years "on matters such as site characterization, remediation support, site surveys, radiological health and safety, and general radiological engineering." Affidavit at 1.

Because of the absence of any evidentiary submission on the part of Oklahoma, all representations of fact contained in the Tessitore and Tourdot affidavits, as well as those found in the other affidavits that accompanied the Licensee and NRC Staff presentations, may reasonably be deemed uncontested.

per gram (pCi/g) of U-238 and 360 to 440 pCi/g of Th-232. By way of contrast, the range of the average concentrations in Ponds Nos. 5 through 9 was between 14 and 53 pCi/g for U-238 and 2 and 26 pCi/g for Th-232.

In June 1989, the west embankment of Pond No. 3 failed and supernatant from the pond spilled into the surrounding area and the Arkansas River. The discharge was halted by the emergency construction of containment dikes. The fluids contained by those dikes were routed to the facility's water treatment system and, following treatment, were placed in Ponds Nos. 8 and 9. In the wake of its failure, Pond No. 3 received no further residues from ore/slag processing and six months later, in December 1989, the operations for the production of tantalum and columbium were terminated.

In the early 1990s, the Licensee submitted a draft Work Plan for a Site Remediation Assessment to this Commission, the U.S. Environmental Protection Agency, and the State of Oklahoma. Following review by those agencies and the incorporation of their comments, a final Work Plan was submitted to the NRC Staff in July 1992 for its approval. That approval was given and the Work Plan was incorporated in the materials license here in issue by a December 21, 1992 amendment.

The Remediation Assessment called for by the Work Plan was conducted in 1993 and is the source of much of the current site information, as subsequently updated to reflect activities since that time such as on-going surveys of buildings and equipment. Among other things, the 1993 undertaking included installation of soil borings, monitoring wells, and test pits; the collection and analysis of soil, sediment, surface water, ground water, air, and pond residue samples; and the performance of a radioactivity scoping survey. Borehole, well, and test pit locations were selected on the basis of facility history and operations information. Sample locations were chosen based on such factors as the possibility that they might have been affected by material handling and storage, past releases, manufacturing operations, and air emissions.

Radiological survey activities were conducted over the interior and exterior of the site structures and the external open lands on the site. All of the buildings associated with the ore processing activities were surveyed. The Chemical "C" Building was found to be contaminated throughout with radioactive ore residues. Isolated areas of radioactive contamination were also identified in some of the other site buildings.

In addition to its performance of the 1993 Remediation Assessment, in the period between 1989 and August 1996, the Licensee removed processing equipment, conducted limited site remediation, and conducted decommissioning of selected site areas. Specifically, 35 acres of the site, designated as the "Northwest Property," were decontaminated and released by the NRC Staff in August 1996 for unrestricted use. In 1999, 19 acres of that area were sold to the Port of Muskogee.

Commencing in 1997, as part of a site remediation effort, the Licensee submitted to the NRC Staff detailed plans for a 3000 foot groundwater interceptor trench. It was installed in 1998-99 and keyed three feet into the underlying low permeability shale. The trench was designed to capture all shallow groundwater migrating in a west to east direction towards the Arkansas River. It went into operation in August 1999 and, according to Licensee affiants, has functioned successfully since that time.

2. This was essentially the situation when, on January 25, 2002, the Licensee advised the NRC Staff that it had filed a petition under Chapter 11 of Title 11 of the United States Code seeking reorganization in bankruptcy. According to Mr. Tessitore (Affidavit at ¶ 12), the Licensee recognized that one of the significant issues facing it in bankruptcy was the remediation of the Muskogee site, among others. It therefore had worked with a number of federal agencies, including the NRC, in an endeavor "to craft a solution that would permit remediation of all environmental sites, while still meeting its obligations to other creditors in accordance with the bankruptcy laws." Ibid. As Mr. Tessitore observed, a liquidation of the Licensee would have produced an inability even to commence remediation measures. Ibid.

During the balance of 2002, there was interaction between the Licensee and the NRC of no particular moment here. Then, on January 14, 2003, the Licensee submitted its decommissioning plan for NRC Staff review.

We have summarized at an early stage of this opinion what transpired in the wake of the receipt of the plan. See pp. 3-4, supra. It suffices here to note that, in apparent recognition of the financial constraints imposed by the bankruptcy proceeding, the focus was on the development of a plan that provided for the early remediation of the most contaminated site areas, to be followed at a later point with the site characterization work needed to identify and to remediate less contaminated areas. The ultimate goal was the complete remediation of the entire site to meet the established standards for unrestricted site release.

To this end, a four-phased approach for the decommissioning of the Muskogee site was formulated and then incorporated in License Condition 37, one of the conditions imposed upon the license that, in turn, undergirded the NRC Staff's approval of the sought amendment. The four phases may be summarized as follows:

Phase 1 will involve the remediation and the offsite disposal of the radioactive WIP residue material in Ponds Nos. 2 and 3, considered to be the most contaminated areas of the Muskogee site. That endeavor is scheduled to commence this September and to be completed by March 31, 2006.

Phase 2 will involve remediation and offsite disposal of material in Ponds Nos. 5 through 9. According to the affidavit of James Shepherd, the NRC Project Manager overseeing the remediation of the Muskogee site, appended to the Staff's Presentation as Exhibit 2, Ponds Nos. 6 through 9 are wet and the calcium fluoride low-level radioactive waste contained therein is in a very mobile form. For its part, Pond No. 5 is now dry but has been grouped with the other four ponds because it is adjacent to them and, further, low-level radioactivity has been detected historically in samples collected within its boundary. Shepherd Affidavit at ¶ 6. This remediation phase is slated to begin by January 1, 2007 and to conclude by April 30, 2011.

Phase 3 will involve completion of the remediation, including buildings, equipment and soils. During this phase, any additional needed site characterization will be conducted and completed by the end of 2011. Final site grading is to be completed in 2012, resulting in a nine-year cleanup schedule.

Phase 4 will involve groundwater monitoring and remediation. According to Mr. Shepherd (Affidavit at ¶ 9), that phase is ongoing and will continue until radioactive contaminants reach release limits. In a July 24, 2003 letter to the NRC Staff (at 3), the Licensee stated that it did not intend to seek license termination until the groundwater is satisfactorily remediated or alternative arrangements acceptable to the NRC Staff are in place.

3. There is little room for doubt that, but for the Licensee's current financial situation, the decommissioning plan submitted to, and approved by, the NRC Staff would have been significantly different in content. It is also beyond cavil that, as Oklahoma repeatedly stresses over the course of the 28 pages of its January 30 Presentation devoted to site characterization issues, the plan does not comport with all of the guidance contained in those NUREGs concerned with decommissioning. But, once again, that is not of particular, let alone controlling, significance here. Rather, the question before us for determination is whether the Staff's acceptance of a decommissioning plan driven by fiscal realities was consistent with governing NRC regulations, most particularly the mandate that the plan be completed as soon as practicable and adequately protect the health and safety of workers and the public. See p. 6, supra. As reflected by the affidavit of Mr. Shepherd, the Project Manager overseeing the remediation of the Muskogee site, the NRC Staff reached the conclusion that, with the inclusion and observance of certain specified conditions in the amended license, the pertinent regulatory requirements would be met. Affidavit at ¶¶ 5-10, discussing License Condition 37 summarized above.

In addition, Mr. Shepherd addressed (id. at ¶¶ 12-14) several assertions that Oklahoma had advanced in its January 30 Presentation. In this regard, he set forth both the basis for his

disagreement with the State's claim that certain groundwater data acquired in 1993 were flawed and the reasons that he believed that the Staff had justifiably concluded that "since 1993, except for groundwater transport of soluble radionuclides, there have been no onsite activities which would significantly alter the distribution of the existing contamination." Mr. Shepherd also responded to Oklahoma's concerns respecting the effectiveness of the interceptor trench and the Staff's determination that it was unlikely that any amount of contamination released from the site into the Arkansas River through the groundwater pathway would have an adverse impact upon the water quality of the river.

Considering the matter of groundwater more broadly, it appears from the record that there are two separate and distinct systems of interest at the Muskogee site. One is a shallow groundwater aquifer contained in the alluvial terrace deposits on the site and the other is a deeper groundwater aquifer separated from the shallow groundwater by a 30 foot thick Bedrock Layer that has been shown to have extremely low permeability. Data on groundwater elevation levels clearly establish that there is no hydrogeologic connection between the shallow and the deep groundwater. Affidavit of Scott C. Blauvelt, appended to the Licensee's Written Presentation as Tab D, at 3, ¶¶ 7-8, 19-20.[7]

The current groundwater remediation strategy consists of the collection (interceptor) trench around the down gradient periphery of the site. Tourdot Affidavit at ¶ 19. As previously noted, it is keyed three feet into the underlying low permeability shale and is designed to capture all the shallow groundwater migrating in a west to east direction toward the Arkansas River. Ibid. The collected groundwater is pumped through the existing waste water treatment system. Ibid. According to Mr. Blauvelt (Affidavit at ¶ 15), the shallow groundwater apparently

[7]Between April 1989 and June 2003, Mr. Blauvelt served as the principal hydrogeologist assigned to the Muskogee site by his then employer, Earth Sciences Consultants, Inc. In that capacity, he reviewed all data that were collected to characterize the geology and hydrogeology of the site.

has been impacted by previous site operations and is still being monitored and collected in the interceptor trench as part of the waste treatment system.

Finally on this phase of the site characterization issue, a review of the geological and hydrological data for the site indicates that the contaminants present in the shallow groundwater are isolated from the underlying deep groundwater by a natural barrier that is effectively blocking the downward migration of the contaminants. Id. at ¶¶ 19, 22. Moreover, the lateral migration of contamination in the shallow groundwater is prevented from leaving the site boundary by the interceptor trench system that collects the water and pumps it to the treatment facility. Id. at ¶ 21.

Moving on to other claims advanced by Oklahoma, we are told (January 30 Presentation at 13) that the decommissioning plan does not contain a description of the remediation techniques that will be employed in each room or work area of the contaminated structures. In response, the Licensee calls attention (Presentation at 27) to the fact that, in section 8.1.2, entitled “Remediation Techniques,” the plan contains a general discussion of such techniques. It points as well to Staff-imposed License Condition 32 to the effect that there shall not be a removable fraction of residual radioactivity on any specific building surface that exceeds three percent. The Licensee goes on to observe (ibid.) that, in light of that substantive limit, great importance will not attach to the specific remediation techniques that will be developed in conjunction with contractors for what is described as relatively minor structure contamination. Still further, the Licensee takes note of its successful decontamination of the Northwest Property portion of the site that was released in 1996 for unrestricted use. Ibid.

We agree with the Licensee that, in the totality of these considerations (none of which received an evidentiary refutation), the additional information sought by the State was not required. In that connection, it is noteworthy that Oklahoma gave little, if any, recognition to the imposition of License Condition 32 -- or for that matter to the other conditions imposed upon the license in conjunction with the grant of the amendment of which the State complains.

Respecting the discussion in the decommissioning plan of the remediation of contaminated systems and equipment, the State finds the discussion incomplete because it does not include such items as (a) a description of the radiation protection methods and control procedures that will be employed during remediation; and (b) a summary of the equipment to be removed or decontaminated and the procedures for accomplishing the decontamination. January 30 Presentation at 13-14. The Licensee's answer (Presentation at 28-29) refers to the stipulation in License Condition 33 to the effect that, before the release of any equipment, all surfaces, interior and exterior, must be characterized and all contaminated equipment remediated to the limits prescribed in NRC Regulatory Guide 1.86 entitled "Termination of Operating Licenses for Nuclear Reactors." Still further, the Licensee cites past instances of its remediation of contaminated systems and equipment and insists that it will encounter little difficulty in achieving the same result with regard to the systems and equipment here-involved, given their relatively low levels of contamination.

On this score as well, we are satisfied that, particularly in light of the license condition governing the remediation activity in question, the decommissioning plan was not fatally flawed because it did not contain the additional detail that the State desired to be included. Contrary to Oklahoma's apparent belief, we discern nothing in Commission regulations that might be taken as requiring the providing of minute detail respecting every element of the remediation process that the decommissioning plan contemplates.

That consideration likewise applies to Oklahoma's complaint (Presentation at 14) that the plan contains insufficient information regarding the techniques that will be employed to remove or to remediate surface and subsurface soil at the site. We find sufficient the disclosures in Section 8.3.2 of the plan, which is devoted to those techniques. Prior to remediation activities, a segment of the site will be prepared as a stockpile and material processing area. Soil will be excavated, segregated by radioactive content by gamma scanning, air-dried if necessary, and sent to a licensed facility for disposal. The pond

excavations will be backfilled with “clean” material to bring the site back to grade. The site will be restored to minimize weathering.

Although not all of them were deemed to warrant being specifically addressed as part of the foregoing discussion, we have considered each of Oklahoma’s claims with regard to the adequacy of the site characterization and determined that none of them is sufficiently meritorious to bring into serious question the acceptability of the decommissioning plan. In sum, when taken in conjunction with the several license conditions that the NRC Staff has imposed in connection with its approval (none of which, to repeat, the State seems to have taken into account), we conclude that the Licensee has provided sufficient detail in the plan with regard to each facet of the remediation process.

It might well be that greater information would have been included in the plan were it not for the four-stage approach to site remediation dictated by the Licensee’s current financial condition. Indeed, it seems that much of Oklahoma’s difficulty with the information regarding site characterization and remediation that has been provided has its roots in the fact that the decontamination of the entire site will take place over a course of many years, with some phases of it not to start for some time to come. Apart, however, from being an imperative in the totality of circumstances, the approach that has been adopted has not been shown to run afoul of any Commission regulation pertaining to site decommissioning. Beyond that, no reason has been assigned for questioning either the ability or the will of the NRC Staff to oversee the remediation process to ensure that the license conditions it has imposed are fully met.

B. Subpart E of 10 C.F.R. Part 20 sets forth radiological criteria for license termination. In circumstances where, as here, unrestricted public use of the site is under consideration, section 20.1402 requires that “the residual radioactivity that is distinguishable from background radiation [result] in a TEDE [total effective dose equivalent] to an average member of the critical group that does not exceed 25 mrem...per year, including that from groundwater sources of

drinking water." For its part, "critical group" refers to "the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances." 10 C.F.R. § 20.1003.

As explained in the affidavit of Mark Thaggard (appended to the Staff's Presentation as Exhibit 1), to demonstrate compliance with section 20.1402 "licensees must consider scenarios that account for possible environmental pathways by which residual radioactivity may be transported and routes by which someone using the site could be exposed to the residual radioactivity. These scenarios are expected to define a reasonable set of human activities that may occur at the site in the future."[8]

In carrying out this mandate, the Licensee employed for dose modeling purposes a so-called industrial use scenario that was based on its determination that, upon its release, the Muskogee site would be employed for industrial purposes. Although the Staff approved that choice, Oklahoma insists that a resident farmer scenario should have been employed instead.

The State bases that insistence upon its belief that, although the Muskogee City-County Port Authority might acquire portions of the property for industrial use, there might also be some recreational use of the property given its location on a river and the presence of a boat launching area on the other side of that river. It also points to the asserted fact that there is considerable agricultural activity in the county in which the site is located. January 30 Presentation at 39-40.

In addition, relying on its interpretation of the guidance provided in NUREG-1757, concerned with the invocation of the two scenarios, the State maintains (id. at 38) that the residential farmer scenario must be employed where the ground water is shallow enough that it reasonably could serve either (1) to irrigate a small farm and to provide domestic drinking water

---

[8]March 3, 2004 Affidavit at ¶ 4; emphasis in the original. Mr. Thaggard was the lead Staff technical reviewer of "the dose assessment and development of derived concentration guideline levels (DCGLs)" submitted as part of the decommissioning plan.

or (2) to intercept and to connect to a fish pond. Pointing to a map in the decommissioning plan indicating that the groundwater depth is between 20 and 40 feet, Oklahoma would have it that the first of these two situations is present. Id. at 38-39.

Countering Oklahoma's position on the matter, the Licensee supplied the March 3 affidavit of A. Fred Dohmann at Tab B of its Presentation. The President and Chief Executive Officer of the current Licensee, Mr. Dohmann referred to his "extensive" discussions with representatives of the Port Authority regarding the use of the site. According to the affidavit, the Authority, which provides service transloading facilities for barge, rail, and truck cargo, proposes to acquire the site and to develop further certain portions of it. The affidavit further takes note of the fact that the site is already zoned for light industrial/commercial use and that other industrial businesses either border or are in close proximity to it. Finally, Mr. Dohmann avers that the site is currently supplied by a municipal water source and that that source is capable of supplying sufficient water for typical manufacturing industries in the area. Affidavit at ¶¶ 9-11.

In his affidavit (at ¶ 6), Mr. Thaggard echoes the considerations that Mr. Dohmann advanced in support of employment of the industrial use scenario -- namely, the current and proposed future industrial use of the site and its immediate surroundings. Although not entirely ruling out the conversion of the land from industrial to residential farming use, he regards such conversions to be unusual. Ibid.

It well might be, as Oklahoma maintains, that the groundwater depth at the site is such that water might be pumped from it for farmland irrigation and drinking water uses. That consideration is, however, of no moment here. Apart from the fact that it serves merely as guidance and does not impose regulatory requirements, we do not read NUREG-1757 as attaching crucial significance to irrigation potential in circumstances where, as here, there appears to be little likelihood that the site will ever be converted from industrial to agricultural use. Insofar as the drinking water potential is concerned, Oklahoma has not disputed the

Licensee's representation (Presentation at 76-77) that the municipal water source that currently serves the site is capable of continuing for the foreseeable future to furnish sufficient water for typical manufacturing industries in the area. Moreover, pointing to disclosures in the Tourdot and Blauvelt affidavits (see pp. 8, 13 and nn. 6, 7, supra), the Licensee asserts (id. at 77), again without contradiction, that the groundwater is not useable.

Once again, the regulatory objective reflected in the guidance contained in NUREG-1757 is the selection of that scenario for dose modeling purposes that best conforms with reality. On the record at hand, there is equally no room for doubt that the industrial use scenario was appropriately chosen. Although it might not be beyond the realm of all possibility that the Muskogee site would ultimately become farmland, that possibility has not been shown by Oklahoma to be other than so remote as to be unworthy of any serious consideration.[9]

C. 10 C.F.R. § 40.36(d) specifies that the decommissioning funding plan required by paragraph (a) of that section must contain "a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (e) of this section...." For its part, paragraph (e) identifies the "one or more" methods by which "[f]inancial assurance for decommissioning must be provided." In the case of a non-governmental

---

[9]We have found nothing in Oklahoma's March 31 rebuttal presentation (at 13-17) to cast substantial doubt on the validity of resort to the industrial use scenario. Rather than putting forth evidence of its own to support its claim that the resident farmer scenario was a more appropriate choice, the State confines itself to criticisms of the Licensee and Staff evidentiary showings that, in the final analysis, have little bearing on the choice of scenario question.

To cite but one example, Oklahoma attacks as misleading (id. at 15-16) the statement in the Thaggard affidavit that land-use in the immediate vicinity of the site is limited to industrial purposes. According to the State, in "risk analysis and dose assessment vernacular, the term 'land-use' is not restricted to dry land but, rather, encompasses adjacent surface waters" such as the river bordering the site on which non-industrial activities take place. Although that might well be so, it hardly supports the State's insistence that employment of the resident farmer scenario was therefore required despite the fact that the site itself is zoned, and will be utilized, for industrial activities and is bordered on all other sides by industrial concerns.

The same may be said of the balance of Oklahoma's rejoinder on this issue. Although some of the points it makes might have some technical validity, none of them offers a compelling reason to reject the industrial use scenario.

licensee, those methods are (1) “[p]repayment”; (2) “[a] surety method, insurance, or other guarantee method”; and (3) “[a]n external sinking fund ... coupled with a surety method or insurance.”

Because, in this instance, the Licensee was not able to provide financial assurance through any of these methods, it sought and obtained an exemption from the section 40.36(e) requirements. Oklahoma challenges the grant of the exemption (January 30 Presentation at 41-42) on the stated ground that the requirements for affording that relief had not been met. Among other things, the State maintains that, even if (as to which it expresses some uncertainty) a Bankruptcy Review Team was established by the Staff following notification of the Licensee’s filing for bankruptcy and the “appropriate documents reviewed,” the authority to waive the requirements in question was lacking. For this proposition, Oklahoma relies upon NUREG-1556.

In his affidavit (attached to the Staff’s Presentation as Exhibit 3), Thomas L. Fredrichs addressed the Oklahoma challenge on this issue. An NRC Project Manager-Financial Analyst, Mr. Fredrichs had been called upon to review the information that the Licensee had submitted in support of the January 15, 2002 bankruptcy petition filed by the Licensee. That information included a business plan for exiting bankruptcy that included projections of sales, revenues and expenses, a liquidation analysis of the Licensee’s assets, and a proposal for providing alternative means for funding decommissioning. An examination of the information led to the conclusion that the Licensee would not be able to provide financial assurance by resort to one of the methods specified in section 40.36(e), with the consequence that an exemption from the requirements of the section was necessary. Affidavit at ¶ 8.

In considerable detail, the Fredrichs affidavit (id. at ¶¶ 9-27) goes on both to describe the alternative financial instruments that the Licensee had supplied and to explain the reasoning underlying his determination that “they provided reasonable assurance that funds would be available for decommissioning.” On the basis of that determination, the requested exemption

from the section 40.36(e) requirements was included as part of the license amendment issued on December 4, 2003.

Still further, Mr. Fredrichs noted (id. at ¶ 28) that, when the Licensee announced its intention to file a bankruptcy petition, the Staff had indeed formed a Bankruptcy Review Team. His affidavit went on to spell out the actions taken by that team. Ibid.

We take up in the next section of this decision Oklahoma's attack upon the decommissioning cost estimates that Mr. Fredrichs employed in determining that the alternative financial instruments furnished by the Licensee were sufficient. As will be there seen, the attack is without merit. That being so, the State's challenge to the grant of the exemption must also fail.

10 C.F.R. § 40.14(a) specifically authorizes the Commission to grant such exemptions from the requirements contained in Part 40 "as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest." That authority manifestly extends to exemptions directed to the Section 40.36(e) requirements. Additionally, as earlier noted (p. 6, supra), the Commission has ruled that the process employed by the Staff in conducting its regulatory reviews is not open to question in an NRC adjudicatory proceeding.

D. As above observed, decommissioning plans are required by regulation to contain cost estimates for decommissioning. In its January 30 Presentation (at 43-44), Oklahoma asserts that the cost estimate supplied by the Licensee was based upon undocumented and unreasonable assumptions and, as such, should not have been accepted by the NRC Staff. In large measure, the assertion is founded upon the fact that the Licensee's cost estimate was less than that provided by a contractor that the Staff had retained to provide an independent opinion on the decommissioning cost matter.

This disparity was specifically addressed in the Fredrichs affidavit. As he noted (at ¶ 11), the primary reason for the difference between the contractor's estimate and that of the

Licensee was the assumed volume of the contaminated soil that would need to be removed and disposed. The Licensee's estimate was based on the removal from the site of "only soil that was known to be contaminated ... based on limited characterization data." On the other hand, the contractor had based its cost estimate "on a projection of the amount of soil that would be removed by assuming that contamination would be found in areas that had not yet been completely characterized." Additionally, the Licensee had assigned a lower amount than did the contractor to the costs associated with planning and the final status survey.

Insofar as the latter matter was concerned, Mr. Fredrichs referred to the fact that the contractor applied a standard percentage to the disposal costs to arrive at its figure. As he saw it, however, that percentage's multipliers overstated the actual costs that the Licensee will incur. This was because "[t]he standard percentages were derived from cost studies of complex sites," whereas the decommissioning project in issue is "straightforward" in nature. Id. at ¶ 13.

Upon reviewing both estimates, Mr. Frederichs reached the conclusion that "there was reasonable certainty that [the Licensee's] estimate was representative of decommissioning costs for removing the known amount of contaminated soil and pond contents." He further concluded that (as has been previously discussed in this decision) additional site characterization would be required to determine precisely how much soil will be needed to be remediated at the site. Id. at ¶ 14.

As Mr. Fredrichs saw it, the fact that the Licensee's cost estimate reasonably assessed the known costs of decommissioning made that estimate acceptable given that, were it to prove inadequate, there was a mechanism in place to provide additional funds in the future. In that regard, he took note of the further fact that, because of the Licensee's limited funds, money spent on further characterization would reduce the amount available for decommissioning. Id. at ¶ 15.

The mechanism to which the affiant had reference is a Contingent Note supplied by the Licensee that "would be used to fund decommissioning costs not funded by the financial

instruments already provided, if necessary." According to Mr. Fredrichs, the "approach" being adopted "was designed to maximize effective use of limited funds in the beginning of the project, when the material with the highest hazard will be removed and disposed of, by minimizing the duplication of work necessary to perform additional site characterization. Data collected during the course of the work will be useful in performing the additional characterization that will be needed to resolve the uncertainty in waste soil volume. In approximately 2011, the project will be reviewed and additional costs, if any, determined. At that time, [the Licensee] will provide additional financial assurance, if necessary, using the Contingent Note." Id. at ¶ 17.

Although Oklahoma might not endorse this approach to dealing with the matter at hand, it appears to us to be quite reasonable given the realities of the Licensee's current financial situation. More to the point, it has not been shown to run afoul of any Commission regulatory provision concerned with decommissioning.

E. That leaves for consideration Oklahoma's claim (January 30 Presentation at 44-47) that the NRC Staff improperly issued its finding of no significant [environmental] impact (FONSI). For this proposition, the State relies first (id. at 44) on the stated fact that, although the Muskogee Port Authority intends to develop the site as an industrial park, the surrounding area is not entirely industrial. Although that might be so, Oklahoma has provided no basis for a conclusion that the decommissioning of the site will have a significant environmental impact upon the recreational areas on the other side of the Arkansas River to which it alludes. Moreover, its charge that the decommissioning plan is so "replete with inaccurate and insufficient data" as to make an adequate Staff review impossible is not accompanied by any documentation. To the extent that the charge rested upon the asserted flaws in site characterization or the employment of the industrial use scenario, we have already determined that the plan was not defective in those respects.

Oklahoma next takes issue (id. at 45) with the acknowledged failure of the Environmental Assessment (at Section 3.1.2) to address the chemical contamination on the site for the reason that it lacked regulatory authority to do so. It recognizes that, in granting its hearing request in LBP-03-22, 58 NRC 363, 370 (2003), Judge Cole and this presiding officer had expressly determined that Oklahoma's stated concern regarding non-radiological contaminants was outside the bounds of this proceeding. The State nonetheless maintains that it should have been consulted by the NRC Staff for guidance in the appropriate remediation of those contaminants. We find nothing in the Commission's regulations pertaining to environmental reviews that makes such consultation obligatory. Moreover, as the Licensee notes (Presentation at 89-90), Oklahoma had sufficient opportunity to present its views to the Staff.

Finally, based upon its reading of certain correspondence between the Licensee and the NRC Staff, Oklahoma asserts (January 30 Presentation at 47) that the Staff pre-determined the outcome of the Environmental Assessment. We agree with the Licensee (Presentation at 92-93) that that correspondence is not reasonably open to such an interpretation.

Not surprisingly, Oklahoma seemingly would prefer all site characterization and other activities associated with the decommissioning of the Muskogee site to have been accomplished before the NRC Staff put its stamp of approval on the Licensee's plan. Unfortunately, however, financial constraints preclude the achievement of such an objective. Confronted with that reality, the Staff has endorsed a staged approach to the completion of the decommissioning effort, with conditions imposed on the materials license designed to ensure that the public health and safety is adequately protected at all times. Under that approach, the decommissioning process now moves forward.

In these circumstances, the ultimate question before us is whether we have been provided by the Licensee and NRC Staff with an adequate evidentiary basis for a determination

that, although it is to be carried out in stages rather than all at once, the Licensee's decommissioning plan (when coupled with the Staff-imposed license conditions) satisfies applicable Commission regulations in the respects challenged by the State. On the basis of our analysis of Oklahoma's principal concerns and assertions, we conclude that this question requires an affirmative answer.[10] The short of the matter is that the affidavits of experts supplied by the Licensee and the Staff (taken in conjunction with the supporting exhibits that were also included in the former's presentation) squarely and persuasively responded to those concerns. To the limited extent that the Licensee's and Staff's evidentiary showing is at all confronted in the State's rebuttal presentation, the challenge takes the form of argumentation by counsel and, as such, has not been found to cast significant doubt upon the probative value of that showing.[11]

Accordingly, contrary to Oklahoma's insistence, the NRC Staff's approval of the proposed materials license amendment cannot be deemed to have been improvident. It therefore must be, and hereby is, upheld.

As authorized by 10 C.F.R. § 2.1253, if so inclined Oklahoma may petition the Commission for review of this decision in accordance with the procedures set forth in now-superceded sections 2.786 and 2.763 of the Rules of Practice (see n. 1, supra). Pursuant to section 2.786(b)(1), the petition for review must be filed within fifteen (15) days of the service of

---

[10]As previously observed, not all of Oklahoma's numerous assertions have been found sufficiently significant to warrant discussion in this decision. Suffice it to say that, whether or not specifically treated in the decision, we have found none of the State's perceived flaws in the decommissioning plan to possess enough substance to bring the Staff's approval of the plan into serious question.

[11]We do not mean to suggest that materials licensing proceedings conducted under Subpart L of the Rules of Practice always should consist of contests between expert witnesses supplying affidavits and counter affidavits. As earlier noted (p. 7, supra), however, there are difficulties associated with endeavors to refute the evidentiary presentation of the adversary without putting forth a like presentation of one's own. In this instance, those difficulties were simply not overcome by Oklahoma in its two written presentations that were both entirely devoid of anything in the way of an evidentiary showing.

this decision and must meet the requirements set forth elsewhere in subsection (b)(2). Within ten (10) days after service of the petition, other parties to the proceeding may file answers either supporting or opposing its grant. Subsection (b)(3). For its part, section 2.763 authorizes a party to request the Commission to allow oral argument with regard to the petition.

It is so ORDERED.

BY THE PRESIDING OFFICER[12]

/RA/

_____
Alan S. Rosenthal
ADMINISTRATIVE JUDGE

Rockville, MD
May 26, 2004

[12] Copies of this initial decision were sent this date by Internet electronic mail transmission to the counsel for Oklahoma, the Licensee and the NRC Staff.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
FMRI, INC. [formerly FANSTEEL, INC.]	)	Docket No. 40-7580-MLA-3
MUSKOGEE, OKLAHOMA	)	
	)	
(Materials License Amendment)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB INITIAL DECISION (UPHOLDING ISSUANCE OF LICENSE AMENDMENT) (LBP-04-08) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Alan S. Rosenthal, Presiding Officer
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Richard F. Cole, Special Assistant
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

W. A. Drew Edmondson, Esquire
Attorney General of Oklahoma
Kelly Hunter Burch, Esquire
Assistant Attorney General
Environmental Protection Unit
4545 N. Lincoln Blvd., Suite 260
Oklahoma City, OK 73105

Lisa B. Clark, Esquire
John T. Hull, Esquire
Office of the General Counsel
Mail Stop - O-15 D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Gary L. Tessitore
Chairman, President and
Chief Executive Officer
Fansteel, Inc.
Number One Tantalum Place
North Chicago, IL 60064

James R. Curtiss, Esquire
Mark J. Wetterhahn, Esquire
Winston & Strawn LLP
1400 L Street, NW
Washington, D.C. 20005

[Original signed by Evangeline S. Ngbea]

Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of May 2004