SAND2019-14326R

Readiness Verification for Low/Standard Industrial Hazard (SIH) Facilities/Operations/Activities

November 20, 2019

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Readiness Verification for Low/Standard Industrial Hazard (SIH) Facilities/Operations/Activities

Facility/Operation/Activity: ARM/Atmospheric Measurements/ Weather Balloon filling	Location: Utqiagvik, Organization: 8863 Date: 11/18/2019
Check one:	New Facility ☐ New Operation ☒ New Activity ☐ Restart of Facility/Operation/Activity ☐ Modification to Existing Facility/Operation/Activity X

SNL Low/SIH [including those categorized as radiological facilities (i.e., less than Hazard Category 3 nuclear facilities)] may use this or an equivalent form to document readiness verification (RV) for starting or restarting a facility, operation, or activity, or whenever there is a change in a facility, operation, equipment, personnel, tools, or materials that change the PHS/HA, the safety case, or the operating envelope.

The RV should be performed by one or more individuals who are independent from the facility or operation to be started or restarted (i.e., individuals not directly involved in planning or bringing the facility or operation to a state of readiness). The RV individual(s) are responsible for objectively verifying the status of the critical elements[1] that have been identified by the responsible manager as being important to safely starting or restarting the facility, operation, or activity. These individuals are also responsible for exercising due diligence to ensure that the questions answered "yes" below are fully supported by documentation, interviews, and observation.

The RV Lead completes this form. Once completed (i.e., all signatures obtained), the line organization manager shall ensure that this form is maintained in accordance with the Sandia Records Retention and Disposition Schedule.

Documentation Reviewed: Identify documentation reviewed (provide title and number of each document):

[1] See GN470109 Appendix B, *Core Requirements*, for examples of critical elements that should be considered.

Critical Elements[1]**:** List the critical elements to be verified:

H2 Generator Fire Protection Concerns

Issue/Concern	Resolution
MAQ is 1000 Cu Ft	Tank is only 330 Cu Ft
Vehicle Protection	Tank and generator conex are on a raised platform approximately 15' above ground. Platform is supported by multiple piers – while it's possible that someone could impact one of the piers with a vehicle, this would not impact the structure.
Safety Plan for Fires/Explosions	For personal safety fires and explosions will be handled by local fire department via the 911 emergency number. Sandia's site operations manager will be contacted and they will emergency to Sandia's emergency operations center and 8863 Management.
Ventilation	Tank is external; ventilation is part of conex construction. Ventilation is redundant with 2 fans in case one was to fail.
Non-Combustible building/materials	Building is a steel sea container; H2 tank is stainless. The inside of container is coved with FirePro fire retardant treated wood. https://www.koppersperformancechemicals.com/pdfgallery/pdfs/fp-brochure.pdf
Fire Alarm System	The main purpose of a fire alarm system is to evacuate occupants. Since this conex is un-occupied no fire alarm was installed.
Lighting Levels	Interior lighting is fitted with florescent lighting fixtures. There is ample light for all operations
Ventilation discharge at least 50' from intakes	Infeasible on 8x20 trailer; intake is on one side, with exhaust on the other: H2 tank is outdoors. Since the location of the equipment is near the ocean the is always a breeze that would keep the intake from taking in exhaust air.
Ventilation Emergency shutoff	The hydrogen container is wired from an electrical panel ~ 40 feet from the hydrogen container all power can be remove at that point.
Signage	Signs have been installed at entrance to H2 conex, Handrails around balloon launch platform, on tank, and beside platform stairs
Pressure gauges	On the tank outside, and HOGEN inside.
Piping/tubing/joints rated for 1000F melting point	316 stainless Swagelok compression fittings and Swagelok piping used was for all connections
Tank Corrosion Protection	The Tank is constructed out of 316 stainless and is rated for outdoor use

Venting of system at termination point	There are 2 places venting could take place. One at the tank. The other is at the hydrogen generator. The tank vent and hydrogen generator vent is ~ 16 feet above the platform and ~24 feet above the ground.
Grounding and bonding of equipment and enclosure	All containers, equipment and tank are bonded together and grounded at the main power panel.
Check for O2 Deficiency	IHEA will be performed once conex is on site to determine if this a concern; In case of loss of ventilation the container will be locked and tagged out of service. The NWS will be contacted to enter and repair. As the container and equipment belong to the NWS
Fire extinguishers	One ABC (powder form) fire extinguisher and Smoke/Co2 detector is install in the hydrogen container. One ABC (powder form) fire extinguisher install inside personal area of Balloon launcher.
Electrical installations per C1.D2	This requirement does not apply since the tank is located outside

RV Questions: Provide answers to the following questions. Indicate "N/A" if the question is not applicable.

WORK PLANNING	**Yes**	**No**	**N/A**
1. Is a Primary Hazard Screening (PHS) (and Hazards Analysis [HA], if necessary) and Work Planning & Control documentation complete and approved for this facility/operation/activity?	☐	☒	☐
2. Has a process for tracking radiological inventory (e.g., isotope, activity level, location) been implemented?	☐	☐	X
3. Are managers and workers who either perform or are responsible for operations or activities aware of hazards and controls described in the PHS/HA?	X	☐	☐
4. Have interfaces with other organizations been communicated and negotiated (such as nearby operations, S&S, Facilities)?	☐	☐	X
5. Have facility/operation/activity-specific controls been implemented (e.g., controls in place and working)?	☐	☐	X
6. Have lessons learned from facilities/operations/activities, experiments, and tests with similar hazards been reviewed and appropriately applied?	X	☐	☐
TRAINING	**Yes**	**No**	**N/A**
1. Have Members of the Workforce completed required training?	X	☐	☐
TECHNICAL WORK DOCUMENTS (TWDs)	**Yes**	**No**	**N/A**
1. Have TWDs been developed and approved, and have workers read and signed them as authorized users?	X	☐	☐
2. Are TWDs available to workers (preferably at the work site)?	X	☐	☐
3. If more than one TWD is to be used, has the set of TWDs been reviewed for adequacy and consistency?	☐	☐	X
4. Are controls specified in the TWDs implemented?	X	☐	☐
WORK ENVIRONMENT	**Yes**	**No**	**N/A**
1. Are adequate signs in place and legible?	X	☐	☐
2. Are procedures to manage waste in place?	☐	☐	X
3. Are workers aware of hazards and controls associated with adjacent operations and activities?	☐	☐	X

EQUIPMENT AND MAINTENANCE	Yes	No	N/A
1. For a new facility/operation/activity, is the construction and equipment in accordance with the approved design?	X	☐	☐
2. Has maintenance and calibration of equipment been performed?	X	☐	☐
3. Are required safety monitoring devices installed, calibrated, and operational?	X	☐	☐
EMERGENCY PREPAREDNESS	**Yes**	**No**	**N/A**
1. Are emergency plans/procedures in place?	☒	☐	
2. Are the local emergency plans/procedures coordinated with the corporate Emergency Plan?	☐	☐	X
3. Is emergency equipment in place?	X	☐	☐
4. Have emergency response personnel been notified of operations that may present unusual hazards or need for a special response?	☐	☐	X
5. Have personnel been trained in emergency response?	☐	☐	X
ADDITIONAL CRITERIA FOR RESTARTING OPERATIONS	**Yes**	**No**	**N/A**
1. Have actions been taken to resolve problems that caused or contributed to the need for a restart?	☐	☐	X

Description of actions needed or justification for proceeding if any question was answered “No”:
Approved and TWD; Send docs to Mo;

Signatures and Results:		
Readiness Verification Members (add additional rows as needed):		
Printed Name and Organization: M. MOSALLAEI	Signature: PER PHONE CON	Date: 11/18/19
Printed Name and Organization: MARC WILLIAMS 8517	Signature:	Date: 11/18/19
Verification of Readiness:		
☑ This operation has successfully passed the review.		
☐ This operation has NOT passed the review at this time (specific details are provided on previous page).		
Lead Reviewer:		
Printed Name and Organization: Fred Heksel	Signature:	Date: 11/18/19
Approved (Line Organization Manager):		
Printed Name and Organization LORI PARROTT	Signature:	Date: 11.18.2019

For questions on this form, contact the WP&C Program Lead, John E. Myers