

Blanchard Refining Company LLC	Galveston Bay Refinery	
Title: PR-14 Att A Minimum Energy Isolation Requirements	Doc Number: RSW-FORM-000053-GB	Rev No: 0

Attachment A – Minimum Energy Isolation Requirements

Minimum Energy Isolation Requirements								
STREAM TYPE:	CORROSIVES	HAZARDOUS WASTE	HIGH TEMP or PRESSURE UTILITIES	HYDROCARBON	TOXICS	NON-FLAMMABLE	UTILITIES	OTHER
EXAMPLES:	HF, SULFURIC SPENT OR FRESH CAUSTICS	API, DAF, WASTE WATER LIQUIDS & SOLIDS	BOILER FEEDWATER, STEAM	HYDROGEN, FUEL GAS, FLUE GAS, LPG, LUBE OIL, NAPHTHA, CRUDE, SLURRY, ETC.	ANTIMONY, AMMONIA, HYDROGEN SULFIDE, AMINE, CHLORINE, BENZENE, NITROGEN	COOLING WATER, FRESH GLYCOL	INSTRUMENT AIR, PLANT AIR, UTILITY WATER, FIREWATER	MISC. ADDITIVES
COLD WORK	LOCKOUT	LOCKOUT	LOCKOUT	LOCKOUT		LOCKOUT	LOCKOUT (2)	LOCKOUT
HOT WORK	BLIND	BLIND	LOCKOUT	BLIND		LOCKOUT	LOCKOUT (2)	BLIND
CONFINED SPACE ENTRY	BLIND	BLIND	BLIND (1)	BLIND		BLIND	BLIND (1)	BLIND

Minimum Energy Isolation Requirements					
ENERGY TYPE:	ELECTRICAL	RADIATION	MECHANICAL	HYDRAULIC	PNEUMATIC
EXAMPLES:	MOTOR CIRCUITS, BUSSES, BATTERY CIRCUITS, FEEDERS, CONTROL CIRCUITS, ETC.	Nuclear gauge, ETC.	FLYWHEELS, TROLLEYS, SPRING-TENSIONED EQUIPMENT, CLUTCHES, ELEVATED MACHINE MEMBERS, PUMP IMPELLERS, ETC.	FCCU SLIDE VALVE(S) CONTROL SYSTEM, HYDRAULIC MOTORS, OTHER HYDRAULIC SYSTEMS, ETC.	AIR DRIVEN ACTUATORS, ETC.
COLD WORK	LOCKOUT (2)	LOCKOUT OR SOURCE REMOVAL	LOCKOUT	LOCKOUT	LOCKOUT
HOT WORK	LOCKOUT (2)	LOCKOUT OR SOURCE REMOVAL	LOCKOUT	BLIND(1)	BLIND(1)
CONFINED SPACE ENTRY	LOCKOUT	LOCKOUT OR SOURCE REMOVAL	LOCKOUT	BLIND(1)	BLIND(1)

NOTE:

- (1) Where (1) is located in the table, see Section 9.1 for additional information.
- (2) Where (2) is located in the table, there may be some utility streams and electrical installations which are not capable of, or configured for Lockout isolation. In the rare event Lockout isolation cannot be utilized for a particular utility stream then Tagout isolation methods may be used. For electrical situations that cannot be locked out, an additional measure of isolation must be implemented (e.g., removal of circuit element, removal of fuse, disconnect wire, opening a second disconnecting device).
- (3) Entry into the shroud area of cooling towers (e.g., for gear box repairs, motor PMs) does not require blinding. The water to the cell must be locked out and the fan must be locked out. Entry into an in service cooling tower is acceptable, if the following conditions are met:
 - Water to the cell is locked out,
 - Platforms and walkways are structurally sound, and
 - Appropriate PPE is utilized.
- (4) Blinds are not required to isolate fire water/water to flow test nozzles in towers/vessels with the approval signatures from the Ops/Products Control and Maintenance Supervisors. The remainder of the tower/vessel must be blinded for confined space entry. Following the completion of flow tests, blinds must be installed in the test nozzle locations.
- (5) Isolation requirements do not apply to gases utilized for inerting equipment and vessels.
- (6) Lockout/Tagout is acceptable for confined space entry above the roof on internal and external floating roof tanks.