



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

September 12, 2022

Dr. Gregory Piefer  
Chief Executive Officer  
SHINE Technologies, LLC  
3400 Innovation Court  
Janesville, WI 53546

**SUBJECT: SHINE TECHNOLOGIES, LLC REGULATORY REPORT ON THE AUDIT OF  
CHAPTER 14, "TECHNICAL SPECIFICATIONS," DESCRIBED IN OPERATING  
LICENSE APPLICATION (EPID NO. L-2019-NEW-0004)**

Dear Dr. Piefer:

By letter dated July 17, 2019 (Agencywide Documents Access and Management System Accession No. ML19211C044), SHINE Technologies, LLC (SHINE) submitted its application for an operating license.

Enclosed is a report on the regulatory audit conducted by staff of the U.S. Nuclear Regulatory Commission (NRC) in connection with its review of the application, in addition to Chapter 14, "Technical Specifications," of the SHINE final safety analysis report and responses to requests for additional information. This regulatory audit was held to close technical gaps identified during the review of the technical specifications.

The audit report does not make any licensing conclusions or findings, but it is part of the administrative record of the NRC staff's review of the application and may provide information supporting the NRC staff's safety evaluation.

The audit followed the plans provided to SHINE by letters dated May 12, 2022, May 20, 2022, and June 10, 2022 (via BOX), unless otherwise noted in the enclosed report. The enclosed report with attachments constitutes the final report on the audit.

If you have any questions, please contact me at (301) 415-1053, or by email at [Holly.Cruz@nrc.gov](mailto:Holly.Cruz@nrc.gov).

Sincerely,



Signed by Cruz, Holly  
on 09/12/22

Holly D. Cruz, Senior Project Manager  
Non-Power Production and Utilization  
Facility Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Docket No. 50-608  
Construction Permit No. CPMIF-001

Enclosure:  
As stated

cc: See next page

SHINE Technologies, LLC

Docket No. 50-608

cc:

Jeff Bartelme  
Licensing Manager  
SHINE Technologies, LLC  
3400 Innovation Court  
Janesville, WI 53546

Nathan Schleifer  
General Counsel  
SHINE Technologies, LLC  
3400 Innovation Court  
Janesville, WI 53546

Christopher Landers  
Director, Office of Conversion  
National Nuclear Security Administration,  
NA 23  
U.S. Department of Energy  
1000 Independence Ave SW  
Washington, DC 20585

Mark Paulson, Supervisor  
Radiation Protection Section  
Wisconsin Department of Health Services  
P.O. Box 2659  
Madison, WI 53701-2659

Test, Research and Training  
Reactor Newsletter  
Attention: Amber Johnson  
Dept of Materials Science  
and Engineering  
University of Maryland  
4418 Stadium Drive  
College Park, MD 20742-2115

Mark Freitag  
City Manager  
P.O. Box 5005  
Janesville, WI 53547-5005

Bill McCoy  
1326 Putnam Avenue  
Janesville, WI 53546

Alfred Lembrich  
541 Miller Avenue  
Janesville, WI 53548

SUBJECT: SHINE TECHNOLOGIES, LLC REGULATORY REPORT ON THE AUDIT OF  
CHAPTER 14, "TECHNICAL SPECIFICATIONS," DESCRIBED IN OPERATING  
LICENSE APPLICATION, SESSION 2 (EPID NO. L-2019-NEW-0004)  
DATED: SEPTEMBER 12, 2022

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OFFICE OF NUCLEAR REACTOR REGULATION

REGULATORY AUDIT REPORT

REGARDING TECHNICAL SPECIFICATIONS

OPERATING LICENSE APPLICATION

SHINE TECHNOLOGIES, LLC

DOCKET NO. 50-608

Location: Virtual (audit activities were also conducted via the electronic reading room)

Dates: June 3, 2022, from 10:00am to 11:00am  
June 10, 2022, from 10:00am to 12:00pm  
June 17, 2022, from 3:00pm to 4:00pm  
July 5, 2022, from 3:00pm to 5:00pm  
July 15, 2022, from 10:00am to 11:00am  
August 5, 2022, from 1:00pm to 2:00pm

Audit Team Members: Michael Balazik, U.S. Nuclear Regulatory Commission  
Duane Hardesty, U.S. Nuclear Regulatory Commission – Audit Team Leader  
Dinesh Taneja, U.S. Nuclear Regulatory Commission  
Norbert Carte, U.S. Nuclear Regulatory Commission  
Michael Waters, U.S. Nuclear Regulatory Commission

Licensee Representatives: Jeff Bartelme, SHINE Technologies, LLC et al.

Background

By letter dated July 17, 2019 (Agencywide Documents Access and Management System Accession No. ML19211C044), SHINE Technologies, LLC (SHINE) submitted its application for an operating license.

This report summarizes the regulatory audit conducted by staff of the U.S. Nuclear Regulatory Commission (NRC) on June 3, June 10, June 17, July 5, July 15, and August 5, 2022. This audit was conducted in connection with the NRC staff's review of the application. The audit report does not make any licensing conclusions or findings, but it is part of the administrative record of the NRC staff's review of the application and may provide information supporting the NRC staff's safety evaluation. The audit followed the plans provided to SHINE by letters dated May 12, 2022, May 20, 2022, and June 10, 2022 (via BOX), unless otherwise noted in this report.

Enclosure

## Regulatory Bases for the Audit

The purpose of the audit was to close technical gaps identified during the review of Chapter 14, "Technical Specifications." The licensee's proposed technical specifications is being reviewed in accordance with the applicable regulatory requirements of Title 10 of the *Code of Federal Regulations* Part 50, "Domestic Licensing of Production and Utilization Facilities," and applicable guidance provided in NUREG-1537, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors," Part 1, "Format and Content," and Part 2, "Standard Review Plan and Acceptance Criteria" (ML042430055 and ML042430048, respectively).

## Audit Activities

The following activities were performed during the audit:

### 1. Entrance Meeting

At the entrance meeting on June 3, 2022, the NRC staff explained the scope and desired outcomes for the audit. The NRC staff stated that after completion of the audit, an audit report will be prepared and sent to SHINE.

### 2. Review of Audit Topics and Questions

This audit was held to: (1) gain a better understanding of information underlying the application in the area of technical specifications, (2) identify specific information that will require docketing to support the basis of the licensing or regulatory decision; and (3) identify a closure path for the audit topics provided in the audit plan. Closure paths for the audit topics are provided as attachments to this audit report.

The audit addressed updates to the SHINE final safety analysis report and associated responses to requests for additional information on technical specifications. Additionally, the NRC staff conducted document reviews using the electronic reading room as part of the audit.

### 3. Exit Briefing

An exit briefing was held on August 5, 2022. During this exit briefing, the audit team restated the purpose of the meeting, and summarized the status of the technical specifications review. It was noted that during the audit, SHINE had stated that it would provide supplemental information on the docket to address additional information needs identified by the NRC staff.

The NRC staff stated that based on SHINE providing this supplemental information to address information needs identified by the NRC staff, the NRC staff considers the audit plan items closed. However, the NRC staff noted that it is still continuing its review of the SHINE operating license application, including the supplemental information, and that additional audits may be necessary. No disagreements with the audit summary were noted by the licensee during the exit briefing.

#### 4. Audit Resolution

Comments based on the audit discussion have been captured in attachments 1-3 (ML22227A199, ML22227A126, ML22227A127, respectively). SHINE plans to provide updated technical specifications to address the comments.