VREED-EN-HOOP Shore Base Inc.

PROJECT SUMMARY OUTLINE

REQUEST FOR APPROVAL TO STORE & TRANSPORT (WITHIN VEHSI) MULTI-PHASE FLOW METERS CONTAINING SEALED RADIOACTIVE SOURCES

DOCUMENT PREPARED BY : DAMIAN JORDAN – BASE MANAGER

KIRK THOMAS – RADIATION SAFETY OFFICER

DATE : **12th March 2025**

VREED-EN-HOOP Shore Base Inc.

SERVICES PROVIDED

VREED-EN-HOOP SHORE BASE INC. (VESHI) offers a broad range of Shore Base Services to cater to all of its Clients within the Oil and Gas Sector in Guyana.

The following is a list of the services provided by VESHI for its clients:

1. **Storage Facilities**
2. **Logistics**
3. **Vessel Support**

EXPECTED TIMELINE:

Storage of Multi-Phase Flow Meters is expected to begin in May 2025 and continue until December 2029.

DESCRIPTION OF PROPOSED PROJECT

VEHSI intends to apply for approval for storage and transportation (within VEHSI) of Multi-Phase Flow Meters containing sealed radioactive sources.

VEHSI plans to store Multi-Phase Flow Meters containing (Cesium 137 – CS 137) at the Vreed-En-Hoop Shore Base located at West Coast Demerara. The Multi-Phased Flow Meters will be stored in a designated area at the shore base. The perimeter will be fenced and the relevant signage will be displayed so as to ensure persons are aware of the restricted area.
This storage area will be located away from the major roadways and there are no immediate neighbors or residences.
The site will be monitored by 24-hour Security who will ensure that no unauthorized personnel access the area.

When required, these Multi-Phase Flow Meters will be transported (within VEHSI), to the different areas based on the specified job scope required by the client.

Taking this into consideration, the organization ensures the following:

- Regular monitoring of storage area by a Radiation Safety Officer.
- Ensuring only authorized personnel are allowed access
- 24 hour Security on site

PLAN TO MITIGATE RADIATION EXPOSURE TO PERSONNEL AND THE PUBLIC

VEHSI in its effort to provide a safe workplace for its employees adopts its' implemented procedure as part of its safety policies to ensure protection of employees and the public from the hazards associated with Ionizing Radiation.

VEHSI ensures provision of instruction, guidance and training for its employees as it relates to Radiation Safety and the prevention of potential injuries associated with this subject. This includes training on the necessary personnel protective equipment (PPE) which is provided by the organization and Radiation Safety Officers for the monitoring of Storage Areas.

The organization also monitors dosimetry records for Radiation Safety Officers and maintains records of results. This is done by an approved third-party provider.

The HSE management system includes procedures for managing risk associated with radiation safety as well as other areas of operations.

VESHI shall implemented monitoring programs to ensure that personnel on site are not exposed due to sources under its responsibility are adequately assessed and that the assessment is sufficient to verify and demonstrate compliance with regulatory bodies. This includes monitoring of the following, as appropriate:

(i) Leak tests conducted on Source Holder devices to ensure non-contamination.

(ii) Regular monitoring of Multi-Phase Flow Meters before and after moving to ensure it is safe for personnel to work in and around the Devices.

(iii) Area and Perimeter monitoring to ensure there is no exposure to personnel outside of the designated storage area.

REQUIREMENTS FOR STORAGE OF MULTI-PHASE FLOW METERS

As per the recommended guidelines of each associated SDS and IAEA Standards, the following shall apply:

1) Barricaded Storage Area
2) Adequate Signage
3) Restricted Access to Unauthorized Personnel
4) Regular Area / Perimeter Monitoring
5) Certified Radiation Safety Officer to Conduct Monitoring
6) Use of Calibrated Equipment for Monitoring

SAFETY DURING TRANSPORTATION / MOVEMENT AT VEHSI

a) Radiation Safety Officer to conduct monitoring of Multi-Phase Flow Meter upon receipt at VEHSI to ensure that radiation levels are acceptable before accepting into facility.

b) Radiation Safety Officer to conduct monitoring of Multi-Phase Flow Meter to ensure that radiation levels are acceptable before and after moving on site.

c) Only authorize personnel are involved in the transportation / movement of Multi Phase Flow Meters.

POTENTIAL EFFECTS ON THE ENVIRONMENT

VEHSI. ensures due diligence in all of its operations and pays particular attention to managing the mitigation of all / any environmental risks. The organization has implemented preventative maintenance programs for its equipment thus preventing any impact to land and soil from its operations. The organization understands that radioactive material is ranked as high risk and as such wipe test / leak test are performed on the Source Holder of the Multi-Phase Flow Meters to ensure that the integrity is not compromised. Surveys are also done around the storage areas to ensure the Radioactive Material are properly secured.

Our activities involved with this Multi-Phase Flow Meter do not generate any air emissions (i.e. particulate emission such as dust or pollutant gaseous emissions) thus causing any impact to air. Also, our operations do not generate any noise or vibrations.

Due to the fact that these Flow Meters contain sealed sources which are at no time removed from the Source Holders, these Cesium Sources poses no negative impacts to the environment and nearby water courses.

The Source Holders are integrated within the Flow Meters and as such the likelihood of the source being removed / causing exposure to personnel is very low.