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Gallant Builders has implemented this safety program for work activities associated with energized equipment. This Program complies with Title 29 Code of Federal Regulations (CFR) §1910.147, The control of hazardous energy (lockout/tagout) and §1926.417, Lockout and tagging of circuits.

I. PURPOSE

The purpose of this program is to establish safe practices associated with equipment or processes that involve hazardous energy sources.

II. APPLICABILITY

This program applies to all Gallant work sites that perform activities such as, but not limited to, erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, operating or maintaining equipment/machines/processes whereby hazardous energy sources are involved.

III. DEFINITIONS

Affected Employee - means any Gallant employee who is not an Authorized Employee but is required to work in the area of equipment/machine/processes where Lockout/Tagout procedures are being implemented.

Authorized Employee - means any Gallant employee who utilizes Lockout/Tagout procedures on equipment/machines/processes.

Control Mechanism - means any lock or combination of locks, multi-lock hasps and/or other types of special mechanisms (chains, valve covers, breaker covers, etc.) applied to an energy-isolating device to ensure that it cannot be moved or operated.

Energized - refers to an item being connected to an energy source or containing residual or stored energy.

Energy Isolating Device - means a mechanical device that physically prevents the transmission or release of hazardous energy, including, but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; line valve; slide gate; or device used to block or isolate energy.

Hazardous Energy Source - means any type of energy that could injure anyone working on or near the equipment/machine/process if released as a result of work activities. Examples of hazardous energy sources include, but are not limited to the following: electrical; hydraulic (fluids/liquids; pneumatic (air); chemical; radiation; thermal; mechanical (from stored energy, like flywheels and springs); and mechanical (from gravity).

Lockout - means the placement of a control mechanism on an energy-isolating device that ensures that the equipment/machine/process being worked on cannot be operated/initiated until the control mechanism is removed.

Other Personnel - means non-Gallant personnel or visitors to any work area where Gallant authorized employees are utilizing processes outlined in the Program.

Operation Device - means any switch, button, leaver, valve, etc., that are expressly intended for the starting or initiation of the equipment/machine/process.

Zero Energy State - means equipment/machine/process that has been purged of and blocked from hazardous energy sources, that no hazardous energy is present.

IV. RESPONSIBILITIES

The Safety Director is responsible for developing, implementing, and administering this Program. This involves:

- Training supervisors and employees who perform maintenance or repair work on energized systems.
- Maintaining centralized records of training and inspections performed.
- Providing technical assistance to Gallant employees.
- Developing and maintaining the written program, training programs and other training resources that can be used by Gallant employees.
- Evaluating the overall effectiveness of this program on an annual basis.

Supervisors are expected to assure that all employees are thoroughly familiar with their safety responsibilities and that safety practices are followed at all times. Worksites should be inspected on a frequent basis to identify and correct hazards.

Supervisors are expected to assure that their employees are appropriately trained and qualified to perform their job duties, and that prompt action is taken to correct identified worksite hazards.
Employees are expected to comply with all safety requirements and act proactively to prevent accidents and injuries by communicating hazards to supervisors

V. INITIAL TRAINING

Each affected employee shall receive training on the procedures of this program for the expressed purpose of ensuring awareness of the prohibition of removing control mechanisms and/or operation/initiation of applicable equipment/machines/processes.

AFFECTED EMPLOYEES

Employees who work in an area where Lockout/Tagout (LOTO) procedures are being used (e.g., an *affected employee)* shall be:

- Told about the purpose of the LOTO devices
- Cautioned that they may not remove or bypass a LOTO device
- Prohibited from attempting to start a machine or device that has been locked and/or tagged out

It is the responsibility of each authorized employee to convey this information to employees in the work area who may be affected by the LOTO. The Safety Director shall also provide awareness level training on the LOTO requirements on an as-requested basis, and as worksites are identified.

AUTHORIZED EMPLOYEES

Each authorized employee shall receive special training in the recognition of hazardous energy sources, the specific and/or common equipment/machines/processes within respective work areas, types of necessary control mechanisms, and the procedures of this Program.

Employees who perform the following types of work must be trained:

- Servicing or maintenance of machines or equipment where the unexpected start-up, activation or release of stored energy could cause injury
- Operations where an employee is required to remove or bypass a guard or other safety device
- Operations where an employee is required to place any part of his or her body into an area of the machine where work is actually performed upon the material being processed, or where a similar danger zone exists during the machine operating cycle
- Work on equipment where an energy source itself poses a hazard to the employee (e.g., electrical systems) that must be controlled for the work to be performed safely
- Entry into confined spaces, such as vats, tanks, vaults, and manholes, where the supply lines for chemicals, gases or other materials into the space must be blocked and locked out to prevent the introduction of these materials into the space while employees are performing work

Training must be performed before the employee is assigned duties involving work that will require LOTO. An employee undergoing on-the-job training who has demonstrated the ability to perform duties safely at his or her level of training, and who is under the direct supervision of an authorized person, is considered to be an authorized person for the purpose of those duties.

RE-TRAINING

Re-training will be performed whenever inspections conducted by the employee's supervisor or the Safety Director indicate that an employee has not retained the necessary knowledge or skills to effectively use established LOTO procedures.

Re-training will also be performed whenever there is a change in job assignments, when new machines, equipment or processes are introduced that present a new hazard, or when the energy control procedures change.

VI. RECORDKEEPING

The Safety Director will maintain training records. The employee's supervisor must maintain documentation that the employee has the skills to perform his or her work safely.

When an employee is to work on new or unfamiliar systems or equipment, the employee's supervisor must provide additional training on the hazards involved and the energy control procedures that are to be followed.

VII. SELECTION AND USE OF WORK PRACTICES

Employees are expected to use approved work practices to prevent injuries that could result from the unexpected start-up of equipment or the release of stored energy. The work practices used must be consistent with the nature and extent of the hazard. Equipment/machinery/processes that have not been de-energized using approved procedures must be treated as energized regardless of whether the parts are, in fact, de-energized.

VIII. EQUIPMENT

Locks, tags, chains, gang locks, valve protectors, self-locking fasteners and other hardware must be provided by the department as needed for isolating, securing, blanking or blinding machines, equipment or processes from energy sources.

IX. LOCKOUT DEVICES

Lockout is the safest way to assure that employees are protected from injury. Lockout devices must be used if the machine or system is capable of being locked out. Only authorized employees may use or apply lockout devices, and these devices may only be removed by the individual who installed them except under emergency conditions.

Lockout devices must be:

- Used for controlling hazardous energy and may not be used for any other purpose. All locks shall be key operated.
- Issued to the individual employee, and the tag must indicate the name of the employee applying the device. Employees may only use their own lock. Locks are not to be taken home. Employees may be charged for locks that are lost.
- Durable enough to withstand the environment in which they will be used.
- Used with Tags to provide a visible warning and to supply additional information as necessary.

X. TAGOUT DEVICES

Tagout devices may be used without a lock only when it is not possible to lock out the system or equipment. If a tag cannot be attached to the energy isolating device, it must be located as close as safely possible to the device, in a position that will be immediately seen by anyone attempting to operate the device. Tags are warning devices only, however, and do not provide the physical protection provided by a lock.

When a tag is used without a lock, the tag must be supplemented by at least one additional safety measure. This safety measure must provide a level of safety equivalent to that obtained by the use of a lock. Additional safety measures include, for example, removal of an electrical breaker, blocking of a controlling switch, or opening of an extra disconnecting device.

TAGOUT DEVICES:

- Shall be durable enough to withstand the environment in which they will be used.
- Tagout devices may not be used for any other purpose.
- Tags and the attachment device must be substantial enough to prevent accidental removal and must be securely attached to the energy-isolating device.
- Attachment devices must be non-reusable, attachable by hand, self-locking, and require a minimum unlocking strength of greater than 50 pounds.
- Shall show the name of the employee applying the device, and the date and time that work began.

- Shall warn about hazardous conditions that may result if the machine or equipment is energized and must include a legend such as: Do Not Start; Do Not Operate; Do Not Close; Do Not Energize; or, Do Not Open.
- May only be used by authorized personnel.
- Shall not be removed without permission from the person who applied the tag, and it is never to be bypassed, ignored, or otherwise defeated.
- Shall be legible and understandable by all authorized and affected employees.

XI. LOCKOUT / TAGOUT PROCEDURES

Safe procedures for de-energizing circuits and equipment *must* be determined for every piece of machinery or equipment unless *all* of the following apply:

- There is no potential for stored energy or re-accumulation of stored energy after shutdown
- There is a single energy source that can be easily identified and isolated
- The isolation and LOTO of that energy source will completely de-energize and deactivate the machine or equipment
- The machine or equipment is isolated from that energy source and locked out during service or maintenance
- A single LOTO device will achieve a locked-out condition
- The LOTO device is under the exclusive control of the authorized employee performing the work
  The service or maintenance does not create hazards for other employees
- There have been no documented accidents involving the unexpected activation or re-energization of the machine or equipment during service or maintenance

If the Energy Control Procedure (ECP) has not already been developed, or is not detailed in the manufacturer's literature, it must be determined by the authorized employee or their authorized supervisor and documented in writing.

The ECP must identify:

- The equipment or system(s), including the physical location of the equipment/system(s) if applicable
- The specific types and magnitude of energy to be controlled, and the techniques to be used to control hazardous energy
- All switches, valves, and other devices that may inadvertently release energy must be identified to be certain that all sources of hazardous energy will be controlled
- The specific steps for shutting down, isolating, blocking and securing the machine, equipment or system to control hazardous energy
- The specific procedure for the placement, removal and transfer of LOTO devices
- The specific requirements for testing the equipment or system to assure that all energy sources have been completely controlled

A generic ECP may be developed for similar machines and/or equipment if the procedure adequately addresses the unexpected energization hazards related to each machine.

ECP's are to be maintained in a permanent file in the department and must be made available for review by the Safety Director upon request. When employees are to perform work on equipment covered by this program, they must either determine or document the ECP's at the time of work, or be provided the ECP when the work is

authorized.

XII. APPLICATION OF LOCKS AND TAGS

The following steps are taken during LOTO:

The ECP is reviewed to determine the hazards present, and how these hazards must be controlled. If an ECP has not been developed, and a generic ECP cannot be used, the ECP must be determined and documented in writing by an authorized person.

Affected employees in the immediate area are notified that the system will be locked and/or tagged out, and the reason for this procedure.

The machine, equipment or system is shutdown by disconnecting the energy sources (e.g., depressing the “stop” button, opening toggle switches, closing the valve, and so forth).

All energy isolating devices needed to control all sources of energy are turned off, including all main and secondary energy sources. Electrical switches will not be pulled while under load, nor will fuses be removed in place of disconnecting.

All switches or other energy isolating devices are LOTO in the “off” or “safe” position by authorized employees.

All potentially stored energy that could harm an individual (such as springs, elevated machine platforms or members, rotating flywheels, hydraulic systems, and pressurized air, gas, steam or water lines) are relieved, disconnected, restrained, blocked or otherwise made safe. If it is possible for the stored energy to re-accumulate to a hazardous level, isolation shall be verified and continued until the work is completed or the hazard no longer exists.

The authorized employee verifies that the system has been isolated and de-energized. This is accomplished by pressing all start buttons, verifying that the main disconnect switch or circuit breaker cannot be turned on, and so forth.

Work is performed. Do not bypass LOTO devices until all work is complete.

XIII. RELEASE FROM LOCKOUT / TAGOUT

The following steps are to be taken when the work is completed and LOTO devices are to be removed:

Inspect the work area to be sure that all nonessential items such as tools have been removed, that machine components are fully assembled, and that all guards are in place.

Inspect to ensure that all employees are safely positioned or have been removed from any danger zone. Notify all affected employees that the LOTO devices are being removed, and that the equipment is being reactivated.

Each person removes his or her LOTO device(s).

XIV. EMERGENCY LOCK REMOVAL PROCEDURES

If someone is absent from the workplace, his or her lock(s)/tag(s) may be removed provided that:

Every effort shall be made to personally contact the authorized employee prior to their lock being removed.

The supervisor ensures the person is not present at the workplace.

The supervisor ensures that the person is informed at the first opportunity that his or her lock and tag have been removed before he or she resumes work at that workplace.

The supervisor makes a visual determination to ensure that all employees are clear of the circuits and equipment prior to LOTO removal.

XV. TEMPORARY RELEASE FROM LOCKOUT/TAGOUT

The following procedure is to be followed if a LOTO is temporarily removed from the energy-isolating device to test or reposition the machine.

- Clear the machine or equipment of tools and materials
- Ensure that all employees are clear of the equipment or machine
- The LOTO device is removed by the employee who applied it
- Energize and proceed with testing or positioning
- De-energize all systems and reapply the energy control devices
- Re-test operation devices to ensure zero energy state is in place
- Continue work and repeat this procedure as necessary

XVI. GROUP LOCKOUT TAGOUT PROCEDURES

The procedure that is followed for group LOTO must provide a level of protection equal to that provided by use of a personal LOTO. Group LOTO must comply with all portions of this program including the following additional requirements:

An authorized employee must be assigned primary responsibility for LOTO control over the group of workers. This primary authorized employee must be able to determine the exposure status of individual members of the group with regard to LOTO of the machine or equipment.

The primary authorized employee implements and coordinates the LOTO of hazardous energy sources in accordance with the specific ECP, and verifies that these steps have in fact isolated the machine or equipment from all hazardous energy sources. This must be accomplished before other authorized employees participating in the group LOTO affix their personal LOTO device to the group LOTO box and before they perform service/maintenance activities.

Each authorized employee affixes his or her personal LOTO device to the group lockout device and removes these devices when work has been completed. A single lock may be used to lockout the device if the key is placed in a group lockout box that allows the use of multiple locks to secure it.

Each authorized employee participating in the group LOTO has the right to personally verify the effectiveness of the LOTO. An employee who opts to verify the LOTO must perform this verification after affixing his or her personal LOTO device(s) and before performing service/maintenance work.

XVII. SHIFT OR PERSONNEL CHANGES

When repair or maintenance work extends beyond one shift, employees entering the work area must affix their locks in place before departing employees remove their locks. Verification of the LOTO must be performed on each shift before any authorized employee(s) begins work.

XVIII. INSPECTIONS

The ECP's required by this program will be reviewed at least annually by the Safety Director to assure that the procedures and the requirements of this program are being followed. This review will be supplemented by:

- Work site inspections conducted by the Safety Director
- Reports of program deficiencies made by departmental program supervisors
- A review of LOTO records, including site-specific ECP's used or developed during the course of the year

The periodic review will be designed to correct any deviations or inadequacies observed. Authorized employees will be retrained as necessary to address any deficiencies found during this review.

Appendices:

Appendix A - General Lockout/Tagout Checklist
Appendix B - Energy Control Procedure
Appendix C - Group Lockout Tagout
Appendix D – Employees involved in the Group Lockout Tagout Form

Appendix A - General Lockout Tagout Checklist

GENERAL LOCKOUT/TAGOUT CHECKLIST	
This checklist addresses all potential types of energy sources in a generic manner, and is intended to help you evaluate and develop energy control procedures (ECP) **when one does not already exist**. If you are unsure of the hazard, or uncomfortable determining how to control the energy source(s), talk with your supervisor or contact the Safety Director for assistance. **Document the steps that you have taken on the blank ECP Form.**	
	☑
Manufacturer/Model of Equipment or System:	☐
THE GENERAL PROCEDURES FOR THE VARIOUS TYPES OF ENERGY SOURCES ARE AS FOLLOWS:	
If available, review the manufacturer's literature and/or wiring and mechanical schematics to assure that all energy sources have been identified, otherwise, inspect the equipment/machine to identify all energy sources. During this inspection do NOT perform work near exposed energized circuits unless you are a person qualified to work on electrical systems, and do NOT put any part of your body in any area where moving parts may cause injury. If you are unsure of the hazard, STOP WORK and contact your supervisor or the Safety Director for guidance.	☐
ELECTRICAL CONTROLS	
Isolate the machine or piece of equipment by using an electrical plug lock or by locking and tagging the disconnect switches. A special adaptor may be needed to LOTO circuit breakers. On the ECP form, document where the LOTO are applied.	☐
Bleed any stored electrical energy to a "zero energy state". If this type of hazard is present, document on the ECP form.	☐
Ensure that all power sources are LOTO by using a tester to check that all circuits are de-energized. Employees that must work on or near exposed energized parts or de-energized electrical parts that have not been LOTO must **also** be qualified workers as required by the Gallant's *Electrical Safety Program*.	☐
PNEUMATIC CONTROL	
Release the pressure to reach a "zero energy state".	☐
On the ECP form, document where the LOTO are applied. LOTO the energy source(s).	☐
HYDRAULIC CONTROL	
Release the pressure to reach a "zero energy state".	☐
On the ECP form, document where the LOTO are applied. LOTO the energy source(s).	☐
FLUIDS AND GASES	
Evaluate all hoses and valves connecting to the system or equipment. Determine what type of fluid or gas may be present and, if necessary, obtain and review the Material Safety Data Sheet (MSDS) for the material. Take precautions as needed to protect you from exposure to any hazardous material that may be contained in the system. Contact the Safety Director as needed for guidance.	☐
Close all valves on supply lines, and as necessary, bleed or drain the contents. Contact the Safety Director for guidance on disposal of the material.	☐
If working on a pressurized system where valve leaks may re-pressurize the line, insert a blank or blind in the line.	☐
Use lockout valves, chains, and locks and tags at the isolating source. On the ECP form, document where the LOTO are applied, and document all related hazards.	☐

MECHANICAL CONTROL	
Release or block all stored mechanical energy. Be cautious of springs, tension, elevated mechanical arms or platforms that could lower, and other sources of energy that are not always obvious. If needed, restrain the system by inserting blocks.	☐
On the ECP form, document where the LOTO are applied. LOTO the energy source(s)	☐
Recheck all areas for potential sources of energy.	☐
GENERAL LOTO PROCEDURES	
Review the energy control procedure (ECP) with your supervisor if the procedure, the system, or the equipment is new or unfamiliar.	☐
Review the type and magnitude of the energy and the required controls.	☐
Inform all affected employees, and all other employees working in or entering the work area, that LOTO is to be performed. Instruct these employees that they must not attempt to start equipment that has been locked/tagged out, and that locks/tags must not be bypassed or removed.	☐
Shutdown the equipment/process/system by following the ECP.	☐
Locate the necessary energy isolating device(s) for the equipment/process/system and operate them to isolate them from the energy sources. Affix LOTO devices.	☐
Relieve all stored or residual energy and take appropriate measures to ensure the energy will not re-accumulate. Affix LOTO devices as necessary.	☐
Verify that all sources of energy have been isolated and stored energy relieved after ensuring that employees are not exposed and before beginning work. Activate equipment or system controls to ensure that the equipment or system will not operate, and then deactivate the controls.	☐
PERFORM THE SERVICING OR MAINTENANCE	☐
Replace all guards and safety devices. Remove all tools and equipment from the work site. Assure that all personnel are clear of the equipment.	☐
Notify all affected personnel that the system will be reactivated.	☐
LOTO devices are removed by the authorized employee(s) who installed the devices.	☐

LOCKOUT/TAGOUT DEVICE REMOVAL BY SUPERVISOR
If it becomes necessary to remove a LOTO of an employee who is unavailable on site, the removal of this device must be done using the following procedure. • The supervisor must ensure that the employee who applied the lock or tag is <u>not</u> available at the workplace; and • The supervisor must make all reasonable efforts to contact the authorized employee to inform him or her that his/her lockout and/or tagout device has been removed; and, • The supervisor <u>ensures</u> that the employee is made aware that his or her lock or tag was removed <u>before</u> he or she resumes work at that worksite.
GROUP LOCKOUT/TAGOUT
When a LOTO job involves numerous LOTO devices and many employees, the group LOTO procedure included in this program should be used.
CONTRACTORS
All contractors must comply with the Gallant *Safety Requirements for Contractors and Subcontractors.*

Instructions: Safety Checklists shall be maintained on file for one year at the facility.
The safety checklist shall be made available upon request for inspection by the Safety Director.

Appendix B – Energy Control Procedure Form

ENERGY CONTROL PROCEDURE

Department:	**Location:**	**Date:**
Equipment/Machine/Process:		**Job Description:**

ENERGY SOURCE/TYPE			**STEPS TO BE TAKEN TO ISOLATE ALL SOURCES OF HAZARDOUS ENERGY**			
Step	**Type**	**Magnitude**	**Identity (System)**	**Part of System to be LOTO**	**Describe where the LOTO is applied**	**Isolated** ☑
						☐
						☐
						☐
						☐
						☐
						☐
						☐
Stored or Residual Energy Sources to be De-energized and Isolated						
						☐
						☐
						☐

If locks cannot be applied, and only tags will be used, describe what additional safety measures will be used in addition to the use of tags: ☐ Isolating circuit element removal; ☐ Control switches are blocked; ☐ Extra disconnecting device opened; ☐ Valve handles are removed; ☐ Other (describe):

Comments:

Job Performed by:	**LO/TO Procedure Authorized/Approved by:**	**Date:**

Instructions: Safety Checklists shall be maintained on file for one year at the facility. The safety checklist shall be made available upon request for inspection by the Safety Director

Appendix C – Group Lockout Tagout Form

GROUP LOCKOUT/TAGOUT			
Department:	**Location:**		**Date:**
Equipment/Machine/Process:			
ECP That is Being Followed:			
Job Description:			
Date Work to Begin:	**Date Work to End:**	**Primary Authorized Employee:**	
Crew/Craft/Department Involved		**Contact Name**	**Phone/ Radio No.**
Person Responsible for Coordinating if More Than One Crew:			**Phone/ Radio No.**
Employees Working under Group Lockout/Tagout (Use Attached Sheet)			
Location of Group Lockout Box:			
Special Instructions:			
Comments:			
Work Completion Date:		**Authorized Employee Signature:**	**Date/Time:**

Instructions: Safety Checklists shall be maintained on file for one year at the facility. The safety checklist shall be made available upon request for inspection by the Safety Director.

Appendix D – Employees Involved in the Group Lockout Tagout Form

LOCKOUT/TAGOUT SAFETY PROGRAM EMPLOYEES INVOLVED IN THE GROUP LOCKOUT/TAGOUT				
Department:	**Location:**		**Date:**	
Equipment/Machine/Process:				
Job Description:				
Date Work to Begin:	**Date Work to End:**	**Authorized Employee (Primary Responsibility):**		
Employee Name	**ID Number**	**Department or Crew**	**Work Started Date/Time**	**Work Ended Date/Time**
Work Ready to Begin (Authorized Employee): **Date:**		**Work Complete (Authorized Employee):** **Date:**		

Instructions: Safety Checklists shall be maintained on file for one year at the facility.
The safety checklist shall be made available upon request for inspection by the Safety Director