



Objectives:

- Assess the Facility operations and system integrity to safely defuel the Bulk Fuel Storage Tanks.
- Assess operations and system integrity of the Facility to determine design and operational deficiencies that may impact the environment and develop recommendations for corrective action.

No.	Activity	Start	End	Objectives / Outcomes	Status
1	Assessment Preparation	1/17/2022	1/31/2022	Gather data and become familiar with the facility	
1.1	Initial Facility Walkdown	1/18/2022	1/28/2022	Develop an understanding of the facility and document observations	Complete
1.2	Initial Document Review	1/17/2022	2/4/2022	Review facility records, drawing, calculations, specifications, data, previous studies and evaluations, incidents and incident reports, to identify key inputs for the assessments	In progress
1.3	POAM	1/17/2022	1/24/2022	Develop a POAM	Complete
1.4	Safety Plan	1/17/2022	1/24/2022	Prepare a job hazard analysis for SGH staff	Complete
2	Safety and Risk Management	1/31/2022	3/14/2022	Safety and operational risk assessment	
2.1	Process Hazard Analysis (PHA) using Hazard and Operability (HAZOP) method and additional appropriate methods (onsite activity).	2/7/2022	2/11/2022	A cross functional team will review process P&IDs in depth to identify hazards and make recommendations to mitigate those hazards. Results of HAZOP will be incorporated into the overall final project report.	Scheduled
2.2	Occupational Safety and Health Administration's (OSHA) Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119) Field Inspection Checklist (onsite activity).	2/14/2022	2/21/2022	Assessor will complete OSHA checklist for process safety elements (records, interviews, etc).	
2.3	Complete the U.S. Environmental Protection Agency (EPA) Spill Prevention, Control and Countermeasure (SPCC) Field Inspection and Plan Review Checklist (onsite activity).	3/21/2022	3/25/2022	Assessor will complete EPA SPCC checklist for spill prevention measures; above ground storage and all piers.	
2.4	Conduct personnel interviews with NAVSUP, NAVFAC operations, maintenance, engineering, etc.	2/14/2022	2/18/2022	To validate field observations and reconcile discrepancies, the assessor will interview relevant operational engineering and maintenance personnel.	Scheduled
2.5	Identification of Operational Deficiencies	1/31/2022	3/7/2022	Compile list of operational deficiencies.	
2.6	Environmental and Cultural Impacts	1/31/2022	3/7/2022	Interview NAVFAC environmental division personnel.	
3	Structural Integrity Assessment	1/31/2022	4/11/2022	Evaluation of critical structures	
3.1	Modeling of Structures and Tanks	1/31/2022	3/18/2022	Develop finite element models and set up calculation spreadsheets for typical structures to be analyzed	
3.2	Analysis of Structures and Tanks	2/7/2022	4/1/2022	Analyze modeled structures and tanks	
3.3	Postprocessing of Structural Analyses	2/14/2022	4/11/2022	Postprocess analyses results and complete QA/QC checks	
3.4	Structural Retrofit Concepts	2/14/2022	4/18/2022	Develop sketches and markups showing retrofit concepts as required	
4	Mechanical Integrity Assessment	1/31/2022	4/11/2022	Fitness for service (FFS) evaluation of piping and equipment	
4.1	Modeling of Piping and Equipment with Defects	1/31/2022	3/18/2022	Develop finite element models and set up calculation spreadsheets for typical piping sections and equipment / tanks to be evaluated based on defects noted in the inspection reports and observed during the facility walkdown	
4.2	FFS Analysis of Piping and Equipment with Defects	2/7/2022	4/1/2022	Perform Level 1, Level 2 and Level 3 FFS analyses as per API 579	
4.3	Postprocessing of FFS Analyses	2/14/2022	4/11/2022	Postprocess analyses results and complete QA/QC checks	



SHEET NO. 2 of 2

PROJECT NO. 220064.00-REDH

DATE 01 Feb 2022

BY ERM_OA_TC

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SUBJECT Implementation Schedule (Plan of Actions and Milestones) – Red Hill Assessment

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4.4	Valve and Pump Integrity Evaluation	2/14/2022	4/1/2022	Evaluate integrity of valves and pumps based on inspection reports and site walkdown observations	
4.5	Piping and Equipment Retrofit Concepts	2/14/2022	4/18/2022	Develop sketches and markups showing retrofit concepts as required	
5	Cost Estimate	3/7/2022	4/18/2022		
5.1	Quantity Takeoff	3/7/2022	4/18/2022	Develop quantity takeoffs using the structural and mechanical retrofit concepts	
5.2	Class 4 Cost Estimate	3/7/2022	4/18/2022	Develop cost estimates for required repairs using the quantity takeoffs for developed retrofit concepts or replacement	
6	Special Studies	2/17/2022	3/28/2022		
6.1	Response to Stakeholders	2/17/2022	3/28/2022	Respond to stakeholder questions and comments, as determined, requested and coordinated by the US Government. Stakeholder questions and comments to be provided no later than 3/11/2022.	
7	Reports	1/24/2022	4/30/2022		
7.1	Interim Assessment Report with Identified Deficiencies (50%)	2/21/2022	3/7/2022	Identified deficiencies, key assumptions, summary of inputs, methodology, analysis cases, and preliminary evaluation findings, and initial mitigation recommendations.	
7.2	Pre-Final Assessment Report (75%)	3/21/2022	3/28/2022	<ul style="list-style-type: none"> - More refined recommendations to address identified design and operational deficiencies in addition to interim report contents - Structural upgrade and mechanical repair recommendations as drawing markups and sketches - Preliminary cost estimates - Implementation plan and recommended schedule 	
7.3	Assessment Report (100%)	4/18/2022	4/25/2022	Update 75% report incorporating stakeholder comments and to include final results	
7.4	Weekly Reports	1/25/2022	4/26/2022	Document progress, areas concerns and weekly plans	
8	Meetings	1/19/2022	4/30/2022		
8.1	Kickoff Meeting (On-Site)	1/19/2022	1/19/2022	Introduction and presentation of assessment approach, list of deliverables and schedule to stakeholders	Complete
8.2	Post HAZOP Stakeholder Meeting (On-Site)	2/17/2022	2/17/2022	In person project progress presentation to stakeholders (after the HAZOP), updating them on project status and HAZOP	
8.3	Interim Deficiencies Stakeholder Meeting (On-Site)	3/10/2022	3/10/2022	At the 50% project completion point present interim deficiencies	
8.4	Pre-Final Recommendations Stakeholder Meeting	3/29/2022	3/29/2022	At the 75% project completion point, present the list of Pre-Final Recommendations and progress to date	
8.5	Out-Briefing Stakeholder Meeting – Draft Assessment Report	4/19/2022	4/19/2022	Presentation for stakeholders that provides a draft summary of all completed work and communicates all recommendations and estimated costs.	
8.6	Final Assessment Presentation (On-Site)	4/26/2022	4/26/2022	Present findings of our studies and recommendations in person after the completion of the final report	
8.7	Weekly Meetings (Tuesday)	1/25/2022	4/26/2022	Present progress, areas concerns and weekly plans	