NRC FORM 592M
(10-2020)

U.S. NUCLEAR REGULATORY COMMISSION

Materials Inspection Record

1. Licensee Name:	2. Docket Number(s):	3. License Number(s)
Hopewell Designs, Inc.	150-00010	GA-1434-1

4. Report Number(s):	5. Date(s) of Inspection:
2021-001	May 12, 2021

6. Inspector(s):	7. Program Code(s):	8. Priority:	9. Inspection Guidance Used:
Ryan Craffey	03226	2	IP 87126

10. Licensee Contact Name(s):	11. Licensee E-mail Address:	12. Licensee Telephone Number(s):
Chris Vanderpool, RSO	chris.vanderpool@hopewelldesigns.com	770-667-5770

13. Inspection Type:	14. Locations Inspected:	15. Next Inspection Date (MM/DD/YYYY):
☐ Initial ☐ Routine ☑ Announced ☑ Non-Routine ☐ Unannounced	☐ Main Office ☐ Field Office ☑ Temporary Job Site ☐ Remote	TBD ☐ Normal ☐ Extended ☐ Reduced ☑ No change

16. Scope and Observations:

This was an announced inspection of an irradiator manufacturer authorized by the State of Georgia to use and possess sealed sources in registered and custom devices incident to installation, removal, calibration, relocation, repair, testing, and servicing of such devices as well as training and R&D on such devices at its facility in Alpharetta, and at temporary job sites within Georgia jurisdiction. The licensee conducted these activities at temporary job sites in NRC jurisdiction under the terms of a reciprocity request filed in December 2020 for calendar year 2021. The scope of this inspection was limited to an evaluation of licensed activities (upgrading a dosimeter irradiator including a new source shield, which necessitated the handling and transfer of Am-241:Be and Cl-36 sealed sources) at Wright Patterson Air Force Base outside of Dayton, Ohio.

The inspector first observed the licensee's field engineer perform dry runs of the handling operation using dummy sources. The engineer had several long-handled tools at his disposal, as well as blocks of water-extended polyester for neutron shielding, an electronic dosimeter for real-time exposure monitoring, a rem ball neutron detector and a pancake probe GM meter (all operational and calibrated within the last year). The engineer wore a gamma, beta, and neutron-sensitive whole-body dosimeter as well as two gamma-sensitive extremity dosimeters and latex gloves in the event of contamination from sealed source leakage. The inspector interviewed the engineer, and found him to be knowledgeable of radiation protection principles, operation of radiation monitoring equipment, and the design and operation of the irradiator. The inspector performed independent surveys on contact with the old source shield and noted gamma exposure readings of up to 180 uR/hr, and minimal neutron exposure readings.

The inspector then observed the engineer perform the source transfer, using the same tools, techniques, and monitoring equipment as before. The engineer used appropriate ALARA practices throughout, including adequate postings and restricted area control and continuous monitoring of exposure rates during the operation. The engineer remotely collected and analyzed leak tests of both sources, using the GM meter and a jig that ensured a standard geometry for the counts. The engineer found no evidence of residual contamination in excess of regulatory limits. He then transferred both sources into the new shield and confirmed its adequacy with gamma and neutron surveys. The inspector performed similar surveys, noting neutron readings of up to 1.5 mrem/hr prior to final shield assembly (with minimal neutron readings afterwards), and gamma readings of up to 150 uR/hr. The inspector also performed independent surveys in unrestricted areas during the source handling operations. No gamma or neutron exposures in unrestricted areas exceeding limits to members of the public were noted.

No violations of NRC requirements were identified as a result of this inspection.