WAGNER-MEINERT LLC
Engineers – Contractors

LOCKOUT/TAGOUT PROGRAM
(Section 5)

PURPOSE:

In an effort to comply with the OSHA Control of Hazardous Energy Source (29CFR1910.147), with the OSHA Electrical Work Practice Standards (29CFR1910.333(b) (2) (iii) (D) and (b) (2) (iv) (B), OSHA Process Safety Management 29 CFR 1910.119, and to maintain the safety of our employees. Wagner-Meinert LLC maintains a Lockout/Tagout Program as part of our Safety program.

SCOPE:

This Lockout/Tagout program applies to all company employees and other employer's employees who are Authorized Employees. Affected Employees or otherwise assigned to work in close proximity to the affected equipment or process.

DOCUMENTS

Appendix 5A	**Lockout/Tagout Procedure Energy Source Determination**	**(Page 11-13)**
Appendix 5B	**Specific Lockout/Tagout Procedure**	**(Page 13)**

RELATED DOCUMENTS

Hot Work Permit Program
Confined Space Program

REFERENCES:

A) OSHA Regulations (Standards - 29 CFR)The control of hazardous energy lockout/tagout). - 1910.147

B) Part 1926--Safety And Health Regulations For Construction

PROCEDURES:

Wagner-Meinert, LLC Lockout/Tagout Program is composed of written procedures for each of the elements of the program, including:

1.0 COORDINATION WITH HOST EMPLOYER

2.0 LOCKOUT/TAGOUT PROCEDURES FOR SINGLE POWER SOURCES

3.0 RESPONSIBILITY

4.0 PREPARATION FOR LOCKOUT OR TAGOUT ON A SINGLE SOURCE SYSTEM

5.0 SEQUENCE OF LOCKOUT OR TAGOUT SYSTEM PROCEDURE

6.0 RESTORING MACHINES OR EQUIPMENT TO NORMAL PRODUCTION OPERATIONS

7.0 PROCEDURE INVOLVING MORE THAN ONE PERSON

8.0 BASIC RULES FOR USING LOCKOUT OR TAGOUT SYSTEM PROCEDURE

9.0 REMOVING LOCKOUT OR TAGOUT DEVICES BY OTHER THAN THE EMPLOYEE WHO APPLIED THE DEVICE

10.0 INFORMING OUTSIDE CONTRACTORS

11.0 SHIFT OR PERSONNEL CHANGES

12.0 INITIAL EVALUATIONS

13.0 PERIODIC EVALUATIONS

14.0 TRAINING

15.0 ELECTRICAL LOCKOUT/TAGOUT (29CFR1910.333 (B) (2) (iii) (D)

16.0 ELECTRICAL TEST VERIFICATION OR DE-ENERGIZED CIRCUITS (29 CFR190.333 (b) (iv) (B)

17.0 WORK ON ENERGIZED CIRCUITS

18.0 LIST OF AUTHORIZED PERSONNEL

1.0 COORDINATION WITH HOST EMPLOYER

1.1 When employees of Wagner-Meinert LLC are to work in facilities containing lockout/tagout that are controlled by the host employer, the authorized representative of Wagner-Meinert LLC shall coordinate all lockout/tagout requirements with a properly authorized representative of the host employer. As a minimum, the following information shall be exchanged/determined:

1.1.1 The host employer shall appraise the Wagner-Meinert LLC representative of all elements including the hazards identified in the lockout/tagout area.

1.1.2 Any precautions or procedures that have been implemented by the host employer for the protection of their employees in or near the affected equipment area where employees of Wagner-Meinert LLC will be working.

1.1.3 Communicate all lockout/tagout operations to protect both the host employer employees and employees of Wagner-Meinert LLC or employees of other contractors who are working near the lockout/tagout area.

1.1.4 The authorized representative of Wagner-Meinert LLC shall obtain from the host employer any available information regarding the host employer lockout/tagout program. Further, the authorized representative of Wagner-Meinert LLC shall provide a copy of the Wagner-Meinert LLC lockout/tagout program to the host employer for their review and approval before any lockout/tagout operation is performed by any employee of Wagner-Meinert LLC or subcontractors employed by Warner-Meinert LLC Approval to use the Wagner-Meinert LLC lockout/tagout program as is, or as modified by special requirements of the host employer, shall be in writing and shall be signed by an authorized representative of the host employer.

1.1.5 The authorized representative of Wagner-Meinert LLC shall debrief the host employer at the conclusion of lockout/tagout operations.

2.0 LOCKOUT/TAGOUT PROCEDURES FOR SINGLE POWER SOURCES

2.1 This procedure establishes the minimum requirements for the lockout/tagout of energy isolating devices. It shall be used to ensure that the machine or equipment are isolated from all potentially hazardous energy, and locked out and tagged out before any service or maintenance, where the unexpected energization, start up or release of stored energy could cause injury from plant equipment.

3.0 RESPONSIBILITY

3.1 All employees shall be instructed in the safety significance of the lockout or tagout procedure. Any employee whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tagout procedure. Prior to lockout/tagout the senior authorized individual (Job-site Foreman/Service Technician) will brief all affected employees in person. In the event of tagout system only, the authorized individual will also brief all other personnel potentially exposed to the hazard in person.

4.0 PREPARATION FOR LOCKOUT OR TAGOUT ON A SINGLE SOURCE SYSTEM

4.1 The Job-site Foreman or Project Manager shall perform a survey to locate and identify all isolating devices to be certain which switch(s), valves(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More than one hazardous energy source and/or means of disconnect (electrical, mechanical, or others) may be involved. If more than one energy source or stored energy consult the appropriate section for specific procedures and then follow the specified procedure. In the case that a machine or piece of equipment does not have a specific procedure, contact the Safety Director immediately. No work can proceed until a specific procedure is provided to the authorized person.

4.2 If an energy source can be locked out this method shall be utilized. LOCKOUT DEVICE: A device that utilizes a lock, either key or combination to hold an energy isolating device in a safe position. If an energy source cannot be locked out, a tagout system shall be utilized. TAGOUT DEVICE: A warning tag (weather & chemical resistant) standardized in size, color, with wording warning of hazardous energy (Do Not Start) (Do Not Open) (Do Not Close) (Do Not Energize) (Do Not Operate).

5.0 SEQUENCE OF LOCKOUT OR TAGOUT SYSTEM PROCEDURE

5.1 Notify all affected employees that a lockout or tagout system is going to be utilized and the reason therefor. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.

5.2 If the machine or equipment is operating, shut it down by the appropriate shutdown procedure. This is usually done by depressing stop button, open toggle switch, etc. In addition, ensure that all stored energy is dissipated or properly restrained.

5.3 Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy such as the springs, elevated machine members, rotating flywheels, hydraulic systems, and

air, gas, steam, or water pressure, etc. must be dissipated or restrained. **COMBINATIONS OF THESE ENERGY SOURCES AND ANY STORED ENERGY WILL REQUIRE A SPECIFIC PROCEDURE, IN THIS CASE CONSULT THE APPROPRIATE SECTION FOR SPECIFIC PROCEDURES.**

5.4 Lockout and/or tagout the energy isolating devices with assigned individual lock(s) and tag(s). NOTE: If the machine will accept locks the system shall be locked out. Tags may only be used when the machine or equipment does not have lockout capability, in this case a specific procedure must be developed. Remember when tags are used, in addition to informing affected employees, all other employees who have access to the plant will be briefed on the area, machine, and type of hazard tagged out.

5.5 After ensuring that no personnel are exposed, and a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. **Caution: return operating control(s) to "neutral" or "off" position after the test.**

5.6 The equipment is now locked out or tagged out.

6.0 RESTORING MACHINES OR EQUIPMENT TO NORMAL PRODUCTION OPERATIONS

6.1 After the servicing and/or maintenance/ or temporary testing is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

6.2 After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

7.0 PROCEDURE INVOLVING MORE THAN ONE PERSON

7.1 In the preceding steps, if more than one individual is required to lockout or tagout equipment, each employee has responsibility. They shall place his/her own assigned lockout device or tagout device on the energy isolating device(s). When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his/her own assigned lock to secure the box or cabinet. As each person no longer needs to maintain his or her lockout protection, that person will remove his/her lock from the box or cabinet.

8.0 BASIC RULES FOR USING LOCKOUT OR TAGOUT SYSTEM PROCEDURE

8.1 All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.

9.0 REMOVING LOCKOUT OR TAGOUT DEVICES BY OTHER THAN THE EMPLOYEE WHO APPLIED THE DEVICE

9.1 Locks will only be removed in cases where the authorized employee who applied it is not available and prior authorization is given by the Project Manager, Authorized Host Manager, and Safety Director.

10.0 INFORMING OUTSIDE CONTRACTORS

10.1 The Project Manager or Job-site Foreman will inform all sub-contractors of the elements of this program and ensure that work efforts covered by this procedure are fully coordinated and complied with. All Subcontractors in the employee of Wagner-Meinert shall comply with this Policy.

11.0 SHIFT OR PERSONNEL CHANGES

11.1 In the case of personnel changes, a change over period will be established so that the authorized employees may exchange their assigned locks/tags. Authorized personnel assuming control of lockout of equipment will be fully briefed in the scope and stage of the work by those whom are being relieved.

12.0 INITIAL EVALUATIONS

12.1 Initially all machines with multiple sources of power and stored energy shall be evaluated using the Energy Source Determination Checklist. This evaluation will be made by an authorized employee who, is not involved in the lockout of subject equipment. Those involved in the lockout/tagout and those affected by the lockout/tagout may participate in the evaluation if necessary. In the majority of cases experienced by Wagner-Meinert. This determination will be made by the Facility Maintenance Manager

13.0 PERIODIC EVALUATIONS

13.1 Periodically (at least annually) the effectiveness of the entire program will be evaluated by the safety committee

14.0 TRAINING

14.1 Training and retraining shall be given to all authorized, affected and other

personnel as required by 29CFR 1910.147 (c) (7) and 29 CFR 1926.950.

14.2 The training must include recognition of hazardous energy source, type & magnitude of energy available, methods & means necessary for energy isolation & control.

14.3 Each authorized employee shall receive adequate training. The training should address that all affected employees are instructed in the purpose & use of the energy control procedure.

14.4 There should be training provisions included for any other employee whose work operations are or may be in an area where energy control procedures may be utilized. The employee training should also address when tagout systems are used including the limitations of a tag (tags are warning devices & do not provide physical restraint).

14.5 The training should also include that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way.

14.6 Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced.

14.7 All training and/or retraining must be documented with employee's name and dates of training.

15.0 ELECTRICAL LOCKOUT/TAGOUT (29CFR1910.333 (B) (2) (iii) (D)

15.1 All lockout/tagout devices must include name of individual placing device. Electrical work requires a lock and a tag to be used together. However, a tag can be used by itself only if the electrical disconnecting source does not have lockout capabilities.

15.2 Locks can be placed without a tag only under the following conditions:

15.2.1 Only one circuit or piece of equipment is de-energized.

15.2.2 The lockout period does not extend beyond the work shift.

15.2.3 Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.

16.0 ELECTRICAL TEST VERIFICATION OR DE-ENERGIZED CIRCUITS (29 CFR190.333 (b) (iv) (B)

16.1 A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall

also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfeed even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment shall be checked for proper operation immediately before and immediately after this test.

17.0 WORK ON ENERGIZED CIRCUITS

17.1 Approval must be obtained from The Project Manager prior to any work on energized circuits. The Job Foreman will verify that by de-energizing circuits that it will create additional or increased hazards or it is infeasible due to equipment design or operational limitations.

18.0 LIST OF AUTHORIZED PERSONNEL

18.1 See training documentation for authorized personnel.

DOCUMENT MANAGEMENT:

The Safety Director is responsible for developing and maintaining the program. Employees may review a copy of the plan by requesting one from the Safety Director. In addition, the Safety Director is responsible for maintaining any records related to the Lockout/Tagout Program.

If after reading this program, you find that improvements can be made, please contact the Safety Director. We encourage all suggestions because we are committed to the success of our written Lockout/Tagout Program. We strive for clear understanding, safe behavior, and involvement from every level of the company.

CHANGE CONTROL:

All management system changes are reviewed, approved or disapproved by the Safety Committee.

This program was initially developed on September 13, 2000, replacing the former Lockout/Tagout Program entirely.

Revision No. 1 (September 13, 2000)
Revision or Review No. 2 (January 15, 2001)
Revision or Review No. 3 (January 10, 2002)
Revision or Review No. 4 (January 11, 2003)
Revision or Review No. 5 (January 15, 2004)
Revision or Review No. 6 (January 10, 2005)
Revision or Review No. 7 (January 3, 2006)
Revision or Review No. 8 (June 26, 2006)

Revision or Review No. 9 (July 28, 2006)
Revision or Review No. 10 (September 6, 2007)
Revision or Review No. 11 (October 7, 2011)

PERSONNEL:

The Owners of Wagner-Meinert, LLC have the ultimate responsibility for the Lockout/Tagout Program. They have designated the Safety Director to manage the Lockout/Tagout Program.

LOCKOUT/TAGOUT CHECKLIST ENERGY SOURCE DETERMINATION (APPENDIX 5A) **Page 1 of 3**

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Engineers – Contractors

DATE:_____ CONDUCTED BY:_____

In order to determine all energy sources for each piece of equipment, all questions must be answered. If the question does not apply, write N/A in the blank. Circle "yes" or "no" or fill in the blank.

Location: _____

Work Center: _____

Circuit #: _____

Equipment No. _____

Equipment Name: _____

Model: _____

Serial No.: _____

Lockout Tagout Procedure No. _____

1.0 Does this equipment have:

1.1. Electric power (including battery)? YES/NO

If yes, Motor Control Center (MCC) or power panel and breaker number

_____

1.1.1 Does it have a lockout device? YES/NO

Battery location:_____

Battery disconnect location:_____

1.2. Mechanical power? YES/NO

Mark each type of energy source that applies:

1.2.1 Engine driven? YES/NO

If yes, switch or key location_____

Is lockout device installed? YES/NO

If no, method of preventing operation_____

LOCKOUT/TAGOUT CHECKLIST ENERGY SOURCE DETERMINATION (APPENDIX 5A) Page 2 of 3

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1.2.2 Spring loaded? YES/NO
If yes, is there a method of preventing spring activation? YES/NO

If no, how can spring tension be safely released or secured?

_____

If no, location of closest manual shutoff valve
_____

Does manual shutoff valve have lockout device? YES/NO
If no, what is needed to lock valve closed?

_____

Is there a bleed or drain valve to reduce pressure to zero? YES/NO

If no, what will be required to bleed off pressure?

_____

1.3 Chemical system? YES/NO

If yes, location of main control/shutoff valve_____

Can control/shutoff valve be locked in off/closed position? YES/NO

If no, location of closest manual shutoff valve_____

Does manual shutoff valve have lockout device? YES/NO

If no, what is needed to lock valve closed?_____

_____

Is there a bleed or drain valve to safely reduce system pressure and drain system of chemicals? YES/NO

If no, how can system be drained and neutralized?_____

_____

What personal protective clothing or equipment is needed for this equipment?

_____

1.4 Thermal energy? YES/NO

LOCKOUT/TAGOUT CHECKLIST ENERGY SOURCE DETERMINATION (APPENDIX 5A)

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If yes, location of main control/shutoff valve_____

Can control/shutoff valve be locked in "off" or closed position? YES/NO

If no, location of closest manual shutoff valve_____

Does manual shutoff valve have lockout device? YES/NO

EQUIPMENT, MACHINERY, OR PROCESS:_____

LOCKOUT PROCEDURE NO.: L/O_____

DATE APPROVED/IMPLEMENTED:_____

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SPECIFIC LOCKOUT PROCEDURE (APPENDIX 5B)

WAGNER-MEINERT LLC
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NOTE: Required for all equipment, machinery, and/or processes that fails to meet the exceptions noted in 29CFR1910.147 (c) (4) (i).

(1) Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

_____

Name(s)/Job Title(s) of affected employees and how to notify.

(2) The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.

_____

Type(s) and magnitude(s) of energy, its hazards and the methods to control the energy.

(3) If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open switch, close valve, etc.).

_____

Type(s) and location(s) of machine or equipment operating controls.

(4) De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

_____

Type(s) and location(s) of energy isolating devices.

(5) Lock out the energy isolating device(s) with assigned individual lock(s).

(6) Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

_____

Type(s) of stored energy--methods to dissipate or restrain.

(7) Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. Caution: Return operating control(s) to neutral or ``off'' position after verifying the isolation of the equipment.

_____

Method of verifying the isolation of the equipment.

(8) The machine or equipment is now locked out. Restoring Equipment to Service. When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

(8.1) Check the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

(8.2) Check the work area to ensure that all employees have been safely positioned or removed from the area.

(8.3) Verify that the controls are in neutral.

(8.4) Remove the lockout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require reenergization of the machine before safe removal.

(8.5) Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

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