

Asset Area: _____ Location ID: _____ Scope of Work: _____ Job Supervisor: _____

Participants: _____ Date of Assmt.: _____ Approved by: _____ Date Approved: _____

Post-job Review date: _____ Post-job review led by: _____

Procedure:

1) Review SOW & identify key job phases	5) Determine risk ranking from matrix
2) Identify hazards and consequences	6) Identify additional controls to reduce risks
3) Assess available mitigation - Lo/Med/Hi	7) Assign responsibility and date for controls
4) Assess confidence implementation - Lo/Med/Hi	8) Have RA approved by supervisor of PIC
	9) Perform post-job review

1) IDENTIFY		2) EVALUATE		3) MANAGE	
Examples of Hazards		Risk Matrix		Examples of Additional Risk Mitigation Controls	
PHYSICAL	Mechanical	Crushing, shearing, cutting, entanglement, drawing-in, impact, stabbing/puncture, friction/abrasion, high pressure fluid injection or ejection, inadequacy of mechanical strength, elastic elements (springs), mass and velocity, relative motion, shape, effect of vacuum, liquids/gases under pressure.		Existing HES Controls (What is needed? Are they good?)	MOST EFFECTIVE
	Electrical	Contact with live parts/parts that become live under fault conditions, approach to live parts under high voltage, electrostatic phenomena, arcs, flashes, failure of hazardous area equipment, thermal radiation from overload/shorting.			
	Thermal	Contact with objects or materials with an extreme high or low temperature, by flames or explosions or by radiation of heat sources resulting in burns, scalds and other injuries. Heat or cold stress from work environment.			
	Noise	Machinery operation (engines, generators, turbines, compressors, pumps, fans), air-operated tools, heavy equipment operation, pneumatic conveyors, casing hammer, and activities such as sandblasting, chipping, grinding, etc.			
	Vibration	Hand-arm segmental vibration or whole body vibration from use of powered tools, jack hammers or vibrating work surfaces.			
	Radiation	Use of ionizing radiation sources (gamma, neutron, x-ray). Ultraviolet and Infrared radiation from welding, cutting or burning activities, lasers, NORM, radiant heaters, etc.			
	Unexpected start-up	Failure/disorder of control system, restoration of energy supply after an interruption, external influences on electrical equipment, other external influences (such as gravity, wind, ice, etc.), software errors, control circuit failure, errors made by operator, failure to lockout all energy sources.			
CHEMICAL	Hazardous Chemicals	Contact with/inhalation of harmful fluids, dusts, mists, fumes, vapors, gases. Fire or explosion hazards from flammable liquids or gases. Corrosion and weakening of metal structures/pipeline/ equipment from contact with acid gases, corrosive liquids, or failure of anti-corrosion measures.		Factors Contributing to High Confidence in Implementation : <input type="checkbox"/> Adequate lead time for planning and procurement <input type="checkbox"/> Availability of onsite supervision <input type="checkbox"/> Implementation of Core HES Site Management Practices <input type="checkbox"/> Availability of previously used high performance crew <input type="checkbox"/> Onsite availability of resources for HES mitigations <input type="checkbox"/> Availability of Professional HES support <input type="checkbox"/> Long-term relationship of trust with contractor <input type="checkbox"/> Contractor employees trained by Marathon &/or embedded <input type="checkbox"/> Contractor has safe operating history with similar jobs <input type="checkbox"/> Fatigue management arrangements <input type="checkbox"/> Language barriers addressed <input type="checkbox"/> Short Service Employees managed <input type="checkbox"/> Contractor has no pending HES regulatory violations <input type="checkbox"/> Contractor has no open Marathon HES audit actions <input type="checkbox"/> HES management interface/bridging arrangements <input type="checkbox"/> Clear lines of communication with all parties <input type="checkbox"/> Responsibilities, authority, chain of command understood <input type="checkbox"/> Other (define)	<div style="display: flex; align-items: center; justify-content: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 24px; margin-right: 10px;">↓</div> <div style="text-align: center;"> <p style="margin: 0;">1 Elimination</p> <p style="margin: 0;">2 Substitution</p> <p style="margin: 0;">3 Engineering Controls</p> <p style="margin: 0;">4 Administrative Controls</p> <p style="margin: 0;">5 Personal Protective Equipment</p> </div> </div>
BIOLOGICAL	Biohazards	Exposure to insects, vegetation, harmful body fluids, blood borne pathogens, bacteria, viruses, fungi, parasites. Inadequate biohazardous waste collection/disposal.			
ERGONOMIC	Human Factors	Repetitive motion, unhealthy postures due to workstation design or cramped work space, excessive effort required for task, inadequate local lighting, mental overload, inadequate design/location/identification of manual controls, inadequate design/location of video display units.			
ENVIRON'L	Environment	Loss of primary containment, adverse weather conditions, hazardous waste disposal, soil erosion, air emissions exceeding air quality standards; impact on water sources, impact on fish and wildlife, impact on environmentally sensitive areas (e.g. wetlands, protected habitats), environmental activism.			
		ALL RISKS CAN BE MANAGED			