

August 17, 2012

MEMORANDUM TO: Patricia J. Pelke, Chief
Materials Licensing Branch
Division of Nuclear Materials Safety

FROM: Lydia Chang, Chief **/RA/**
Special Projects Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: REVIEW OF UNIVERSITY OF NOTRE DAME
DECOMMISSIONING FUNDING PLAN AND SELF-GUARANTEE
TAC NO. W90185

On June 13, 2012, Region III requested the Special Projects Branch (SPB) assistance in reviewing the University of Notre Dame decommissioning funding plan and self-guarantee (ML12165A348). The SPB staff submitted the University of Notre Dame documents to its contractor ICF International (ICF) for a detailed review. On August 7, 2012, ICF submitted its recommendations from its detailed review of the submittal. The SPB staff reviewed ICF's recommendations and are in agreement with them. The recommendations are in the attached enclosure.

Docket No.: 030-00694
License No.: 13-01983-15

Enclosure:
ICF's Review Recommendations of Univ. of Notre Dame Decommissioning Funding Plan and Self-Guarantee

CONTACT: Reginald Augustus, FSME/DWMEP
(301) 415-0165

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August 7, 2012

To: Reginald Augustus and Kenneth Kline, U.S. Nuclear Regulatory Commission

From: Paul Bailey, Liz Gormsen, and Libby McCullough, ICF International

Subject: Review of University of Notre Dame Decommissioning Funding Plan and Self-Guarantee

On February 20, 2012, the University of Notre Dame submitted to the U.S. Nuclear Regulatory Commission (NRC) a Decommissioning Funding Plan (DFP) for the radioactive materials facilities at the University and a Statement of Self-Guarantee to fulfill its requirements under 10 CFR Part 30. The DFP states that the estimated cost for decommissioning, including a 25 percent contingency, is equal to \$656,186. To demonstrate financial assurance sufficient to cover the DFP, the University of Notre Dame submitted a letter to the NRC from its Executive Vice President regarding its self-guarantee along with a February 15, 2012 ratings update by Moody's that discusses the University of Notre Dame's rated debt.

ICF conducted a review of the DFP and the documents related to the University of Notre Dame's self-guarantee using the guidance included in NUREG-1757, Volume 3, Appendix A, which applies to licenses granted under 10 CFR Part 30.¹ Based on our review, ICF recommends the licensee modify the submission in the following ways:

- (1) Submit additional detail to support the cost estimate (NUREG-1757, Volume 3, Appendix A);
- (2) Revise the decommissioning cost estimate to reflect the assumption that decommissioning activities will be performed by an independent third-party contractor (NUREG-1757, Appendix A, Section A.3.1);
- (3) Account for costs associated with packaging radioactive wastes (NUREG-1757, Volume 3, Appendix A);
- (4) Account for decommissioning equipment/supply costs, laboratory costs, and miscellaneous costs (NUREG-1757, Volume 3, Appendix A);
- (5) Clarify the means to be used for adjusting the cost estimate and associated funding levels over the life of the facility (10 CFR 30.35(e));
- (6) Submit a certification of financial assurance (NUREG-1757, Appendix A, Section A.2);

¹ ICF previously reviewed financial assurance submissions from the University of Notre Dame and submitted comments to the NRC on May 31, 1991, January 10, 1997, and August 12, 1997.

ENCLOSURE

- (7) Submit an originally signed duplicate self-guarantee agreement (NUREG-1757, Appendix A, Section A.14); and,
- (8) Revise the chief executive officer or chief financial officer letter (NUREG-1757, Appendix A, Section A.14.3).

Additional details concerning these recommendations and another issue are provided below.

Recommendations

(1) Submit additional detail to support the cost estimate (NUREG-1757, Volume 3, Appendix A)

Section A.3.1.3 of NUREG-1757, Volume 3, Appendix A, states that “Key assumptions used in the decommissioning cost estimate should be identified and adequately justified.” Additional detail is needed to justify the reasonableness of the assumptions upon which the decommissioning cost estimate is based.

For example, additional detail is necessary to justify the basis for the number and dimensions of the facility components included in the cost estimate for decontamination and/or dismantling of the facility components. Page 3 of the DFP provides a description of the licensee’s facilities (under Section A). Section B on page 3 of the DFP includes a short paragraph describing the scope of decommissioning activities, stating:

It is not likely that more than a few laboratories will require more than a final radiation survey prior to unrestricted release of the facilities. Of these, most, if not all, will require only minor to moderate decontamination to allow for release of the laboratory. Areas that would require decontamination include hood surfaces and isolated spots on benches and floors.

Page 6 of the DFP provides decontamination and/or dismantling costs for the facility components. The description of the facilities on page 3 are inconsistent with the decontamination and/or dismantling costs for the facility components identified on page 6, as follows:

	Description of Facilities (page 3, Section A)	Decontamination and/or Dismantling of Facility Components (page 6, Item 2)
Fume hoods	50 labs x 1 fume hood per lab = 50 fume hoods total	2 fume hoods total
Lab benches	50 labs x 18m of lab benches per lab = 900m of lab benches total	10m of lab benches total
Sinks and drains	50 labs x 2 sinks per lab = 100 sinks total	2 sinks and drains total
Floor	50 labs x 46.5m ² of floor space per lab = 2,325m ² of floor space total	5m ² of floor space total
Ductwork	No description provided	15m of ductwork total
Wall space	No description provided	1m ² of wall space total

Although Section B on page 3 of the DFP provides an explanation of why the licensee anticipates needing to decontaminate only a fraction of its facilities, additional information is needed to justify the basis for the number and dimensions of the facility components included in the cost estimate on page 6 of the DFP.

Similarly, additional detail is needed to justify the list of staff participating in training in the planning and preparation stage of decommissioning. Page 5 of the DFP provides the costs of decommissioning associated with planning and preparation. Under the sub-category "Staff Training," the radiation safety officer and the health physicist are the only individuals for whom training is anticipated. The DFP provides no basis for the exclusion of other staff identified as providing services for the decommissioning (e.g., technician, foreman, craftsman, laborer, and clerical) from the staff training. Additional detail is necessary in order to verify the reasonableness of the cost estimate.

ICF recommends that the NRC require the licensee to submit additional detail to justify the decontamination/dismantling and staff training costs in the cost estimate.

(2) Revise the decommissioning cost estimate to reflect the assumption that decommissioning activities will be performed by an independent third-party contractor (NUREG-1757, Appendix A, Section A.3.1)

NUREG-1757, Volume 3, Appendix A, Section A.3.1 recommends that decommissioning cost estimates assume "work will be performed by an independent third-party contractor." NUREG-1757, Appendix A, Section A.3.1.2 suggests that cost estimates should "provide sufficient funds to allow an independent third party to assume responsibility for and carry out the decommissioning of the facility if the licensee is unable to do so."

The licensee's submission states that labor "costs for decommissioning, including surveys and waste disposal, would be lower than estimates in NUREG-1757, Vol. 3 as all of this work would be conducted by the RSO, Radiation Safety Specialist, Safety Technician, and other staff already on University payroll and trained in Radiation Safety." The cost estimate explains that "it would be extremely rare that outside contractors would be used to decontaminate a facility or piece of equipment." Because one of the main purposes of financial assurance requirements is to assure that funding is available in circumstances where the licensee is unable or unwilling to pay the costs of decommissioning, this justification is not sufficient.

ICF recommends that the NRC require the licensee to revise the cost estimate to reflect the assumption that decommissioning activities will be performed by an independent third-party contractor.

(3) Account for costs associated with packaging radioactive wastes (NUREG-1757, Volume 3, Appendix A)

NUREG-1757, Volume 3, Appendix A, calls for decommissioning cost estimates to include all the costs associated with packaging radioactive wastes.

On page 6 of the DFP, the cost estimate provides a total estimated cost for the disposal of radioactive waste at a commercial low-level radioactive waste site, "including shipping and all site charges." The DFP does not specify that packaging costs (e.g., containers) are included in this estimate.

ICF recommends that the NRC require the licensee to account for the cost of packaging radioactive wastes.

(4) Account for decommissioning equipment/supply costs, laboratory costs, and miscellaneous costs (NUREG-1757, Volume 3, Appendix A)

NUREG -1757, Volume 3, Appendix A recommends that equipment/supply costs, laboratory costs, and miscellaneous costs should be included in the decommissioning cost estimate.

The cost estimate does not include costs for these tasks. For example, the decommissioning cost estimate does not include the cost of purchasing and disposing of equipment and supplies for decommissioning efforts. Equipment and supplies (including personal protective equipment, brushes, etc.) are regularly used during decontamination procedures. In addition, the equipment and supplies may need to be disposed of as radioactive waste after use.

As appropriate, ICF recommends that the NRC require the licensee to include in its cost estimate the equipment/supply costs, laboratory costs, and miscellaneous costs associated with decommissioning.

(5) Clarify the means to be used for adjusting the cost estimate and associated funding levels over the life of the facility (10 CFR 30.35(e))

10 CFR 30.35(e) requires licensees to describe the means they will use to adjust decommissioning cost estimates and associated funding levels over the lives of their facilities.

The description provided by the licensee states only that “[w]hen this amount is no longer found to be adequate, new financial assurance documents will be filed to provide coverage for the required amount.” The licensee does not state the planned frequency or scope of its updates.

ICF recommends that NRC require the licensee to clarify the method it will use to adjust the cost estimate and associated funding levels. The method should be consistent with that recommended in NUREG-1757, Volume 3, Appendix A, which recommends that “cost estimates should be updated with the current prices of goods and services at least every 5 years or when the amounts or types of material at the facility change. Adjustments should be made to account for inflation, for other changes in the prices of goods and services (e.g., disposal cost increases), for changes in facility conditions or operations, and for changes in expected decommissioning procedures.”

(6) Submit a certification of financial assurance (NUREG-1757, Appendix A, Section A.2)

NUREG-1757, Appendix A, Section A.2 recommends that licensees submit a certification of financial assurance to demonstrate that it has obtained financial assurance in the appropriate amount under NRC regulations. The model wording for a certification of financial assurance is presented in NUREG-1757, Appendix A, Section A.2.4. The University of Notre Dame’s February 20, 2012 submission does not include a certification of financial assurance.

ICF recommends that the NRC staff request that the licensee provide a certification of financial assurance as recommended by NUREG-1757, Appendix A, Section A.2.

(7) Submit an originally signed duplicate self-guarantee agreement (NUREG-1757, Appendix A, Section A.14)

NUREG-1757, Volume 3, Appendix A, Section A.14, recommends that licensees satisfying financial assurance requirements with a self-guarantee submit a guarantee agreement which is a written document that specifies the terms and conditions of the self-guarantee. NUREG-1757, Appendix A, Section A.14.13 provides a model self-guarantee agreement. If deviating from the recommended wording, NUREG-1757, Volume 3, Appendix A, Checklist 14-B recommends the inclusion of the following terms and conditions:

- (1) Name and address of self-guarantor;
- (2) Name and address of regulatory agency;
- (3) Four recitals:
 - Authority of the self-guarantor to enter into the guarantee;
 - Statement of the licensee's obligations as reason for the self-guarantee;
 - Identification of the relevant facilities and the amounts guaranteed for the decommissioning activities; and
 - Identification of the financial test used to demonstrate financial strength;
- (4) Description of the primary obligation;
- (5) Unequivocal statement of guarantee;
- (6) Statement that self-guarantor remains bound despite amendment or modification of license, reduction or extension of time of performance of required activities, or any other modification or alteration of an obligation of the licensee;
- (7) Notice requirements;
- (8) Discharge of the self-guarantor;
- (9) Termination and revocation;
- (10) Date of document;
- (11) Signature; and
- (12) Signature of witness or notary.

The licensee's submission does not include a self-guarantee agreement. Therefore, ICF recommends that the NRC request that the licensee submit a self-guarantee agreement either following the model-agreement provided in NUREG-1757 or satisfying the requirements of Checklist 14-B.

(8) Revise the chief executive officer or chief financial officer letter (NUREG-1757, Volume 3, Appendix A, Section A.14.3)

NUREG-1757, Volume 3, Appendix A, Section A.14.3 recommends that the written guarantee from a corporate officer or officer of the institution required under 10 CFR Part 30, Appendix E, be in the form of a letter including, among other things, the following:

- (1) Identification of the names, addresses, license numbers, and estimated decommissioning costs of the facilities covered by the guarantee;
- (2) Certification that the licensee is a going concern; and
- (3) Demonstration of the licensee's ability to pass the applicable financial test.

The letter from the Executive Vice President of the University of Notre Dame included as part of the submission does not include the three pieces of information listed above. ICF recommends that the NRC request that the licensee submit a revised letter from its Executive Vice President conforming to the recommendations provided in NUREG-1757, Volume 3, Appendix A, Section A.14.3.

Other Issue

- The NRC may want to inform the University of Notre Dame of the impact of the Decommissioning Planning Rule, which will take effect on December 17, 2012, on the licensee's financial responsibility requirements. The final rule was issued in the *Federal Register* on June 17, 2011 (76 FR 117). The new rule requires licensees that use a self-guarantee to have a standby trust agreement in place by December 17, 2012. Guidance on standby trust agreements may be found in Section A.17 of NUREG-1757, Volume 3.