



December 1, 2022

2022-SMT-0124
10 CFR 50.30

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

References: (1) SHINE Medical Technologies, LLC letter to the NRC, "SHINE Medical Technologies, LLC Application for an Operating License," dated July 17, 2019 (ML19211C143)
(2) NRC electronic mail to SHINE Technologies, LLC, "SHINE Technologies, LLC – Request for Confirmatory Information Related to Instrumentation and Control Systems (EPID No. L-2019-NEW-0004)," dated December 1, 2022

SHINE Technologies, LLC Application for an Operating License
Response to Request for Confirmatory Information

Pursuant to 10 CFR Part 50.30, SHINE Technologies, LLC (SHINE) submitted an application for an operating license for a medical isotope production facility to be located in Janesville, Wisconsin (Reference 1). The NRC staff determined that confirmatory information was required to enable the staff's continued review of the SHINE operating license application (Reference 2).

Enclosure 1 provides the SHINE responses to the NRC staff's request for confirmatory information.

If you have any questions, please contact Mr. Jeff Bartelme, Director of Licensing, at 608/210-1735.

I declare under the penalty of perjury that the foregoing is true and correct.
Executed on December 1, 2022.

Very truly yours,

DocuSigned by:

F52DB96989224FF...

James Costedio
Vice President of Regulatory Affairs and Quality
SHINE Technologies, LLC
Docket No. 50-608

Enclosure

cc: Project Manager, USNRC
SHINE General Counsel
Supervisor, Radioactive Materials Program, Wisconsin Division of Public Health

ENCLOSURE 1

SHINE TECHNOLOGIES, LLC

SHINE TECHNOLOGIES, LLC APPLICATION FOR AN OPERATING LICENSE RESPONSE TO REQUEST FOR CONFIRMATORY INFORMATION

The U.S. Nuclear Regulatory Commission (NRC) staff determined that confirmatory information was required (Reference 1) to enable the continued review of the SHINE Technologies, LLC (SHINE) operating license application (Reference 2). The following information is provided by SHINE in response to the NRC staff's request.

RCI 7-17

For SHINE FSAR Section 7.1.5, "Control Console and Displays," confirm that manual controls in the facility control room (FCR) consist of a single system level manual actuation switch for each automatic target solution vessel reactivity protection system (TRPS) and engineered safety features actuation system (ESFAS) safety function. These manual actuation switches are connected to the hardwired module (HWM) in the TRPS and ESFAS chassis. The HWM converts the manual actuation signals to logic level voltages that are placed on the backplane for use by the modules that require them. The manual actuation components are input into the actuation and priority logic (APL) associated with each EIM via the HWM. The APL accepts inputs from the following sources:

- 1a Digital trip signal from the scheduling, bypass, and voting modules (SBVM)
- 1b Non-digital manual system level trip signal from the FCR
- 2a Non-digital manual enable nonsafety signal from the FCR
- 2b Non-digital position indication signal from an HWM
- 2c Non-digital control signals from the process integrated control system (PICS)

The non-digital signals are diverse from the digital portion of the TRPS and ESFAS. Discrete logic is used by the APL for actuating a single device based on the highest priority. Regardless of the state of the digital trip signal from the SBVM, manual initiation can always be performed at the system level. If the enable nonsafety control permissive is active and there are no automatic or manual actuation signals present, the PICS is capable of operating trip and actuation components. The result from the APL is used to actuate equipment connected to the equipment interface module (EIM). Actuation component status is transmitted to the EIM and is sent to the monitoring and indication bus (MIB), along with the status of the safety data bus (SDB) signals.

SHINE Response

SHINE confirms that the information related to manual controls in the facility control room contained in Subsection 7.1.5 of the FSAR is accurate.

References

1. NRC electronic mail to SHINE Technologies, LLC, "SHINE Technologies, LLC – Request for Confirmatory Information Related to Instrumentation and Control Systems (EPID No. L-2019-NEW-0004)," dated December 1, 2022
2. SHINE Medical Technologies, LLC letter to the NRC, "SHINE Medical Technologies, LLC Application for an Operating License," dated July 17, 2019 (ML19211C143)