SUB-PLAN 3: ACCIDENT PREVENTION PLAN

Activity Hazard Analysis (AHA)

Activity/Work Task: Lockout/Tagout	**Overall Risk Assessment Code (RAC) (Use highest code)**					**M**
Project Location: CENTCOM AOR	**Risk Assessment Code (RAC) Matrix**					
Contract Number: W912DY24R0043	**Severity**	**Probability**				
Date Prepared: 01/01/2025		**Frequent (F)**	**Likely (L)**	**Occasional (O)**	**Seldom (S)**	**Unlikely (U)**
Prepared by (Name/Title): Glenn Thompson/Project Manager	**Catastrophic (C)**	**E**	**E**	**H**	**H**	**M**
	Critical (Cr)	**E**	**H**	**H**	**M**	**L**
Reviewed by (Name/Title): Dwayne Gipson/Program Manager	**Marginal (M)**	**H**	**M**	**M**	**L**	**L**
	Negligible (N)	**M**	**L**	**L**	**L**	**L**
Employer/GBU: Versar	Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above) **Note: The RAC is determined after implementing the control for listed hazard.**					
Notes: (Field Notes, Review Comments, etc.) **References:**	**P "Probability"** is the likelihood to cause an incident, near miss, or accident and identified as: Frequent (F), Likely (L), Occasional (O), Seldom (S) or Unlikely (U).	RAC Chart				
	S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic (C), Critical (Cr), Marginal (M), or Negligible (N)	**E = Extremely High Risk**				
	Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.	**H = High Risk**				
		M = Moderate Risk				
		L = Low Risk				

Job Steps	Hazards	Controls	P	S	RAC
1 Review AHA	1.1 Miscommunication	1.1.1 All crew members will review	**S**	**M**	**L**
2. Review AHA for Isolation, LOTO	2.1 Unexpected/unwanted release of stored residual or induced energy that may cause injury, death or equipment damage	2.1.1 Refer to this APP/SSHP and S3AM-325 – Lockout Tagout. all Flint and Bantrel's process, procedures and controls including but not limited to: 2.2.2 Flint safe work practice for Lockout/Tagout, Flint document ID-FISL-CM-CAP-PRPC-032 2.2.3 Flint employee safety and best practices handbook 2.2.4 Surmont 2 Health, Safety and Environmental	**S**	**Cr**	**M**

Activity Hazard Analysis (AHA)

Job Steps	Hazards	Controls	P	S	RAC
		core process handbook CP 221 2.2.5 Provincial and Federal Regulations and or codes Alberta OH&S Part 15 2.2.6 All permits to be in place and valid			
3. Electrical Lockout Authority receives and reviews lockout request sheets	3.1 Lack of communication or information leading to incorrect equipment being locked out or insufficient lockout provided	3.1.1 Discuss with workers requiring lockout what their task is and review all related, available drawings and ensure isolation and LOTO will be sufficient for work to be carried out safely	**S**	**Cr**	**M**
4. Review proper isolating device/devices, tools and equipment required to perform LOTO	4.1 Broken/Damaged equipment Voltage rated equipment incorrect for task	4.1.1 Inspect all tools and equipment prior to use 4.1.2 All Voltage testing equipment is rated for task 4.1.3 Ensure all clasps/locking devices are in good working condition 4.1.4 Tools to be insulated and Voltage rated if required	**S**	**Cr**	**M**
5. Review PPE and any specialized PPE required for task and identified on permit	5.1 Worn damaged or insufficient PPE	5.1.1 PPE is to be available, undamaged and worn properly 5.1.2 PPE is to be clean 5.1.3 For work requiring Arc Flash PPE proper PPE is to be selected using NFPA70E tables or rated to equipment being worked on if provided 5.1.4 All specialized PPE must be correctly cared for, gloves must be tested as per the manufacture specifications, face shields should be cleaned and stored properly, coveralls kept clean and dry	**S**	**M**	**L**
6. Communicate with other trades and trades in area of Lockout	6.1 Conflicting activities	6.1.1 Communicate with workers in area to make them aware of how the lockout may affect the area or work environment 6.1.2 Communicate with other trades to ensure no conflicting activities , i.e.; other trade discipline Competent Person and supervision 6.1.3 If other construction areas may be affected consult with client and coordinate inter-disciplinary/inter-organizational activities	**S**	**M**	**L**

Activity Hazard Analysis (AHA)

Job Steps	Hazards	Controls	P	S	RAC
7. Competent Person installs isolating devices/locks and tags, ensures keys are secure and documented and documentation is completed	7.1 Improper installation of isolating devices	7.1.1 Verification/inspection of installed lock must be conducted by Competent Person, supervisor and/or task supervisor 7.1.2 Use S3AM-325-FM2 – LOTO Verification Checklist	**S**	**Cr**	**M**
8. Prove zero energy and attempt to engage equipment to confirm isolation	8.1 Worker in line of fire of Arc Flash while performing and witnessing zero energy check (All worker involved with the job task in which lockout is required are to witness zero energy check)	8.1.1 Workers performing and witnessing zero energy testing require Arc Flash Protection boundary 8.1.2 Have a completed Arc Flash hazard analysis through the effective use of a AHA and Arc Flash check list prior to beginning work 8.1.3 Use of barricades as required with signage in place 8.1.4 Testing equipment is to be rated and check on a known source 8.1.5 LOTO is in place 8.1.6 All required PPE is in place 8.1.7 ERP has been discussed with crew 8.1.8 Must have list of emergency contact numbers 8.1.9 Use proper body position when opening and closing circuits (stand to the side with back to equipment and operating switches without having body placed in front of doors) 8.1.10 Fire extinguisher will be readily available 8.1.11 Non-essential personnel, vehicles and equipment removed from area 8.1.12 Arc Flash boundary to be observed (50V - 600V----5ft, 600V - 5KV----10ft)	**S**	**Cr**	**M**
9. Apply workers lock/tags as per OH&S regulation and document in LOTO log	9.1 Untrained workers - improper installation of isolating devices	9.1.1 Workers must have completed training for Lockout/Tagout with completed documentation 9.1.2 Personal Locks for each worker 9.1.3 Workers to include all relevant on tags (Name, Date , Supervisor, Identification of equipment locked	**S**	**Cr**	**M**

Activity Hazard Analysis (AHA)

Job Steps	Hazards	Controls	P	S	RAC
		out and Contact info for supervisor) 9.1.4 Supervisor to ensure proper isolation and document in log book 9.1.5 Sign off workers THA for zero energy check completion			
10. Removal of workers lock/tags at end of shift	10.1 Inability of essential equipment operation	10.1.1 All work completed prior to end of shift 10.1.2 Workers lock/tag removed first Competent Person's lock/tag removed last	**S**	**M**	**L**
11. Delinquent Locks	11.1 Inability of essential equipment operation	11.1.1 Every effort must be made to contact lock owner 11.1.2 Construction and QC must verify that personnel will not be affected by removal of lock 11.1.3 Delinquent lock removal form must be completed with all appropriate signatures in place 11.1.4 The Lockout Log must be signed off for the removal of the lock by the Competent Person	**S**	**M**	**L**
12. Working around Pumps and Motors	12.1 Motor start up, Pump start up, Rotating shaft Couplings installed	12.1.1 Lockout of electrical switch 12.1.2 Keep 10ft radius of pump or motor 12.1.3 Have guards installed	**S**	**M**	**L**
Equipment to be Used	**Training Requirements/Competent or Qualified Personnel**	**Inspection Requirements**			
Locks, Tags, Scissor Locks, Breaker Locks, Lock Boxes Personal Protective Equipment	Safety Orientation AHA Training	All PPE should be inspected prior to use. All Employees are to report unsafe conditions as they are observed to their immediate supervisor and a project safety committee member. Effort should be made to communicate findings to contractor.			