

DuPont Specialty Products USA, LLC  
DuPont Experimental Station  
200 Powder Mill Road  
PO Box 8352  
Wilmington, DE 19803  
(302) 695-6896



October 19, 2021

Docket No. 030-20681  
License No. 07-13441-02

Decommissioning Branch Nuclear Regulatory Commission  
USNRC – Region I  
2100 Renaissance Blvd, Suite 100  
King of Prussia, PA 19406-2713

REC-6 10/25/21 PM 12:20

RE: DuPont Specialty Products USA., LLC,  
Experimental Station, Wilmington DE  
U.S. NRC Radioactive Material License No. 07-13441-02  
Request to Convert the Broad Scope Type A License to a License of Limited  
Scope

To Whom It May Concern,

DuPont Specialty Products USA, LLC ("DuPont") respectfully requests that the Broad Scope – Type A License currently granted to the DuPont Experimental Station Laboratory (ESL), located at the 200 Powder Mill Road, Wilmington, DE 19803, be converted to a License of Limited Scope for Iron-55 (Fe-55).

**The Broad Scope License is No Longer Appropriate for ESL**

DuPont has significantly reduced its use of byproduct radioactive materials and no longer needs a broad range license for its research & development (R&D) operations at ESL.

1. The only remaining 'active' radioactive material use/storage areas at ESL are:
  - a. Radiation Safety Office's Restricted Secure Storage Vault/Room (ALARA III), which is a secure storage repository for the control and management of licensed materials in transition (e.g., prior to authorized shipment off-site or after being received at the site). The current inventory in the storage vault is approximately 45 mCi of specifically licensed Iron-55 (Fe-55) sealed radioactive source material designated to be transitioned for eventual disposal at a certified facility.
  - b. A secure analytical laboratory using a specifically licensed Iron-55 (Fe-55) sealed radioactive source material (approximately 5 mCi).



2. Since January 22, 2019, no specifically licensed unsealed (loose) source radioactive materials have been received by nor imported onto the ESL site.
  - a. Tracer radioisotopes (non-sealed, loose radionuclides) are no longer used by, imported onto or received at ESL. In addition, DuPont does not plan to use tracer radioisotopes in its future R&D activities.
  - b. The remainder of the site's inventory stock of licensed non-sealed (loose) source radioactive materials has effectively been eliminated.
  - c. Previously 'active' non-sealed (loose) source radioactive materials have been decontaminated and decommissioned by appropriately licensed and certified third-party radiological service providers and in accordance with MARSSIM / MARSAME guidelines.
  
3. As of January 22, 2019, DuPont no longer accepts and receives unsealed (loose) source radioactive materials at ESL for disposal in its NRC conditionally certified incinerator.
  - a. On November 16, 2020, DuPont notified<sup>1</sup> the NRC of its intent to decontaminate, decommission, dismantle, and remove the incinerator from ESL. .
  - b. Beginning in 2020, DuPont, with the assistance of AECOM – a licensed and certified third-party radiological service provider – began the process of decontaminating and decommissioning the incinerator along with the site-associated structures and storage pads that house and provide support to the Thermal Waste Treatment operations at ESL. This work is expected to be completed by the early 2022. Demolition is being performed in accordance with MARSSIM / MARSAME clearance guidelines and the requirements of the Incinerator's Permit for Hazardous Waste Storage. (State of Delaware Permit No. HW04k22, EPA Identification No. DED003930807).
  - c. Through AECOM, DuPont has employed appropriately trained, licensed, and certified Radiation Technicians and a Certified Health Physicist to complete the appropriate radiation surveys, sampling, hazardous materials assessment, clearance surveys (including the radiological scoping survey), historical site assessment, and the final status survey (FSS) report.
  - d. AECOM used the wipe tests and surveys to confirm that all release criteria have been met for all 8 deconstructed components of the incinerator (i.e., main hearth, afterburner, spray-dryer, venturi system, absorber, EDV Scrubber, bag-house, and stack). All survey reports and analytical data will be included into the Final Status Survey Report.

### **Requested Terms of the New Limited Scope License**

---

<sup>1</sup> DuPont Specialty Products USA, LLC Mail Control No. 623921. Notification of Intent. November 16, 2020



A limited scope license best aligns with DuPont's current and intended future possession and use of licensed radioactive materials at ESL. DuPont requests that its license be converted and that the terms of the new limited license reflect the following:

1. DuPont's NRC-certified Radiation Safety Officer (RSO) of record will be responsible for implementing and managing the radiation safety program, and his responsibilities will include:
  - a. maintaining an inventory of all sealed sources captured under the license;
  - b. ensuring semi-annual leak testing and physical inventory verification;
  - c. providing appropriate signage related to the source and associated areas of use and/or storage;
  - d. providing annual refresher training for sealed source owners; and
  - e. maintaining documentation for all sealed sources operating under the license.
2. The RSO will directly manage and control the flow of any future imported, received, or shipped licensed radioactive materials onto and off-of the ESL site, including approving procurement, returns, transfer, and disposal of sealed source materials.
3. The limited scope license should authorize the use of sealed source byproduct materials by those individuals approved by DuPont management, the RSO, and any other person listed on the license.
4. DuPont only possess and uses limited amounts of Iron 55 (Fe-55) as described immediately below. No other forms of radioisotopes of byproduct material are needed or required by DuPont at ESL.
  - a. Iron 55 (Fe-55); 100 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or/and an Agreement State.
  - b. The identified sealed radioactive source materials of Iron 55 (Fe-55) will only be used in support of RSO-approved R&D activities, which will generally include:
    - i. X-ray fluorescence excitation and x-ray production;
    - ii. Physical measurements – e.g., gauging, thickness, density, and leveling;
    - iii. Reference sources; or
    - iv. Static elimination.
5. The following activities will **not** be conducted under this license:



- a. Commercial production or distribution of products or devices containing radioactive material.
  - b. Use in or on human beings.
6. Due to the significantly reduced scope of byproduct materials possessed and used by DuPont at ESL, the DuPont Radiation Safety Committee will no longer need to oversee the possession or use of other byproduct materials.
  7. The discovery of any vestige stock(s), contamination, or the disposal of any discovered program remnant licensed materials will be secured, remediated, and/or disposed of appropriately by only licensed and certified third-party radiological service providers equipped to handle such discoveries as approved and directed by the RSO of record.
  8. As of the submission of this request, the bulk of the incinerator component packaging and disposal costs (including decontamination, dismantling, and disposal) have been fully funded and/or satisfied by DuPont in conjunction with the ongoing decontamination and demolition efforts. An additional contingency estimate of 25% of the total expected costs is set aside to cover any unforeseen incinerator survey, remediation efforts, component packaging, and disposal costs that may have yet to be realized and through to the completion of the Final Status Survey for the removal of the incinerator.
  9. DuPont currently carries a financial guarantee certified in excess of almost five times (5x) the remaining estimate of the Total Decommissioning Cost to DuPont (DFS, 2021). The original amount of the financial guarantee was established in 2015 when the license covered a significantly larger scope of radioactive materials and activities. Since 2015, DuPont has, on an ongoing basis, financially satisfied and fulfilled all the fiduciary responsibilities related to program decommissioning as prescribed by 10 CFR Part 30.

I appreciate your assistance with this request. Please contact the Radiation Safety Officer, John M. Brisbin ([John.M.Brisbin@dupont.com](mailto:John.M.Brisbin@dupont.com)) or call John at (302)-420-2233 if you have any questions concerning this request.

Sincerely,

Myoshi Aubain  
DuPont Site Manager  
Experimental Station - E322/300A  
P.O. Box 8352  
Wilmington DE 19803

For the US NRC Radioactive Material License Number 07-13441-02  
c/o DuPont Specialty Products USA, LLC  
Experimental Station  
200 Powder Mill Road  
P.O. Box 8352  
Wilmington, DE 19803