Manual Section 7	Issue Date 07/15/04	Revision Date 01/01/24	Policy Number
	<b>Preventive Maintenance</b>		LLCP-099

# **Purpose**

Preventive maintenance is regular, repetitive work done to keep equipment in good working order and to optimize its efficiency and accuracy. This activity involves regular, routine cleaning, lubricating, testing, calibrating and adjusting, checking for wear and tear and eventually replacing components to avoid breakdown.

Productive preventive maintenance refers to the proper selection of equipment to be included in planned preventive maintenance. Decisions must be made on what to include, to reduce costs; inexpensive units that are not necessarily included in the planned preventive maintenance program can be replaced or repaired when needed. The overriding consideration is cost effectiveness.

An important aspect of preventive maintenance is the participation and commitment of the user. Preventive maintenance starts with users, and the bulk of the work should be their responsibility if qualified to do so.

# **Scope**

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as "Company".

# **Preventive Maintenance System**

In order to establish an effective, efficient preventive maintenance system, a system is needed. The manufacturer's manual for preventive maintenance of the equipment can be supplemented by computer packages in setting up such a system; if a computer is not available, a manual file can be set up. The preventive maintenance system requires the following:

# **Equipment inventory**

All equipment in the inventory list for the Company is in the care of the Maintenance Coordinator. All relevant information about the equipment must be entered on the appropriate forms including its location, records of repair/maintenance, and manufacturer's name, and be sent to the Coordinator.

### **Definition of maintenance task**

Maintenance tasks which need to be performed to maintain each piece of equipment in safe and reliable operating condition must be defined. These tasks can be established by consulting the manufacturer's literature and product information. It shall also be listed as an attachment in the inventory list.

### **Establishing intervals of maintenance**

After determining appropriate equipment needing maintenance, the frequency of the task must be decided. A heavily used item must be cleaned and checked more frequently than one which is used less often; however, minimum standards must be set. The frequency suggested in the manufacturer's manual shall be used, along with industry standards, but if deemed necessary, a more stringent schedule may be implemented.

#### **Personnel**

Individuals performing maintenance on Company equipment shall be qualified to do so. The inventory list will identify qualifications or minimum experience needed to perform maintenance tasks. Each person should have a clear knowledge of his or her responsibilities.

Manual Section 7	Issue Date 07/15/04	Revision Date 01/01/24	Policy Number
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Job assignments must correspond to the training, experience and aptitude of the individual. All employees expected to perform maintenance on Company equipment, shall be trained in the proper procedures to complete their tasks safely and successfully.

### **System Coordination**

Maintenance of equipment is a continuous process: once the equipment has been inventoried, the program must continue. The Company has developed a system so that appropriate personnel are notified by the Maintenance Coordinator when certain tasks are to be performed. All records of maintenance activities shall be turned in to the Maintenance Coordinator for filing. Records will be maintained in the corporate electronic filing system for the life of the equipment.

# **Special Equipment**

Certain equipment may need maintenance by third party companies. The Maintenance Coordinator will be responsible for setting this maintenance up and will notify you in advance of the date of the task being performed.

### **Technical library**

A full technical library should be available. Installation and recommended spare parts manuals, annotated with the number of the corresponding equipment, should be kept together with electronic and component data books and appropriate technical books.

# **Worker Safety**

It is the responsibility of those involved in equipment management to see that all personnel are protected from the potential hazards that exist in the work environment. These hazards arise from various circumstances and will be addressed before maintenance is performed.

### **Faulty Equipment**

Any equipment found to be defective or in need of repair shall be reported to the immediate supervisor on location. Defective equipment will be tagged "Do Not Use" and repaired at the earliest time available. All employees in the affected area of the defective equipment shall be notified that the equipment is not to be used until repaired and inspected.