

Yale Environmental Health & Safety

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J-6

December 21, 2016

Mr. Dennis Lawyer
U.S. NRC Region I
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Subject: NRC Email Request of November 30th, 2016 for Additional Financial Assurance Information
Mail Control Nos. 590432, 590434, 592052, and ~~590432~~ 592054-RES

06-00183-03 06-00183-08

Dear Mr. Lawyer, 03000582 03038333

Please accept this letter as a response to your November 30th, 2016 email request for additional information related to Yale University financial assurance documents. Your questions are reproduced in italics below. A response to each question can be found directly after each request.

- 1) *Associated with the DFP dated June 2015 submitted for License No. 06-00183-03, please response to the following items:*
 - a. *Basic assumption number 2 and 15, states that the Yale Staff will assist in certain activities for decommissioning. 10 CFR 30.35(e)(1)(i)(A) states that the cost of an independent contractor to perform all decommissioning activities must be included in the decommissioning funding plan. Please state what activities are included for the Yale Staff and make an assumption of the cost if done by an independent contractor. Please adjust calculation as necessary.*

Response:

The June, 2015 submitted Decommissioning Funding Plan (DFP) for license No. 06-00183-03 does assume that an independent contractor will perform the decommissioning activities and the full cost of this work is already included in the submitted DFP. The language in the DFP referring to Yale staff activities was not meant to imply that Yale personnel would be performing specific decommissioning tasks. The intent was rather to acknowledge that Yale personnel, if still available during decommissioning activities, would likely help to facilitate contractor activities, e.g.; gaining access to areas, schedule coordination, providing applicable information and documents, etc. Activities that would naturally align with decommissioning work functions, but not extra decommissioning project specific line items that would need to be included in the cost tables. No adjustment in calculations was deemed necessary.

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- b. *The hourly rate used in this calculation was very different from the rate used for License No. 06-00183-08, which was dated August 20, 2013. In particular, the rate for the technicians did not seem to be adequate. Please submit information from a decommissioning vendor for your area which supports this rate.*

Response:

The hourly rates used were reviewed again and a local decommissioning vendor (DDES, LLC) was contacted. Based on the data below provided by this seasoned and reputable regional vendor, the rates submitted in our 2015 DFP appear to compare favorably with the rates provided by DDES, LLC. The Yale 2015 DFP used an hourly rate of \$28 for HP Technicians. DDES lists their current rate for the same labor category as \$ 18.78/hr. The text of an email from the DDES Director of Operations can be found copied below. Based on this vendor supplied information, no changes are deemed necessary to the submitted labor costs..

Tammy,

Here is a salary breakdown for each role that would typically be required on a DFP.

| Labor Category | Salary & Fringe | Base Salary | Fringe | Hourly Rate |
|-------------------------|----------------------------|--------------------|---------------|--------------------|
| Project Manager | \$119,460 | \$83,662 | \$35,838 | \$41.81 |
| Supervisor | \$97,510 | \$68,257 | \$29,253 | \$34.13 |
| Health Physicist | \$78,850 | \$55,195 | \$23,655 | \$27.60 |
| HP Technician | \$53,660 | \$37,562 | \$16,098 | \$18.78 |
| Radiation Worker | \$44,150 | \$30,905 | \$13,245 | \$15.45 |
| Clerical | \$43,906 | \$30,735 | \$13,171 | \$15.37 |

Ryan

Ryan P. Fahey
 Director of Operations
 DDES, LLC
 345 North Avenue 2nd Floor
 Wakefield, MA 01880
 978-844-4560



- c. *The DFP would appear to provide the calculation to decommission all of your locations of use under License No. 06-00183-03. However, in the Certification of Financial Assurance, you provide an additional \$225,000 for special nuclear material. Please clearly state if the area and calculation submitted in the DFP support decommissioning of special nuclear material areas. If it does exclude this area, please explain in future revisions of the DFP. If it does include these areas, the additional prescribe values for special nuclear material is not required as you have provided a DFP.*

Response:

The June, 2015 submitted Decommissioning Funding Plan (DFP) for license No. 06-00183-03 does indeed already include the areas where special nuclear materials may be present. The inclusion of the extra \$225, 000 for special nuclear material in Yale's Certificate of Financial Assurance was an inadvertent carryover from the previous year and an oversight. Thank you for pointing this out. The Certificate of Financial Assurance will be updated to remove the unnecessary \$225,000.

- 2) Associated with the 3 year update to the DFP for License No. 06-00183-08, please provide the following information:
- a. From your letter dated September 27, 2016, it is not clear if you are stating the calculated value of the DFP has increased or not. Your first paragraph does not state that it review labor cost increases. If the second paragraph is to account for labor cost increases over the last three years, please submit the calculated values. If labor costs are the same, please submit evidence from a third party showing the costs remain the same.

Response:

The labor costs associated with decommissioning were reviewed and evaluated as part of the 3 year update performed on the DFP for License No. 06-00183-08. The second paragraph of the September 27, 2016 letter was meant to indicate an anticipated increase in potential labor costs. Upon further review of this matter however, as associated with this request for further information specifically related to question 1.b. above, the current contractor labor rates received by DDES, LLC indicate that the original labor costs estimated in the 2013 DFP are still appropriate and adequate. Thus no change to the labor costs in the 2013 DFP appear necessary. Accordingly, the letter from Yale's Vice President for Finance dated September 26, 2016, and associated financial assurance documents will be updated and resubmitted.

- b. The update stated that disposal costs had remained the same. Please submit evidence from a third party showing the costs remain the same.

Response:

The waste disposal costs in the DFP for License No. 06-00183-08 were reviewed as part of the 3 year update performed earlier this year and were again reviewed in response to this request. Consultation was also made with Yale University's Environmental Affairs Manager who coordinates the disposal of all hazardous waste at the University and is the person at Yale most familiar with the costs associated with waste disposal. These reviews shows that the costs submitted in our 2013 DFP for License No. 06-00183-08 appear to still be adequate. The costs for disposal of radioactive waste in Connecticut have been stable for many years. In fact, Yale's current contract for waste disposal services is a long term contract covering four years (Jan, 2015 – Jan, 2019). Prices remain the same over the entire four

years of this contract. The previous contract prices which were in place with the original 2013 DFP submission, were reviewed and compared to the current contract and found to be quite similar to current contract prices. Some prices in the previous contract were actually higher and many were very slightly lower, but the differences were very minimal (only a few percent). No changes were determined necessary during our initial review earlier this year. This second review found no new reason to support an increase in estimated waste disposal costs for decommissioning of this small facility.

- 3) If cost has increases due to the response to question 1 and 2 above the submitted value in the June 2015 for License No. 06-00183-03 and the value in the DFP dated August 20, 2013, for License No. 06-00183-08, then you will need to submit a new Certification of Financial Assurance, amend the values in the Self-Guarantee, and amend Appendix A to the Standby Trust Agreement.

Response:

Due to the changes aforementioned in this letter, a new Certificate of Financial Assurance, a new Self-Guarantee and an amended Appendix A to Yale's Standby Trust Agreement are all being prepared. Once executed these documents will be promptly submitted to you.

- 4) If the values change from those stated in the Vice President for Finance of Yale University's letter dated September 26, 2016, then it needs to be resubmitted.

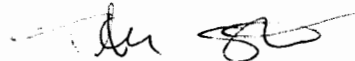
Response:

Due to the changes aforementioned in this letter, the previously submitted letter from Yale's Vice President for Finance dated September 26, 2016, will be updated and resubmitted along with the new Certificate of Financial Assurance, the new Self-Guarantee and an amended Appendix A to Yale's Standby Trust Agreement. Once executed this letter and these documents will be submitted to you at the King of Prussia, PA address listed at the start of this letter.

Thank you for your comprehensive review of all of Yale's financial assurance documents. Please let me know if you require any further changes to these documents. If so, we will act on this accordingly.

I can be reached at 203.737.2140 or via email at tammy.stemen@yale.edu with any questions or comments. Please note that Yale University is on holiday recess until Tuesday, January 3rd.

Sincerely,



Tammy Stemen, CHP
Radiation Safety Officer

Enclosures

Cc: Kenneth Miller, Esq., Office of General Counsel