



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

November 18, 2022

John A. Zehner, R.Ph.
CEO and Radiation Safety Officer
NukeMed Inc.
d/b/a SpectronRx
9550 Zionsville Rd.
Indianapolis, IN 46268

Dear Dr. Zehner:

This letter is in reference to the Decommissioning Funding Plan included in support of your request dated September 21, 2022, for your U.S. Nuclear Regulatory Commission (NRC) Materials License No. 13-32726-01.

The U.S. NRC's guidance document applicable to your request, which I refer to below as "the guidance," is NUREG-1757, Volume 3, Rev. 1, dated February 2012, "Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping and Timeliness." This guidance is available on the U.S. NRC website at:
<https://www.nrc.gov/docs/ML1204/ML12048A683.pdf>

Upon review of the Decommissioning Funding Plan, I identified the following areas requiring additional or clarifying information:

1. Section 4.1, "Cost Estimate," of the guidance, identifies that the purpose of the review of the cost estimate is to ensure that the licensee or responsible party has developed a Decommissioning Cost Estimate based on documented and reasonable assumptions and that is sufficient to allow an independent third party to assume responsibility for decommissioning the facility if the licensee or responsible party is unable to complete the decommissioning in accordance with [10 CFR §30.35\(e\)\(1\)\(i\)\(A\)](#).

The information supplied in the Decommissioning Cost Estimate must demonstrate that the estimates are reasonable and developed in accordance with the U.S. NRC's regulations and guidance. The Decommissioning Cost Estimate should include all of the information below:

- The cost estimate meets the applicable regulatory requirements in 10 CFR §20.1403(c), §20.1403(e)(2)(iii), §30.35(b), §30.35(c), §30.35(e), §30.36(e), §30.36(g)(4)(v), §40.36(b), §40.36(c), §40.36(d), §40.42(e), §40.42(g)(4)(v), §70.25(b), §70.25(c)(5), §70.25(e), §70.38(e), §70.38(g)(4)(v), §72.30(b), and §72.54(g)(5);
- The cost estimate is based on documented and reasonable assumptions. The key assumptions are identified and justified.

- The unit cost factors used in the cost estimate are reasonable and consistent with NRC cost estimation reference documents.
- The cost estimate is based on the cost of an independent contractor to perform all decommissioning activities.
- The cost estimate includes costs for labor, equipment and supplies, overhead and contractor profit, sampling and laboratory analysis, and miscellaneous expenses (e.g., license fees, insurance, and taxes).
- The cost estimate is based on the volume of all contaminated material, including, but not limited to, surface and subsurface soil material, buildings and building materials, and equipment containing residual radioactivity that will require remediation to meet the criteria for license termination.
- The cost estimate applies a contingency factor of at least 25 percent to the sum of all estimated costs.
- The means identified in the Decommissioning Funding Plan (DFP) or Decommissioning Plan (DP) for adjusting the cost estimate and associated funding level over the life of the facility and any storage or surveillance period is adequate.
- The cost estimate reflects decommissioning under appropriate facility conditions (for a DFP, routine facility conditions should be assumed; for a DP, facility conditions at the end of licensed operations should be assumed).
- The cost estimate includes costs for all major decommissioning and site control and maintenance activities specified in Section A.3 of Appendix A to this volume, including (a) planning and preparation, (b) decontamination and/or dismantling of facility components, (c) packaging, shipment, and disposal of radioactive wastes, (d) a final radiation survey, (e) restoration of contaminated areas on facility grounds, if necessary, and (f) site stabilization and long-term surveillance, if necessary.

Additional items in this letter address the specific areas in which additional or clarifying information is requested. Additional information regarding preparation of the Decommissioning Cost Estimate may be found in Appendix A, "Standard Format and Content of Financial Assurance Mechanisms for Decommissioning," of the U.S. NRC's NUREG-1757, Volume 3, Rev. 1, "Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping and Timeliness."

2. Section 4.1, "Cost Estimate," of the guidance identifies that the cost estimate reflects decommissioning under appropriate facility conditions.

Your request does not include sufficient detail on the types and quantities of licensed materials to be used at the facility. Further, your request does not identify the specific locations where particular types of materials will be used.

Resubmit your Decommissioning Cost Estimate providing all relevant information specified in the table provided in Section A.3.4, "Facility Description Summary," of the decommissioning guidance, which should include a detailed description of the types and

quantities of licensed materials to be used at the facility and the identification of specific locations where particular types of materials will be used.

3. Section 4.1, "Cost Estimate," of the guidance identifies that the cost estimate must be based on the volume of all contaminated material, including, but not limited to, surface and subsurface soil material, buildings and building materials, and equipment containing residual radioactivity that will require remediation to meet the criteria for license termination.

Your request does not provide the anticipated volume of contaminated material that will require dismantling, decontamination and/or disposal.

Resubmit your Decommissioning Cost Estimate providing all relevant information specified in Section A.3.5, "Number and Dimensions of Facility Components," of the decommissioning guidance.

4. Section 4.1, "Cost Estimate," of the decommissioning guidance states that the cost estimate must include costs for labor, equipment and supplies, overhead and contractor profit, sampling and laboratory analysis, and miscellaneous expenses (e.g., license fees, insurance, and taxes).

Your request does not include adequate information to justify the number of workdays, by specific labor hours, to complete all applicable decommissioning activities.

Resubmit your Decommissioning Cost Estimate providing all Labor Costs specified in the following tables provided in the decommissioning guidance:

- Section A.3.6, "Planning and Preparation,"
- Section A.3.7, "Decontamination or Dismantling of Radioactive Facility Components,"
- Section A.3.8, "Restoration of Contaminated Areas on Facility Grounds,"
- Section A.3.9, "Final Radiation Survey," and
- Section A.3.10, "Site Stabilization and Long-Term Surveillance."

Further, identify all applicable cost estimating references, or third-party decommissioning quotes, used as the basis for estimating the required number of labor hours and associated costs for decommissioning activities.

5. Section 4.1, "Cost Estimate," of the decommissioning guidance states that the cost estimate must include costs for labor, equipment and supplies, overhead and contractor profit, sampling and laboratory analysis, and miscellaneous expenses (e.g., license fees, insurance, and taxes).

Your request either does not address or does not provide adequate detail regarding non-labor costs, including equipment and supplies, overhead and contractor profit, sampling and laboratory analysis and miscellaneous expenses (e.g., license fees, insurance and taxes).

Resubmit your Decommissioning Cost Estimate identifying all Non-Labor Costs specified in the following tables provided in the decommissioning guidance:

- Section A.3.14, "Packaging, Shipping and Disposal of Radioactive Wastes,"
- Section A.3.15, "Equipment/Supply Costs,"
- Section A.3.16, "Laboratory Costs," and
- Section A.3.17, "Miscellaneous Costs."

Upon review, I noted that your request does not account for any costs associated with having an independent third-party laboratory perform analysis of samples collected by the independent contractor. It seems reasonable that an independent contractor overseeing the decommissioning of the facility would need to collect some samples for analysis to ensure the absence of any residual radioactive contamination at the facility. Therefore, some laboratory costs is expected and should be accounted for in your cost estimate.

Further, identify all applicable cost estimating references, or third-party decommissioning quotes, used as the basis for estimating the required number of non-labor costs for decommissioning activities. Referencing internal knowledge as the basis for the cost estimate is not an acceptable response.

6. Section 4.1, "Cost Estimate," of the decommissioning guidance specifies that the means identified in the Decommissioning Funding Plan for adjusting the cost estimate and associated funding level over the life of the facility, and any storage or surveillance period, must be adequate.

Your request does not identify the means for periodically adjusting the cost estimate and associated funding level.

Therefore, please resubmit your Decommissioning Funding Plan describing the means (i.e., the method and frequency) for periodically adjusting the cost estimate and associated funding level over the life of the facility.

In general, cost estimates should be updated with the current prices of goods and services at least every 3 years or when the amounts or types of material at the facility change. Triennial 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.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <https://www.nrc.gov/reading-rm/adams.html>.

To continue review of your request, please submit your response to this letter within 15 calendar days from the date of this letter. In your response, please refer to the license, docket, and

control number specified below. I will assume that you do not wish to further pursue this licensing action if I do not receive a reply within the specified timeframe noted above.

If you have questions, require additional time to respond, or require clarification on any of the information stated above, I encourage you to contact me at (630) 829-9737 or via e-mail at Jason.Kelly@nrc.gov.

Sincerely,

Jason M. Kelly, MPH
Health Physicist
Materials Licensing Branch

Docket No.: 030-38044
License No.: 13-32726-01
Control No.: 633574