

APPENDIX A
 EXAMPLES OF ALTERNATE METHODS OF ISOLATING OR BLOCKING ENERGY
 AND SECURING THE POINT(S) OF CONTROL

ENERGY TYPE	METHOD OF ISOLATING OR BLOCKING ENERGY	METHOD OF SECURING THE POINT OF CONTROL	REMARKS
Mechanical Motion Rotation Translation Linear Oscillation	1. Remove segments of operating mechanical linkages such as dismantling push rods, removing belts, and removing flywheels. 2. Use blocking devices such as wood or metal blocks.	(1) Tag the linkages and place them in a locked cabinet away from the machine. or (2) Attach warning tags where the linkages were removed and restrict access to trained personnel. or (3) Post a person to protect against unauthorized reinstallation of the linkages. (1) Chain and lock in point of control or use metal pins driven or welded in place. or (2) Attach warning tags on the blocking devices and restrict access into the area to trained personnel. or (3) Post a person to protect against unauthorized removal of the blocking devices.	

ENERGY TYPE	METHOD OF ISOLATING OR BLOCKING ENERGY	METHOD OF SECURING THE POINT OF CONTROL	REMARKS	
Mechanical Motion (continued)	3. Remove power or energy from the driving mechanism, such as:	(1)a. Padlock in the "off" position.	Check for alternate sources of power.	
	a. Disconnect main electrical source.	b. Disconnect pneumatic and hydraulic lines and tag. or		Check for residual pneumatic and hydraulic energy.
	b. Close hydraulic or pneumatic valves, bleed.	(2) Attach warning tags at control points and restrict access to trained personnel. or		
			(3) Post a person to protect against unauthorized reconnection of the energy sources.	
Electrical	1. Place the main electrical disconnect switch in the "off" position.	(1) Secure by a padlock, a clip and padlock, or a bar and padlock. or	Check for alternate sources of power.	
		(2) Attach a warning tag and restrict access into the area to trained personnel. or		
		(3) Post a person to protect against unauthorized actuation of the switch.		

ENERGY TYPE	METHOD OF ISOLATING OR BLOCKING ENERGY	METHOD OF SECURING THE POINT OF CONTROL	REMARKS
Electrical (continued)	2. Remove segments of electrical circuit, such as printed circuit modules.	(1) Tag the module and place in a locked cabinet away from the control center and tag the control center door. or (2) Attach a warning tag at the module location and restrict access to trained personnel. or (3) Have a person remain at the control center to protect from unauthorized installation of a spare or replacement module.	
Thermal (Steam)	1. Close valves and maintain an open bleed.	(1) Chain and padlock valve or use blind flanges or slip blinds. or (2) Attach warning tags to the valves and restrict access to the area to trained personnel. or (3) Station a person at the valve locations to protect against unauthorized or inadvertent opening of valves.	Allow time for residual heat to dissipate.

ENERGY TYPE	METHOD OF ISOLATING OR BLOCKING ENERGY	METHOD OF SECURING THE POINT OF CONTROL	REMARKS
Potential Pressure	1. Close valves and maintain open vent to relieve.	(1) Secure, block, blind flange, slip blind, or valve with locking device. or (2) Attach warning tags and restrict access to trained personnel. or (3) Station a person at the valves to protect against unauthorized actuation.	
Potential Gravity	2. Block in place by using metal or wood blocks under the mechanism or pin the linkages in a position where gravity will not cause the mechanism to inadvertently fall.	(1) Secure, block, or pin with a locking device. or (2) Attach warning tags to blocks, linkages, and pins and restrict access to trained personnel. or (3) Station a person at the mechanism to prevent unauthorized removal of blocks and pins and reinstallation of linkages.	Energy could be dissipated by lowering to a point where gravity could no longer cause inadvertent falling.

ENERGY TYPE	METHOD OF ISOLATING OR BLOCKING ENERGY	METHOD OF SECURING THE POINT OF CONTROL	REMARKS
Potential (continued) Springs	3. Block in a safe position by pinning or clamping the device eliminating the potential of unrestricted and undesired travel.	(1) Secure pin or clamp in place with a locking device. or (2) Attach warning tags to the pins and clamps and restrict release or access to trained personnel. or (3) Station a person at the control point to protect against pin or clamp removal and unauthorized activation of the spring mechanisms.	Spring energy could be dissipated by release or dismantling of the mechanism.