



# Section J

Facilities Investment/Preventive Maintenance

Southeast Contract

# N40083-15-XXXX

Memphis, Tennessee; Huntsville and Montgomery,  
Alabama; Jacksonville and Tampa, Florida;  
Smyrna/Windy Hill, Georgia; Eastover, South  
Carolina

SECTION J  
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ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS

<b>Definition</b>	<b>Description</b>
Assessment	A general term referring to either a survey or inspection of a facility to determine condition.
Asset	A general term used to refer to an item, such as a component, system, building or facility, which is managed by an automated data management program.
Business Management System (BMS)	A web-based tool that provides a systematic method for the management of business processes, common practices, and process quality improvements that produce and support the most efficient and effective delivery of NAVFAC's products and services.
Competent Person	A person who has the professional experience and training necessary to identify existing and predictable hazards at a work or service environment, and who has the authority to take prompt and corrective action to eliminate or remove dangers from the environment.
Component Inventory Management Unit (CIMU)	An organization of like-kind real property into manageable maintenance units. CIMU is a building component, group of components or component assemblies, serving a specific purpose in a facility that can be expected to follow a common and predictable lifecycle behavior. This class of non-equipment will include items such as exterior walls, exterior windows, interior finish, and roofs. This class of equipment will include items such as fan coil units, air handling units, lighting, and water closets. CIMUs can include one or more items of installed equipment typically subject to routine scheduled maintenance.
Confined Work Space	A space that is large enough and so configured that a person may bodily enter a space (such as in tanks, vessels, silos, storage bins, hoppers, vaults, pits, and like spaces where there is limited means of entry) and is hindered or restricted from escaping during an emergency.
Contracting Officer (KO)	That individual with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.
Contractor	That entity or its representative responsible for the delivery of the services or materials specified in this contract, as designated by contract award. The term Contractor as used herein refers to both the prime Contractor and any subcontractors. The prime Contractor shall insure that subcontractors comply with the provision of this contract.
Contractor Representative	That individual appointed by the Contractor, either orally or in writing, who has been assigned responsibility for executing the requirements of this contract,.
Direct Material Costs	The actual vendor invoice charges for materials used for performance of work under this contract. Direct material costs shall include transportation charges when such charges are included on the invoice by the vendor, as well as any discounts allowed for prompt payment and discounts or rebates for core value or salvage value that accrue to the Contractor. When questions arise concerning the cost of materials, material costs will be based on the lowest of quotes provided by the Contractor from at least three different commercial vendors for the direct material cost. The Government retains the right to obtain additional quotes in questionable situations. The lowest price will be used.
Electronic Operation And Maintenance And Support Information (eOMSI)	A set of consultant-prepared data and document files that contain detailed, as-built technical information that describes the efficient, economical and safe operation, maintenance and repair of a facility, plant, equipment or system throughout its life cycle. Generally it is prepared during construction and submitted upon completion of a new facility or major facility upgrade. eOMSI's typically include asset information, staffing and budgeting information, supply support including critical spare parts, operating procedures, troubleshooting and diagnostic guides, extended warranty data, maintenance task frequencies and documentation, technical data, repair procedures and manufacturer's product data. eOMSI data and document files are provided in electronic formats.
Equipment	Tangible asset that is functionally complete for its intended purpose, durable, and non-expendable.

ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS CONTINUED

Facility	A building or structure designed and created to serve a particular function.
Fixed Burden Rate (FBR)	<p>The additional costs (expressed in percent of direct material cost) for ordering, handling, and stockpiling materials and repair parts. For example, if the offeror's Fixed Burden Rate for materials in the Base Period is 10% then:</p> $\$100,000.00 + (\$100,000.00 \times 10\%) = \$110,000.00$ <p>The Government will compensate the Contractor for the required parts and materials and not the total amount shown in Schedule of Indefinite Delivery Indefinite Quantity Work.</p>
Frequency Of Service	<p>Annual (A). Services performed once during each 12-month period of the contract at intervals of 335 to 395 days.</p> <p>Biennial (B). Services performed once during each 24-month period of the contract at intervals of 670 to 790 days.</p> <p>Daily (D5). Services performed once each calendar day, Monday through Friday, including holidays unless otherwise noted.</p> <p>Daily (D7). Services performed once each calendar day, seven days per week, including weekends and holidays.</p> <p>Monthly (M). Services performed 12 times during each 12-month period of the contract at intervals of 28 to 31 calendar days.</p> <p>Quarterly (Q). Services performed four times during each 12-month period of the contract at intervals of 80 to 100 calendar days.</p> <p>Semiannual (SA). Services performed twice during each 12-month period of the contract at intervals of 160 to 200 calendar days.</p> <p>Semimonthly (SM). Services performed 24 times during each 12-month period of the contract at intervals of 14 to 16 calendar days.</p> <p>Three times weekly (3W). Services performed three times a week, such as Monday, Wednesday, and Friday.</p> <p>Twice weekly (2W). Services performed twice a week, such as Monday and Thursday or Tuesday and Friday.</p> <p>Weekly (W). Services performed 52 times during each 12-month period of the contract at intervals of six to eight calendar days.</p>
Government Furnished Property (GFP)	Property in the possession of, or directly acquired by, the Government and subsequently furnished to the contractor for performance of a contract. Government furnished property includes, but is not limited to, spares and property furnished for repairs, maintenance, overhaul, or modification. Government furnished property also includes contractor acquired property if the contractor acquired property is a deliverable under a cost contract when accepted by the Government for continued use under the contract.
Infrastructure Condition Assessment Program (ICAP)	A Navy automated data management program that utilizes historical asset lifecycle data and a structured assessment process to evaluate the condition facilities and their components.
Inspection	A rigorous, detailed assessment of the condition of a facility performed to generate a fundable scope and cost estimate for prioritization and funding of maintenance and repair.
Job or Work Order	An authorization for work that requires planning and estimating and has an individual line of accounting for financial and performance evaluation.

ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS CONTINUED

Maintenance And Repair	The preservation or restoration of a piece of equipment, system, or facility to such condition that it may be effectively used for its designated purposes. Maintenance/repair may be adjustment, overhaul, reprocessing, or replacement of constituent parts or materials that are missing or have deteriorated by action of the elements or usage, or replacement of the entire unit or system if beyond economical repair.
NAVFAC MAXIMO	A specially configured software version of MAXIMO®, a commercially available computerized maintenance management system (CMMS), adopted by NAVFAC for enterprise facility asset data management. The terms “MAXIMO”, “NAVFAC MAXIMO” or “Government’s MAXIMO” shall be used interchangeably in the document.
Performance Assessment	A method used by the Government to provide some measure of control over the quality of purchased goods and services received.
Performance Assessment Representative (PAR)	That individual designated by the KO to be responsible for the monitoring of Contractor performance.
Pre-Expended Bin Materials And Supplies	The minor materials and supplies that are incidental to the job, for which the total direct cost of any one material line item shown on the material estimate is \$10.00 or less. Examples of pre-expended bin materials and supplies include, but are not limited to, solder, lead, flux, electrical connectors, electrical tape, fuses, nails, screws, bolts, nuts, washers, spacers, masking tape, sand paper, solvent, cleaners, lubricants, grease, oil, rags, mops, glue, epoxy, spackling compound, joint tape, plumbers tape and compound, clips, welding rods, and touch up paint.
Property Administrator	An authorized representative of the Contracting Officer who is responsible for administering contract property requirements, terms and conditions of the contract
Property Management Program	A Government program established for the purpose of reviewing and approving the Contractor’s Property Management Plan and System through performance of a system analysis whenever government property is in the possession of the Contractor.
Quality Assurance (QA)	The planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled.
Quality Control (QC)	The observation techniques and activities used to fulfill requirements for quality.
R. S. Means	A data collection and organization system developed by R. S. Means Company which can be used to prepare accurate, dependable construction estimates and budgets in a variety of ways. The Contractor shall use the latest edition. Material prices are based on a national average and computed labor costs are based on a 30-city national average. An estimate prepared using this data is called a "Means estimate"; data may simply be referred to as "Means".
Real Property Inventory Equipment (RPIE)	A Government owned or leased individual pieces of equipment, apparatus, or fixture that are essential to the function of the real property (i.e. plumbing, electrical, heating, cooling and elevators). It is physically attached to, integrated into, and built in or on the property. Individual RPIE’s can be combined to make a CIMU to facilitate facilities management. An individual RPIE can also be a CIMU if the equipment is complex enough to require its own management planning.

ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS CONTINUED

Response Time	The time allowed the Contractor after initial notification of a work requirement to be physically on the premises at the work site with appropriate personnel, tools, equipment, and materials, ready to perform the work required.
Unit Priced Labor (UPL) Hour	The unit price bid by the Contractor to perform one hour of work-in-place. With the exception of direct material and construction equipment costs, the unit price includes all indirect and direct costs associated with performing work. The price includes the Contractor's hourly composite trade wage, adjusted to allow for workforce productivity; costs for pre-expended bin materials, union agreements, crew sizes, hand tools, payroll burdens and fringes, overtime, job (field) overhead (including clerical support, supervision, inspection, fees, taxes, licenses, permits, and insurance), general and administrative (home office) overhead, and profit. Additionally, time for job preparation, safety standby personnel, and similar indirect labor elements are included.

ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS CONTINUED

<b>Acronym</b>	<b>Title</b>
ACO	Administrative Contracting Officer
BW	Biweekly
CDR	Contract Discrepancy Report
CIA	Controlled Industrial Area
CIMU	Component Inventory Management Unit
CMMS	Computerized Maintenance Management System
COR	Contracting Officer Representative
COR	Condition of Readiness
DBH	Diameter at Breast Height
DCR	Direct Condition Rating
DoD	Department of Defense
DoN	Department of Navy
DRMO	Defense Reutilization Management Office
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FAR	Federal Acquisition Regulation
FFP	Firm Fixed Price
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FSC	Facility Support Contract
GIS	Geospatial Information System
GFE	Government-furnished Equipment
GFF	Government-furnished Facilities
GFM	Government-furnished Materials
HCA	Head Contracting Agency
ICAP	Infrastructure Condition Assessment Program
ICP	Integrated Contingency Plan
IDIQ	Indefinite Delivery Indefinite Quantity
iNFADS	Internet Navy Facilities Asst Data Store
IPM	Integrated Pest Management
IPMIS	Integrated Pest Management Information System
IPMP	Integrated Pest Management Plan
KO	Contracting Officer
LAN	Local Area Network
M	Monthly
MAP	Maintenance Action Plan
MDI	Mission Dependency Index
MEP	Mechanical, Electrical and Plumbing
MRI	Mission Readiness Index
MSDS	Material Safety Data Sheets
NAVFAC	Naval Facilities Engineering Command
NMCI	Navy Marine Corps Intranet
NOSC	Navy-On-Scene Coordinator
PAP	Performance Assessment Plan
PAR	Performance Assessment Representative
PAW	Performance Assessment Worksheet
PEO	Program Executive Officer
PM	Project Manager
PM	Planned Maintenance or Preventative Maintenance
PRCSP	Permit Required Confined Space Program
PWS	Performance Work Statement
PWO	Public Works Officer
Q	Quarterly
QC	Quality Control
RPIE	Real Property Inventory Equipment
RSL	Remaining Service Life

ATTACHMENT J-0200000-01  
DEFINITIONS AND ACRONYMS CONTINUED

SC	Security Clearances
SM	Semimonthly
SPAR	Senior Performance Assessment Representative
TE	Technical Exhibit
VIQ	Variation in Quantity
WBS	Work Breakdown Structure

ATTACHMENT J-0200000-02  
WAGE DETERMINATIONS  
ATTACHED

Placeholder for Service Contract Act and Davis-Bacon Act Determinations

ATTACHMENT J-0200000-03  
DIRECTIVES, INSTRUCTIONS, AND REFERENCES

<u>Reference</u>	<u>Title</u>
EM 385-1-1	U.S. Army Corps of Engineers Safety and Health Requirements
P.L. 91-596	Occupational Safety and Health Act
UFGS 01 35 26	Unified Facilities Guide Specifications

ATTACHMENT J-0200000-04  
INVOICING PROCEDURES

**Vendor Registration Instructions**

Wide Area Work Flow - Receipts and Acceptance (WAWF) is a secure web-based system for electronic invoicing, receipt and acceptance. WAWF creates a virtual folder to combine the three documents required to pay a vendor - the contract, the invoice and the receiving report. The WAWF application enables electronic form submission of invoices, government inspection, and acceptance documents in order to support DoD's goal of moving to a paperless acquisition process. It provides the technology for Government contractors and authorized DoD personnel to generate, capture, and process receipt and payment-related documentation, via interactive Web-based applications. Authorized DoD users are notified of pending actions by e-mail and are presented with a collection of documents required to process the contracting or financial action.

Within 10 days after contract award the contractor will register in both the Central Contractor Registration (CCR) at <http://ccr.gov> and WAWF at <https://wawf.eb.mil>.

**Step 1 - Register with Central Contractor Registry (CCR)**

All vendors must be registered in the CCR at <http://www.ccr.gov> in order to sell goods and services to the Department of Defense (DOD).

For help with registration in CCR, contact:  
CCR Assistance Center  
888-227-2423 or 616-961-4725

If you do not know your CCR POC, you can contact the CCR Assistance Center at the above numbers.

**Step 2 - Establish an Electronic Business (EB) Point of Contact (POC) in CCR**

To facilitate electronic commerce between vendors and DOD, vendors must establish an EB POC for their company in CCR. The EB POC will be responsible for authorizing vendor employee(s) access to submit, modify and/or view data on behalf of the vendor. In WAWF terminology, the EB POC also functions as the Group Administrator (GAM).

The CCR POC is responsible for entering EB POC data in CCR. To see if an EB POC is listed for a specific company, go to <http://www.ccr.gov> and click on "Search CCR". Where prompted, enter the Data Universal Numbering System (DUNS) or Cage or Company Name and click "Submit Query". If you are presented with a list of DUNS numbers, you will need to pick the specific location and click on the DUNS number. Scroll to the bottom of the Inquiry Results page. There you can see if anyone is listed as the EB POC. If no one is listed, the company has not identified an EB POC yet. If a vendor sees that there is no one listed as their EB POC, they need to contact the CCR POC and ask the CCR to update the company's registration to include the EB POC. Each vendor organization may establish up to two EB POCs (primary and alternate) for each Cage/DUNS combination.

**Step 3 - Establishing Additional Group Administrator (GAM)**

In medium to large sized companies, there may be a need to establish more than one GAM. A GAM determines who has access to their data submitted in WAWF. Vendors can appoint more than one Group Administrator (GAM) to manage and activate various users in the vendor's organization to have access to WAWF data. The initial GAM shall be the person designated as the EB POC.

To appoint additional GAMs, each vendor must submit an official appointment letter signed by the EB POC. The appointment letter should be faxed to the WAWF Customer Support Center. The Group Administrator's Manual is available for reviewing to all WAWF registered users. The GAM Manual can be found in the Software Users Manual link within the WAWF application.

**Step 4 - Establish an Organizational Email Address**

WAWF routes information according to CAGE codes. WAWF documents themselves do not get routed, but status information about the documents is sent in emails. For example, email confirmations are sent when a vendor submits a document. Email notices are sent when the government accepts or rejects the document. In order to receive status information about the WAWF documents, vendors need to establish organizational email accounts and determine who will have access to this organizational email account. Ensure that the organizational email address is operational and can receive email prior to registering it with the

ATTACHMENT J-0200000-04  
INVOICING PROCEDURES CONTINUED

WAWF Customer Support Center. The GAM or EB POC shall provide the organizational email to the WAWF Customer Support Center.

Note: If you do not set up an organizational email address, the personal email address of the first person who self-registers from your CAGE/DUNS code will be used as the organizational email address.

**Step 5 - Set up PCs to Access WAWF**

Set up the PCs of your organization's users to access WAWF. Select the "Setting Up Your Machine" link on the WAWF home page for more information.

**Step 6 - Have All Users Self-register on the WAWF Web Site**

Every user of WAWF must self-register on the WAWF web site by completing the online registration form.

## Activity Hazard Analysis (AHA)

Activity/Work Task:  Project Location:  Contract Number:  Date Prepared:  Prepared by (Name/Title):  Reviewed by (Name/Title):  Notes: (Field Notes, Review Comments, etc.)	Overall Risk Assessment Code (RAC) (Use highest code)  <div style="text-align: center;"> <b>Risk Assessment Code (RAC) Matrix</b> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Severity</th> <th colspan="5">Probability</th> </tr> <tr> <th>Frequent</th> <th>Likely</th> <th>Occasional</th> <th>Seldom</th> <th>Unlikely</th> </tr> </thead> <tbody> <tr> <td>Catastrophic</td> <td style="background-color: red; color: white;">E</td> <td style="background-color: red; color: white;">E</td> <td style="background-color: orange; color: white;">H</td> <td style="background-color: orange; color: white;">H</td> <td style="background-color: yellow; color: black;">M</td> </tr> <tr> <td>Critical</td> <td style="background-color: orange; color: white;">E</td> <td style="background-color: orange; color: white;">H</td> <td style="background-color: yellow; color: black;">M</td> <td style="background-color: yellow; color: black;">M</td> <td style="background-color: lightgreen; color: black;">L</td> </tr> <tr> <td>Marginal</td> <td style="background-color: yellow; color: black;">H</td> <td style="background-color: yellow; color: black;">M</td> <td style="background-color: lightgreen; color: black;">L</td> <td style="background-color: lightgreen; color: black;">L</td> <td style="background-color: lightgreen; color: black;">L</td> </tr> <tr> <td>Negligible</td> <td style="background-color: lightgreen; color: black;">M</td> <td style="background-color: lightgreen; color: black;">L</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;">Step 1: Review each "Hazard" with identified safety "controls" and determine FAC (See above)</p> <p style="font-size: small; margin-top: 5px;">"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.</p> <p style="font-size: small; margin-top: 5px;">"Severity" is the outcome degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible</p> <p style="font-size: small; margin-top: 5px;">Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.</p>	Severity	Probability					Frequent	Likely	Occasional	Seldom	Unlikely	Catastrophic	E	E	H	H	M	Critical	E	H	M	M	L	Marginal	H	M	L	L	L	Negligible	M	L	L	L	L
Severity	Probability																																			
	Frequent	Likely	Occasional	Seldom	Unlikely																															
Catastrophic	E	E	H	H	M																															
Critical	E	H	M	M	L																															
Marginal	H	M	L	L	L																															
Negligible	M	L	L	L	L																															
<b>Job Steps</b>	<b>Hazards</b>																																			
<b>Controls</b>	<b>RAC</b>																																			

- Initial Report Follow-
- up Report Final
- Report

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR)

**1. General Information**

<b>Contracting Activity/ROICC Office:</b>			
<b>Accident Classification:</b>			
<input type="checkbox"/> Injury	<input type="checkbox"/> Fatality	<input type="checkbox"/> Environment	<input type="checkbox"/> Procedural Issues
<input type="checkbox"/> Illness	<input type="checkbox"/> Property Damage	<input type="checkbox"/> Other	<input type="checkbox"/> Lessons Learned
<b>Involving:</b>			
<input type="checkbox"/> Confined Space	<input type="checkbox"/> Equip/Mrt Ver/Mat Handling (Heavy Construction Equip.)	<input type="checkbox"/> Hazardous Material	
<input type="checkbox"/> Crane and Rigging	<input type="checkbox"/> Equip/Mrt Ver/Mat Handling (Material Handling)	<input type="checkbox"/> Trenching/Excavation	
<input type="checkbox"/> Diving	<input type="checkbox"/> Equip/Mrt Ver/Mat Handling (Man-Lift/Elevated Platform)	<input type="checkbox"/> Waterfront/Marine	
<input type="checkbox"/> Demolition/Renovation	<input type="checkbox"/> Fall from Ladder	<input type="checkbox"/> Fall from Scaffold	<input type="checkbox"/> Other
<input type="checkbox"/> Electrical	<input type="checkbox"/> Fall from Roof	<input type="checkbox"/> Fire	

**2. Personal Information**

Name (Last, First, MI):	Age:	Sex:
<b>Job Title/Description:</b>	<b>Employed By:</b>	
<b>Supervisor Name (Last, First, MI) &amp; Title:</b>	<b>Was the person trained to perform this activity/task?</b>	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>What type of training was received (OJT, classroom, etc)?</b>	<b>Date of the most recent formal training and topics discussed?</b>	

**3. Witness Information**

<b>Witness #1: Name (Last, First, MI):</b>	<b>Job Title/Description:</b>
<b>Employed By:</b>	<b>Supervisor Name (Last, First, MI):</b>
<b>Witness #2: Name (Last, First, MI):</b>	<b>Job Title/Description:</b>
<b>Employed By:</b>	<b>Supervisor Name (Last, First, MI):</b>

**Additional Witnesses:**  Yes       No  
 (List any additional witnesses on a separate sheet and attach.)

**4. Contract Information**

**Type of Contract:**

- A/E     BOS     CLEAN     Construction     Design Build     FSCC     FSSC  
 JOC     RAC     Service     Other

<b>Contract Number &amp; Title:</b>	<b>Industrial Group &amp; Industrial Type:</b>
<b>Prime Contractor Name/Address/Phone &amp; Fax No:</b>	<b>Sub Contractor Name/Address/Phone &amp; FAX No:</b>
<b>Safety Manager (Last, First, MI):</b>	<b>Safety Manager (Last, First, MI):</b>
<b>Insurance Carrier:</b>	<b>Insurance Carrier:</b>

**5. Accident Description**

<b>Date of Accident:</b>	<b>Time of Accident:</b>	<b>Exact Location of Accident:</b>
--------------------------	--------------------------	------------------------------------

**Describe the accident in detail in your words: (Use the back of page if you need additional space)**

**Direct Cause(s) of Accident:**

**Indirect Cause(s) of Accident:**

**Action(s) taken to prevent re-occurrence or provide on-going corrective actions:**

**Corrective Action Beginning Date:**

**Anticipated Completion Date:**

**Personal Protective Equipment:**

- Available and used       Available and not used       Not Required  
 Not related to Mishap       Wrong PPE for job

**List PPE Used:**

**Type of Construction Equipment (Make, Model, Serial #, VIN#) Involved:**

**Was Hazardous Material Spilled/Released?**

Yes       No

**Please List Hazardous Material(s) Involved:**

**Who provided first aid or cleanup of mishap site?**

**Any blood-borne pathogen exposure, other than EMTs?**

Yes       No

**Who?**

**List OSHA and WM-385-1-1 standards that were violated:**

**Was site secured and witness statements taken immediately?**

Yes       No

**By Whom?**

6. Injury Illness/Fatality Information		
<b>Severity of Injury/Illness:</b>		
<input type="checkbox"/> Fatality	<input type="checkbox"/> Lost Workday Case Involving Days Away From Work	
<input type="checkbox"/> Temporary Disability	<input type="checkbox"/> Recordable Workday Case Involving Restricted Duty	
<input type="checkbox"/> Permanent Total Disability	<input type="checkbox"/> Other Recordable Case	<input type="checkbox"/> Recordable First Aid Case
<input type="checkbox"/> Permanent Partial Disability	<input type="checkbox"/> Non-Recordable Case	<input type="checkbox"/> No Injury
<b>Estimated Days Lost:</b>	<b>Estimated Days Hospitalized:</b>	<b>Estimated Days Restricted Duty:</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>List Primary Body Part Affected:</b>	<b>List Other Body Part(s) Affected:</b>	
<input type="text"/>	<input type="text"/>	
<b>Nature of Injury/Illness for Primary Body Part (Examples: Amputation, Burn, Hernia):</b>		
<input type="text"/>		
<b>Type of Accident (Examples: Fall same level, Lifting, Bitten, Exerted):</b>		
<input type="text"/>		
<b>Source of Accident (Examples: Crane, Carbon Monoxide, Ladder, Welding Equipment):</b>		
<input type="text"/>		
7. Casual Factors ( <i>Explain answers on supplementary sheet</i> )		
• Design – Design of facility, workplace, or equipment was a factor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Inspection/Maintenance – Inspection & Maintenance procedures were a factor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Persons Physical Condition – In your opinion, the physical condition of the person was a factor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Operation Procedures – Operating procedures were a factor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Job Practices – One or more job safety/health practices not being followed when the accident occurred contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Human Factors – One or more human factors, such as a person’s size or strength contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Environmental Factors – Heat, cold, dust, sun, glare, etc., contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Chemical and Physical Agent Factors – Exposure to chemical agents, such as dust, fumes, mist, vapors, or physical agents such as noise, radiation, etc., contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Office Factors – Office setting such as lifting office furniture, carrying, stooping, contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Support Factors – Inappropriate tools/resources were provided to perform the task?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• PPE – Improper selection, use or maintenance of PPE contributed to the accident?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Drugs/Alcohol – In your opinion, were drugs or alcohol a factor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Job Hazard Analysis – The lack of an adequate (IAW-EM-385-1-1 Sec 01.A) activity hazard analysis was a contributing factor.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Job Hazard Analysis – JHA was not site specific and/or did not address the type of work/operations performed when the mishap occurred.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Management – A lack of adequate supervision contributed to the accident.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Management – Inadequate information was provided at pre con meeting.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

8. OSHA Information			
Date OSHA was Notified:	Date(s) of Investigation:	Date of citation: (Attach Copy)	Dollar amount of Penalties:
9. Report Preparer			
Name (Last, First, MI):		Date of Report:	
Title:		Signature:	
Employer:			
Phone #:			

CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) INSTRUCTIONS  
Complete Sections Appropriate to Incident (Rev. 06/02).

***NOTE: THE ATTACHED CSIR FORM IS TO BE USED BY CONTRACTORS TO RECORD THE RESULTS OF THEIR ACCIDENT/INCIDENTS INVESTIGATIONS AND SHALL BE PROVIDED TO THE CONTRACTING OFFICER WITHIN THE REQUIRED TIMEFRAMES.***

**GENERAL.** Complete a separate report for each person who was injured in the accident. A report needs to be completed for all OSHA recordable accidents, property damage in excess of \$2000.00 (This amount is for record purposes only. GOV is not required to enter property damage reports into FAIR database if it is less than \$10,000.00.), WHE accidents, or near miss/high visibility mishaps. Please type or print legibly. Appropriate items shall be marked with an “X” in box(es), non-applicable sections shall be marked “N/A”. If additional space is needed, provide the information on a separate sheet of paper and attach to the completed form.

Mark the report:

**INITIAL** – If this form is being used as initial notification of a Fatality or High Visibility Mishap. The initial form is due within 4 hours of a serious accident. A form marked ‘Follow-up’ or ‘Final’ is required within 5 days.

**FOLLOW-UP** – If you are providing additional information on a report previously submitted.

**FINAL** – If you are providing a completed report and expect no changes.

***SECTION 1 – GENERAL INFORMATION***

**CONTRACTING ACTIVITY/ROICC OFFICE** - Enter the name and address of the Contracting Office administering the contract under which the mishap took place (e.g. ROICC MCBH, ROICC NORFOLK, PWC GUAM, etc.).

**ACCIDENT CLASSIFICATION - INJURY/ILLNESS/FATALITY/PROPERTY DAMAGE/-PROCEDURAL ISSUES/-**

**ENVIRONMENTAL/LESSONS LEARNED/OTHER** – Mark the appropriate block(s) if the incident resulted in any of these conditions.

**INVOLVING** - If the mishap involved any of the conditions listed under “Involving” mark the appropriate box(es). Specific questions associated with each of these conditions are available from the Contracting Officer to assist you in your investigation. When these questions are used they shall be attached as part of this report.

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

**SECTION 2 - PERSONAL INFORMATION**

**NAME** - Enter last name, first name, middle initial of person involved.

**AGE** - Enter age.

**SEX** - Enter M for Male and F for Female.

**JOB TITLE/DESCRIPTION** - Enter the job title/description assigned to the injured person (e.g. carpenter, laborer, surveyor, etc.).

**EMPLOYED BY** - Enter employment company name of the person involved.

**SUPERVISOR'S NAME & TITLE** - Enter name and title of the immediate supervisor.

**WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?** - For the purpose of this section "trained" means the person has been provided the necessary information (either formal and/or on-the-job (OJT) training) to competently perform the activity/task in a safe and healthful manner.

**TYPE OF TRAINING** - Indicate the specific type of training (classroom or on-the-job) that the injured person received before the accident happened.

**DATE OF MOST RECENT FORMAL TRAINING/TOPICS DISCUSSED** - Enter the month, day, and year of the last *formal* training completed that covered the activity/task being performed at the time of the accident. List topics that were discussed at the training identified above.

**SECTION 3 - WITNESS INFORMATION**

The following applies to Witness #1 and Witness #2:

**WITNESS NAME** - Enter last name, first name, middle initial of the witness.

**JOB DESCRIPTION/TITLE** - Enter the job title/description assigned to the witness (e.g. carpenter, laborer, surveyor, etc.).

**EMPLOYED BY** - Enter the name of the employment company of the witness.

**SUPERVISORS NAME** - Enter name of immediate supervisor of the witness.

**ADDITIONAL WITNESSES** - Provide same information, as above, for each witnesses. Use additional pages if necessary.

**SECTION 4 - CONTRACTOR INFORMATION**

**TYPE OF CONTRACT** - Mark appropriate box. A/E means architect/engineer. If "OTHER" is marked, specify type of contract on line provided.

**CONTRACT NUMBER/TITLE** - Enter complete contract number and tile of prime contract (e.g. N62477-85-C-0100, 184 Pearl City Hsg. Revitalization).

**CONSTRUCTION INDUSTRIAL GROUP AND INDUSTRIAL TYPE** – This is the type of construction that will be done at this project.

1. First, you must choose the Industrial Group. You have 4 choices to choose from: (**NOTE!** Review of the Industrial Types below and knowing what the projects scope of work is will assist you in deciding what the Industrial Group should be.)
  - a. Buildings
  - b. Heavy Industrial
  - c. Infrastructure
  - d. Light Industrial

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

2. Once you have chosen the Industrial Group, you now select the Industrial Type. You have multiple choices under each Group, chose the one you feel fits the project most closely because on most projects there won't be an exact match:

a. Buildings:

- (1) Communications Ctr.
- (2) Dormitory/Hotel
- (3) High-rise Office
- (4) Hospital
- (5) Housing
- (6) Laboratory
- (7) Low-rise Office
- (8) Maintenance Facility
- (9) Parking Garage
- (10) Physical Fitness Ctr.
- (11) Restaurant/Nightclub
- (12) School
- (13) Warehouse

b. Heavy Industrial:

- (1) Chemical Mfg.
- (2) Electrical (Generating)
- (3) Environmental
- (4) Metals Refining/Processing
- (5) Mining
- (6) Natural Gas Processing
- (7) Oil Exploration/Production
- (8) Oil Refining
- (9) Pulp and Paper

c. Infrastructure:

- (1) Airport
- (2) Electrical Distribution
- (3) Flood Control
- (4) Highway
- (5) Marine Facilities
- (6) Navigation
- (7) Rail
- (8) Tunneling
- (9) Water/Wastewater

d. Light Industrial:

- (1) Automotive Assembly/Mfg.
- (2) Consumer Products Mfg.
- (3) Foods
- (4) Microelectronics Mfg.
- (5) Office Products Mfg.
- (6) Pharmaceuticals Mfg.

**CONTRACTOR'S NAME/ADDRESS/PHONE NUMBER**

- (1) PRIME - Enter the exact name (title of firm), address, phone and fax numbers of the prime contractor.
- (2) SUBCONTRACTOR - Enter the exact name, address, phone and fax numbers of any subcontractor involved in the accident.

**SAFETY MANAGER'S NAME**

- (1) PRIME - Enter the name of the prime contractor safety manager.
- (2) SUBCONTRACTOR - Enter the name of the subcontractors safety manager.

**INSURANCE CARRIER**

- (1) PRIME - Enter the exact name/title of the prime's insurance company. Policy number not required.
- (2) SUBCONTRACTOR - Enter the exact name of the subcontractor's insurance company. Policy number not required.

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

**SECTION 5 - ACCIDENT DESCRIPTION**

**DATE OF ACCIDENT** - Enter the month, day, and year of accident.

**TIME OF ACCIDENT** - Enter the local time of accident in military time. Example: 14:30 hrs (not 2:30 p.m.).

**EXACT LOCATION OF ACCIDENT** - Enter facts needed to locate the accident scene (installation/project name, building/room number, street, direction and distance from closest landmark, etc.).

**DESCRIBE THE ACCIDENT IN DETAIL.** Fully describe the accident in the space provided. If property damage involved, give estimated dollar amount of damage and/or repair costs involved. If additional space is needed continue on a separate sheet and attach to this report. Give the sequence of events that describe what happened leading up to and including the accident. Fully identify personnel and equipment involved and their role(s) in the accident. Ensure that relationships between personnel and it's findings (e.g. company owner, project supervisor/foreman, Safety Officer, etc.) equipment are clearly specified. Ensure questions below regarding direct cause(s), indirect cause(s), and actions taken are answered. **NOTE!** Review questions in Section 7 below before completing.

**DIRECT CAUSE(S)** - The direct cause is that single factor which most directly lead to the accident. See examples below. **INDIRECT CAUSE(S)** - Indirect cause are those factors, which contributed to, but did not directly initiate the occurrence of the accident.

Examples for Direct and Indirect Cause:

1. Employee was dismantling scaffold and fell 12 feet from unguarded opening.

*Direct cause:* Failure to provide fall protection at elevation

*Indirect causes:* Failure to enforce safety requirements: improper training/motivation of employee (possibility that employee was not knowledgeable of fall protection requirements or was lax in his attitude toward safety); failure to ensure provision of positive fall protection whenever elevated; failure to address fall protection during scaffold dismantling in phase hazard analysis.

2. Private citizen had stopped his vehicle at intersection for red light when vehicle was struck in rear by contractor vehicle. (note contractor vehicles was in proper safe working condition.)

*Direct cause:* Failure of contractor driver to maintain control of and stop contractor vehicle within safe distance.

*Indirect cause:* Failure of employee to pay attention to driving (defensive driving).

**ACTION(S) TAKEN TO PREVENT RE-OCCURRENCE OR PROVIDE ON-GOING CORRECTIVE ACTIONS.** Fully describe all the

actions taken, anticipated, and recommended to eliminate the cause(s) and prevent reoccurrence of similar accidents/illnesses. Continue on back or additional sheets of paper if necessary to fully explain and attach to the complete report form.

**CORRECTIVE ACTION DATES -**

(1) Beginning - Enter the date when the corrective action(s) identified above will begin.

(2) Anticipated Completion - Enter the date when the corrective action(s) identified above will be completed. **PERSONAL PROTECTIVE EQUIPMENT (PPE)** - Mark appropriate box(es) and list PPE which was being used by the injured person at the time of the accident (e.g. protective clothing, shoes, glasses, goggles, respirator, safety belt, harness, etc.)

**TYPE OF CONTRACTOR EQUIPMENT** - Enter the Serial Number, Model Number and specific type of equipment involved in the mishap (e.g. dump truck (off highway), crane (rubber tire), pump truck (concrete), etc.).

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

**WAS HAZARDOUS MATERIAL SPILLED/RELEASED?** - Mark appropriate block and list name(s) of any reportable quantities of hazardous materials spilled/released during the mishap.

**WHO PROVIDED FIRST AID OR CLEAN-UP OF MISHAP SITE?** - List name(s) of individual(s) and employer, if known.

**ANY BLOOD-BORNE PATHOGEN EXPOSURE, OTHER THAN EMT?** - Mark appropriate block and list name(s) of individual(s) and employer, if known.

**LIST OSHA AND/OR EM 385-1-1 STANDARDS THAT WERE VIOLATED.** - Self explanatory.

**WAS SITE SECURED AND WITNESS STATEMENT TAKEN IMMEDIATELY?** - Mark appropriate block and list by whom.

**SECTION 6 - INJURY/ILLNESS/FATALITY INFORMATION**

**SERVERITY OF INJURY/ILLNESS** – Mark appropriate box.

**ESTIMATED DAYS LOST** - Enter the estimated number of workdays the person will lose from work. Update when final data is known.

**ESTIMATED DAYS HOSPITALIZED** - Enter the estimated number of workdays the person will be hospitalized. Update when final data is known.

**ESTIMATED DAYS RESTRICTED DUTY** - Enter the estimated number of workdays the person, as a result of the accident, will not be able to perform all of their regular duties. Update when final data is known.

**BODY PART(S) AFFECTED** - Enter the most appropriate primary and when applicable, secondary, etc. body part(s) affected (e.g. arm: wrist: abdomen: single eye; jaw : both elbows: second finger: great toe: collar bone: kidney, etc.).

**NATURE OF INJURY/ILLNESS FOR PRIMARY BODY PART** - Enter the most appropriate nature of injury/illness (e.g. amputation, back strain, dislocation, laceration, strain, asbestosis, food poisoning, heart conditions, etc.).

**TYPE AND SOURCE OF INJURY/ILLNESS** - Type and Source Codes are used to describe what caused the incident.

(1) TYPE Code stands for an “Action” (Example: Worker, installing conduit, lost his balance and fell five feet from a ladder. Type Code: Fell different levels”) Select the most appropriate Type of injury from the list below:

**TYPE OF INJURY/ILLNESS**

STRUCK BY/AGAINST	CONTACTED CONTACTED WITH (INJURED PERSON MOVING) CONTACTED BY (OBJECT)
FELL, SLIPPED, TRIPPED SAME LEVEL/DIFFERENT LEVEL/NO FALL	EXERTED LIFTED, STRAINED BY (SINGLE ACTION) STRESSED BY (REPEATED ACTION)
CAUGHT ON/IN/BETWEEN	EXPOSED INHALED/INGESTED/ABSORBED/EXPOSED TO
PUNCTURED, LACERATED PUNCTURED BY/CUT BY/STUNG BY/BITTEN BY	TRAVELING IN

(2) SOURCE Code stands for an “object or substance.” (Example: Worker, installing conduit, lost his balance and fell five feet from a ladder. Source Code: “Ladder”.) Select the most appropriate Source of injury from the list below:

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

**SOURCE OF INJURY/ILLNESS**

<p>BUILDING OR WORKING AREA  WALKING/WORKING AREA  STAIRS/STEPS  LADDER  FURNITURE  BOILER/PRESSURE VESSEL  EQUIPMENT LAYOUT  WINDOWS/DOORS  ELECTRICITY</p>	<p>DUST, VAPOR, ETC.  DUST (SILICA, COAT, ETC.)  FIBERS  ASBESTOS  GASES  CARBON MONOXIDE  MIST, STEAM, VAPOR, FUME  WELDING FUMES  PARTICLES (UNIDENTIFIED)</p>
<p>ENVIRONMENT CONDITION  TEMPERATURE EXTREME (INDOOR)  WEATHER (ICE, RAIN, HEAT, ETC.)  FIRE, FLAME, SMOKE (NOT TABACCO)  NOISE  RADIATION  LIGHT  VENTILATION  TOBACCO SMOKE  STRESS (EMOTIONAL)  CONFINED SPACE</p>	<p>CHEMICAL, PLASTIC, ETC.  DRY CHEMICAL - CORROSIVE  DRY CHEMICAL - TOXIC  DRY CHEMICAL - EXPLOSIVE  DRY CHEMICAL - FLAMMABLE  LIQUID CHEMICAL - CORROSIVE  LIQUID CHEMICAL - TOXIC  LIQUID CHEMICAL - EXPLOSIVE  LIQUID CHEMICAL - FLAMMABLE  PLASTIC  WATER  MEDICINE</p>
<p>MACHINE OR TOOL  HAND TOOL (POWERED: SAW, GRINDER, ETC.)  HAND TOOL (NON POWERED)  MECHANICAL POWER TRANSMISSION APPARATUS  GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK)  VIDEO DISPLAY TERMINAL  PUMP, COMPRESSOR, AIR PRESSURE TOOL  HEATING EQUIPMENT  WELDING EQUIPMENT</p>	<p>INANIMATE OBJECT  BOX, BARREL, ETC.  PAPER  METAL ITEM, MINERAL  NEEDLE  GLASS  SCRAP, TRASH, WOOD  FOOD  CLOTHING, APPAREL, SHOES</p>
<p>MACHINE OR TOOL  HAND TOOL (POWERED: SAW, GRINDER, ETC.)  HAND TOOL (NON POWERED)  MECHANICAL POWER TRANSMISSION APPARATUS  GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK)  VIDEO DISPLAY TERMINAL  PUMP, COMPRESSOR, AIR PRESSURE TOOL  HEATING EQUIPMENT  WELDING EQUIPMENT</p>	<p>INANIMATE OBJECT  BOX, BARREL, ETC.  PAPER  METAL ITEM, MINERAL  NEEDLE  GLASS  SCRAP, TRASH, WOOD  FOOD  CLOTHING, APPAREL, SHOES</p>
<p>VEHICLE  AS DRIVER OF PRIVATELY OWNED, RENTAL VEH.  AS PASSENGER OF PRIVATELY OWNED, RENTAL VEH.  DRIVER OF GOVERNMENT VEHICLE  PASSENGER OF GOVERNMENT VEHICLE  COMMON CARRIER (AIRLINE, BUS, ETC.)  AIRCRAFT (NOT COMMERCIAL)  BOAT, SHIP, BARGE</p>	<p>ANIMATE OBJECT  DOG  OTHER ANIMAL  PLANT  INSECT  HUMAN (VIOLENCE)  HUMAN (COMMUNICABLE DISEASE)  BACTERIA, VIRUS (NOT HUMAN CONTACT)</p>
<p>MATERIAL HANDLING EQUIPMENT  EARTHMOVER (TRACTOR, BACKHOE, ETC.)  CONVEYOR (FOR MATERIAL AND EQUIPMENT)  ELEVATOR, ESCALATOR, PERSONNEL HOIST  HOIST, SLING CHAIN, JACK  CRANE  FORKLIFT  HANDTRUCK, DOLLY</p>	<p>PERSONAL PROTECTIVE EQUIPMENT  PROTECTIVE CLOTHING, SHOES, GLASSES, GOGGLES  RESPIRATOR, MASK  DIVING EQUIPMENT  SAFETY BELT, HARNESS  PARACHUTE</p>

ATTACHMENT J-2000000-06  
CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

## SECTION 7 - CAUSAL FACTORS

Review thoroughly. Answer each question by marking the appropriate block. **NOTE!** If any answer is yes, explain in section 5 above.

- (1) **DESIGN** - Did inadequacies associated with the building or work site play a role? Would an improved design or layout of the equipment or facilities reduce the likelihood of similar accidents? Were the tools or other equipment designed and intended for the task at hand?
- (2) **INSPECTION/MAINTENANCE** - Did inadequately or improperly maintained equipment, tools, workplace, etc., create or worsen any hazards that contributed to the accident? Would better equipment, facility, work site or work activity inspections have helped avoid the accident?
- (3) **PERSONS PHYSICAL CONDITION** - Do you feel that the accident would probably not have occurred if the employee was in "good" physical condition? If the person involved in the accident had been in better physical condition, would the accident have been less severe or avoided altogether? Was overexertion a factor?
- (4) **OPERATION PROCEDURES** - Did lack of or inadequacy within established operating procedures contribute to the accident? Did any aspect of the procedures introduce any hazard to, or increase the risk associated with the work process? Would establishment or improvement of operating procedures reduce the likelihood of similar accidents?
- (5) **JOB PRACTICES** - Were any of the provision of the Safety and Health Requirements Manual (EM 385-1-1) violated? Was the task being accomplished in a manner which was not in compliance with an established job hazard analysis or activity hazard analysis? Did any established job practice (including EM 385-1-1) fail to adequately address the task or work process? Would better job practices improve the safety of the task?
- (6) **HUMAN FACTORS** - Was the person under undue stress (either internal or external to the job)? Did the task tend toward overloading the capabilities of the person: i.e., did the job require tracking and reacting to many external inputs such as displays, alarms, or signals? Did the arrangement of the workplace tend to interfere with efficient task performance? Did the task require reach strengths, endurance, agility, etc., at or beyond the capabilities of the employee? Was the work environment ill-adapted to the person? Did the person need more training, experience, or practice in doing the task? Was the person inadequately rested to perform safely?
- (7) **ENVIRONMENTAL FACTORS** - Did any factors such as moisture, humidity, rain, snow, sleet, hail, ice, fog, cold, heat, sun temperature changes, wind, tides, floods, currents, terrain; dust, mud, glare, pressure changes, lighting, etc., play a part in the accident?
- (8) **CHEMICAL AND PHYSICAL AGENT FACTORS** - Did exposure to chemical agents (either single shift exposure or long-term exposure such as dusts, fibers, (asbestos, etc.), silica, gases (carbon monoxide, chlorine, etc.), mists, steam, vapors, fumes, smoke, other particulates, liquid or dry chemicals that are corrosive, toxic, explosive or flammable, by-products of combustion or physical agents such as noise, ionizing radiation, non-ionizing radiation (UV radiation created during welding, etc.) contribute to the accident/incident?
- (9) **OFFICE FACTORS** - Did the fact that the accident occurred in an office setting or to an office worker have a bearing on its cause? For example, office workers tend to have less experience and training in performing tasks such as lifting office furniture. Did physical hazards within the office environment contribute to the hazard?
- (10) **SUPPORT FACTORS** - Was the person using an improper tool for the job? Was inadequate time available or utilized to safely accomplish the task? Were less than adequate personnel resources (in terms of employee skills, number of workers, and adequate supervision) available to get the job done properly? Was funding available, utilized and adequate to provide proper tools, equipment, personnel, site preparation, etc.

CONTRACTOR SIGNIFICANT INCIDENT REPORT (CSIR) CONTINUED

(11) **PERSONAL PROTECTIVE EQUIPMENT** - Did the person fail to use appropriate personal protective equipment (gloves, eye protection, hard-toed shoes, respirator, etc) for the task or environment? Did protective equipment provided or worn fail to provide adequate protection from the hazard(s)? Did lack of or inadequate maintenance of protective gear contribute to the accident?

(12) **DRUGS/ALCOHOL** - Is there any reason to believe the person's mental or physical capabilities, judgment, etc., were impaired or altered by the use of drugs or alcohol? Consider the effects of prescription medicine and over the counter medications as well as illicit drug use. Consider the effect of drug or alcohol induced "hangovers".

(13) **JOB/ACTIVITY HAZARD ANALYSIS** - Was a written Job/Activity Analysis completed for the task being performed at the time of the accident? If one was made, did it address the hazard adequately or does it need to be updated? If none made, will one be made? These may also need to be addressed in the Corrective Actions Taken section. Mark the appropriate box. If one was made, attach a copy of the analysis to the report.

(14) **MANAGEMENT** - Did the lack of supervisor or management support play a part in the mishap? Mark the appropriate box.

***SECTION - 8 OSHA INFORMATION - Complete this section if applicable SECTION***

***9 - REPORT PREPARER***

Providing a completed CSIR to the Contracting Officer is the PRIME CONTRACTOR'S RESPONSIBILITY. Enter the name, date of report, title, employer, phone number and signature of person completing the accident report and provide it to the Contracting Officer, or his representative, responsible for oversight of that contractor activity. NOTE! If prepared by other than the Prime Contractor, a person employed by the Prime Contractor must sign that they have reviewed and concur with the report and its findings (e.g. company owner, project supervisor/foreman, Safety Officer, etc.).

ATTACHMENT J-0200000-07  
CRANE AND RIGGING GEAR ACCIDENT REPORT

<b>CRANE AND RIGGING GEAR ACCIDENT REPORT</b>						
<b>Accident Category:</b>		<b>Crane Accident</b>		<b>Rigging Gear Accident</b>		
<b>From:</b>			<b>To:</b> Navy Crane Center Bldg. 491 NNSY Portsmouth, VA 23709 Fax: 757-967-3808			
<b>UIC:</b>						
<b>Activity:</b>					<b>Report No:</b>	
<b>Crane No:</b>		<b>Category:</b>		<b>Accident Date:</b>		<b>Time: hrs:</b>
<b>Category of Service:</b>		SPS	GPS	<b>Crane Type:</b>		<b>Crane Manufacturer:</b>
<b>Was Crane/Rigging Gear Being Used in SPS:</b>			Yes	No	<b>Was Crane/Rigging Gear Being Used in a Complex Lift/Critical Non-Crane Rigging Operation:</b>	
					Yes	No
<b>Location:</b>				<b>Weather:</b>		
<b>Crane Capacity:</b>		<b>Hook Capacity:</b>		<b>Weight of Load on hook:</b>		
<b>Fatality or Permanent Disability?</b>		Yes	No	<b>Material/Property Cost Estimate:</b>		
<b>Reported to NAVSAFECEN?</b>		Yes	No			
<b>Accident Type:</b>						
Personal Injury		Overload		Derail		Damaged Rigging Gear
Load Collision		Two Blocked		Dropped Load		Damaged Crane
Crane Collision		Damaged Load		Other: Specify		
<b>Cause of Accident:</b>						
Improper Operation		Equipment Failure		Inadequate Visibility		
Improper Rigging		Switch Alignment		inadequate Communication		
Track Condition		Procedural Failure		Other: Specify		
<b>Chargeable to:</b>						
Crane Walker		Rigger		Operator		
Maintenance		Management/Supervision		Other: Specify		
<b>Crane Function:</b>						
Travel	Hoist	Rotate	Luffing	Telescoping	Other	N/A
<b>Is this accident indicative of a recurring problem?</b>				Yes	No	
<b>If yes, list Accident Report Nos.:</b> _____						
<b>ATTACH COMPLETE AND CONCISE SITUATION DESCRIPTION AND CORRECTIVE/PREVENTIVE ACTIONS TAKEN AS ENCLOSURE (1). Include probable cause and contributing factors. Assess damages and define responsibility. For equipment malfunction or failure, include specific description of the component and the resulting effect or problem caused by the malfunction or failure. List immediate and long term corrective/preventive actions assigned and respective codes.</b>						
<b>Preparer:</b>		<b>Phone:</b>		<b>E-mail:</b>		<b>Code:</b>
						<b>Date:</b>
<b>Concurrences: (Include Code, Signature and Date)</b>						

	<b>Code:</b>	<b>Date:</b>
	<b>Code:</b>	<b>Date:</b>
<b>Certifying Official (Crane Accident Only):</b>	<b>Code:</b>	<b>Date:</b>

**Brief Description:**

**Background and Detailed Description:**

**Corrective Actions:**

ATTACHMENT J-0200000-07  
CRANE AND RIGGING GEAR ACCIDENT REPORT CONTINUED

CRANE AND RIGGING GEAR ACCIDENT REPORT INSTRUCTIONS

This form is designed for fax transmission without a cover page or by e-mail and, with enclosures and signatures, shall be the official document. Electronic submission will be accepted without signatures but the names of the preparer, concurring personnel, and certifying official (for crane accidents only) shall be filled in. The e-mail address is m\_nfsh\_ncc\_accident@navy.mil. The fax number is (757) 967-3808.

1. Accident Category: Indicate either crane accident or rigging gear accident.
2. From: The naval activity that is responsible for reporting the accident and UIC number.
3. Activity: The naval activity where the accident took place.
4. Report No.: The activity assigned accident number (e.g., 95-001).
5. Crane No.: The activity assigned crane number (e.g., PC-5), if applicable.
6. Category: Identify category of crane (i.e., 1, 2, 3, or 4), if applicable.
7. Accident Date: The date the accident occurred.
8. Time: The time (24 hour clock) the accident occurred (e.g., 1300).
9. Category of Service: Check the applicable service (SPS as defined by NAVSEA 0989-030-7000).
10. Crane Type: The type of crane involved in the accident (e.g., mobile, bridge), if applicable.
11. Crane Manufacturer: The manufacturer of the crane (e.g., Dravo, Grove, P&H), if applicable.
12. SPS: Was the crane or rigging gear being used in an SPS lift?
13. Complex lift: Was the crane or rigging gear being used in a complex lift?
14. Location: The detailed location where the accident took place (e.g., building 213, dry dock 5).
15. Weather: The weather conditions at time of accident (e.g., wind, rain, cold).
16. Crane Capacity: The certified capacity of the crane (e.g., 120,000 pounds), if applicable.
17. Hook Capacity: The capacity of the hook involved in the accident at the max radius of the operation, if applicable.
18. Weight of Load on Hook: If applicable, the weight of the load on the hook.
19. Fatality or Permanent Disability?: Check yes or no.
20. Material/Property Cost Estimate: Estimate total cost of damage resulting from the accident.
21. Reported to NAVSAFECEN?: Self-explanatory.
22. Accident Type: Check all that apply.
23. Cause of Accident: Check all that apply.
24. Chargeable to: Check all that apply.
25. Crane Function: Check all functions in operation at time of accident. Check N/A if a rigging gear accident.
26. Is this a recurring problem?: Check yes or no. Identify any other similar accidents.
27. Situation Description/Corrective Actions: Self-explanatory.
28. Preparer: Self-explanatory.
29. Concurrences: Self-explanatory.
30. Certifying Official (Crane Accidents Only): Self-explanatory.
31. Brief Description: No more than one paragraph summarizing the resultant incident.
32. Background and Detailed Description: Provide the relevant background in a descriptive timeline of preconditions leading up to the event, as well as a detailed description of the event.
33. Corrective Actions: List all short term and long term corrective actions that are taken to prevent recurrence of the incident. Short Term Corrective Actions are those actions taken that will allow return to work in short time frame. Long Term actions are more 'programmatic' in nature and typically include: process revision, changes in training, 'mistake proofing', etc.

ATTACHMENT J-0200000-08  
GOVERNMENT-FURNISHED PROPERTY, MATERIALS, AND SERVICES

\*\*\*\* **NONE** \*\*\*\*

ATTACHMENT J-0200000-09  
INSTALLATION SPILL CONTROL PLAN  
ENVIRONMENTAL PROTECTION LOCAL PROCEDURES

1. Environmental Protection:

a. Procurement of Recycled Content Materials:

Contractors shall procure all materials for projects on Government property in accordance with Executive Order 13101 of September 14, 1998 "Greening the Government through Waste Prevention, Recycling and Federal Acquisition". A listing of recycled content materials available to be utilized can be found in the United States Environmental Protection Agency (U.S. EPA) Comprehensive Procurement Guidelines (CPG) listing: <http://www.epa.gov/cpg/products.htm>. Contractor shall provide documentation regarding compliance with this Order to the Contracting Officer's representative on request.

2. Identification, Control, and Disposal of Regulated Materials and Waste:

Control and disposal of all Regulated Waste (waste regulated by state, local, or federal law, Navy or other agency, regulation or other policy including, but not limited to, Federal or State hazardous wastes, Toxic Substances Control Act (TSCA) waste, asbestos containing wastes lead paint wastes or other similarly regulated wastes) generated as a consequence of execution of this project shall be the responsibility of the Contractor and is to be included in the contract price. Contractor is responsible for all Regulated Materials (materials regulated under State, Local or Federal law, Navy or other agency regulation or policy, including, but not limited to Asbestos or Lead based paint) or Regulated Wastes as defined above, which are created in the course of the project, used in the project or brought on Government property by the Contractor. Contractor shall immediately notify the Contracting Officer or his/her designated representative in the event that any unforeseen Regulated Waste or Regulated Material is encountered in the course of the work described herein. Due care has been taken to identify any Regulated Materials or Regulated Wastes which should reasonably be encountered in the course of the project, notwithstanding this, Contractor has primary responsibility for 1) identifying all Regulated Wastes or Regulated Materials encountered or generated in the course of the project and 2) complying with all applicable Policies, and State, Local or Federal regulations pertaining to these Regulated Wastes and/or Regulated Materials including, but not limited to, safety policies and regulations. All costs associated with complying with these requirements shall be included in the contract price. Inquiries regarding waste manifesting, disposal, etc. shall be directed to MARFORRES Environmental Division at (847) 688-3368.

- a. Regulated Waste as defined above, shall be generated, stored, and disposed of in compliance with Navy Policy and all applicable Federal, State, Local regulations. The Contractor is responsible for familiarizing themselves with all these requirements. Navy policies can be located in the Hazardous or Solid Waste Management Plans for the subject facility. Copies of Navy policy are available online or by contacting the Navy's Designated Environmental Representative for the subject facility.
- b. Prior to any regulated waste being generated or stored, the Contractor shall contact the Environmental Division to request approval of the proposed location of any waste accumulation area. The Contractor shall appoint a single point of contact along with a contact for all such areas and provide a contact number for that person. The contact must be accessible 24 hours a day and identified in the Site Specific Environmental Protection Plan.

ATTACHMENT J-0200000-09  
INSTALLATION SPILL CONTROL PLAN  
ENVIRONMENTAL PROTECTION LOCAL PROCEDURES CONTINUED

- c. Contractor shall dispose of all Government generated waste at a licensed permitted disposal facility acceptable to the Government. The Government, in its sole judgment, reserves the right to approve or disapprove contractor disposal facilities based on their potential effect on the Government's disposal related liability. Prior to approval of any facility for disposal of government waste, all disposal facilities shall complete a Navy Region Midwest Disposal Facility Environmental Audit Form prior to shipments. Navy approved waste disposal sites available from MARFORRES/NAVFAC Environmental Division.
  
- d. All representations to third parties regarding the nature of Regulated Waste(s) generated in the course of the project and the Navy's Designated Environmental Representative must approve shipping documents related to movement of any Regulated Wastes in advance. Where signature of the owner or operator is required, such signature shall be requested via the Navy's Designated Environmental Representative. Arrangements to review documents shall be scheduled a minimum of 2 business days in advance of the shipment, during normal business hours Monday through Friday, except in emergencies. Waste pickups must be scheduled at a time acceptable to the Navy Project Representative and Navy's Designated Environmental Representative. The Contractor shall be responsible for completing and obtaining approval of the appropriate authorities for all documents necessary to comply with Navy Policy as well as State, Local and Federal regulations and/or requirements. Generators' copies of all shipping documents from disposal facilities, as well as Certificates of Disposal/Recycling shall be returned to the Navy's Designated Environmental Representative within forty-five (45) days of shipment off station. The items requiring review and approval include, but are not limited to the following:
  - i. Prime Contractor:
    - Laboratory Reports on Waste Streams
    - Profile Sheets
    - Completed "Disposal Facility Environmental Audit" form from TSDF
  - ii. Transporter:
  - iii. Disposal Facility: (TSDF)

**3. Release or Spill of Regulated Substance or Violation of Law:**

- a. Contractor is required to adhere to the following policy:

All spills or releases of – petroleum products, hazardous substances, and regulated waste involving government waste or property occurring on Department of Navy property shall be immediately reported to the MARFORRES/NAVFAC Environmental Division. Off-site spills or releases shall be immediately reported to the proper Federal, State, and Local agencies. The Navy's/Marine designated Environmental Representative is responsible for reporting spills or releases occurring on Department of NAVY property to Federal, State, and local agencies. Spill cleanup, remediation, damage to the environment and other related incurred costs resulting from Contractor actions shall be the responsibility of the Contractor.

All inquiries pertaining to waste operations shall be directed to the MARFORRES/NAVFAC Environmental Division.

ATTACHMENT J-0200000-09  
INSTALLATION SPILL CONTROL PLAN  
ENVIRONMENTAL PROTECTION LOCAL PROCEDURES CONTINUED

Contractor is responsible for all costs, without limit, related to any release, spill or any violation of law associated with the Contractor's execution of the project or caused by any action of the contractor. The Contractor, to the sole satisfaction of the Navy/Marine Designated Environmental Representative, shall execute all actions necessary to address such release, spill or violation of law. If, in the sole opinion of the Navy/Marine Designated Environmental Representative, the Contractor fails to respond with immediate and effective action (within 1 hour of discovery), the Government may, at its discretion, take such actions as it deems necessary, to protect the environment, property or public safety. The Contractor is responsible for all costs, without limit, related to such actions and shall reimburse the government for all costs incurred. Notwithstanding terms of any agreement between the Contractor and Government, the Government reserves the right to unilaterally and without recourse by the Contractor to execute a deductive modification to the contract equal to the total or any fraction of, the expense to the Government for any actions necessary to address such release, spill or violation of law.

**4. Environmental Permits and Licenses:**

The Contractor shall be responsible for preparation of all applicable permits or licenses and payment of all permit, license or similar fees associated with the project. The Contractor shall submit the permit application to the Navy's Designated Environmental Representative along with acceptable form of payment for the permit or license. Upon completion of the review the Navy will forward the application to the regulatory agency.

**5. Protection of Natural Resources:**

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified. If the work is near streams, lakes, or other waterways, conform to the national permitting requirements of the Clean Water Act.

Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified.

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Government permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor will be responsible for any resultant damage.

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove trees with 30 percent or more of their root systems destroyed. Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain Contracting Officer's approval before replacement.

The Government approval is required before any equipment will be permitted to ford live streams. In areas where frequent crossings are required, install temporary culverts or bridges. Obtain Contracting Officer's approval prior to installation. Remove temporary culverts or bridges upon completion of work, and repair the area to its original condition unless otherwise required by the Contracting Officer.



ATTACHMENT J-0200000-11  
EXHIBIT LINE ITEM NUMBERS

Placeholder for ELIN's

ATTACHMENT J-1502000-01  
FACILITY INVESTMENT DEFINITIONS & ACRONYMS

DEFINITION	DESCRIPTION
CRANE, CATEGORY 1	Portal cranes, Hammerhead cranes, Locomotive cranes, Derricks, Floating cranes (YD), Tower cranes, Container cranes, Mobile cranes (except those indicated as category 4), including truck, cruiser, crawler, warehouse/industrial cranes, and cranes used for dragline, pile driving, clamshell, magnet, bucket work, and Aircraft crash cranes.
CRANE, CATEGORY 2 & 3	Cranes with rated capacities of 20,000 pounds or greater are category 2. Examples are Overhead traveling cranes, Gantry cranes (rail mounted), Wall cranes, Jib cranes, Pillar cranes, Pillar jib cranes, Monorails and associated hoists, Fixed hoists, including chain falls. Pedestal mounted commercial boom assemblies (fixed length, telescoping, and articulating types) attached to stake trucks, trailers, flatbeds, or railcars, or stationary mounted to piers, etc., with OEM rated capacities less than 2,000 pounds.
CRANE, CATEGORY 4	Commercial truck mounted cranes, Truck mounted articulating boom cranes, Pedestal mounted commercial boom assemblies (fixed length, telescoping, and articulating types) attached to stake trucks, trailers, flatbeds, or railcars, or stationary mounted to piers, etc., with OEM rated capacities of 2,000 pounds and greater. Commercial truck mounted cranes and truck mounted articulating boom cranes with OEM capacities of 2,000 pounds and greater require a licensed operator even if the cranes are down rated below 2,000 pounds capacity for administrative purposes.
EQUIPMENT, COLLATERAL	Encompasses built-in and large substantially affixed equipment/property that is normally acquired and installed as part of a facility project.
EQUIPMENT, INSTALLED	Encompasses building-type equipment, built-in equipment, and large, substantially affixed equipment/property, and is normally acquired and installed as part of a facility project. Installed equipment is normally required to make a facility useful and operable. Removing such equipment would impair the usefulness, safety, or environment of the facility or the facility restoration work required after its removal, is substantial.
EQUIPMENT, PERSONAL PROPERTY	Personal property equipment includes all equipment other than collateral equipment. Such equipment, when acquired and used in a facility or a test apparatus, can be severed and removed after erection or installation without substantial loss of value or damage thereto or to the premises where installed.
FACILITIES LIFE CYCLE	A facilities life cycle is divided into four stages, requirements (planning and design), acquisition (construction and acceptance), stewardship (operations, maintenance and repair), and disposal.

ATTACHMENT J-1502000-01  
FACILITY INVESTMENT DEFINITIONS & ACRONYMS CONTINUED

<p>FACILITIES MAINTENANCE MANAGEMENT</p> <p>Integrated Maintenance Program (IMP)</p>	<p>The planning, prioritizing, organizing, controlling, reporting, evaluating, and adjusting of facilities maintenance operations to support the CNO/NAVFAC facilities policy and objectives and satisfy customers' facility needs. Defined by the International Facility Management Association as "the practice of coordinating the physical workplace with the people and work of the organization."</p> <p>IMP is a recurring state-of-the-art, reliability-centered inspection, testing, maintenance and repair program that determines best practices for managing the functions and consequences of failures of facilities equipment and system components. IMP encompasses accepted commercial practices, including reactive, preventive, predictive and proactive maintenance, into one optimal program. The IMP approach gives the Contractor full responsibility to maintain systems and equipment and perform repairs whenever necessary to ensure equipment and systems are operational and remain in a constant state of readiness. Service calls will not be issued for accomplishment of repairs on systems and equipment maintained under IMP.</p>
<p>LIFE-CYCLE COSTS</p>	<p>A form of economic analysis that considers the total cost of owning, operating, and maintaining a building or system over its useful life.</p>
<p>MAINTENANCE, PREVENTIVE</p>	<p>Maintenance designed to increase the availability of the facilities/equipment by reducing the number of unexpected breakdowns or service interruptions. It is any planned maintenance activity that improves equipment life and avoid any unplanned maintenance requirements.</p>
<p>MANAGEMENT INFORMATION SYSTEMS- MAINTENANCE</p>	<p>A computerized system that will provide sufficient information for management to evaluate differences between budgets and actual costs and evaluate performance.</p>
<p>REPAIR</p>	<p>Repair is the restoration of facilities or equipment to such a condition that it may be effectively utilized for its designated purposes by overhaul, reconstruction, or replacement of constituent parts or materials which have deteriorated by action of the elements or usage, and which have not been corrected through maintenance. This term also applies to replacement of the entire unit or system if beyond economical repair. The intent of repair is to have the equipment at normal working condition.</p>
<p>REPLACEMENT</p>	<p>Replacement, as a distinct work element, is confined to a program of planned replacement of a facility or its components. It may be further limited to major components such as air conditioning compressors, furnaces or hot water heaters. Replacement is performed when the equipment has reached the end of its useful life; when it no longer can perform due to degradation of its internal components and repair is no longer cost effective. Included under the replacement would be the major rebuilding of any component, since rebuilding also restores performance.</p>
<p>RESTORATION</p>	<p>Restoration of real property to such a condition that it can be used for its intended purpose. Includes repair or replacement work to restore facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accident or other causes.</p>

ATTACHMENT J-1502000-01  
FACILITY INVESTMENT DEFINITIONS & ACRONYMS CONTINUED

SUSTAINMENT	Maintenance and repair activities necessary to keep a typical inventory of facilities in “normal working condition”. Sustainment includes regularly scheduled maintenance as well as cyclical major repairs or replacement of components that occur periodically over the expected service life of the facilities.
WORK ORDERS	Any work required to return a facility, system, equipment or component to normal working condition. Service orders are minor facility problem requests or requests for facilities-related work that are too small to be planned and estimated.
WORK ORDER CYCLE	Count down starts when the customer is notified that the work has been accepted to be accomplished to the time when the work chit is turned in by the craftsmen as complete is one complete cycle period for a service order.
WORK ORDER, EMERGENCY	Emergency is defined as any facility deficiency that immediately compromises the mission or life, health and safety. Always includes, but is not limited to, failure of any utility, fire protection, environmental control, or security alarm systems.
WORK ORDER, URGENT	Urgent is defined as any deficiency that does not immediately endanger personnel or property, but extended delays of repairs could result in damage to Government property, or soon affect the security, health, or well-being of personnel or the continued operation of a service or system.
WORK ORDER, ROUTINE	Routine is defined as any deficiency that does not qualify as emergency or urgent, but is needed to maintain the agreed upon facility condition. Maintain means to repair to such a condition that it may be used for its intended purpose and to normal working condition. Does not include improvements.
WEIGHT HANDLING EQUIPMENT (WHE)	Weight handling equipment consists of cranes (e.g., portal cranes, jib cranes), rigging gear (e.g., slings, shackles), and associated equipment (e.g., portable hoists, dynamometers). For purposes of this technical sub-annex, WHE does not include mobile or transportable truck, crawler, and railway mounted locomotive cranes covered in 1700000 BSVE.

ATTACHMENT J-1502000-01  
FACILITY INVESTMENT DEFINITIONS & ACRONYMS CONTINUED

<b>Acronym</b>	<b>Title</b>
BPVC	Boiler and Pressure Vessel Code
HVAC	Heating, Ventilation, and Air Conditioning
RPIE	Real Property Inventory Equipment
SCADA	Supervisory Control And Data Acquisition
SRM	Sustainment, Restoration and Modernization
UFC	Unified Facilities Criteria
UPV	Unfired Pressure Vessel
VTE	Vertical Transportation Equipment

ATTACHMENT J-1502000-02  
REFERENCE, INSTRUCTIONS, DIRECTIVES

Reference	Title
UFC 3-430-07	Operations and Maintenance: Inspection and Certification of Boilers and Unfired Pressure Vessels
NAVFAC P-307	Management of Weight Handling Equipment
UG-2029-ENV	Cross-Connection Control and Backflow Prevention Program
MO-118	Inspection of Vertical Transportation Equipment
OPNAVINST 5090.1 Chapter 22	Management of Ozone Depleting Substances
NAVFAC MO-200	Facilities Engineering – Electrical Exterior Facilities
UFC 3-600-02	Inspection, Testing and Maintenance of Fire Protection Systems
UFC 3-410-01FA	Heating, Ventilating, And Air Conditioning
UFC 3-230-02	Operation & Maintenance: Water Supply Systems
NAVFAC MO-206	Maintenance and Operation of Air Compressor Plants
NAVFAC MO-209	Maintenance of Steam, Hot Water & Compressed Air Distribution Systems
ASME 17.1	Safety Code for Elevators & Escalators

Reference	Link
UFC 3-430-07	<a href="http://www.wbdg.org/ccb/DOD/UFC/ufc_3_430_07.pdf">http://www.wbdg.org/ccb/DOD/UFC/ufc_3_430_07.pdf</a>
NAVFAC P-307	<a href="https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_ncc_pp/tab66035/tab67623/p307%202009%20%20with%20change%201%20and%202.pdf">https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_ncc_pp/tab66035/tab67623/p307%202009%20%20with%20change%201%20and%202.pdf</a>
UG-2029-ENV	<a href="https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/productsandservices.htm/waterandwastewater/water/ug-2029-envmay1998.pdf">https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/productsandservices.htm/waterandwastewater/water/ug-2029-envmay1998.pdf</a>
MO-118	<a href="http://www.wbdg.org/ccb/NAVFAC/OPER/mo118.pdf">http://www.wbdg.org/ccb/NAVFAC/OPER/mo118.pdf</a>
OPNAVINST 5090.1 Chapter 6	<a href="http://5090.dandp.com/pdfs/5090-1C%20Chap%206%2010%20October%20Draft.pdf">http://5090.dandp.com/pdfs/5090-1C%20Chap%206%2010%20October%20Draft.pdf</a>
NAVFAC MO-200	<a href="http://armypubs.army.mil/eng/DR_pubs/dr_a/pdf/tm5_684.pdf">http://armypubs.army.mil/eng/DR_pubs/dr_a/pdf/tm5_684.pdf</a>
UFC 3-600-02	<a href="http://www.wbdg.org/ccb/DOD/UFC/ARCHIVES/ufc_3_600_02.pdf">http://www.wbdg.org/ccb/DOD/UFC/ARCHIVES/ufc_3_600_02.pdf</a>
UFC 3-410-01FA	<a href="http://www.wbdg.org/ccb/DOD/UFC/ufc_3_410_01fa.pdf">http://www.wbdg.org/ccb/DOD/UFC/ufc_3_410_01fa.pdf</a>
UFC 3-230-02	<a href="http://www.wbdg.org/ccb/DOD/UFC/ufc_3_230_02.pdf">http://www.wbdg.org/ccb/DOD/UFC/ufc_3_230_02.pdf</a>
NAVFAC MO-206	<a href="http://www.wbdg.org/ccb/NAVFAC/OPER/mo206.pdf">http://www.wbdg.org/ccb/NAVFAC/OPER/mo206.pdf</a>
NAVFAC MO-209	<a href="http://www.wbdg.org/ccb/NAVFAC/OPER/mo209.pdf">http://www.wbdg.org/ccb/NAVFAC/OPER/mo209.pdf</a>

ATTACHMENT J-1502000-03  
FACILITIES PROPERTY INVENTORIES

Facility No.	Name/Description	Location	Sq. Ft.	Year Built
	Reserve Center	Eastover South Carolina	22473	1-Jul-91
	Storage/Comm Shop	Eastover South Carolina	1275	1-Jun-85
	Vehicle Maintenance Facility	Eastover South Carolina	3353	1-Jul-84
	Quanstat Storage Area	Eastover South Carolina	240	1-Jul-94
	Reserve Center	Huntsville Alabama	16459	1-Jul-60
	Vehicle Maintenance Facility	Huntsville Alabama	6470	1-Jul-60
	Hand to Hand Combat Pit	Huntsville Alabama	400	12-Aug-11
	Covered Training Ares	Huntsville Alabama	784	12-Aug-11
	Auto Org Shop	Huntsville Alabama	2556	3-Oct-11
	Reserve Center	Montgomery Alabama	21952	1-Jul-49
	Vehicle Maintenance Facility	Montgomery Alabama	1043	1-Jul-81
	Armory	Montgomery Alabama	1163	1-Jul-77
	Garage and Storeroom	Montgomery Alabama	2611	1-Jul-49
	Administration	Tampa Florida	19850	1-Jul-62
	Vehicle Maintenance Facility #1	Tampa Florida	7200	1-Jul-62
	Vehicle Maintenance Facility #2	Tampa Florida	1563	16-Sep-11
	Modular Buildings 1	Tampa Florida	768	1-Jul-08
	Modular Buildings 2	Tampa Florida	768	1-Jul-08
	Modular Buildings 3	Tampa Florida	768	1-Jul-08
	Modular Buildings 4	Tampa Florida	768	16-Sep-11
	Misc Utility Building	Tampa Florida	384	16-Sep-11
	Pol Shed	Tampa Florida	134	1-Jul-87

	Guard House	Tampa Florida	48	1-Jul-08
	Weapon Cleaning Sheds	Tampa Florida	36	1-Jul-86
	Overhead Cover	Tampa Florida	4800	16-Sep-11
	Operation Trainer Facility	Tampa Florida	917	16-Sep-11
	Webb Maintenance Facility	Jacksonville, Florida	7,746	1-Jul-77
	Reserve Center	Jacksonville, Florida	34,158	1-Jul-07
	Humidity Control Storage	Jacksonville, Florida	3,578	22-Mar-13
	AA Overhead Cover	Jacksonville, Florida	5,940	22-Mar-13
	Open Storage Area	Jacksonville, Florida	534	22-Mar-13
	Applied Instruction Building	Windy Hill, Georgia	6048	1-Jul-62
	RC ISMT Bldg	Windy Hill, Georgia	2186	19-Jun-14
	Gate Sentry House	Windy Hill, Georgia	130	1-Jul-62
	Moving Target Simulator Bldg	Windy Hill, Georgia	3433	1-Jul-93
	MAG 41 Storage Facility	Windy Hill, Georgia	2861	1-Jul-85
	Combat Vehicle Maintenance Facility	Windy Hill, Georgia	4527	1-Jul-89
	Storage	Windy Hill, Georgia	669	1-Jul-87
	Marine Storage Bldg	Windy Hill, Georgia	8016	1-Jul-89
	Storage Warehouse	Windy Hill, Georgia	5724	1-Jul-99
	4 th LAAD Training Bldg	Windy Hill, Georgia	21937	1-Jul-00
	Reserve Training Center	Windy Hill, Georgia	19864	19-Jun-14
	Covered Training Ares	Windy Hill, Georgia	784	2-Sep-11

# ATTACHMENT J-1502000-04A EASTOVER SOUTH CAROLINA SITE MAP

MARFORRES MFRC Eastover - Eastover, South Carolina



**Notes**

MARFORRES 6283 Office  
 Facilities Engineering  
 45001017 Avenue, New Orleans, LA  
 70117-2528  
 Map Author: C. Wynn  
 Map File: www.gis.com/arcgis/rest/services/  
 No Patent Date: June 2012  
 THIS NORTH AMERICAN DATUM (NAD 83) AND THE WORLD GEODETIC SYSTEM 1984 (WGS 84) ARE EQUIVALENT FOR MAPTING, CHARTING AND NAVIGATION AT THIS SCALE.  
 WGS\_1984\_UTM\_Zone\_17N

BOUNDARIES SHOWN ARE NOT CONSIDERED AUTHENTICATED  
 CUSTOMER PROVIDED AND NO WARRANTY IS MADE FOR ANY  
 DEVELOPED MEDIA ONLY THROUGH THESE ARE CLASSIFIED  
 ROAD DISCONTINUITY SHOULD BE REFERRED TO WITH CAUTION  
 THERE MAY BE PRIVATE ENCROACHMENTS WITHIN THE BOUNDARIES  
 OF THE PROPERTY, OR OTHER REPRESENTATIONS SHOWN ON THIS MAP  
 ALTHOUGH EVERY EFFORT HAS BEEN MADE TO INSURE THE ACCURACY  
 OF THE INFORMATION, ERRORS AND OMISSIONS, OR NEARLY  
 PHYSICAL SOURCES TO OBTAIN THE DATA MAY BE NOT LISTED IN  
 THIS DATA SUPPORT. THE USER MUST BE AWARE OF ANY CONDITIONS  
 AND WARRANTIES BEING RESPONSIBILITY FOR THE APPROPRIATE USE OF  
 THIS INFORMATION WITH RESPECT TO ACCESS, STORAGE, DATA  
 COLLECTION, INTEROPERABILITY, CLARIFICATION OF THE DATA  
 AND/OR ANY OTHER INFORMATION. THE USER MUST BE AWARE OF  
 ALL DATA IS REQUIRED FOR SITE-SPECIFIC PROJECTS. THIS  
 INFORMATION IS DEEMED RELIABLE, BUT NOT GUARANTEED.

**Legend**

- Structure Existing Area
- Fence
- HAZMAT

ILLUSTRATION: GEODETIC REFERENCE SYSTEM AND  
 UNIT: METERS  
 PROJECTION: TRANSVERSE MERCATOR  
 HORIZONTAL DATUM: WORLD GEODETIC SYSTEM 1984

**United States Marine Corps  
 Marine Forces Reserve  
 MFRC EASTOVER  
 5405 Leesburg Road  
 Eastover, SC 29044**

Controlled Unclassified Information  
 This Map is Intended for Reference Use Only

**Location Inset**

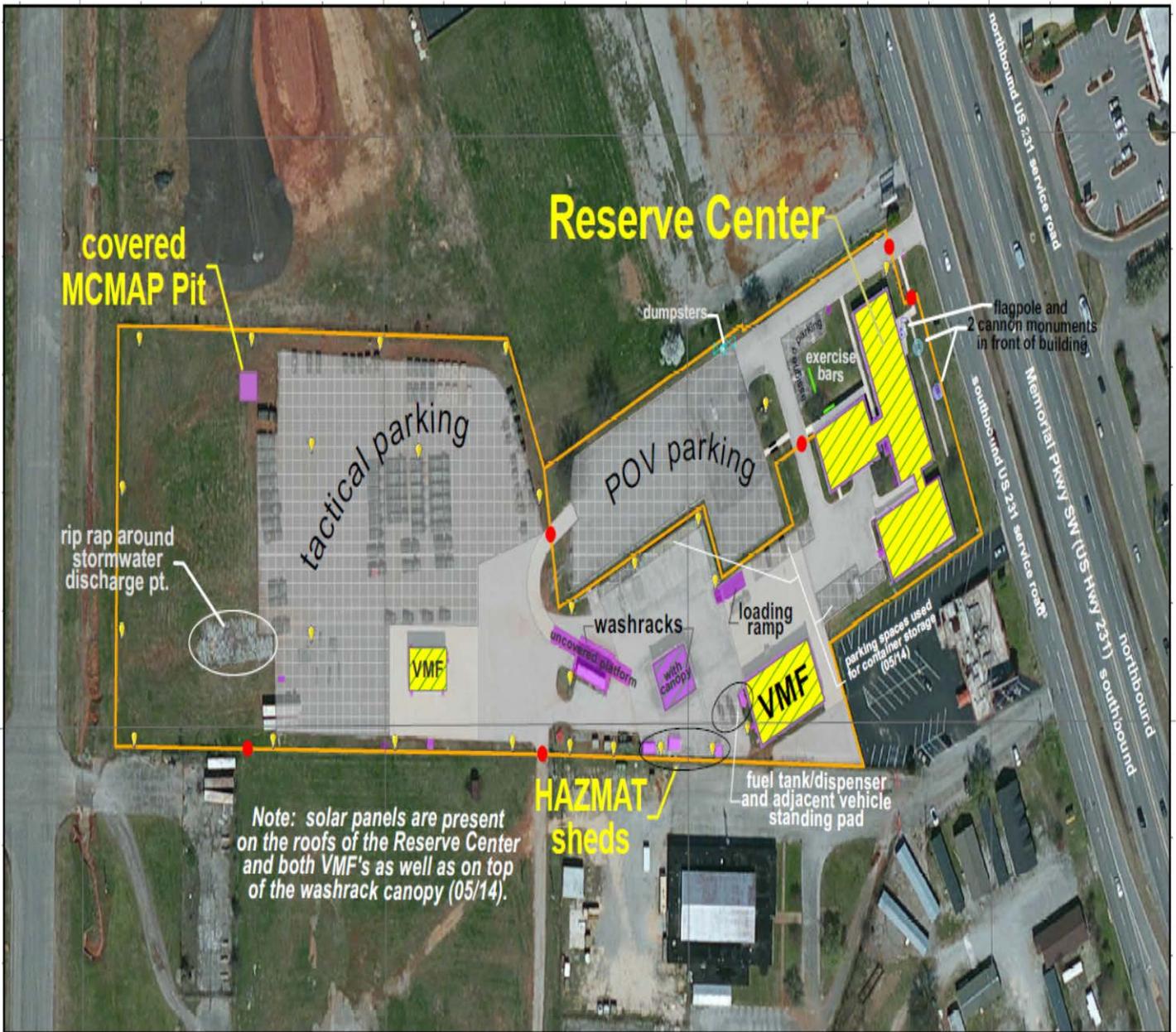


**Vicinity Inset**



**ATTACHMENT J-1502000-04B  
HUNTSVILLE ALABAMA SITE MAP**

MARFORRES - Huntsville, AL



**Note:** solar panels are present on the roofs of the Reserve Center and both VMF's as well as on top of the washrack canopy (05/14).

**Notes**

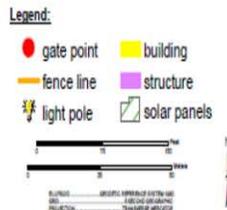
MARFORRES HEAD CITY  
Facilities Engineering  
HQ USMC Reserve, New Orleans, LA  
30.04.2017

Map Author: B. Clark  
Map Publisher: June 2014

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**Legend:**

- gate point
- fence line
- ⚡ light pole
- building
- structure
- ☐ solar panels



**United States Marine Corps  
Marine Forces Reserve  
HUNTSVILLE  
3506 S. Memorial Pkwy  
Huntsville, AL 35801**

Controlled Unclassified Information  
This Map is Intended for Reference Use Only

**Location Inset**



**Vicinity Inset**





# ATTACHMENT J-1502000-04D JACKSONVILLE FLORIDA SITE MAP

MARFORRES RTC Jacksonville, Jacksonville, Florida



**Notes**

1. THIS MAP WAS PREPARED BY THE MARINE CORPS ENGINEERING CENTER (MCEC) FOR THE MARINE CORPS. THE MCEC IS NOT RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED BY THE USER. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE DATA AND THE ACCURACY OF THE DATA. THE MCEC IS NOT RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED BY THE USER. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE DATA AND THE ACCURACY OF THE DATA.

**Legend**

Red Line	Road Centerline	Driveway Area
Blue Line	Road Area	Parking Area
Green Area	Water Tower	Retention Pond
Yellow Area	Sub Area	Waterline Area

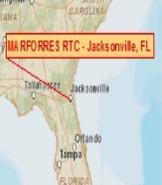
**United States Marine Corps**  
**Marine Forces Reserve**  
**MCRC JACKSONVILLE**  
**8820 Somers Road**  
**Jacksonville, FL 32226**

Controlled Unclassified Information  
 This Map is Intended for Reference Use Only

**Location Inset**



**Vicinity Inset**



# ATTACHMENT J-1502000-04E WINDY HLL SMYRNA GERRGIA SITE MAP

MARFORRES MFRC Windy Hill - Smyrna, Georgia



**Notes**  
 UNCLASSIFIED//FOR OFFICIAL USE ONLY  
 This map is intended for reference only. It is not to be used for legal purposes. The information on this map is derived from the best available information and is not guaranteed to be accurate. The user of this map assumes all responsibility for its use. This map is the property of the United States Marine Corps and is not to be distributed, copied, or reproduced in any form without the express written permission of the United States Marine Corps. This map is not to be used for navigation purposes. The information on this map is not to be used for any other purpose. This map is not to be used for any other purpose. This map is not to be used for any other purpose.

**Legend**

Red Line	Blue Line	Yellow Line
Black Line	Green Line	Orange Line
Blue Line	Red Line	Yellow Line
Black Line	Green Line	Orange Line

Scale: 1 inch = 100 feet

**United States Marine Corps  
 Marine Forces Reserve  
 MFRC WINDY HILL  
 1880 Roswell Street SE  
 Smyrna, GA 30080**

Controlled Unclassified Information  
 This Map is Intended for Reference Use Only







ATTACHMENT J-1502000-05  
IDIQ WORK ORDERS PROCEDURE

The Contractor shall prepare and furnish a detailed cost estimate identifying proposed labor, hours, labor cost, material, O&P and equipment, per 1502000 spec item 3.1B

**Process**

The affected MCRTC installation personnel must submit a work order in the MARFORRES share point system, describing the work to be performed.

The MARFORRES Regional Engineers will take action on the work order request. If approved, the Regional Engineers will forward the work order via share point to the MARFORRES facilities Support Team. FST will contact the Contractor and arrange for the work to be completed.

Designated authorities are Mr. **Walt Parker** (504) 697-9836 [walter.p.parker@usmc.mil](mailto:walter.p.parker@usmc.mil) ,  
(Eastern Regions) Mr. **Jack Patel** (504) 697-9841 [jagdishchandra.patel@usmc.mil](mailto:jagdishchandra.patel@usmc.mil),  
(Western Regions) **Currently Vacant** (504) 697-9849

And for our NOLA facilities we have Mr. **Ted Harmon** (504) 697-9872 [ted.harmon@usmc.mil](mailto:ted.harmon@usmc.mil),  
and Mr. **Garrett Hatley** (504) 697-9853 [garet.w.hatley@usmc.mil](mailto:garet.w.hatley@usmc.mil).

1) Emergency

- a) Local POC contacts contractor to arrest emergency up to \$500.
- b) MARFORRES/NAVFAC notified via SharePoint/email.

2) Service

- a) Local POC enters work in SharePoint which notifies MARFORRES designated authority
- b) MARFORRES designated authority approves or disapproves, and notifies NAVFAC representative of approved work via generated SharePoint email
- c) NAVFAC representative contacts contractor for estimate if required, and makes fair and reasonable determination
- d) NAVFAC representative issues notice to proceed to contractor for completion of work

In general, the MARFORRES designated facility manager must approve all non-emergency work before we engage the contractor to perform estimates or to proceed with work.

ATTACHMENT J-1502000-06  
EXAMPLE WORK ORDER SUMMARY REPORT FORM FOR FFP WORK

**See spec item 1502000 3.1A**

**LARGE AND SMALL SERVICE (FFP)**

Contract # NXXXXXX-XX-X-XXXX

Location: \_\_\_\_\_

**Firm Fixed Price Work Order Elin and Number\_**

Emergency Work:

Routine Work

Date: X/XX/XXXX

<i>Company Name:</i>	KTR Services	<i>Building Number:</i>	100
<i>Contractor POC:</i>	KTR Facility Manager	<i>Facility POC:</i>	SSgt Smith
<i>Telephone No:</i>		<i>Contact Number:</i>	
<i>E-Mail Address:</i>		<i>E-Mail Address:</i>	

DESCRIPTION of WORK and EXPLANATION for REPAIRS or REPLACEMENT

Broken door knob. Remove old door knob and replace with new purchase from hardware store to make operable.

*All discrepancies, repairs and deficiencies associated with this work order were completed according to the Explanation for Repairs above:*

**Date Completed: XX. XX, 20XX**

Facility POC:

Name (printed) \_\_\_\_\_ Signature \_\_\_\_\_



ATTACHMENT J-1502000-08  
EXAMPLE WORK ORDER ESTIMATE FORM FOR NON FFP WORK OVER 2K

See spec item 1502000 3.1B

<b>Cost Works 2015 - MCRC Marine Construction/ Maintenance Projects over 2K</b>												
Qty	CSI Number	Description	Crew	Daily Output	Labor Hours	Unit	Bare Mat.	Bare Labor	Bare Equip.	Total	Total Incl. O&P	Zip Code Prefix
10.000	01930 950 8260	Moving equipment, bookcase cabinet, relocate, remove, transport, and set in place	B67B	16	1	Ea.	0.00	504.23	0.00	504.23	790.58	212
50.000	01930 950 8250	Moving equipment, storage cabinet, relocate, remove, transport, and set in place	B67B	8	2	Ea.	0.00	5,042.25	0.00	5,042.25	7,905.75	212
2,880.000	09223 643 0200	Security mesh, expanded metal, flat, screwed to framing, on ceilings, 3/4", 1.76 lb/SF	2 Carp	1,350	0.012	S.F.	6,740.93	1,434.24	0.00	8,175.17	9,752.83	212
1,620.000	05051 920 5900	Lag screw shield, 3/8" dia, short, in concrete, brick or stone, excl layout & drilling	1 Carp	85	0.094	Ea.	1,351.32	8,370.14	0.00	9,721.46	15,227.60	212
1,620.000	03821 610 0200	Concrete impact drilling, for anchors, up to 4" D, 3/8" dia, in concrete or brick walls and floors,	1 Carp	63	0.127	Ea.	121.01	9,096.22	0.00	9,217.23	15,025.91	212
24.000	05052 190 0020	Welding structural steel in field, cost per welder, 1/8" dia, type 6011, excl operating engineer	E14	8	1	Hr.	127.66	1,493.28	551.93	2,172.87	3,455.04	212
28.800	01542 370 0460	Scaffolding, steel tubular, regular, labor only to erect & dismantle, building interior, wall face, 6'-4" x 5' frames, up to 16' high, excludes planks	3 Carp	12	2	C.S.F.	0.00	2,239.78	0.00	2,239.78	3,665.09	212
0.000	01741 320 0040	Cleaning up, clean up after job completion, allow, max				Job				1.0%	1.0%	212
0.000	01215 550 1400	Work space, not available, add, modifications to total project cost summaries				Project				5.0%	5.0%	212
0.000	01113 130 1200	Engineering fees, structural, minimum				Project				1.0%	1.0%	212
1.000	01311 320 0240	Field personnel, superintendent, minimum				Week	0.00	1,575.00	0.00	1,575.00	2,550.00	212
0.000	01311 370 0260	Overhead, general Contractors mark-up on total, including O&P for handling sub-contracts,				%				15.0%	15.0%	212
<b>Totals</b>							<b>\$8,340.93</b>	<b>\$29,755.13</b>	<b>\$551.93</b>	<b>\$38,647.98</b>	<b>\$58,372.79</b>	

RSMMeans Facilities Construction Cost Data

The government reserves the right to reject estimate not submitted in the above format.



ATTACHMENT J-1502000-10  
WORK ORDRS RELATED INFORMATION

**Means Repair and Remodeling Cost Data**

Accepted industry and Government material and equipment costs published in R. S. Means cost data, national material supplier catalogues and Operating Expense Schedule (EP 1110-1-8), equipment rental catalogues, and similar estimating sources shall be used for determining customary and reasonable costs for the material and equipment estimate. Projected material requirements shall include "CATALOG CUT SHEET OF MATERIAL", a list of materials establishing the size, quality, number of units, and unit prices. Pre-expended bin supplies and materials shall not be included in the list of materials since the cost for these items are to be included in the labor hour unit price. Material prices shall be the lowest price available considering the availability of materials and the time constraints of the job. The Contractor shall use the latest edition. Material prices are based on a national average and computed labor costs are based on a 30-city national average. Data has been targeted for residential, commercial, and industrial repair/remodeling projects. See attached J-1502000-08 example work order estimate form for non -firm fixed price work over 2k.

**Direct Material Costs**

The actual vendor invoice charges for materials used for performance of work under this contract. Direct material costs shall include transportation charges when such charges are included on the invoice by the vendor, as well as any discounts allowed for prompt payment and discounts or rebates for core value or salvage value that accrue to the Contractor. When questions arise concerning the cost of materials, material costs will be based on the lowest of quotes provided by the Contractor from at least three different commercial vendors for the direct material cost. The Government retains the right to obtain additional quotes in questionable situations. The lowest price will be used.

**Inspector & Instructor (I&I)**

The Officer designated by the Contracting Officer's Rep (COR) will provide the on-site management of Facilities Support Contracts, to include insuring the NAVFAC/MARINES requirements are satisfactorily met in compliance with the provisions of the contract.

**Site Debrief and log in**

Contractors shall sign in at the site, in the log book and make themselves known before executing any work. After completion of onsite work, contractor personnel, including subcontractor personnel, shall meet with the I&I or someone designated by the I&I, to review work performed and provide status of any work order investigations. For "RECURRING WORK" the contractor shall notify the site I&I, the days services are to be accomplished for that month, services to be accomplished, and a list of employees scheduled to be on site.

**Workmanship and Material Standards**

Per spec item 2.3.1, 1502000 Facility Investment.

ATTACHMENT J-1502000-10  
WORK ORDRS RELATED INFORMATION CONTINUED

**Warranty Equipment**

Upon the installation of warranty equipment the contractor shall notify and provide the GOVT with all available warranty documents. The Contractor shall also document and keep files for future references on all warranty work. All documentation shall be forwarded to NAVFAC Contracting Officer and Work Order coordinator.

**Prohibited Equipment**

Contractors are not authorized to install proprietary equipment at MARFORRES facilities without written authorization from NAVFAC.

**Invoice Submission**

Because each Government order for indefinite quantity work is paid for separately, each and every work order must be inspected and accepted as being satisfactorily completed before payment may be made. Work orders will be completed and signed by the facilities I&I. Completed work orders will be submitted within 30 days for invoicing.

**IDIQ Estimate Submission**

After a work order has been approved through the SharePoint system, NAVFAC will request the contractor to provide an estimate to complete all tasks. The contractor is required to respond via email within 24 hours and provide an estimate back to NAVFAC with five calendar days of receipt of the request. Estimates are to comply with attachment 1502000-07 and 08. In addition, the contractor shall notify NAVFAC of specialty long lead item in advance with expected time of receipt, "Special Orders"

**Emergency Calls.**

The Contractor shall respond immediately and must be on the job site and working within two hours after receipt of an emergency service call. The Contractor shall work continuously without interruption and shall arrest the emergency condition before departing the job site (e.g. return critical system to operation, install portable centrifugal chiller system, secure power to eliminate electrical hazard, etc.). If further labor and material are required to complete the repair, the call will be reclassified as either routine, as appropriate, and the corresponding completion time will then apply. Such follow-up work shall be considered part of the original service call.

Emergency calls will be classified as emergency at the discretion of the I&I. Generally, emergency calls will consist of correcting failures which constitute an immediate danger to personnel, threaten to damage property, and threaten to disrupt activity operations and/or training missions, or affect the operation of critical equipment or systems.

**Routine Calls (Small and Large Work Orders)**

All routine calls must be completed within ten working days after receipt, and once begun, the work shall be prosecuted to completion. Routine calls shall normally be accomplished during normal work hours, Monday through Friday.

Routine calls will be classified as routine calls when the work does not qualify as an emergency. The Contractor shall have adequate procedures for receiving service call work authorizations from the Government during normal working hours and for receiving and responding to emergency calls 24 hours per day, including weekends

ATTACHMENT J-1502000-10  
WORK ORDRS RELATED INFORMATION CONTINUED

**Reporting Equipment Deficiencies**

Any equipment deficiencies noted by the Contractor during operational checks, preventive maintenance inspections, service work, or at any other time shall be reported to the I&I.

The I&I will enter the work request into SharePoint for MARFORRES concurrence.

Deficiencies discovered which could potentially jeopardize the operation of items of equipment in the critical facilities shall be reported to the I&I immediately, but not more than EIGHT hours after discovery, and followed up by written notice within 24 hours. Deficiencies noted which could potentially jeopardize the operation of equipment in all other facilities shall be reported within 24 hours after discovery. All non-operation threatening deficiencies shall be reported via SharePoint at the I&I discretion.

ATTACHMENT J 1502000-11  
QUALITY INSPECTION AND SURVEILLANCE REPORT EXAMPLE

See spec item 2.6.7.3 and submitted per spec item 2.6.4

January XX, FYXX

Naval Facilities Engineering Command Midwest ATTN:

Mr. Tony Martinez,

Facility Service Contract Manager/COR [anthony.m.martinez2@navy.mil](mailto:anthony.m.martinez2@navy.mil)

520 Dewey Avenue, Building 5 Great Lakes, IL 60088-2913

**Subject: Monthly Report for (JAN, FEB, MAR, X, XX, XXX)**

Dear Mr. Martinez:

• **General:**

- Quality Management Plan is being followed. The Quality Inspection and Surveillance Report for this month is provided as Attachment XXX. (The contractor must attach all documents signed by their technician for all spec items PM'd for the month). Example forms provided in attachment J1502000-13
  
- **This letter provides a summary of (enter your company name) activities on this contract for (enter month) FYxx Facility Investment Services:**
  - Prepared and submitted a Work Order Summary Report for (enter month) FYxx.
  - The discrepancy identified in building XX, remains outstanding. An estimate to correct this deficiency has been submitted for review.
  - Completed PM activities across all buildings (see follow-on /checklists), with no exceptions. Some PM is being performed by outside vendors (e.g., such and such). Records of completed maintenance performed by outside vendors will be provided, when applicable.
  - (List any and all) outstanding deficiencies. An estimate to correct this deficiency has been submitted for review.
  - The (enter upcoming month FYXX) PM Schedule for each building was provided via email notification in the previous month.
  - Inspection, Testing, and Certification Summary Report: (List all spec items not applicable the month)
    - Elevators: Not applicable for this month.
    - Boilers/UPVs: Not applicable this month.
    - Lifts: Not applicable this month.
    - Cranes: Not applicable for this month.
    - Backflow preventers: Not applicable this month.
    - Fire Protection Systems: Not applicable this month.
  - Inspection, Testing, and Certification Schedule:
    - Cranes: Annual certification will take place in (enter month) FYXX.
    - Fire Protection Systems: Annual fire protection inspection will take place in (enter month) FYXX.
  - Completed XX Work Orders (enter WO numbers) with none remaining outstanding.

Sincerely,  
YOUR NAME

ATTACHMENT J-1502000-12  
PREVENTIVE MAINTENANCE REFERENCE NOTES

(1) Annual and semiannual PM inspections for HVAC equipment shall be scheduled to coincide with the periods immediately prior to the heating and cooling seasons. Heating season PMs shall be scheduled for performance during the period of September and October. Cooling season PMs shall be scheduled for performance during the period of February and March. PM inspections for all other equipment may be scheduled at the Contractor's discretion unless specific requirements or restrictions are included elsewhere in the contract.

(2) The following general requirements are applicable to and amplify the specific PM inspection requirements.

(a) Regular Adjustment. Regular adjustments as may be required for efficient, economical, and safe performance of equipment systems shall be made at the time of each scheduled preventive maintenance.

(b) Periodic Cleaning, Sanitation. Routine and scheduled cleaning of work areas and mechanical equipment rooms, systems, drains, drain piping, traps and pans, condenser coils, oil filters, applicable air filters, after coolers, cooling and/or heating coils, blower shields and fans, grills, registers, screens, diffusers, electrical contacts switch boxes, motors, gauges, strainers, dampers, actuators, louvers, safety controls, and any other applicable equipment, shall be accomplished as a part of the regular scheduled PM inspection and service, or more frequently as may be necessary to maintain a clean and sanitary operating condition.

(c) Lubrication, Oil.

1 Check applicable equipment for excessive bearing temperatures, noise, and inadequate lubrication of bearings and moving parts. Lubricate in accordance with manufacturer's instructions as to type of lubricant/oil and frequency of lubrication. Check oil level and oil quality and change dirty/contaminated oil. Make other adjustments to oil systems as required. Check oil temperatures and pressure.

2 A laboratory oil analysis shall be conducted annually on all chiller systems with capacities of 70 tons or greater as indicated in. This test will check for acid, moisture, metals content, and other contaminants in accordance with the particular chiller manufacturer's requirements. The Contractor shall submit the name of the proposed testing laboratory not more than 30 days after the start date of the contract for the Contracting Officer's approval. Oil samples shall be drawn during the appropriate PM inspection, and copies of test results submitted with the weekly PM completion report not more than two weeks later.

ATTACHMENT J-1502000-12  
PREVENTIVE MAINTENANCE REFERENCE NOTES CONTINUED

(d) Replacement and Cleaning of Air Filters. Cleaning of air filters shall include a check for dust, grease, and other deposits and for missing or improperly fitted filters. Replace throw-away type filters and those missing or having improper fit; wash permanent type filters in soap suds or solvents, rinse with hot water, and restore viscous coating in accordance with manufacturer's instructions. HEPA Filters shall be replaced annually and pre-filters shall be replaced at each PM cycle.

(e) Rust and Corrosion. Clean rusted and corroded areas on equipment. Prime the cleaned surfaces and paint using a primer and paint suitable for the particular equipment and material surfaces being painted. Paint colors shall be matched as closely as possible to original or previous colors, or as otherwise approved by the Contracting Officer. Equipment identification data shall not be obscured or covered up with paint.

(f) Motors, Drives (both variable speed and fixed speed), Sheaves, Shafts, Couplings, Blowers, Fans, Hubs, Belts, Bearings, Gearboxes, Guards. Check for accumulations of dust, dirt, grease, and oil. Clean, adjust, service, repair, or replace items as necessary to correct existing deficiencies such as: worn, loose, missing, or damaged parts, guards, connections, and connectors; bent blades; worn, loose, broken or missing belts; unbalanced moving parts; shaft misalignment; worn or damaged couplings; excessive noises and vibrations; end play of shafts; bad bearings; ineffective isolators; vibration absorbers; etc. Check full load and run load amps of each electric motor, other than fractional H.P. and compare with manufacturer's data plate ratings. Check condition of motor windings and brushes.

(g) Wiring, Electrical Control Circuits, Systems. Check for loose, charred, broken, or damaged wires and insulation; short circuits, loose or weak contact springs; worn or pitted contacts; proper sizing of fuses; defective operation of parts and components; and other deficiencies. All wire splice connections shall be properly insulated. All electrical wiring, circuits, etc., shall be in accordance with the National Electrical Code for the particular application in which used. Clean, adjust, service, repair, or replace items found to be deficient.

(h) Fire and Safety Hazards. Check for dust, dirt, soot, oil and grease deposits and accumulations, drippings, presence of flammable materials, rags, debris, and any other conditions that may be construed to be a potential fire or safety hazard. Correct or remove from the site all fire and safety hazards.

ATTACHMENT J-1502000-12  
PREVENTIVE MAINTENANCE REFERENCE NOTES CONTINUED

(i) Thermostats, Sub-bases, Guards, Covers, Ambient-stats, Sub & Master Controllers, Sensors, Transmitters, Temperature & Pressure Controls, Etc. Check for improper settings, defective operation, calibration and cleanliness, proper control voltages, and pneumatic air operating pressures. Check for deficiencies in wiring, tubing, piping, switches, relays, coils, solenoids, transformers, controls, sensors, thermostats and protective covers and guards, ambient-stats, aqua-stats, pressure switches, reversing relays, timing devices, master and sub-master controllers, outdoor authority override controllers, etc. Clean, adjust, service, repair, or replace items found to be deficient.

(j) Air Handler Units, Ducts, Plenums, Grilles, Registers, Diffusers, Screens, Dampers, Vanes, Mixing Boxes, VAV Boxes, Balancing of Air Systems. Check plenum chambers, supply and return air ducts, branch ducts, mixing boxes, VAV boxes, dampers, registers, grilles, diffusers, louvers, and insect and bird screens. Check for dirt, dust and trash; air leaks, broken, ripped or torn insulation and disconnected ducts; loose or broken connections, brackets, hangers, supports, and other parts; excessive vibrations or other movements; defects in metal, fiber glass, and other materials; proper operation of movable parts such as dampers, louvers, and vanes in relation to the controlling device; and inadequate air flow and/or distribution in main and branch duct circuits. Check air handler unit systems for proper operation and correct CFM air flow. Balance air distribution systems to original design specifications for all areas being serviced by the systems. Check air temperatures and static pressures. Check turning vanes, fire dampers, access openings, doors, panels, outside air make-up systems, ducts, and screens. Clean by sweeping, brushing, dusting, vacuuming, washing, hosing with water, detergents, degreasers, solvents, chemicals, air pressure, steam, or other methods as are applicable to the nature of the item being cleaned, and as may be required to obtain desired results. Clean, adjust service, repair or replace all items found to be deficient. HEPA Filters shall be replaced annually and pre-filters shall be replaced during each PM cycle.

(k) Structures, Casings, Hangers, Supports, Beams, Platforms, Slabs, Pads, Vibration Absorbers, and Sound Isolators. Check mounting bolts; loose, broken, or missing parts, connections and hardware; improper level of equipment; and defective sound cushion isolators and vibration absorbers. Check for dirt, dust, trash, and other debris accumulated on or around the equipment. Check the security of all mounting and attaching points. Check for vibrations and other unusual movements. Clean, adjust, service, repair, or replace all items found to be deficient.

(l) Coils: Cooling/Heating, Condenser (Water and Refrigerant). Check for obstructions to airflow through all coils. Check for dust, dirt, and foreign materials accumulation, unusual noises and vibrations, and loose, missing or damaged parts. On direct expansion systems check for frosting or icing of coils; proper operation of expansion valves, capillary tubes and spider distributors; proper operation of automatic temperature controls and defrost timers; and check superheat across evaporator coils. Check all coils for leaks. On water cooling/heating coils check for proper water flow, temperature, and pressures across the coil. Clean and flush the waterside of water cooling/heating coils (as applicable) as necessary to

ATTACHMENT J-1502000-12  
PREVENTIVE MAINTENANCE REFERENCE NOTES CONTINUED

correct any deficiencies not allowing for proper operation. Check for damaged, bent or corroded coil fins on all coils. Clean, adjust, service, repair, or replace items found to be deficient.

(m) Condensate Drains, Pans, Piping, Traps. Check all condensate drain pans for algae growth and sedimentation, damaged coatings and insulation, rust corrosion, and leaks. Check condensate drainpipes and traps to assure they are open and water flow is not restricted. Clean, adjust, service, repair, or replace items found to be deficient.

(n) Piping: Water, Refrigerant, Oil, Air. Check for leaks, rust, corrosion, deformation, and material defects of all applicable piping and tubing. Check for piping and tubing vibrations, looseness, and rubbing against objects that can cause damage to the equipment; proper support for the piping and tubing; and vibration absorbers, expansion joints and rupture discs. Piping, tubing, and fittings being replaced shall be compatible with existing materials. Clean, adjust, service, repair, or replace all items found to be deficient.

(o) Compressors. Check for dust, dirt, oil and grease deposits and accumulations, leakage of refrigerant and oil, cracked/clear sight glasses and gauges, damaged fittings, piping, valves, etc. Check for loose connections, excessive or unusual noise and vibrations; proper suction and discharge temperature and pressures, and indications of excessive heat. Check oil levels, unloaders for proper operation, and change out dirty/contaminated oil and filters. Check compressor full load and run load amps, compare against manufacturer's data plate rating, and record the findings. Check all electrical wiring and related components. Record the suction and discharge pressures and type and amount of refrigerant and/or oil added to the system, on the log sheet (as applicable) for air conditioning and compressed air plant compressors. Meg the motor windings on all compressor motors 15 H.P. and larger once each year and record the readings. Clean, adjust, service, repair, or replace all items found to be deficient.

(p) Air Cooled Condensers. Check for dust, dirt, foreign materials, oil and grease accumulations, leaks, excessive or unusual noise and vibrations; and loose, missing, or damaged parts. Check motors, sheaves, belts, bearings, shafts, supports, brackets, hardware, etc.; check operation and calibration of fan cycling controls, low ambient switch controls and dampers, head pressure control louvers, actuators, and regulators, as applicable. Check for proper airflow through the condenser coil; and bent, damaged or corroded coil fins and fan blades. Remove weeds, bushes, and other obstructions within three feet of air-cooled condensers. Clean, adjust, service, repair, or replace all items found to be deficient.

(q) Refrigerant & Oil Systems: Separators, Dryers, Strainers, Filters, Oil Traps. Check for proper operation, refrigerant and oil leaks, and other material defects; check sight glass for clarity, cracks, or moisture. Check refrigerant and oil charges and levels. All systems with changeable core type filters/dryers shall be changed as part of the regular PM inspection and service, or more often if required. Clean, adjust, service, repair, or replace all items found to be deficient.

PREVENTIVE MAINTENANCE REFERENCE NOTES CONTINUED

(r) Pump Units. Check for dust, dirt, and other deposits; leaks; excessive or unusual noise and vibrations; and loose, broken, or missing parts and connections. Check for correct rotation and prime. Check seals, gaskets, packing, bearings, mounting bases and hardware, couplings, guards, and inlet and discharge pressures, and overall operations. Clean, adjust, service, repair, or replace all items found to be deficient.

(s) Tanks, After Coolers, Heat Exchangers, Heat Recoverers, Receivers, Accumulators. Check pressure tanks and other equipment items for damage and deterioration. Blow down or drain air tanks. Check all equipment items for leaks and missing or defective parts. Check pressure relief valves, check valves and regulators for proper operation. Check liquid levels, sight glasses, heat transfer, temperature differentials, and pressures as applicable.

(t) Balancing Chilled and Condenser Water Systems. Perform test of chilled and condenser water systems to assure these systems are providing the most efficient and economical operations attainable for that equipment and the facilities which it services. Check balance and rebalance if necessary to meet design specifications. Bleed air from chilled and condenser water loops as required to maintain efficient and standard operating conditions. Repair or replace automatic/manual bleed off valves in systems as required for proper operation.

(u) Insulation. Check for wet, damaged, missing, and deteriorated insulation and vapor barriers; broken tie wires, loose or missing binding bands, torn canvas jackets, etc. The insulation on all applicable system components shall be repaired or replaced as needed, with insulation materials having a vapor barrier and insulating value equal to or better than original or existing insulation materials. Insulated surfaces having moisture condensing on the surfaces shall be considered inferior and shall be replaced. Clean, adjust, service, repair, or replace all items found to be deficient.

(v) Exhaust Air and Ventilating Systems. Check for dust, dirt, grease, and oil accumulations; air flow and weather and elements integrity; suction pressure at air intake; operation of dampers, baffles, solenoids, protective guards, insect and bird screens; and caulking around flashing, ducts, collectors, smoke pipes, cowlings, hoods, caps, and covers. Clean or replace filters as applicable. Check for clogging, broken, or separated joints and seams in ducts, stacks, couplings, sheaves, belts, fan blades, blowers, etc. Check thermal insulation, protective coverings, vapor barriers, and loose or missing fasteners and hardware. Check for material defects and improper operation of moveable parts and components in relation to the controlling device. Check for loose, missing, or poor fitting flashing, fire and safety hazards, warning alarms, etc. Clean, adjust, service, repair, or replace all items found to be deficient.

(w) Valves: Hand, Check, Relief, Three-Way, Reversing, Float, Makeup, Bleed-off, Etc. Check applicable valves for operation, leakage, linkages, travel, range limitations, rust, dust, dirt, corrosion, scale, seizing, binding, mounting, clogging, broken, damaged or missing parts, and material defects. Check source of valve operation, i.e., pneumatic, electrical, pneumatic/electric, etc., for required pressures, electrical power voltages, etc. Clean, adjust,

PREVENTIVE MAINTENANCE REFERENCE NOTES CONTINUED

service, repair, or replace any parts, materials, components, or combinations thereof found to be deficient as a result of these inspections, to restore valves to a standard operating condition.

(x) Cabinets, Cases, Doors, Lids, Panels, Gaskets, Latches, Handles, Hinges, Hardware. Check for cracks, scrapes, gouges, separation, missing, broken or damaged parts and components, bad insulation, bad gaskets, leaks, fitting of doors, etc. Clean, adjust, service, repair, or replace all items found to be deficient.

(y) Cooling Towers. Check for external scale; leaks; defective valves and float assemblies; and deterioration and improper positioning of slats, baffles, and eliminators used to control water spray and/or distribution. See the "SPECIFIC REQUIREMENTS FOR COOLING TOWER SYSTEMS" paragraph below for requirements for treatment of cooling tower water. Check for structural damage, rust, and corrosion. Check condition and operation of gearboxes (gear reducers), fans, blades and hubs, motors, drives, shafts, couplings, guards, bearings, etc. Check cooling tower water level, water make-up, drains, valves, overflow, and bleed-off. Clean, adjust service, repair or replace all items found to be deficient.

3. In addition to unscheduled repair work, which occurs on an as needed basis, the Contractor shall accomplish, in accordance with the provisions of preventive maintenance, service work, and indefinite quantity work, all unscheduled work listed in this annex.

## PREVENTIVE MAINTENANCE INSPECTION (PMI) GUIDE

### NOTES:

It should be noted that this guideline is not all inclusive. Types of inspections and variations may be required.  
All repairs and alterations are to be within the guidelines of the newest versions of REFERENCE,  
INSTRUCTIONS, DIRECTIVES found in section \*J 15020000-02\*

PMI Guide #1	CONDENSER AIR COOLED
PMI Guide #2	HVAC OPERATIONAL CHECK LIST
PMI Guide #3	CONDENSERS EVAPORATIVE
PMI Guide #4	CHILLERS
PMI Guide #5	AIR HANDLING UNITS
PMI Guide #6	ECONOMIZERS
PMI Guide #7	COMPRESSOR, REFRIGERANT
PMI Guide #8	PACKAGE TERMINAL AIR CONDITIONING UNITS
PMI Guide #9	RADIATORS
PMI Guide #10	AIR FILTERS
PMI Guide #11	FAN COIL UNITS AND/OR DUAL DUCT MIXING BOXES
PMI Guide #12	FLY AND EXHAUST FANS
PMI Guide #13	MOTOR/PUMP ASSEMBLY
PMI Guide #14	THERMOSTATS AND CONTROLS
PMI Guide #15	COOLING TOWER
PMI Guide #16	UNIT HEATER
PMI Guide #17	AIR COMPRESSOR & DRYER
PMI Guide #18	WALK IN REEFER/FREEZER
PMI Guide #19	FURNACES
PMI Guide #20	ICE MAKER
PMI Guide #21	ELECTRIC HEATERS
PMI Guide #22	REFRIGERATION EQUIPMENT
PMI Guide #23	TERMINAL AND CONTROL BOXES (VAV, FPB, Bypass)
PMI Guide #24	ROLLER CURTAIN OVERHEAD DOOR MOTOR DRIVEN UP TO 16 FEET HIGH X 15 FOOT WIDE
PMI Guide #25	ROLLER CURTAIN OVERHEAD DOOR, MANUAL UP TO 16 FOOT HIGH X 15 W.
PMI Guide #26	SLIDING DOOR MOTOR DRIVEN UP TO 16 FOOT HIGH X 15 FOOT WIDE
PMI Guide #27	WATER SOURCE HEAT PUMPS
PMI Guide #28	AIR COMPRESSOR
PMI Guide #29	DRY CHEMICAL FIRE EXTINGUISHING SYSTEMS
PMI Guide #30	HALON 1301 FIRE SUPPRESSION SYSTEM
PMI Guide #31	CO2 FIRE EXTINGUISHING SYSTEM
PMI Guide #32	DUST COLLECTION SYSTEMS
PMI Guide #33	FIRE HYDRANTS
PMI Guide #34	SPRINKLER SYSTEMS FIRE PROTECTION (OR ALARM VALVE)
PMI Guide #35	SPRINKLER SYSTEM FIRE PROTECTION (DRY)
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PMI Guide #37	GENERAL ITEMS FOR ALL SPRINKLER SYSTEMS, AS APPLICABLE
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PMI Guide #39	EMERGENCY GENERATORS
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PMI Guide #43	AUTOMATIC TRANSFER SWITCHES, BLDG.
PMI Guide #44	BOILERS
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PMI Guide #46	OIL-WATER SEPARATORS

# CONDENSER - AIR COOLED

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Turn power off and on.			
3	Remove and install latch or finger screw type access panel (per panel).			
4	Remove and install access panel, bolted or screwed on (per panel).			
5	Inspect motor for excessive noise and heat.			
6	Inspect piping and valves for leaks. Tighten connections if necessary.			
7	Check operation of condenser after maintenance.			
8	Clean area around unit			
9	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check variable-frequency drive for proper operation. Correct as needed.			
2	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
3	Check for corrosion. Clean, prime, and paint area of corrosion.			
4	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check refrigerant system temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
2	Check low ambient head pressure control sequence for evidence of improper operation. Repair or replace components or modify software/algorithm to ensure proper operation.			
3	Check refrigerant oil levels for refrigerant systems with oil pressure/level controls. Repair, replace, or adjust as needed to ensure proper operation.			
4	Check open drive couplings, bearings, and seals for evidence of wear or alignment problems. Lubricate and repair or replace as needed.			
5	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
6	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
7	Inspect air-cooled condenser surfaces for damage or evidence of leaks. Repair or clean as needed.			
8	Check operation of damper motor. Lubricate damper motor.			
9	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

**Additional Notes:**

# HVAC OPERATIONAL CHECKLIST

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check with building maintenance representatives (where possible) for deficiencies			
2	Check chilled, condenser, and heating water temperatures			
3	Check refrigerant levels, suction pressure, and discharge pressure			
4	Check compressor oil level, pressure, and temperature			
5	Check purge units			
6	Chilled Water, Heating Water, and Condenser Water Pumps: Check for leaks on piping, seals, packing glands, valves, etc. Check pump operation: vibration, noise, overheating, etc. Check suction and discharge pressure gauge readings and flow rate.			
7	Cooling Towers: Check fan and motor: vibration, noise, overheating, gearbox oil level, belts, etc. Check water level, water fill valve, and float assembly.			
8	Check quantity of cooling tower chemical, and operation of automatic feed equipment			
9	Check air compressor, air dryer, and controls for proper operation			
10	Air Handling Units: Check fan and motor: vibration, noise, overheating, etc. Check roll filters, and slide in filters. Check modulating dampers, linkage, actuators, and controls			
11	Clean area around all HVAC equipment			
12	Record discrepancies, maintenance actions, temperatures and pressure readings in logbook. Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Perform chemical testing of system water. Treat as needed to ensure proper water chemistry. NOTE: To be performed at every inspection if the water system is an open system.			
2	Check makeup water system for pressure and operation. Adjust as necessary.			
3	Check chemical injector device. Clean as needed.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
4	Vent air from system high points. Check for proper fluid flow and check piping for leaks. Repair as needed.			
5	Check steam/condensate piping for leaks. Repair as needed.			
6	Steam Systems: Check safety devices per manufacturer's recommendations. Correct or replace as needed.			
7	Steam Systems: Check piping anchors for integrity and check piping for alignment and expansion fittings for proper operation. Lubricate as needed.			
8	Steam Systems: Inspect blowdown or drain valve. Clear all debris to ensure proper operation. Repair or replace if needed.			
9	Steam Systems: Check chemical injector device. Clean as needed.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
2	Visually inspect grilles, registers, and diffusers for dirt accumulation. Clean as needed to remove dirt build up.			
3	Visually inspect pumps and associated electrical components. Repair or replace as needed to ensure proper operation.			
4	Steam Systems: Check steam system traps, pumps, and controls. Clean or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check capacity control valves, bypass valves, and actuators			
2	Assess field-serviceable bearings. Lubricate if necessary.			
3	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
4	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
5	Visually inspect exposed ductwork for insulation and vapor barrier integrity. Correct as needed.			
6	Visually inspect internally lined ductwork until the first turn or up to 20 ft from a potential moisture source, such as a supply plenum, from air handler, outdoor air damper, humidifier, etc. for water damage and/or biological contamination and, if necessary, take corrective action.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
7	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
8	Check for proper fluid flow. Clean, adjust, and repair as needed to restore proper flow.			
9	Check strainers. Clean as needed.			
10	Visually inspect external piping insulation and vapor barrier for integrity. Correct as needed			
11	Check freeze stats, relief valves, flow and float switches, low-water cutoffs, and other safety devices for proper operation and repair or replace as required.			
12	Steam Systems: Check interior of condensate return piping for wall thickness integrity. Repair or replace as needed.			

**Additional Notes:**

# CONDENSER - EVAPORATIVE

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Turn power off and on.			
3	Remove and install latch or finger screw type access panel (per panel).			
4	Remove and install access panel, bolted or screwed on (per panel).			
5	Inspect motor for excessive noise and heat.			
6	Inspect piping and valves for leaks. Tighten connections if necessary.			
7	Check operation of condenser after maintenance.			
8	Clean area around unit			
9	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Perform chemical testing of system water. Treat as needed to ensure proper water chemistry. Adjust bleed or blowdown rate as required. NOTE: To be done monthly for open systems.			
2	Check water system ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
3	Inspect blowdown or drain valve. Clear all debris to ensure proper operation. Repair or replace if needed.			
4	Check chemical injector device. Clean as needed.			
5	Check cooling tower fan open drive system couplings, bearings, and seals for wear and proper alignment. Adjust, lubricate, repair, or replace as needed.			
6	Check belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
7	Check for fouling, corrosion, degradation, or dirt/debris accumulation on or in sump and strainer, wet decks, fill, nozzles, and exterior louvers. Clean or repair as needed.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check variable-frequency drive for proper operation. Correct as needed.			
2	Check for corrosion. Clean, prime, and paint area of corrosion.			
3	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
4	Visually inspect pumps and associated electrical components. Repair or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check refrigerant system pressures and temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
2	Check low ambient head pressure control sequence for evidence of improper operation. Repair or replace components or modify software/algorithm to ensure proper operation.			
3	Check refrigerant oil levels for refrigerant systems with oil pressure/level controls. Repair, replace, or adjust as needed to ensure proper operation.			
4	Check open drive couplings, bearings, and seals for evidence of wear or alignment problems. Lubricate and repair or replace as needed.			
5	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
6	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
7	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
8	Assess field-serviceable bearings. Lubricate if necessary.			
9	Drain water. Fill with water.			
10	Check float. Clean and adjust if necessary.			
11	Check for proper fluid flow and for fluid leaks. Clean, adjust, and repair as needed to restore proper flow.			
12	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
13	Clean and lubricate water pump.			
14	Clean inside of cooling tower using water hose. Scrape, brush, and wipe as required.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
15	Check cooling tower motor(s) and pump(s) for proper operation. Repair or replace as needed to ensure proper operation.			
16	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

**Additional Notes:**

# CHILLERS

ACTIVITY:

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of chiller prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Inspect piping and valves for leaks. Tighten connections if necessary.			
4	Check operation of chiller after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Perform chemical testing of system water. Treat as needed to ensure proper water chemistry. Adjust bleed or blowdown rate as required. NOTE: To be done monthly for open systems.			
2	Inspect gearbox for excessive wear. Repair or replace as needed.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check variable-frequency drive for proper operation. Correct as needed.			
2	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
3	Check for corrosion. Clean, prime, and paint area of corrosion.			
4	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check refrigerant system pressures and/or temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
2	For Air Cooled: Check low ambient head pressure control sequence for evidence of improper operation. Repair or replace components or modify software/algorithm to ensure proper operation.			
3	Check compressor oil level and/or pressure on refrigerant systems having oil level and/or pressure measurement means. Repair, replace, or adjust as needed to ensure proper control			
4	Assess field-serviceable bearings. Lubricate if necessary.			
5	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
6	Check open drive alignment, wear, seating, and operation. Repair or replace as needed.			
7	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
8	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
9	Inspect air-cooled condenser surfaces for damage or evidence of leaks. Repair or clean as needed.			
10	Check for proper fluid flow and for fluid leaks. Clean, adjust, and repair as needed to restore proper flow.			
11	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

**Additional Notes:**

# AIR HANDLING UNITS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Turn power off and on.			
3	Remove and install latch or finger screw type access panel (per panel).			
4	Remove and install access panel, bolted or screwed on (per panel).			
5	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
6	Inspect motor for excessive noise and heat.			
7	Inspect piping and valves for leaks. Tighten connections if necessary.			
8	Check unit operation after maintenance.			
9	Clean area around unit			
10	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
2	Check and adjust automatic on/off timers.			
3	Measure relative humidity and adjust humidifier system controls as necessary.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check variable-frequency drive for proper operation. Correct as needed.			
2	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
3	Check for corrosion. Clean, prime, and paint area of corrosion.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
4	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
5	Check P-trap. Prime as needed to ensure proper operation.			
6	Check steam system traps, pumps, and controls. Clean or replace as needed to ensure proper operation.			
7	Check for proper operation of cooling or heating coil for damage or evidence of leaks. Clean, restore, or replace as required.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Replace HEPA class filters.			
3	Check refrigerant system temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
4	Check low ambient head pressure control sequence for proper operation. Repair or replace components or modify software/algorithm to ensure proper operation.			
5	Check combustion chamber, burner, and flue for deterioration, leaks, moisture problems, condensation, and combustion products. Clean, test, and adjust combustion process for proper operation.			
6	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
7	Check fan drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
8	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
9	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
10	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
11	Clean and lubricate water pump.			
12	Remove, clean, and install spray nozzles.			
13	Clean inside of cooling tower using water hose. Scrape, brush, and wipe as required.			
14	Check cooling tower motor(s) and pump(s) for proper operation. Repair or replace as needed to ensure proper operation.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
15	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
16	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
17	Assess field serviceable bearings. Lubricate if necessary.			
18	Check drain pan, drain line, and coil for biological growth. Clean as needed.			
19	Inspect for evidence of moisture carryover beyond the drain pan from cooling coils. Make corrections or repairs as necessary.			
20	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
21	Check condensate pump. Clean or replace as needed.			
22	Visually inspect exposed ductwork and external piping for insulation and vapor barrier for integrity. Correct as needed.			
23	Clean air plenum			
24	Check compressor oil levels and/or pressure on refrigerant systems having oil level and/or pressure measurement means. Repair, replace, or adjust as needed to ensure proper operation.			
25	Check integrity of all panels and curbs on equipment. Replace fasteners as needed to ensure proper integrity and fit/ finish of equipment.			
26	Check humidifier operation, clean humidifier pan. Check for fouling, corrosion, or degradation. Clean or repair as needed. Check strainers. Clean as needed.			

**Additional Notes:**

# ECONOMIZERS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
3	Check air filter and housing integrity. Correct as needed.			
4	Check unit operation after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check condition, setting, and operation of outdoor sensor, return air sensor, or change-over controller. Repair, adjust, or replace components to ensure proper operation.			
2	Check condition, setting, and operation of the economizer controller. Repair, adjust, or replace components to ensure proper operation.			
3	Check condition, setting, and operation of the mixed-air/discharge sensor or changeover controller. Repair, adjust, or replace components to ensure proper operation.			
4	Check dampers for proper condition, setting, and operation. Repair, adjust, lubricate, or replace components to ensure proper operation.			
5	Check condition, setting, and operation of the economizer damper motors. Repair, adjust, lubricate, or replace components to ensure proper operation.			
6	Check sealing integrity of all panels on equipment. Replace fasteners and gasketing as needed.			
7	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Assess field serviceable bearings. Lubricate if necessary.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
2	Check condition, setting, and operation of the low-limit stat. Repair, adjust, or replace components to ensure proper operation.			
3	Replace HEPA class filters.			

**Additional Notes:**

# COMPRESSOR, REFRIGERANT

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check compressor operation. Observe refrigerant in sight glass while compressor is operating.			
2	Check piping and valves for refrigerant leaks. Tighten loose connections if necessary and repair all leaks.			
3	Check for proper refrigerant charge and record readings. Recharge compressor if needed.			
4	Check compressor operation after maintenance			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check compressor oil level and/or pressure on refrigerant systems having oil level and/or pressure measurement means. Repair, replace, or adjust as needed to ensure proper control.			
2	On open compressors, check coupling for wear, proper tension and alignment. Adjust tension and/or alignment if required. Change coupling if required.			
3	On open compressors, lubricate shaft bearings and motors.			
4	Check electrical wiring, controls, and connections. Tighten loose connections. Repair or replace worn contactors.			
5	For A/C units above 100 tons: Leak test refrigerant system. Inspect starter contacts and verify normal operation of all contacts and relays. Tighten all electrical connections.			

Additional Notes:

# PACKAGE TERMINAL A/C UNITS

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check compressor operation. Observe refrigerant in sight glass while compressor is operating.			
2	Replace filters.			
3	Check unit operation after maintenance.			
4	Clean area around unit			
5	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
2	Check for proper fluid flow and for damage and evidence of leaks. Clean, adjust, and repair as needed to restore proper flow.			
3	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
4	Check for corrosion. Clean, prime, and paint area of corrosion.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
3	Check fan blades and fan housing. Clean, repair, or replace as needed to ensure proper operation.			
4	Check refrigerant system temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant charge to achieve optimal operating levels.			
5	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
6	Check drain pan, drain line, and coil for biological growth and debris. Clean as needed.			
7	Check evaporator coil fins. Restore if possible. Replace coil if necessary to return to proper functioning.			
8	Inspect for evidence of moisture carryover beyond the drain pan from cooling coils. Make corrections or repairs as necessary.			
9	Inspect air-cooled condenser surfaces for damage or evidence of leaks. Repair or clean as needed.			
10	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
11	Assess field-serviceable bearings. Lubricate if necessary			
12	Check compressor oil levels and/or pressure on refrigerant systems having oil level and/or pressure measurement means. Repair, replace, or adjust as needed to ensure proper operation.			
13	Check unit and piping for refrigerant, water, and oil leaks. Repair all leaks. Charge unit as needed.			

**Additional Notes:**

# RADIATORS

**ACTIVITY:** \_\_\_\_\_

**MECHANIC SIGNATURE & DATE:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of radiator prior to maintenance.			
2	Check operation of chiller after maintenance.			
3	Clean area around unit			
4	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check for proper operation of control valves and vents. Correct as required.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check P-trap. Prime as needed to ensure proper operation.			
2	Check for proper fluid flow and for fluid leaks. Clean, adjust, and repair as needed to restore proper flow.			
3	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
2	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
3	Check areas of moisture accumulation for biological growth. Clean or disinfect as needed.			
4	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			
5	For steam: Check condensate pump. Clean or replace as needed.			

**Additional Notes:**

# AIR FILTERS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Replace disposable type filters and pre-filters.			
2	Clean permanent filters per manufacturer's requirements.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Replace HEPA class filters.			

Additional Notes:

# FAN COIL UNITS OR DUAL DUCT MIXING BOXES

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Turn power off and on.			
3	Remove and install latch or finger screw type access panel (per panel).			
4	Remove and install access panel, bolted or screwed on (per panel).			
5	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
6	Inspect motor for excessive noise and heat.			
7	Inspect piping and valves for leaks. Tighten connections if necessary.			
8	Check unit operation after maintenance.			
9	Clean area around unit			
10	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
2	Check and adjust automatic on/off timers.			
3	Measure relative humidity and adjust humidifier system controls as necessary.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
2	Check for corrosion. Clean, prime, and paint area of corrosion.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
3	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
4	Check P-trap. Prime as needed to ensure proper operation.			
5	Check steam system traps, pumps, and controls. Clean or replace as needed to ensure proper operation.			
6	Check for proper operation of cooling or heating coil for damage or evidence of leaks. Clean, restore, or replace as required.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Replace HEPA class filters.			
3	Check refrigerant system temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
4	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
5	Check fan drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
6	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
7	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
8	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
9	Check for proper fluid flow. Clean, adjust, and repair as needed to restore proper flow.			
10	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
11	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
12	Assess field serviceable bearings. Lubricate if necessary.			
13	Check drain pan, drain line, and coil for biological growth. Clean as needed.			
14	Inspect for evidence of moisture carryover beyond the drain pan from cooling coils. Make corrections or repairs as necessary.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
15	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
16	Check condensate pump. Clean or replace as needed.			
17	Check humidifier operation, clean humidifier pan. Check for fouling, corrosion, or degradation. Clean or repair as needed. Check strainers. Clean as needed.			
18	Check coil fins. Restore if possible. Replace coil if necessary to return to proper functioning.			

**Additional Notes:**

# FLY AND EXHAUST FANS

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of fan prior to maintenance.			
2	Turn power off and on.			
3	Inspect motor for excessive noise and heat.			
4	Check unit operation after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
2	Check for corrosion. Clean, prime, and paint area of corrosion.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
2	Check fan drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
3	Check variable-frequency drive for proper operation. Correct as needed.			
4	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
5	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
6	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
7	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
8	Assess field serviceable bearings. Lubricate if necessary.			
9	Visually inspect exposed ductwork and external piping for insulation and vapor barrier integrity. Correct as needed.			
10	Check integrity of flexible connections. Correct as needed.			
11	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
12	Clean screen and vent on roof as applicable.			
13	Check ducts, collectors, smokepipes and hoods for clogging, soot, dirt and grease. Perform minor cleaning operations as necessary.			
14	Inspect guards, supports, covers, etc., and tighten loose connections and posts.			

**Additional Notes:**

# MOTOR AND PUMP ASSEMBLY

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Turn power off and on.			
3	Inspect motor for excessive noise, vibration, and heat.			
4	Check unit operation after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check variable-frequency drive for proper operation. Correct as needed.			
3	Visually inspect pumps and associated electrical components. Repair or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check operations of float and switch assembly. Repair/adjust, if needed.			
2	Check all pipe hangers and supports, tighten if necessary.			
3	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
4	Clean filter and strainer.			
5	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
6	Check alignment of shaft and coupling connections.			
7	Assess field serviceable bearings. Lubricate if necessary.			
8	Check relief valves for proper operation and pressure release.			
9	Check for proper fluid flow. Clean, adjust, and repair as needed to restore proper flow. Check pump, piping, and seals for fluid leaks. Repair as needed.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
10	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
11	Check pump drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
12	Check insulation, vibration isolators, and flexible connectors for integrity. Repair as needed.			
13	Lubricate pump and motor. Check oil level in reduction unit. Add oil as required.			

**Additional Notes:**

# THERMOSTATS / CONTROLS

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Check compressed-air system (e.g., compressor, dryer, receiver, blowdown valve) for proper operation. Check for evidence of oil carryover and condition of oil filter. Repair or replace as needed to ensure proper operation.			
3	Check for proper air pressure. Repair or replace pneumatic system components as needed.			
4	Check unit operation after maintenance.			
5	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Measure relative humidity and repair, clean, or adjust system as necessary to ensure intended operation.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check time-of-day schedule to confirm consistency with facility operation. Adjust schedule as needed.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
2	Check all screws and brackets. Tighten as required.			
3	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
4	Check pneumatic lines for blockages. Clean as needed.			
5	Check to see that backup of digital control program is current.			
6	Check battery backup and verify proper operation.			

Additional Notes:

# COOLING TOWER

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Clean area around unit			
4	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Perform chemical testing of system water. Treat as needed to ensure proper water chemistry. Adjust bleed or blowdown rate as required. NOTE: To be done monthly for open systems.			
2	Check water system ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
3	Inspect blowdown or drain valve. Clear all debris to ensure proper operation. Repair or replace if needed.			
4	Check chemical injector device. Clean as needed.			
5	Check cooling tower fan open drive system couplings, bearings, and seals for wear and proper alignment. Adjust, lubricate, repair, or replace as needed.			
6	Check for fouling, corrosion, degradation, or dirt/debris accumulation on or in sump and strainer, wet decks, fill, nozzles, and exterior louvers. Clean or repair as needed.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check variable-frequency drive for proper operation. Correct as needed.			
2	Check belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
3	Check for corrosion. Clean, prime, and paint area of corrosion.			
4	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
5	Visually inspect pumps and associated electrical components. Repair or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
5	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation. Check pulleys for alignment as applicable.			
6	Lubricate gearbox/drive shaft as applicable. Change oil in gearbox.			
7	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
8	Assess field-serviceable bearings. Lubricate if necessary.			
9	Inspect mounting brackets, bolts, etc. and tighten or replace as required.			
10	Check reservoir for leaks and/or missing sealant. Repair as required.			
11	Check for proper fluid flow and for fluid leaks. Clean, adjust, and repair as needed to restore proper flow.			
12	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
13	Check for proper operation of bypass valves and water feed systems. Repair/adjust as needed.			
14	Clean inside of cooling tower using water hose. Scrape, brush, and wipe as required.			
15	Check cooling tower motor(s) and pump(s) for proper operation. Repair or replace as needed to ensure proper operation.			
16	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

**Additional Notes:**

# UNIT HEATERS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Inspect piping and valves for leaks. Tighten connections if necessary.			
4	Check unit operation after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
3	Check P-trap. Prime as needed to ensure proper operation.			
4	Check steam system traps, pumps, and controls. Clean or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Verify proper operation of safety devices per manufacturer's recommendations. Repair or replace as needed.			
2	Check heat exchanger, combustion chamber, burner, and flue for deterioration, moisture problems, condensation, and combustion products. Clean, test, and adjust combustion process for proper operation.			
3	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
4	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
5	Check fan drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
6	Check for proper operation of heating coil and for damage or evidence of leaks. Clean, restore, or replace as required			
7	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
8	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
9	Check for proper fluid flow. Clean, adjust, and repair as needed to restore proper flow.			
10	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
11	Assess field serviceable bearings. Lubricate if necessary.			
12	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
13	Check coil fins. Restore if possible. Replace coil if necessary to return to proper functioning.			
14	Check all bolts and brackets. Tighten as needed.			

**Additional Notes:**

# AIR COMPRESSOR & DRYER

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Clean air intake muffler/filter.			
3	Check oil level in crank case. Add oil as required. Check oil separator elements.			
4	Drain condensate from air tank. Check auto dump valves for proper operation.			
5	Check unit operation after maintenance.			
6	Clean area around unit			
7	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
1	Clean cylinder fins.			
2	Test all safety valves.			
3	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
4	Check foundation bolts for tightness.			
5	Clean the trigger valve strainers.			
6	Check motor for excessive heat and vibration.			
7	Lubricate electric motor as applicable.			
8	Check all screws and nuts for tightness.			
9	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Replace oil separator			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check compressor oil levels and/or pressure. Repair, replace, or adjust as needed to ensure proper operation.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	

Additional Notes:

# WALK-IN REFRIGERATOR/FREEZER

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Check operation of condenser after maintenance.			
4	Clean area around unit			
5	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check refrigerant system temperature/pressure. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
2	Check refrigerant oil levels for refrigerant systems with oil pressure/level controls. Repair, replace, or adjust as needed to ensure proper operation.			
3	Check open drive couplings, bearings, and seals for evidence of wear or alignment problems. Lubricate and repair or replace as needed.			
4	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
5	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
6	Inspect air-cooled condenser surfaces for damage or evidence of leaks. Repair or clean as needed.			
7	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
8	Inspect electrical starter panels and controls for proper operation. Check for burned or loose contacts, burned insulation, and loose connections.			
9	Inspect door gasket for damage and proper fit. Lubricate hinges.			
10	Inspect defrost system for proper operation.			
11	Check safety devices on walk in boxes for proper operation (e.g. inside door opener, bell, buzzer, and/or red light).			
12	Check fans for freedom of rotation, bent blades, loose or missing parts, and repair, replace or tighten as required.			
13	Check for proper guards, hangers and supports. Tighten, repair or replace as required.			

**Additional Notes:**

# FURNACES

**ACTIVITY:** \_\_\_\_\_

**MECHANIC SIGNATURE & DATE:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Turn power off and on.			
3	Remove and install latch or finger screw type access panel (per panel).			
4	Remove and install access panel, bolted or screwed on (per panel).			
5	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
6	Inspect motor for excessive noise and heat.			
7	Inspect piping and valves for leaks. Tighten connections if necessary.			
8	Check unit operation after maintenance.			
9	Clean area around unit			
10	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Where applicable: Check ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
2	Measure relative humidity and adjust humidifier system controls as necessary.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check fan belt tension. Check for belt wear and replace if necessary to ensure proper operation. Check sheaves for evidence of improper alignment or evidence of wear and correct as needed.			
2	Check for corrosion. Clean, prime, and paint area of corrosion.			
3	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
4	Where applicable: Check P-trap. Prime as needed to ensure proper operation.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
5	Check for proper operation of cooling and/or heating coil for damage or evidence of leaks. Clean, restore, or replace as required.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Replace HEPA class filters.			
3	Coordinate with condenser and/or other A/C equipment checks that tie into the furnace.			
4	Check heat exchanger, combustion chamber, burner, and flue for deterioration, leaks, moisture problems, condensation, and combustion products. Clean, test, and adjust combustion process for proper operation.			
5	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
6	Check fan drive for wear or problems due to poor alignment or poor bearing seating. Repair or replace as needed.			
7	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
8	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
9	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
10	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
11	Assess field serviceable bearings. Lubricate if necessary.			
12	Check drain pan, drain line, and coil for biological growth. Clean as needed.			
13	Inspect for evidence of moisture carryover beyond the drain pan from cooling coils. Make corrections or repairs as necessary.			
14	Check humidifier operation, clean humidifier pan. Check for fouling, corrosion, or degradation. Clean or repair as needed. Check strainers. Clean as needed.			

**Additional Notes:**

# ICE MAKER

**ACTIVITY:** \_\_\_\_\_

**MECHANIC SIGNATURE & DATE:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Check operation of condenser after maintenance.			
4	Clean area around unit			
5	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
3	Clean ice coil and/or drum, storage bin and drain.			
4	Check/clean filters on water supply piping into ice machines			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Inspect door gasket for damage and proper fit. Lubricate hinges.			
2	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			
3	Check safety devices on walk in boxes for proper operation (e.g. inside door opener, bell, buzzer, and/or red light).			
4	Check fans for freedom of rotation, bent blades, loose or missing parts, and repair, replace or tighten as required.			
5	Check for proper guards, hangers and supports. Tighten, repair or replace as required.			
6	Vacuum/clean dust from condenser coils as required.			
7	Adjust drum blades/ice collectors as required.			
8	Check hermetic unit for housing leaks, evidence of overheating, excessive noise and vibration.			

**Additional Notes:**

# ELECTRIC HEATERS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Check unit operation after maintenance.			
3	Clean area around unit			
4	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			

**Additional Notes:**

# REFRIGERATION EQUIPMENT

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Inspect motor for excessive noise and heat.			
3	Check operation of condenser after maintenance.			
4	Clean area around unit			
5	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check refrigerant system temperature/pressure. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
2	Check refrigerant oil levels for refrigerant systems with oil pressure/level controls. Repair, replace, or adjust as needed to ensure proper operation.			
3	Check open drive couplings, bearings, and seals for evidence of wear or alignment problems. Lubricate and repair or replace as needed.			
4	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
5	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
6	Inspect air-cooled condenser surfaces for damage or evidence of leaks. Repair or clean as needed.			
7	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
8	Inspect electrical starter panels and controls for proper operation. Check for burned or loose contacts, burned insulation, and loose connections.			
9	Inspect door gasket for damage and proper fit. Lubricate hinges.			
10	Inspect defrost system for proper operation.			
11	Check safety devices on walk in boxes for proper operation (e.g. inside door opener, bell, buzzer, and/or red light).			

**Additional Notes:**

# TERMINAL AND CONTROL BOXES (VAV, FPB, Bypass)

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
3	Check unit operation after maintenance.			
4	Fill out maintenance record/report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for proper fluid flow. Clean, adjust, and repair as needed to restore proper flow.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
3	Check for proper operation of cooling and/or heating coil for damage or evidence of leaks. Clean, restore, or replace as required.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Replace HEPA class filters.			
3	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
4	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
5	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
6	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
7	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
8	Visually inspect exposed ductwork and external piping for insulation and vapor barrier for integrity. Correct as needed.			

**Additional Notes:**

## ROLLER CURTAIN OVERHEAD DOOR MOTOR DRIVEN UP TO 16 FOOT HIGH X 15 FOOT WIDE

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check with door operating personnel for any known deficiencies.			
2	Operate door.			
3	Check alignment of door, door guides and lubricate.			
4	Inspect general condition of door interior and exterior for need of point, signs, repairs and obstructions.			
5	Replace missing/tighten loose nuts, bolts, etc.			
6	Check electrical wiring and contacts for wear.			
7	Inspect and lubricate motor gearbox.			
8	Adjust door travel limits.			
9	Inspect and lubricate chain.			
10	Clean and grease door tracks.			
11	Clean up around door area after maintenance.			
12	Fill out maintenance record/report.			

**Additional Notes:**

**ROLLER CURTAIN OVERHEAD DOOR, MANUAL UP TO  
16 FOOT HIGH X 15 FOOT WIDE**

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check with door operating personnel for any known deficiencies.			
2	Operate door.			
3	Check alignment of door, door guides and lubricate.			
4	Inspect general condition of door interior and exterior for need of point, signs, repairs and obstructions.			
5	Replace missing/tighten loose nuts, bolts, etc.			
6	Inspect and lubricate chain.			
7	Clean and grease door tracks.			
8	Clean up around door area after maintenance.			
9	Fill out maintenance record/report.			

Additional Notes:

# SLIDING DOOR MOTOR DRIVEN UP TO 16 FOOT HIGH X 15 FOOT WIDE

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check with door operating personnel for any known deficiencies.			
2	Operate door.			
3	Check alignment of door, door guides and lubricate.			
4	Inspect general condition of door interior and exterior for need of point, signs, repairs and obstructions.			
5	Replace missing/tighten loose nuts, bolts, etc.			
6	Check electrical wiring and contacts for wear.			
7	Inspect and lubricate motor gearbox.			
8	Adjust travel limits.			
9	Inspect and lubricate chain.			
10	Clean and grease door tracks.			
11	Clean up around door area after maintenance.			
12	Fill out maintenance record/report.			

Additional Notes:

# WATER SOURCE HEAT PUMPS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of condenser prior to maintenance.			
2	Replace disposable, non-HEPA filters. Clean permanent filters per manufacturer's requirements.			
3	Inspect piping and valves for leaks. Tighten connections if necessary.			
4	Check operation of condenser after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check ultraviolet lamp. Clean or replace as needed to ensure proper operation.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check for corrosion. Clean, prime, and paint area of corrosion.			
2	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
3	Check for proper operation of cooling coil or heating coil and for damage or evidence of leaks. Clean, restore, or replace as needed.			
4	Check P-trap. Prime as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filter fit and housing seal integrity. Correct as needed.			
2	Check refrigerant system temperatures. If outside of recommended levels, find cause, repair, and adjust refrigerant to achieve optimal operating levels.			
3	Check integrity of all panels on equipment. Replace fasteners as needed to ensure proper integrity and fit/finish of equipment.			
4	Check drive alignment, wear, seating, and operation. Repair or replace as needed.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
5	Check fan blades and fan housing. Inspect fan for bent blades or unbalance. Clean, repair, or replace as needed to ensure proper operation			
6	Check for evidence of buildup or fouling on heat exchange surfaces. Restore as needed to ensure proper operation.			
7	Check condensate pump. Clean or replace.			
8	Assess field-serviceable bearings. Lubricate if necessary.			
9	Check for proper fluid flow and for fluid leaks. Clean, adjust, and repair as needed to restore proper flow.			
10	Inspect for evidence of moisture carryover beyond the drain pan from cooling coils. Make corrections or repairs as necessary.			
11	Check drain pan, drain line, and coil for biological growth. Clean as needed.			
12	Check coil fins. Restore if possible. Replace coil if necessary to return to proper functioning.			
13	Visually inspect areas of moisture accumulation for biological growth. If present, clean or disinfect as needed.			
14	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors.			
15	Replace HEPA class filters.			

**Additional Notes:**

# AIR COMPRESSORS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check operation of unit prior to maintenance.			
2	Visually inspect fuel filter. Clean, repair, or replace as needed to ensure proper operation.			
3	Perform chemical testing of system water. Treat as needed to ensure proper water chemistry.			
4	Check unit operation after maintenance.			
5	Clean area around unit			
6	Fill out maintenance record/report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check fuel pump for proper operation. Repair or replace as needed to ensure proper operation.			
2	Inspect blowdown or drain valve. Clear all debris to ensure proper operation. Repair or replace if needed.			
3	Check for evidence of leakage of fuel supply, heat transfer fluid, and flue gas. Repair as needed to ensure proper operation.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check control system and devices, attached or remote, for evidence of improper operation. Clean, lubricate, repair, adjust, or replace components as needed to ensure proper operation.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check control box for dirt, debris, and/or loose terminations. Clean and tighten as needed.			
2	Check electrical wiring and connections. Check motor contactor for pitting or other signs of damage. Repair or replace worn contactors. Tighten any loose connections.			
3	Check for evidence of buildup or fouling, corrosion, or degradation on heat exchange surfaces. Restore as needed to ensure proper operation.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
4	Check for proper damper operation. Clean, lubricate, repair, replace, or adjust as needed to ensure proper operation.			
5	Check combustion chamber, burner, and flue for deterioration, moisture problems, condensation, and combustion products. Clean, test, and adjust combustion process for proper operation.			
6	Inspect refractory for damage or wear. Repair or replace as necessary to ensure proper operation. Clean upper and lower drums.			
7	Observe burner flame at high load for correct clearance from refractory.			
8	Verify proper operation of safety devices per manufacturer's recommendations and boiler inspection requirements. Repair or replace as needed.			

**Additional Notes:**

# DRY CHEMICAL FIRE EXTINGUISHING SYSTEMS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Conduct hydrostatic testing on systems as recommended by NAVFAC MO 117.			
2	Check system.			
3	Fill out inspection report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Check expellant (agent) cylinders by weight.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Test system alarm.			
2	Check powder for lumping.			
3	Test activating and operating devices, including auxiliary devices			
4	Replace fusible links.			

**Additional Notes:**

# HALON 1301 FIRE SUPPRESSION SYSTEM

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Conduct hydrostatic test on cylinders and hoses as recommended by NAVFAC MO 117			
2	Fill out inspection report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Perform weight test on all cylinders and either refill or replace the cylinders that have a loss in net weight of more than 5% or a loss in pressure of more than 10%.			
2	Note date of last hydrostatic test			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Inspect cross zone system.			
2	Test abort system.			
3	Check time delay (min: 20 sec.) (max: 60 sec.)			
4	Test activating and operating devices.			
5	Clean detector heads.			

Additional Notes:

# CO2 FIRE EXTINGUISHING SYSTEM

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Conduct hydrostatic test on cylinders and hoses as recommended by NAVFAC MO 117.			
2	Fill out inspection report.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Perform weight test on cylinders and refill or replace if weight loss is 10% or more.			
2	Test operating and activating devices.			

Additional Notes:

# DUST COLLECTION SYSTEMS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Inspect entire system to make sure it is structurally sound and in good operating condition. Clean the system, if needed.			
2	Inspect and lubricate fan package unit (motor, fan bearings, etc.).			
3	Inspect fan belts and tighten if loose and replace if cracked or worn. Align belt, if needed.			
4	Conduct operational check.			
5	Fill out maintenance record/report.			

Additional Notes:

# FIRE HYDRANTS

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Check for leaks in top of hydrant and outlet caps (replace gaskets as needed).			
2	Check for cracks in barrel.			
3	Inspect operating nut for sign of wear or rounded corners.			
4	Inspect nozzle threads on outlets.			
5	Lubricate operating nut and packing.			
6	Check operation of hydrant drain.			
7	Flush hydrant.			
8	Perform flow test.			
9	Fill out inspection report.			

**Additional Notes:**

# SPRINKLER SYSTEMS FIRE PROTECTION (OR ALARM VALVE)

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	If retard chambers or excess pressure pumps are present, follow manufacturer's testing and maintenance procedures.			
2	Fill out inspection report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Thoroughly flush water supply line. Open drain below valve wide and flow water at full pressure long enough to clean pipe of accumulated scale, sediment and foreign material.			
2	Record static and residual pressures from gage readings before and during flow tests.			
3	Close controlling gate valve (OSY or PIV).			
4	Observe water gage above valve to determine if systems maintain pressure. Correct any leakage found.			
5	Check alarm features if connected to alarm system to ensure correct signal will be transmitted.			
6	Open controlling gate valve and seal			
7	Open drain below valve wide and flow water at full pressure long enough to clean line of accumulated scale, sediment and foreign material.			
8	Record static and flow pressures from gage before and during operation of drain.			
9	Open inspectors test valve and record time for valve to trip.			
10	Open main drain and allow system to drain.			
11	Remove valve cover and inspect and clean clapper. Remove foreign material from valve body.			
12	Check all alarm features to ensure correct and complete operation (including water flow alarms).			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Operate blow down valve on strainer, rotating baskets to ensure maximum cleaning.			
2	Check general conditions of piping(including standpipes), hangers and heads by visual check.			
3	Replace valve cover.			
4	Remove ends of branch lines and inspect for accumulation of foreign material. Clean or flush as necessary.			

**Additional Notes:**

# SPRINKLER SYSTEM FIRE PROTECTION (DRY)

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	If system has an accelerator, follow manufacturer's procedures for testing and maintenance.			
2	Fill out inspection report.			
<b>TO BE PERFORMED WEEKLY</b>				
1	Check air and water pressure. Admit air into system piping until air supply of 50 to 60 pounds is registering on air gage.			
2	Drain moisture trap in air supply line and note condition of desiccant crystals. Replace as needed.			
<b>TO BE PERFORMED MONTHLY</b>				
1	Open controlling gate valve and seal.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Open drain below valve and flow water at full pressure long enough to clean line of accumulated scale, sediment and foreign material.			
2	Record static and flow pressure from gage before and during operation of drain.			
3	Close controlling gate valve (OSY or PIV).			
4	Test all alarm features to ensure complete operation (including water flow alarms)			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Operate blow down valve on strainer rotating baskets to ensure maximum cleaning.			
2	Open inspectors test valve and record time for valve to trip.			
3	Open main drain and allow sprinkler system to drain. Open all trapped or low point drains and allow to drain.			
4	Remove hand hole cover and inspect and clean rubber facing and seat ring surfaces. Remove foreign material from valve body.			
5	Raise spring latch and return clapper to its seat rings.			
6	Replace hand hole cover and fasten.			
7	Remove ends of branch lines and inspect for accumulation of foreign material. Clean or flush as necessary.			
8	Open priming cup valve and priming water valve and admit water into valve body to the level of the priming water connection.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
9	Close all drains and replace ends of pipes.			
10	Check general condition of pipes (including standpipes), hangers and heads by visual check.			

**Additional Notes:**

# SPRINKLER SYSTEM FIRE PROTECTION (PRE ACTION)

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	If system has an accelerator, follow manufacturer's procedures for testing and maintenance.			
2	Fill out inspection report.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Open inspectors test valve and record time for valve to trip.			
2	Check air and water pressures.			
3	Test all alarm features to ensure complete operation (including water flow alarms)			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Close controlling gate valve (OSY or PIV).			
2	Open main drain and allow sprinkler system to drain. Open all trapped or low point drains and allow to drain.			
3	Remove ends of branch lines and inspect for accumulation of foreign material. Clean or flush as necessary.			
4	Close all drains and replace ends of pipe.			
5	Check general condition of pipes, hangers and heads by visual check.			
6	Open drain below valve wide and flow water at full pressure long enough to clean line of accumulated scale, sediment and foreign material.			
7	Remove hand hole cover, inspect and remove any foreign matter from rubber clapper facing and clear the clapper seat ring with the bare fingers. Do not use oil or grease on clapper or seat ring.			
8	Secure main air supply and check for leaks or abnormal drop in pressure. Individual circuit tests shall be conducted from the terminal or header bar. A joint-by-joint process should be employed after the faulty circuit has been traced and determined.			
9	Note condition of rubber clapper facing. If worn or deteriorated, replace. Clean any accumulation of sediment or foreign material from inside the valve body.			
10	Reset clapper in set position, reset weight and replace hand hole cover. Visually inspect the condition of piping, hangers, etc.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
11	Admit air into system piping until air supply of 50 to 60 pounds is registering on air gage.			
12	Open controlling gate valve and seal.			

**Additional Notes:**

**GENERAL ITEMS FOR ALL SPRINKLER SYSTEMS, AS APPLICABLE**

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out inspection report.			
<b>TO BE PERFORMED WEEKLY</b>				
1	Check air pressure in pressure tanks.			
<b>TO BE PERFORMED MONTHLY</b>				
1	Inspect valves for open position.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Check fractional horsepower air compressor (air supply for dry sprinkler or pre action alarm valve systems).			
2	Check operational condition of fire department connection (Siamese connection).			
3	Inspect check valves, water flow meters and backflow preventers.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check operation of P.I.V. post indicator valve and clean indicator windows or O.S.& Y. outside stem and yoke control valve.			
2	Check pressure gauge for accuracy against bench tested standard gauge. Replace pressure gauge if damaged, defective or has illegible markings.			
3	Clean and overhaul check valves. Include replacing gasket.			
4	Check general condition of hydrants			
5	Check general condition of pressure tanks			
6	Perform fire pump flow tests			
7	Inspect and test controllers			
8	Conduct general inspection of valves.			
9	Test pressure regulating and altitude valves.			

**Additional Notes:**

## ELEVATOR AND DUMBWAITER MAINTENANCE INSPECTION/SERVICE LIST

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out inspection report.			
<b>TO BE PERFORMED WEEKLY</b>				
1	Replace indicator lamps.			
2	Check safety circuits.			
	<b>Car</b>			
3	Lubricate and adjust door operator and access equipment.			
4	Check safety edge operations.			
5	Check photo eye operation.			
6	Check alarm bell.			
7	Check emergency lights.			
8	Check operation of emergency phone system			
9	Check leveling and inching switches.			
	<b>Machine Room</b>			
10	Clean and inspect machine room equipment.			
11	Check and adjust control and selector.			
12	Check main electrical supply fuses for heat.			
13	Check & clean controller fuse holders.			
14	Check oil level - geared machines.			
15	Empty drip pans - geared & hydraulic.			
16	Check for leaks in hydraulic system (if apply)			
17	Check oil level - hydraulic power unit (if apply)			
18	Check tension & condition, hydraulic power units V-belts (if apply)			
19	Check and adjust hydraulic valves (if apply)			
	<b>Pit</b>			
20	Clean and inspect pit equipment.			
21	Check jack packing for leakage.			
<b>TO BE PERFORMED MONTHLY</b>				
	<b>Hoistway</b>			
1	Lubricate guide rails.			
2	Check & clean gate/door contacts.			
3	Lubricate guides & pulleys - car & hatch gates/doors.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Clean contact-car & hall station			
	<b>Hoistway</b>			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
2	Check insulation on travel cable.			
3	Clean top of car.			
	<b>Car</b>			
4	Check adjustment of car guide rollers.			
5	Check safety parts.			
6	Check returning cam assembly.			
7	Check guide roller bearings.			
8	Check bearings and belts on door operator.			
	<b>Machine Room</b>			
9	Blow or brush control and selector parts.			
10	Check all controller terminals.			
11	Check and adjust brake and lubricate pins.			
12	Clean selector cables and tapes.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
	<b>Car</b>			
1	Check car frame for loose fastenings.			
2	Lubricate slide guide shoe stems.			
	<b>Machine Room</b>			
3	Lubricate contactor & relay hinge pins.			
4	Check motor overload devices.			
5	Check resistor connection.			
6	Seal leaks on machine or power unit.			
7	Grease motor & MG set bearing.			
8	Drop brake shoes, clean & check for wear.			
9	Hydraulic pressure test.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Clean hoistway - Check all fastenings on guides, brackets, switches, and entrances.			
	<b>Machine Room</b>			
2	Replace pads and springs - hydraulic silencer.			
3	Clean hydraulic main line strainer screen.			
4	Change oil - motor bearings.			
5	Change oil - marine type machine bearings.			
6	Flush & change oil - geared machine.			

**Additional Notes:**

# EMERGENCY GENERATORS

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out inspection report.			
<b>TO BE PERFORMED WEEKLY</b>				
1	Run engine, check fuel, oil and water leaks.			
2	Inspect switches and contacts.			
3	Observations.			
4	Check batteries (corrosion fluid level, cable security).			
5	Check radiator (fluid level, anti-freeze strength) hose.			
6	Check fan and alternator belts (condition-tightness).			
7	Check oil and water leaks.			
8	Check condition of electrical wiring.			
9	Check batteries (corrosion fluid level, cable security).			
10	Clean area - remove debris.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Cycle generator through load range.			
<b>TO BE PERFORMED SEMIANNUALLY</b>				
1	Drain and replace oil.			
2	Replace oil and fuel filter.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check air filters - replace if necessary.			
2	Grease water pump and clutch (if applicable).			
3	Inspect transfer switch.			
4	Operate circuit breaker (manually)			
5	Check bus-bar bracing for signs of overheating.			
6	Perform 1-hour load test.			
7	Inspect for rust and corrosion.			

Additional Notes:

# FIRE ALARM SYSTEMS BATTERIES

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Clean exterior of fire alarm cabinet.			
2	Check condition of battery. Change batteries if necessary.			
3	Clean interior of cabinet, top of battery and battery terminals.			
4	Inspect cabinet, relay, relay contacts, pilot light, wiring and general condition.			
5	Check electrolyte level in battery. Add distilled water if necessary. Most batteries are sealed type.			
6	Apply anti-corrosion coating to battery terminals.			
7	Test for proper operation.			
8	Change batteries if necessary.			
9	Mark and maintain permanent record at each control panel of work performed.			

**Additional Notes:**

# FIRE ALARM SYSTEMS

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out inspection report.			
<b>TO BE PERFORMED MONTHLY</b>				
1	Check power on light.			
2	Check trouble light and buzzer.			
3	Check alarm and zone indicating lights.			
4	Check voltage and current gauges.			
5	Check ground fault lights.			
6	Check switches for proper position.			
7	Check fire alarm panel covers and doors to ensure system is properly locked.			
8	Check all barracks signaling devices for damage and to see that devices are intact.			
<b>TO BE PERFORMED QUARTERLY</b>				
1	Visually inspect fire alarm panel annunciator cabinets, boxes and bells.			
2	Check door locks and latches and hinges for proper operation.			
3	Remove dust, dirt, debris from cabinet.			
4	Replace inoperative indicating lamps/lens.			
5	Operationally test fire alarm panel for proper operation.			
6	Replace defective fuses.			
7	Remove rust and corrosion and apply paint as applicable.			
8	Check and adjust battery chargers and power supply for normal power.			
9	Operationally test all pull boxes, smoke detectors in each respective zone.			
10	Operationally test all heat detector circuits in each respective zone.			
11	Operationally test all signaling devices, lamps, and circuits in each respective zone.			
12	Check panel operational under disconnected A.C. power mode.			
13	Check panel for master box trip and supervision operation.			
14	Inspect panel wiring for loose or inadequate connections. Tighten, repair or replace as necessary.			
15	Check fire alarm system devices for proper mounting.			
16	Operationally test sprinkler alarm actuating switches, sprinkler master code boxes.			

Additional Notes:

# EMERGENCY GENERATOR

ACTIVITY:

MECHANIC SIGNATURE & DATE:

START TIME:

FINISH TIME:

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out inspection report.			
<b>TO BE PERFORMED WEEKLY</b>				
1	Load Test: Testing of generator sets and transfer switches under load and operating temperature conditions. A 30-minute exercise period is an absolute minimum, or the engine manufacturer's recommendations should be followed. Permanently record all available instrument readings during the monthly test.			
2	Check for water leaks.			
3	Check functioning of coolant heater if applicable.			
4	Check oil level, crankcase breather and appearance of lubricating oil.			
5	Check operation of lubricating oil heater (if applicable).			
6	Check oil pressure.			
7	Check condition of electrical wiring.			
8	Check general engine performance.			
9	Check engine electrical starting system: Battery terminals clean and tight. Add distilled water to maintain proper electrolyte level. Battery charging rate. Battery trickle charging circuit operating properly.			
10	Check for exhaust system leaks.			
11	Inspect for physical damage and cleanliness.			
12	Clean area and remove debris.			
<b>TO BE PERFORMED MONTHLY</b>				
1	Inspect electrical wiring.			
2	Inspect connections.			
3	Inspect switches.			
4	Inspect contacts.			
5	Observations.			
6	Check diesel fuel system: Main tank level. Day tank level. Operation of fuel supply pump and controls.			
7	Check engine cooling system: Coolant level. Rust inhibitor in coolant. Antifreeze in coolant (if applicable). Adequate cooling water to heat exchangers. Adequate fresh air to engine and radiators. Condition of fan and alternator belts. Squeeze and check condition of hoses.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
8	Drain water from fuel system.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Check generator bearings.			
2	Measure and record resistance reading of generator windings using insulation tester.			
3	Inspect transfer switch.			
4	Operate generator circuit breaker. Visually inspect feeder lines.			
5	Inspect for physical damage and cleanliness.			
6	Inspect for proper anchorage and grounding.			
7	Engine cooling and fuel system integrity shall be verified.			
8	A dielectric absorption test shall be made on generator winding with respect to ground. A polarization index shall be determined.			
9	Protective devices shall be tested in accordance with applicable section of these specifications including components on generator proper and on generator control panel.			
10	Engine shutdown features shall be function tested: Low oil pressure. Over-temperature. Over-speed. Other applicable features.			
11	Perform vibration base line test.			
12	Perform test under load condition of the respective building. Record voltage, frequency, load current, oil pressure and coolant temperature during test. Voltage regulation, frequency stability and maximum temperature rise shall be calculated. If generator is overloaded, extent of overload shall be determined and reported.			

**Additional Notes:**

# AUTOMATIC TRANSFER SWITCHES

ACTIVITY: \_\_\_\_\_

MECHANIC SIGNATURE & DATE: \_\_\_\_\_

START TIME: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
<b>TO BE PERFORMED AT EACH INSPECTION SERVICE</b>				
1	Fill out maintenance form and record. Results of test including final conclusion and specific recommendation shall be forwarded to Government. Recommendation shall state items that do not meet current NFPA regulations requirements.			
<b>TO BE PERFORMED MONTHLY</b>				
1	Inspect for physical damage.			
2	Check switch to ensure positive interlock between normal and alternate sources (mechanical and electrical).			
3	Inspect inside of switch for cleanliness and free of foreign matter.			
4	Check for unusual sounds.			
5	Check terminals and connections for normal color.			
6	Check condition of all wiring insulation.			
7	Ensure that all covers are tight.			
8	Ensure doors are securely closed.			
9	Check tightness of all control and power connections.			
10	Perform manual transfer operation.			
11	Ensure mechanical breaker reset functions.			
12	Perform automatic transfer by: Simulating loss of normal power. Return to normal power.			
<b>TO BE PERFORMED ANNUALLY</b>				
1	Perform insulation resistance tests phase to phase and phase to ground with switch in both source positions.			
2	Check calibration of following: Voltage sensing relays. Transfer time delay relay. Engine shutdown relay.			
3	Monitor and verify correct operating and timing: Normal voltage sensing relays. Engine start sequence. Time delay upon transfer. Alternate voltage sensing relays. Automatic transfer operation. Interlocks and limit switch function. Timing delay and retransfer upon normal power restoration. Engine shutdown feature.			
4	Insulation resistance test voltages and minimum values to be in accordance with Table A in the Metal Clad Switchboard PM.			
5	Check condition of main and arcing contacts and auxiliary contacts.			

CHECKPOINT	CHECKPOINT DESCRIPTION	TASK COMPLETE		NOTES/ ACTIONS
		YES	NO	
6	Check, clean and adjust where necessary, relay finger contacts.			
7	Check all time delay settings.			
8	Check manual switch for free movements.			

**Additional Notes:**

## ATTACHMENT J1502000 PMI GUIDE #44

### PREPARATION FOR TYPE "A" INSPECTION BOILERS

#### TASK

1. Inspect the boiler and its related equipment for signs of leaks.
2. Close all steam stop valves and open the header vent valve.
3. Turn the boiler off and disconnect the fuel and power supply. Let the boiler cool down (Note: do not drain the boiler or put water in it to cool down).
4. Open a top vent on the boiler after cooling and drain the water via the bottom blow line.
5. Open the water sides and fire sides of the boiler.
  - a. Remove all scale, mud and foreign material from the fire sides of the boiler.
  - b. Remove all scale, mud and foreign material from the water sides.
  - c. Clean all scale, mud and foreign material from the condensate tank, strainers, piping valves, low water controls, inspection ports, blow down lines, deaerator, and all other related equipment.
  - d. Remove all old gaskets and clean the seats.
  - e. Make repairs to the refractory as needed.
  - f. Make repairs to the insulation and casing as needed.
  - g. Repair all leaks as noted in item (1).
  - h. Clean the water gauge glass. Check all blow down valves and try-cocks for free operation.
  - i. Clean the make-up water controls, water gauge glass and thermometer on the condensate tank.
  - j. Check the stack breaching and stack for obstructions. Check the stack temperature gauge.
  - k. Check to see that the safety valves are in satisfactory operating condition and that all seals, nameplates, and related parts are in place.
  - l. Check to make sure that the safety valve vent is clear, the drain lines are open, and the vent pipe hangers are in place.
  - m. Check all stay-bolts and stay-rods for cracked welds, weeping and broken parts.
  - n. Calibrate all pressure gauges.
  - o. Make all other repairs as needed at this time.
  - p. Dust and clean the equipment and boiler room.

END OF INSPECTION

**ATTACHMENT J1502000 PMI GUIDE #44A**

**PREPARATION FOR  
TYPE "B" INSPECTION BOILERS**

**TASK**

1. Close the water sides of the boiler using all new gaskets.
2. Place gags on the safety valves or remove them.
3. Remove all controls that might be damaged in this test and install a newly calibrated pressure gauge.
4. Open a vent on the top of the boiler; then fill it with water. The water temperature should be not less than 70 degrees F. nor more than 120 degrees F. (Be sure the vessel is filled all the way up).
5. **TIGHTNESS TEST:**
  - a. Advise all personnel in the area that you are going to pressurize the vessel.
  - b. Bring the pressure up slowly to the pressure of the safety valve having the lowest setting.
  - c. Check all pressure parts for signs of leaks.
  - d. Make repairs as needed.
6. **HYDROSTATIC TEST:**
  - a. Advise all personnel in the area that you are going to pressurize the vessel.
  - b. Bring the pressure up slowly to 1.5 times the maximum allowable working (M A W P).
  - c. Check all pressure parts for signs of possible defects and leaks.
  - d. Make repairs as needed.
7. Remove the pressure and close the firesides on the boiler. Lower the water to its normal water line.
8. Remove the gags or replace the safety valves. Check the safeties for the proper N.B. (V), (VR), or (HV) stamp on the tag. Ensure that the safety has the right pressure and capacity, and all seals are in place. Safeties on hot water boilers will comply with applicable codes.

**END OF INSPECTION**

## ATTACHMENT J1502000 PMI GUIDE #44B

### PREPARATION FOR TYPE "C" INSPECTION BOILERS

#### TASK

1. Make sure the safety valves have been replaced or the gags have been removed, the feed water pump is lined up with the boiler you are working on, and all lock-out controls have been reinstalled.
2. Light the boiler off. Use the low fire to warm it up.
3. **CONTROLLERS, SAFETIES AND SAFETY LOCK-OUTS:**
  - (3a). **LOW WATER CONTROL AND LOCK-OUT:**
    - (a) The low water control will call the feed water pump in when the blow down valve is opened.
    - (b) The low water lock-out control will lock the boiler controller out when tripped.
    - (c) Check all blow down lines for a free flow.
  - (3b). **FIRE EYE:**
    - (a) Remove the fire eye from its holder and try to light the boiler off. It should not light.
  - (3c). **AIR SWITCH:**
    - (a) Not all air switches work in the same manner, and time should be taken to determine if it is working properly.
  - (3d). **GAS SWITCH LOW AND HIGH PRESSURE:**
    - (a) To prove the low pressure switch, first light the boiler off, then either close the main gas valve or adjust the scale up to a point that the lock-out will trip. This will lock the controller out and turn the boiler off.
    - (b) To prove the high pressure switch, first light the boiler off, then adjust the scale down to a point that the lock-out will trip. This will lock the controller out and turn the boiler off.
  - (3e). **OPERATOR:**
    - (a) Set the operator at the desired working pressure and allow the pressure in the boiler to trip the limit switch out. This will turn the boiler off. Check the reading on the scale with the pressure gauge.
  - (3f). **HIGH PRESSURE LIMIT LOCK OUT:**
    - (a) Adjust the operator to a higher pressure setting than the high pressure limit lock-out. This will allow the pressure in the boiler to trip the limit lock-out, and the boiler will shut down.
  - (3g). **STEAM SAFETIES:**
    - (a) Check the safety valves for the proper National Board (V) or (VR) stamping. Ensure that all seals are in place and the valve has the right pressure and capacity for the boiler.
    - (b) Adjust the operator and high pressure limit lock-out to a point above the setting of the highest set safety valve. Light the boiler off and bring it to high fire. Watch the safety valves and pressure gauge to determine at what pressure the valves lift. At no time can there be an accumulation of

pressure in the vessel greater than 6% of the highest set safety valve.

(3h). HOT WATER SAFETIES:

- (a) The required steam relieving capacity in lb/hr of the safety relief valve on high-temperature water boiler shall be determined by dividing the maximum output in Btu/hr at the boiler nozzle obtained by the firing of any fuel for which the unit is designed by 1,000.

4. Take the O/2, C0/2, C0, EFF and stack temperature readings.

NOTES: \*

- \* It should be noted that this guideline is not all inclusive of boilers and types of inspections, variations may be needed.
- \* All repairs are to be made within the guidelines of ASME BOILER AND PRESSURE VESSEL CODE, NBIC AND NAVFACINS MO-324.

END OF INSPECTION

**ATTACHMENT J1502000 PMI GUIDE #45**

**PREPARATION FOR  
TYPE "A" INSPECTION UNFIRED PRESSURE**

**TASK**

1. Check the records to see what is in the vessel.
2. Check for signs of leaks.
3. Turn the power off to all pumps or compressors.
4. Close all incoming and outgoing valves.
5. Relieve the pressure from the vessel. Be sure to open a vacuum vent when draining liquids.
6. Open all manways and inspection ports.
7. Remove all pressure gauges.
  - (a) Clean and make all needed repairs.
  - (b) Calibrate with an approved test gauge.
8. Check the condition of the safety valves.
  - (a) Do they have the right National Board or A.S.M.E. stamping and seals on them?  
It should be stamped "UV".
  - (b) Are they rated for the right CFM in relation to the output of all the pressure generating equipment?
  - (c) Check to see that the valve operates freely.
  - (d) Check to see that the vent line for the safety is clear.
  - (e) If the vessel has a ruptured disk, check to see that it is the right pressure rating and size.
9. Clean the inside of the vessel. Remove all scale, grease and foreign material.
10. Check all automatic, hand and check valves for proper operation. If strainers or automatic blow-downs are used, they should be cleaned and checked for proper operation.
11. Repair all leaks that were noted in No. 2. Repair or replace any piping that is in disrepair.
12. Check the inside of the vessel for cracks, wear or pitting.
13. Before installing the safety valves, check to see that it is not rated at a higher pressure than the M.A.W.P. of the vessel.
14. Clean the outside of the tank, check for cracks, wear or pitting.
15. All man way and inspection port gaskets will be replaced.

END OF INSPECTION

**ATTACHMENT J1502000 PMI GUIDE #45A**

**PREPARATION FOR  
TYPE "B" INSPECTION UNFIRED PRESSURE**

**TIGHTNESS TEST**

**NO. TASK**

1. Fill the vessel with clean water, not less than 70 degrees F. nor more than 120 degrees F. Be sure to fill the vessel all the way up with water.
2. Remove or place gages on the safety.
3. Bring the pressure up to about 5 pounds below that of the rating of the safety.
4. For the pressure hold time: The hold pressure shall drop no more than 1% in one hour for vessels with design pressure greater than 500 psig., and 5% in one hour for vessels with design pressure of 500 psig. or less.
5. Check for leaks and deformation in the vessel.

**HYDROSTATIC TEST**

**NO. TASK**

1. Same as above.
2. Same as above.
3. Bring the pressure up to 1.5 times the M.A.W.P. for vessels constructed under A.S.M.E., Section VIII, Division 1, or 1.250 times the M.A.W.P. for vessels constructed under Section VIII, Division 2.
4. Same as above.
5. Same as above.

**END OF INSPECTION**

**ATTACHMENT J1502000 PMI GUIDE #45B**

**PREPARATION FOR  
TYPE "C" INSPECTION UNFIRED PRESSURE**

**NO.      TASK**

1.      All automatically and manually operated control devices provided for controlling the operation and safety of the vessel will be inspected and caused to function under operating conditions.
2.      If the vessel operates at a pressure greater than 500 psig., or if it is not advisable for safety reasons to lift the safety, the safety will be rebuilt and tested by the manufacturer or an organization holding a "VR" stamp.

**NOTES: \***

- \* It should be noted that this guideline is not all inclusive of unfired pressure vessels and types of inspections, variations may be needed.
- \* All repairs and alterations are to be within the guidelines of A.S.M.E. BOILER AND PRESSURE VESSEL CODE, NBIC and NAVFAC MO-324

**END OF INSPECTION**

## ATTACHMENT J1502000 PMI GUIDE #46

### OIL-WATER SEPARATORS

#### Description of Tasks

1. Cleaning, Sludge Removal: This work includes the removal of the debris, gravel, sand, muck, sludge, sediment, etc., that has accumulated in the bottom of the separators as specified below.
  - a. Prior to entry into manways and/or separators, the Contractor shall daily take and analyze air samples to assure safe levels of contaminants (well below the established threshold limit values) and the oxygen content is more than 19.5 percent. Testing shall continue once daily until the completion of all work in the separator. The separator must be certified by the Gas Free Engineer prior to the Contractor entering, and repeat inspections are required on intervals of eight (8) hours during which a separator is to be occupied.
  - b. Any existing part or material that becomes defective or fails to operate properly and affects the operation of the O/W separator shall be reported to the Facilities Management Engineering Division.
  - c. A vacuum truck or similar sludge removal system, or shovel and bucket, shall be used for the cleaning and sludge removal. The vacuum truck or similar sludge removal system shall be clean prior to use for this project.
  - d. The fiberglass separators shall not be emptied completely of water since this will cause the separator to float out of the ground. Any such damage caused by the Contractor's operators shall be repaired by the Contractor at no expense to the Government.
  - e. The Contractor shall clean the containment area around all oil-water separators and shall have the containment areas steam cleaned of debris, gravel, soil, sediment, etc. during each quarterly servicing. OWS #1661 shall have the grates leading to the inlet of the OWS steam cleaned during each quarterly servicing.
2. Remove, Clean and Reinstall Baffle: Separator equipped with removable coalescing and diffusion baffle. This baffle shall be removed, steam cleaned, and reinstalled.
3. Remove Petroleum Products: All petroleum products, either collected in a trough skimmer, floating in a separation chamber, appearing as a sheen in an effluent chamber, collected in a storage tank connected to an O/W separator, or stratified in an O/W separator shall be removed by the Contractor.
4. Adjust Flow Control: This work includes adjusting the float attached to the flow control valve in the fiberglass separators. These separators are designed for a flow rate that allows petroleum products to separate from water. If the flow becomes too great, the float will reduce the amount of effluent coming through the flow control valve.
5. Remove and Install Pump: This work includes removing a pump which fails to operate when energized and installing either a new or reworked pump.
6. Adjust Gravity Draw-off: This work includes raising or lowering the gravity draw-off. If the draw-off is set too high, the petroleum product accumulates in the separator and will not gravity flow to the storage tank or will build up and flow through the outlet. If this is the case, the draw-off will need to be lowered. If the draw-off is set too low, water will gravity flow to the storage tank along with the petroleum product. If this is the case, the draw-off will need to be raised.
7. Adjust Float Activators: Work includes adjusting the floats that activate the pumps in the separators. If the float is set too low, the pump will continuously run; therefore, the float will need to be raised. If the float is too high, the separator will overflow; therefore, the float will need to be lowered.
8. Inspect, Repair Pumps and Belts: Self-explanatory

ATTACHMENT J-1502000-14  
PREVENTIVE MAINTENANCE ANNUAL SUMMARY SUBMITTAL GUIDE EXAMPLE CONTINUED

<b>PREVENTATIVE MAINTENANCE (PM) SCHEDULE</b>															
<b>Equipment Description</b>	<b>Qty</b>	<b>Freq</b>	<b># of PM's</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Se</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>Building X</b>															
A/C Split Unit	1	Annual	1							X					
Air Handling Unit	1	Annual	1							X					
Air Cooled Condensing Unit	1	Annual	1							X					
Boiler	1	Annual	1	X											
VAV Boxes	18	Tri-Annual	3	X				X				X			
Overhead Monorail Hoist	1	Annual	1					X							
Domestic Water Heater	1	Annual	1		X										
Air Compressor	1	Semi-Annual	2	X					X						
Air Dryer	1	Semi-Annual	2	X					X						
Compressed Air Filters	2	Semi-Annual	2	X					X						
Exhaust Fan	9	Annual	1									X			
HW Pump	2	Annual	1		X										
Air Separator	1	Annual	1		X										
Hot Water Unit Heater	5	Annual	1		X										
Expansion Tank	1	Annual	1									X			
Doors, Roll Up	5	Tri-Annual	3	X				X				X			
Tankless Hot Water Heater	1	Annual	1		X										
Solar Hot Water	1	Annual	1						X						
<b>Building XX</b>															
A/C Split Unit	4	Annual	1							X					
Supply Fan with VFD	5	Monthly	12	X	X	X	X	X	X	X	X	X	X	X	X
Exhaust Fan	1	Annual	1									X			
Boiler- Ranni	1	Annual	1	X											
Circulating Pump	1	Annual	1		X										
Backflow Preventer	1	Annual	1	X											
Doors, Roll Up	6	Tri-Annual	3	X				X				X			

Note:  
This document is to serve as a guide all spec items must be listed.

ATTACHMENT J-1502000-15  
FACILITY SYSTEM INVENTORIES

MCRC HUNTSVILLE, AL ADMINISTRATIVE, VMF, HAZMAT LOCKERS, GROUNDS					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package, Gas Heat	RTU-1	1	Adj to Administrative Building	Rheem	RKKB-A300CM40E
Air Conditioner-Window	ACW-1	1	VMF, Office 205	Whirlpool	
Air Handling Unit - Gas Heat Only	AHU-1, AHU-2	2	Drill Hall 137	Modine	
Fan (duct)	EF-10 (vehicle exhaust)	1	VMF, Maintenance 201		
Fan (duct)	EF-2, EF-3	2	EF-2 (Enlisted Womens Head 131, ceiling), EF-3 (Janitorial 133, ceiling)		
Fan (roof)	EF-1, EF-4, EF-5, EF-6	6	EF-1 (serves Enlisted Mens Head 132), EF-4 (serves Womens Head 106), EF-5 (serves Mens Head 108), EF-6 (serves Shower 124 and Mens Head 125)	Breidert Air Products	RED08
Fan (wall)	EF-7, EF-8, EF-9	3	EF-7 (VMF, Storage 204), EF-8 (HazMat Locker 1), EF-9 (HazMat Locker B)		
Fan Coil Unit	FCU-1through FCU-7 (AHU-6 on J-1502000-01)	7	FCU-1, FCU-2 (Administration 143), FCU-3 (Training 103), FCU-4 (I&I Office 142), FCU-5 (1st Sgt Office 141),FCU-6 (Battery Office 112), FCU-7 (Medical 113)	Daiken Industries	FTXS15DVJU
Heat Pump - Split	HP-1 through HP-7 (HP-6 on J-1502000-01)	7	HPS-1 through HPS-3 (Perimeter, adj to Administration 143), HPS-4 (Perimeter, adj to I&I Office 142), HPS-5 (Perimeter, adj to 1st Sgt Office 141), HPS-6, HPS-7 (Perimeter, adj to Enlisted Mens Head 132)	Daiken Industries	RX15FVJU
Heater-Unit, Forced, Gas	UH-1, UH-2, UH-3, UH-4, UH-5	5	VMF, Maintenance 201		
Rooftop Unit - Gas Heat	RTU-2	1	Roof	Rheem	RKKB-A180CL35E
Lighting (exterior)	Lighting		Light fixtures attached to Administrative and VMF and pole lighting		
Lighting (interior)	Lighting		Administrative Building, VMF, HazMat Locker A, HazMat Locker B		
Panelboard	PB-MDP, PB-P1, PB-P2, PB-P3, PB-NMCI, PB-L2, PB-PE, PB-PF, PB-WP, PB-HazMatA, PB-HazMatB, PB-6	12	PB-MDP (Mech Rm 134), PB-P1 (Mech Rm 134), PB-P2 (Vestibule 105), PB-P3 (Weight Rm 127), PB-NMCI (Duty Rm 135), PB-L2 (Drill Hall 137), PB-PE (VMF, Rm 201), PB-PF (VMF, Rm 201), PB-WP (Demucking station), PB-HazMatA (Hazmat Locker A), PB-HazMatB (HazMat Locker B), PB-6 (Parking Lot)		
FP - Detection and Alarm System	FA-1, FA-2	2	FA-1 (Administrative Building), FA-2 (VMF) (Note 6)		

Fire Extinguisher (portable)-Monthly Inspection	FE-1 through EF-9	9	FE-1 (Vestibule 105), FE-2 (Vestibule 115), FE-3 (Corridor 122), FE-4 (Corridor 136), FE-5 (Drill Hall 137), FE-6 (Drill Hall 37), FE-7 through FE-9 (VMF, Rm 201)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1 through EF-9	9	FE-1 (Vestibule 105), FE-2 (Vestibule 115), FE-3 (Corridor 122), FE-4 (Corridor 136), FE-5 (Drill Hall 137), FE-6 (Drill Hall 37), FE-7 through FE-9 (VMF, Rm 201)		
Fire Sprinkler - Chemical (dry/wet)	FSC-1, FSC-2	2	FSC-1 (HazMat Locker A), FSC-2 (HazMat Locker B)		
Crane-Gantry (mobile)	CG-1	1	VMF, Maintenance 201	Abell-Howe	5-15-15
Crane-Jib (manual hoist)	CJ-1	1	VMF, Maintenance 201	Spanco	102-1206-0814
Hydraulic Lift-Auto	HLA-1	1	VMF, Maintenance 201		
Hydraulic Lift - Loading Dock	HLD-1	1	Loading Ramp		
Aftercooler - Compressed Air	ACA-1	1	VMF, Maintenance 201	Thermal Transfer Products, Inc	AA-35-1
Air Compressor	AC-1, AC-2	2	VMF, Maintenance 201	Ingersoll-Rand, Speedaire	2475, 4B236B
Air Dryer - Desiccant	ADD-1	1	VMF, Maintenance 201	Ingersoll-Rand	TZM024
Air Filter - Compressed Air	AFC-1	1	VMF, Maintenance 201	Ingersoll-Rand	
Door-Overhead (motorized)	DR-1 through DR-5	5	DR-1 (Drill Hall 137), DR-2 through DR-5 (VMF, Maintenance 201)		
Drinking Fountain	DF-1, DF-2	2	DF-1 (Drill Hall 137), DF-2 (VMF, Maintenance 201)		
Emergency Eyewash	EE-1	1	VMF, Maintenance 201		
Filter - Cartridge (potw system)	F-1	1	Mechanical Room 134	Harmsco	Filter: HUR 1x 170FL Cartridge: HC-170-5
Plumbing Fixtures (by room)	PF-1 through PF-8	8	PF-1 (Womens Head 106), PF-2 (Mens Head 108), PF-3 (Shower 124), PF-4 (Mens Head 125), PF-5 (Enlisted Womens Head 131), PF-6 (Enlisted Mens Head 132), PF-7 (Janitor 133), PF-8 (VMF, Head 202)		
Pump (potw)	P-1	1	Mech Stor 121	Bell & Gossett	
Slide Gate Operator & Entry System	SGO-1	1	Front entrance		
Water Heater-Electric	WHE-1	1	VMF, Rm 208 (Mezzaine)	Liftmaster	Model SL580
Water Heater-Gas	WHG-1, WHG-2	2	WHG-1 (Mech Stor 121), WHG-2 (Mech Rm 134)	A.O. Smith, Bradford White Corp	HW300872, D80T1803N

ATTACHMENT J-1502000-15  
FACILITY SYSTEM INVENTORIES

MCRC HUNTSVILLE, AL HIMARS MAINTENANCE FACILITY (BUILDING 3506B)					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Fan (duct)	EF-1	1	Head 102		
Fan (wall)	EF-2, EF-3	2	Maintenance Bay 100		
Fan Coil Unit	AHU-1 through AHU-5	5	AHU-1 (Office 101), AHU-2 (Head 102), AHU-3 (Shop & Parts Storage 103), AHU-4, AHU-5 (Mezzanine 200)	Daiken Industries	FTXS09DVJU, FTXS09DVJU, FTXS15DVJU, CTXS09DVJU, CTXS09DVJU
Heat Pump - Split	HP-1 through HP-4	4	Perimeter	Daiken Industries	RX09FVJU, 2MXS18DVJU, RX09FVJU, RX15FVJU
Heater - Unit, Forced Air, Gas	UH-1	6	Maintenance Bay 100		
Lighting (exterior)	Lighting		On exterior of building		
Lighting (interior)	Lighting		HIMARS Maintenance Facility		
Panelboards	PB-4, PB-5	2	Maintenance Bay 100		
Fire Detection and Alarm System	FA-1	1	HIMARS Maintenance Facility		
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-3	3	FE-1, FE-2 (Maintenance Bay 100), FE-3 (Office 101)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-3	3	FE-1, FE-2 (Maintenance Bay 100), FE-3 (Office 101)		
Crane - Overhead (monorail), Electric	COE-1	1	Maintenance Bay 100	Hoist - Yale	
Air Compressor	AC-1	1	Maintenance Bay 100	Ingersoll Rand	2-2475E5V-FP
Air Dryer - Refrigerant	ADR-1	1	Maintenance Bay 100	Ingersoll Rand	D451N
Door-Overhead (electric)	DR-1, DR-2	2	Maintenance Bay 100		
Emergency Eyewash & Shower	EES-1	1	Maintenance Bay 100		
Plumbing Fixtures (by room)	PF-1	1	Head 102		
Pump - Sanitary Lift	PSL-1, PSL-2	2	Perimeter, sewage lift station		
Water Heater-Electric	WHE-1	1	Head 102		

ATTACHMENT J-1502000-16  
FACILITY SYSTEM INVENTORIES

MCRC MONTGOMERY, AL					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Split System	ACS-1	1	Roof (Above Armory, Room 300)	Liebert	PFH020A-PL3
Air Handling Unit	AHU-1, AHU-2, AHU-3, AHU-4	4	AHU-1 (Rm 144), AHU-2 (Rm 200), AHU-3 (Rm 174), AHU-4 (Maintenance Shop, Weight Room 400)	Trane	M Series Climate Changer except AHU-4 - TWE024P130B0
Chiller - Air Cooled	ACC-1	1	Outside, adjacent to Drill Hall 174	Trane	RTAA0704XQ01A3D0B
Coil-Duct (electric heat)	DH-1	1	Maintenance Building (new), Bay		
Damper (motorized)	D-1 through D-5	5	D-1, D-2 (AHU-1), D-3, D-4 (AHU-2), D-5 (AHU-3)		
Damper (motorized )	D-6 (Exhaust, wall), D-7 (OA intake, duct), D-8 (return air, duct)	3	Maintenance Building (new), Bay		
Fan (duct)	SF-1	1	Maintenance Building (new), Bay	Loren Cook Co	
Fan (roof)	EF-1 through EF-4	4	Roof	Greenheck Fan Corp	6B-101-4X-QD-R3, 6B-101-4X-QD-R3, 6B-081-6, 6B-081-6
Fan (wall)	EF-5 through EF-8, SF-1 through SF-4, EF-9, EF-10	7	EF-5 through EF-8, SF-1 through SF-4 (Attic), EF-9 (Maintenance Shop, Room 401), EF-10 (Hazmat Locker)	Greenheck Fan Corp	
Fan Coil Unit	FCU-1	1	Armory, Room 301	Rheem	
Fan Coil Unit-Computer	CRU-1	1	Armory, Room 300	Liebert	DME020E-PH3
Heat Pump - Split	HPS-1, CU-4	2	HPS-1 (Roof, above Armory 301), CU-4 (Outside, adj to Maintenance Shop, Weight Room 400)	Rheem, Trane	RPKA-018JAZ, 2TWB0024A1000AB
System Water-Chilled Water	CW-1	1	Room 144		
Terminal-VAV	VAV-1 thru VAV-33	33	Throughout building	VariTrane Single Duct	
Lighting (exterior)	Lighting		Attached to buildings and pole lighting		
Lighting (interior)	Lighting		Administrative Building, Maintenance Building, Maintenance Shop, Armory, Hazmat Locker		
Panelboard	PB-HDP, PB-MDP, PB-HA, PB-HB, PB-HC, PB-HD, PB-LP1, PB-LP2, PB-LP3, PB-LP4, PB-LP5, PB-LP6, PB-M, PB- LA, PB-1, PB-Hazmat	16	PB-HDP (outside, adj to room 144), PB-MDP (Room 141), PB-HA (Room 108), PB-HB (Room 131), PB-HC (Corridor 135), PB-HD (Room 164), PB-LP1 (Drill Hall 174), PB-LP2 (Corridor 135), PB-LP3 (Corridor 118), PB-LP4 (Room 158), PB-LP5 (Stair Well 115), PB-LP6 (Maintenance Shop, Weight Room 400), PB-M (Maintenance Shop, Room 402), PB- LA (Armory, Room 300), PB-1 (Maintenance Building (new), Bay), PB-HazMat (HazMat Lkr)		
FP - Detection and Alarm System	FP - Detection		Administrative Building		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-15	15	FE-1 (Corridor 102), FE-2 (Corridor 103), FE-3 (Corridor 104), FE-4 (Corridor 118), FE-5 (Corridor 128), FE-6 (Corridor 134), FE-7 (Corridor 134), FE-8 (Corridor 143), FE-9 (Corridor 146), FE-10 (Room 156), FE-11 (Corridor 168), FE-12 (Corridor 171), FE-13 (Drill Hall 174), FE-14 Drill Hall 174), FE-15 (Maintenance Building, Rm 402)		

Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-15	15	FE-1 (Corridor 102), FE-2 (Corridor 103), FE-3 (Corridor 104), FE-4 (Corridor 118), FE-5 (Corridor 128), FE-6 (Corridor 134), FE-7 (Corridor 134), FE-8 (Corridor 143), FE-9 (Corridor 146), FE-10 (Room 156), FE-11 (Corridor 168), FE-12 (Corridor 171), FE-13 (Drill Hall 174), FE-14 Drill Hall 174), FE-15 (Maintenance Building, Rm 402)		
Fire Sprinkler, Dry Chemical	FSC-1	1	HazMat Locker		
Air Compressor	AC-1, AC-2	2	AC-1 ( Maintenance Shop, Room 402), AC-2 (Maintenance Building (new), Bay)	Curtis-Toledo Inc	Curtis Master Line, 0V907
Door-Overhead (manual)	DR-1, DR-2, DR-3	3	DR-1 (Office 119), DR-2 (Maintenance Shop, Room 401), DR-3 (Maintenance Shop, Room 402)		
Door-Overhead (motorized)	DR-4	1	Maintenance Building (new), Bay		
Drinking Fountain	DF-1, DF-2	2	DF-1 (Corridor 128), DF-2 (Drill Hall 174)		
Emergency Eyewash & Shower	EES-1	1	Maintenance Shop, Room 402		
Gutters/Down Spouts Cleaning	G-1, G-2	1	G-1 (Administrative Building), G-2 (Maintenance Building (new))		
Plumbing Fixtures (by room)	PF-1 through PF-15	15	PF-1 (Rm 112), PF-2 (Rm 113), PF-3 (Rm 124), PF-4 (Rm 125), PF-5 (Rm 126), PF-6 (Rm 127), PF-7 (Rm 129), PF-8 (Rm 132), PF-9 (Rm 153), PF-10, (Rm 154), PF-11 (Rm 155), PF-12 (Rm 160), PF-13 (Rm 161), PF-14 (Maintenance Shop, Rm 402), PF-15 (Maintenance Shop, Exterior)		
Pump (chilled)	P-1, P-2	2	Room 144		
Slide Gate Operator & Entry System	SGO-1. SGO-2	2	Front Gate	Doorking, Inc	Model 9150
Water Heater-Electric	WH-1 through WH-6	6	WH-1, WH-2, WH-3 (Room 131), WH-4 (Maintenance Shop, Room 402), WH-5 (Room 113), WH-6 (Maintenance Building (new))	A.O. Smith except WH-5 - Rheem	DIVE_120A_916, DIVE_120A_916, DIVE_120A_916, DIVE_80A_916, 666H-400, ECJN 40 200

ATTACHMENT J-1502000-17  
FACILITY SYSTEM INVENTORIES

**MCRC JACKSONVILLE, FL**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Split System	CU-2	1	Next to VMF, Tools, 109	Trane	2TTB3030A1000AA
Air Handling Unit	AHU-1	1	Mech 146	Trane	MCCB050UA0B0UA
Chiller - Air Cooled	CH-1	1	Chiller 148	Trane	RTAA 1104 YR01 A300 GNB
Coil-Duct	EDH-1	1	Mech 146		
Damper (Motorized) (Air intake for VMF, Bay 104)	D-1, D-2	2	VMF, Bay 104		
Fan Coil Unit	HP-1, AC-2	2	HP-1 (VMF, Comp 102), AC-2 (VMF, Comm 201)	Trane	2TEC3F42A1000AA, 2TEC3F30A1000AA
Fan (duct )	EF-3, EF-4, EF-11 through EF-15	7	EF-3 (VMF, Bay 104), EF-4 (VMF, Parts 110), EF-11 (Locker 138), EF-12 (Fitness Center 123), EF-13 & EF-14 (Corridor 111), EF-15 (Mech 146)		
Fan (wall)	EF-1, EF-2, EF-5 through EF-10, EF-16, EF-17	10	EF-1, EF-2 (VMF, Bay 104), EF-5 (VMF, Serves Tools 109), EF-6 (VMF, Serves Lube 100), EF-7 (VMF, Serves Fire Pump 112), EF-8 (VMF, Serves Janitor 102), EF-9 (VMF, Serves Battery 101), EF-10 (VMF, Serves Unisex Toilet 107), EF-16 (HazMat Lkr A), EF-17 (HazMat Lkr B)	Penn Barry EF-5 through EF-10	WFX10R, WFX11Q, WFX11R, WFX10R, WFX11Q, WFX10R
Heat Pump - Split	CU-1	1	Next to VMF, Janitorial 102	Trane	2TWB3036A1000AA
Heater-Unit, Forced, Elect	UH-1 through UH-12	12	UH-1 through UH-8 (VMF, Bay 104), UH-9 (VMF, Parts 110), UH-10 (VMF, Tools 109), UH-11 (VMF, Fire Pump 112), UH-12 (VMF, Comp 102)	Qmark	UH-1 through UH-8 - MUH074, UH-9 through UH-12 - MUH0341
System Water-Chilled Water	CW-1	1	Chiller 148		
Terminal-VAV	VAV1-1 through VAV1-27 (VAV1-3 & VAV1-22 not used), FPB1-1, FPB1-2	27	Prior Service Recruiter 106, Lockers 138, Not Used, Supply Storage 143, Supply Storage 143, Lockers 138, Lockers 138, PWST Support Team 105, Corridor 111, Corridor 111, NMCI Sec 109, Lockers 138, Corridor 111, Corridor 111, Showers 133, Corridor 137, Corridor 129, Corridor 129, Corridor 129, Corridor 129, Corridor 129, Corridor 129, Not Used, Corridor 129, Corridor 129, Lavatory 130, Corridor 129, Corridor 129, Fitness Center 123, ISMT Trainer 128	Trane	VCEF - VAV, VSEF - FPB
Lighting (exterior)	Lighting		Fixtures attached to all buildings and pole lighting		
Lighting (interior)	Lighting		Administrative, VMF, Hazmat Lockers 1 and 2		
Panelboard	PB-MDP, PB-HA1, PB-HA2, PB-LA1, PB-LA2, PB-LA3, PB-LA4, PB-LA5, PB-HB1, PB-HB2, PB-LB1, PB-LB2, PB-LB3, PB-HazMatA, PB-HazMatB, PB-WP	16	PB-MDP, PB-HA1, PB-HA2, PB-LA1, PB-LA2, PB-LA3, PB-LA4, & PB-LA5 (Elect 147), PB-HB1, PB-HB2, PB-LB1, PB-LB2 & PB-LB3 (VMF, Elect 202), PB-HazMat1 (HazMat Lkr A), PB-HazMat2 (HazMat Lkr B), PB-WP (Vehicle wash Rack)		
Transformer-Dry	T-1through T-4	4	T-1 (Elect 147), T-2 (VMF, Elect 202), T-3 (VMF, Elect 202), T-4 (Adjacent to vehicle wash facility)		
Fire Detection and Alarm System		2	Administrative Building, VMF		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-17	17	FE-1 (Corridor 111), FE-2 (Lounge 124), FE-3 & FE-4 (Corridor 129), FE-5 (Corridor 137), FE-6 (Armory 141), FE-7 & FE-8 (Drill Hall 142), FE-9 & FE-10 (Supply Storage 143), FE-11 (Mech 146), FE-12 (Elect 147), FE-13 (VMF, Battery 101), FE-14 & FE-15 (VMF, Bay 104), FE-16 (VMF, Fire Pump 112), FE-17 (VMF, Elect 202)		

Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-17	17	FE-1 (Corridor 111), FE-2 (Lounge 124), FE-3 & FE-4 (Corridor 129), FE-5 (Corridor 137), FE-6 (Armory 141), FE-7 & FE-8 (Drill Hall 142), FE-9 & FE-10 (Supply Storage 143), FE-11 (Mech 146), FE-12 (Elect 147), FE-13 (VMF, Battery 101), FE-14 & FE-15 (VMF, Bay 104), FE-16 (VMF, Fire Pump 112), FE-17 (VMF, Elect 202)		
Fire Hydrant	FH-1 through FH-3	3	FH-1 (adjacent to VMF), FH-2 (adjacent to vehicle wash facility), FH-3 (adjacent to Administrative building)		
Fire Pump	FP-1, FP-2	2	VMF, Fire Pump 112	Aurora	4x481x11C
Pump (Jockey pump)	P-4	1	VMF, Fire Pump 112	Aurora	004_934_BF
Fire Sprinkler, Dry Chemical	FSC-1, FSC-2	2	FSD-1 (HazMat Locker A), FSD-2 (HazMat Locker B)		
Fire Sprinkler, Wet	FSW-1, FSW-2	2	FSW-1 (Administrative Building), FSW-2 (VMF)		
Fire Water Supply Tank	FWST-1	1	Adjacent to VMF		
Crane-Overhead Bridge	COB-1	1	VMF, Bay 104	Bridge-AAA Hoist & Crane Co Hoist-Engineered Material Handling	Hoist - EME2068
Air Compressor - Rotary	AC-1	1	VMF, Comp 102	UP6-15C-150	UP4239U06254
Air Dryer - Refrigerant	ADR-1	1	VMF, Comp 102	DS50_42493536-115/1/60	3096130002
Door-Overhead (motorized)	DR-1 through DR-6	6	DR-1, DR-2 (Drill Hall 142), DR-3 (Supply Storage 143), DR-4 through DR-6 (VMF, Bay 104)		
Drinking Fountain	DF-1 through DF-6	6	DF-1, DF-2 (Corridor 129), DF-3, DF-4 (Corridor 137), DF-5, DF-6 (VMF, Bay 104)		
Emergency Eyewash & Shower	EES-1	1	VMF, Bay 104		
Gutters/Down Spouts Cleaning	G-1, G-2	2	G-1 (Administrative Building), G-2 (VMF)		
Ice Machine	IM-1	1	Laundry 139		
Plumbing Fixtures	PF-1 through PF-14	14	PF-1 (Jan 114), PF-2 (HC Toilet 115), PF-3 (Medical Exam Rm 119), PF-4 (Lounge 124), PF-5 (Lav 130), PF-6 (Women 131), PF-7 (Men 132), PF-8 (Showers 133), PF-9 (Lockers 138), PF-10 (Weapons Cleaning 145), PF-11 (Perimeter of Administrative Building), PF-12 (VMF, Comp 102), PF-13 (VMF, Bay 104), PF-14 (VMF, Unisex Toilet 107)		
Pump (chilled water)	P-1, P-2	2	Chiller 148	Bell & Gossett	Size 1510 BF 9.25
Pump (potable hot water)	P-3	1	Water Heater 140		
Pump - Sanitary Lift	PSLG-1, PSLG-2	2	Sanitary Lift Station, Front Parking Lot		
Refrigerator	R-1	1	Med Office 118		
Shutter-Roll-Up	S-1	1	Supply Storage 143		
Slide Gate Operator & Entry System	SGO-1	1	Front gate	Door King	9150-080
Water Heater-Electric	EWH-1, EWH-2	2	EWH-1 (Water Heater 140), EWH-2 (VMF, Comp 102)	Precision Boiler, Inc., Lochinvar	HWS-4290V-165B-480-125PS, LTJ040KK

ATTACHMENT J-1502000-18  
FACILITY SYSTEM INVENTORIES

MCRC TAMPA, FL ADMINISTRATIVE BUILDING, VMF1					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Split System	CU-1, CU-2	2	CU-1 (Perimeter, adj to Server 118), CU-2 (Perimeter, adj to Armory 128A)	Mitsubishi, Trane	MU-A12WA, 4TWB3036A1000AA
Air Conditioner-Window	ACW-1, ACW-2, ACW-3	3	ACW-1 (VMF1, Office 100), ACW-2 (VM1, Parts 104), ACW-3 (VMF1, Office 105)		
Fan (duct)	EF-9 (Vehicle Exhaust)	1	VMF1, Maintenance 101		
Fan (roof)	EF-1 through EF-8 (Note 4)	8	Roof	Loren Cook Co	100 ACFH 100C10DH, 100 ACFH 100C15DH, 70 ACF1 70C15D1, 70 ACF1 70C15D1, 100 ACFH 100C10DH, 100 ACFH 100C10DH, 100 ACFH 100C10DH
Fan (wall)	EF-10, EF-11	2	VMF1, Maintenance 101		
Fan Coil Unit	AC-1, AC-2	2	AC-1 (Server 118), AC-2 (Armory 128A)	Mitsubishi, Trane	Unknown, 4TEH3F36B1000AB
Heater - Unit, Infra-red, Gas	HUIG-1 through HUID-6	6	HUIG-1 through HUIG-4 (VMF1, Maintenance 101), HUIG-5, HUIG-6 (VMF1, Garage 102)		
Rooftop Unit	RTU-1 through RTU-7 (Note 3)	7	Roof	York/Johnson Controls	XT0-051X069- BAJA017A, XT0-051X069- BAJA017A, XT0-036X054- BAGA017A, XT0-033X045- BAGA017A, XT0-033X051- BAGA017A, XT0-033X045- BAGA017A, XT0-033X033- BAEA017A
Lighting (exterior)	Lighting		Administrative, VMF1 (Lights attached to building exterior)		
Lighting (interior)	Lighting		Administrative, VMF1		
Panelboard	PB-PA, PB-MDP1, PB-MDP2, PB-NGP, PB-PC, PB-PD, PB-VMF-2, PB-VMF, PB-VMF-1, PB-MEZZ	10	PB-PA (Corridor 102), PB-MDP1, PB-MDP2 (Mechanical 123), PB-NGP (Drill Hall 128), PB-PC, PB-PD (Corridor 142), PB-VMF-2 (VMF1, Maintenance 101), PB-VMF, PB-VMF-1 (VMF1, Garage 102), PB-MEZZ (VMF1, Mezzanine)		
Fire Detection and Alarm System	FA-1, FA-2	2	FA-1 (Administrative Building), FA-2 (VMF1)		
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-7	7	FE-1 (Exterior wall adj to Mechanical 123), FE-2 (Armory 128A), FE-3 (Warehouse 129), FE-4, FE-5 (Corridor 142), FE-6 (VMF1, Garage 102), FE-7 (VMF1, Maintenance 101)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-7	7	FE-1 (Exterior wall adj to Mechanical 123), FE-2 (Armory 128A), FE-3 (Warehouse 129), FE-4, FE-5 (Corridor 142), FE-6 (VMF1, Maintenance 101), FE-7 (VMF1, Garage 102)		
Air Compressor	AC-1	1	VMF1, Maintenance 101	Ingersoll Rand	
Door-Overhead (manual)	DR-1	1	Warehouse 129		
Door-Overhead (motorized)	DR-2 through DR-6	5	DR-2 through DR-4 (VMF1, Maintenance 101), DR-5, DR-6 (VMF1, Garage 102)		

Drinking Fountain	DF-1, DF-2	2	DF-1 (Corridor 102), DF-2 (VMF1, Garage 102)		
Emergency Eyewash & Shower	EES-1	1	Perimeter, adj to VMF1		
Ice Machine	IM-1	1	Corridor 102		
Plumbing Fixtures (by room)	PF-1 through PF-8	8	PF-1 (Toilet 122), PF-2 (Break Rm 124), PF-3 (Toilet 124A), F-4 (Shower/Head 125), PF-5 Gang Shower 130), PF-6 (Men's Head 131), PF-7 (Janitor's Head 132), PF-8 (VMF1, Toilet 103)		
Pump (potable)	P-1 (hot water storage tank), P-2 (hot water system)	2	Mech Rm 123		
Water Heater-Electric	WHE-1, WHE-2	2	WHE-1 (Mech Rm 123), WHE-2 (VMF1, Toilet 103)	Rheem/Ruud, General Electric	ES85-54-G, 1207603024
Water Softener (potable)	WS-1	1	Adjacent to Mech Rm 123	Culligan	HCE-300-2

**MCR TAMP A, FL VMF2, BIG TOP STORAGE**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Fan (wall)	EVF-1, EVF-2, EF-1	3	EVF-1 (VMF2, Tool Room), EVF-2 (VMF2, Bay), EF-1 (Big Top Storage)		
Heater - Unit, Forced Air, Elect	UH-1, UH-2	2	VMF2, Bay		
Lighting (exterior)	Lighting		VMF2, Big Top Storage (Lights attached to building exterior)		
Lighting (interior)	Lighting		VMF2, Big Top Storage		
Panelboard	PB-VA, PB-U2	2	PB-VA (VMF2, Bay), PB-U2 (Perimeter, adj to Big Top Storage)		
Fire Detection and Alarm System	FA-1		VMF2		
Crane - Overhead Bridge	COB-1	1	VMF2, Bay	Florida Handling System (Hook - Stahl Crane Systems)	
Air Compressor	AC-1	1	VMF2, Bay	Curtis-Toledo Inc	5VTB-A3
Door-Overhead (manual)	DR-1	1	Big Top Storage		
Door-Overhead (motorized)	DR-2	1	VMF2, Bay		

**MCR TAMP A, FL CHILLER PLANT, TURRET TRAINING**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	WAC-1	1	Turret Training	Bard	W24A1-B06MXXX3J
Chiller - Air Cooled	CH-1	1	Chiller Plant	York/Johnson Controls	YLAA010IYE17
Fan (wall)	EF-1	1	Chiller Plant		
System Water-Chilled Water	CW-1	1	Chiller Plant		
Lighting (exterior)	Lighting		Chiller Plant, Turret Training (lights attached to building exterior)		
Lighting (interior)	Lighting		Chiller Plant, Turret Training		
Panelboard	PB-M1, PB-M2, PB-TT	3	PB-M1, PB-M2 (Chiller Plant), PB-TT (Turret Training)		
Fire Detection and Alarm System	FA-1	1	Turret Training		
Pump (chilled water)	CHWP-1, CHWP-2	2	Chiller Plant		

ATTACHMENT J-1502000-18  
FACILITY SYSTEM INVENTORIES

MCRC TAMPA, FL MODULAR BUILDINGS 1 THROUGH 4					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	ACP-1 through ACP-4	4	ACP-1 (Modular Building A), ACP-2 (Mogular Building B), ACP-3 (Modular Building C), ACP-4 (Modular Building D)	Bard	WA372-B09
Lighting (exterior)	Lighting		Modular Building A through Modular Building D (lights attached to exterior of building)		
Lighting (interior)	Lighting		Modular Building A through Modular Building D (lights attached to exterior of building)		
Panelboard	PB-1 through PB-4	4	PB-1 (Modular Building A), PB-2 (Mogular Building B), PB-3 (Modular Building C), PB-4 (Modular Building D)		
Fire Detection and Alarm System	FA-1 through FA-4	4	FA-1 (Modular Building A), FA-2 (Mogular Building B), FA-3 (Modular Building C), FA-4 (Modular Building D)		
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-4	4	FE-1 (Modular Building A), FE-2 (Mogular Building B), FE-3 (Modular Building C), FE-4 (Modular Building D)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-4	4	FE-1 (Modular Building A), FE-2 (Mogular Building B), FE-3 (Modular Building C), FE-4 (Modular Building D)		
Drinking Fountain	DF-1 through DF-4	4	DF-1 (Modular Building A), DF-2 (Mogular Building B), DF-3 (Modular Building C), DF-4 (Modular Building D)		
Plumbing Fixtures (by room)	PF-1 through PF-4	4	PF-1 (Modular Building A), PF-2 (Mogular Building B), PF-3 (Modular Building C), PF-4 (Modular Building D)		

MCRC TAMPA, FL MISCELLANEOUS - LIFT STATION, HAZMAT LOCKERS A & B, LITHIUM BATTERY STORAGE, BATTERY LOCKER, AAV SHED, GROUNDS					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Fan (wall)	EF-1 through EF-4	4	EF-1 (HazMat Locker A), EF-2 (HazMat Locker B), EF-3 (Lithium Battery Storage), EF-4 (Battery Locker)	Loren Cook Co	90 ACWL 90W15DL
Lighting (exterior)	Lighting		Lift Station, HazMat Lockers A & B, Lithium Battery Storage, Battery Locker, AAV Canopy (lights attached to building exterior), pole lighting		
Lighting (interior)	Lighting		Lift Station, HazMat Lockers A & B, Lithium Battery Storage, Battery Locker, AAV Shed		
Panelboard	PB-HazMatA, PB-HazMatB, PB-U1	3	PB-HazMatA (HazMat Locker A), PB-HazMatB (HazMat Locker B), PB-U1 (AAV Shed)		
Fire Extinguisher (portable) - Monthly Inspection	FE-1, FE-2	2	Battery Locker		
Fire Extinguisher (portable) - Annual Maintenance	FE-1, FE-2	2	Battery Locker		
Fire Hydrant	FH-1, FH-2	2			
Fire Sprinkler - Chemical (dry/wet)	FSC-1, FSC-2	2	FSC-1 (HazMat Locker A), FSC-2 (HazMat Locker B)		
Emergency Eyewash & Shower	EES-1, EES-2	2	EES-1 (Battery Locker), EES-2 (adj to VMF1)		
Oil Water Separator	OWS-1	1	Adj to AAV ramp		
Pump - Sanitary Lift	PSLG-1, PSLG-2	2	Lift Station		
Slide Gate Operator & Entry System	SGO-1	1	Front Gate	Liftmaster	Model SL580

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

**MCRW WINDY HILL, GA BUILDING 1114 (ADMINISTRATIVE)**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Split	ACS-1	1	Perimeter, adjacent to Telephone (NMCI) 121	Mitsubishi	PUY-A12NHA4
Air Handling Unit	AHU-1, AHU-2, AHU-3	3	AHU-1 (Mechanical 107), AHU-2 (Mech 122), AHU-3 (overhead, above Armory 137)	York	
Boiler - Electric	HWB-1	1	Mechanical 130	Precision Boiler, LLC	PCW1-105B-480-150
Chiller - Air Cooled	CH-1	1	Adjacent to Mech 130	York	
Damper (motorized)	D-1, D-2	2	D-1 (Mech 107), D-2 (Mech 130)		
Fan (duct)	EF-1 (serves Womens Toilet 131, Women's Shower/Locker 132, Men's Toilet 135, Lockers 136), EF-2 (serves Lockers 113, Men's Toilet 114, Toilet 123), EF-3 (serves O2 Room 115), EF-8 (serves Room 127)	4	EF-1 (overhead, above Lockers 136), EF-2, EF-3 (overhead, above Room 112), EF-8 (overhead, above Room 127)		
Fan (wall)	EF-4 through EF-6	3	EF-4 (Mech 107), EF-5, EF-6 (Room 118), EF-7 (Mech 130)		
Fan Coil Unit	FCU-1	1	Telephone (NMCI) 121	Mitsubishi	PKA-A12HA4
Heater-Unit, Forced Air, Steam/Water	UH-1 through UH-6	6	UH-1 through UH-4 (Room 118), UH-5 (Mechanical 107), UH-6 (Mechanical 130)	Trane	UHSA02082EAA1T
System Water-Chilled Water	CW-1	1	Mechanical 130		
System Water-Hot Water	HW-1	1	Mechanical 130		
Terminal-VAV	FPB-1 through FPB-12	12	Lobby 101, Lobby 101, Armory 137, Admin 106, Admin 106, Admin 106, Room 109, Corridor 119, Classroom 110, Classroom 111, Medical 126, Room 128	Titus	DTQP
Lighting (exterior)	Lighting		Attached to Exterior of Building 1114		
Lighting (interior)	Lighting		Building 1114		
Panelboard	PB-HB, PB-LB1, PB-LB2, PB-DA, PB-HA, PB-LA1, PB-LA2, PB-MDP	8	PB-HB, PB-LB1, PB-LB2 (Room 121), PB-DA, PB-HA, PB-LA1, PB-LA2, PB-MDP (Mech 130)		
Fire Detection and Alarm System	FA-1	1	Building 1114		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-8	8	FE-1 (Lobby 101), FE-2, FE-3 (Assembly 102), FE-3 (Administrative 106), FE-4 (Mech 107), FE-5, FE-6 (Corridor 119), FE-7 (Mech 122), FE-8 (Mech 130)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-8	8	FE-1 (Lobby 101), FE-2, FE-3 (Assembly 102), FE-3 (Administrative 106), FE-4 (Mech 107), FE-5, FE-6 (Corridor 119), FE-7 (Mech 122), FE-8 (Mech 130)		
Fire Sprinkler - Wet Pipe	FSW-1	1	Mechanical 107		
Air Compressor	AC-1	1	Mechanical 130	Emglo	
Door-Overhead (motorized)	DR-1 through DR-4	4	DR-1, DR-2 (Assembly 102), DR-3, DR-4 (Room 118)		
Drinking Fountain	DF-1, DF-2	2	Corridor 119		
Plumbing Fixtures (by room)	PF-1 through PF-9	9	PF-1 (Lockers 113), PF-2 (Men's Toilet 114), PF-3 (Toilet 123), PF-4 (Galley 129), PF-5 (Women's Toilet 131), PF-6 (Women's Shower/Locker 132), PF-7 (Men's Shower 133), PF-8 (Janitorial 134), PF-9 (Men's Toilet 135)		
Pump (chilled water)	CHP-1, CHP-2	2	Mechanical 130	Bell & Gossett	Series 1531

Pump (hot water)	HWP-1, HWP-2	2	Mechanical 130	Bell & Gossett	Series 80
Pump (potw)	P-1	1	Mechanical 130		
Water Heater-Electric	WHE-1	1	Mechanical 130	State Industries	3B6529IEEB

**MCRC WINDY HILL, GA BUILDING 1115 (ADMINISTRATIVE)**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Handling Unit	AHU-1	1	Equipment Mezzanine 144	York	
Boiler	B-1	1	Mechanical 131	Fulton	PHW-500
Chiller - Air Cooled	CH-1	1	Perimeter	York	YCAL0066EE17XEA
Fan (duct)	AEF-1	1	Gear Equipment Room 130		
System Water-Chilled Water	CW-1	1			
System Water-Hot Water	HW-1	1			
Terminal - VAV	VAV-1 through VAV-16	16	Throughout Building	Johnson Controls	TSS Series - 1-4, 6, 11, 12, 15, 16 TCS Series - 5, 7-10, 13, 14
Lighting (exterior)	Lighting		Attached to Exterior of Building 1115		
Lighting (interior)	Lighting		Building 1115		
Panelboard	PB	5	PB-DP1 (Electrical 125), PB-PP1 (Mechanical 131), PB-PP2 (section 1), PB-PP2 (section 2), PB-PP3 (Electrical 139A)		
Fire Detection and Alarm System	FA-1				
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-11	11	FE-1 (Lobby 101), FE-2 (Admin 108), FE-3 (Sprinkler Riser 119), FE-4 (Corridor 124), FE-5 (Electrical 125), FE-6 (Mechanical 131), FE-7 (Shop-Comm Maint 133), FE-8 (Corridor 134), FE-9 (Supply/Embark Storage 136), FE-10 (Armory 138), FE-11 (Equipment Mezzanine 144)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-11	11	FE-1 (Lobby 101), FE-2 (Admin 108), FE-3 (Sprinkler Riser 119), FE-4 (Corridor 124), FE-5 (Electrical 125), FE-6 (Mechanical 131), FE-7 (Shop-Comm Maint 133), FE-8 (Corridor 134), FE-9 (Supply/Embark Storage 136), FE-10 (Armory 138), FE-11 (Equipment Mezzanine 144)		
Fire Sprinkler - Wet Pipe	FSW-1	1	Sprinkler Riser 119		
Door-Overhead (manual)	DR-1, DR-2	2	DR-1 (Shop-Comm Maint 133), DR-2 (Supply/Embark Storage 136)		
Drinking Fountain	DF-1 through DF-4	4	DF-1, DF-2 (Corridor 124), DF-3, DF-4 (Fitness Room 126)		
Emergency Eyewash	EE-1	1	Shop-Comm Maint 133		
Plumbing Fixtures (by room)	PF-1 through PF-6	6	PF-1 (Exam 103), PF-2 (Toilet 105), PF-3 Women's Locker Room 127), PF-4 (Men's Locker Room 128), PF-5 (Unisex Toilet 137), PF-6 (Janitor Closet 139)		
Pump (chilled water)	CWP-1	1	Mechanical 131		
Pump (hot water)	WHP-1	1	Mechanical 131	Flo Fab	2000 - F810A
Pump (potw)	RP-1	1	Mechanical 131		
Shutter-Roll-up, Manual	SRM-1	1	Supply/Embark Storage 136		
Water Heater-Gas/Oil	WH-1	1	Mechanical 131	Bradford White	PDV100S2003N

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

MCRC WINDY HILL, GA BUILDING 1113					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	BDU-1, BOAU-1	2	Perimeter	BOAU-1 - Aaon	RQ-004-8-H-E60E-122
Air Conditioner - Split System	BACCU-1, BACCU-2	2	Perimeter		
Air Filter (HVAC)	AF-1, AF-2	2	See Tab: Detail - Air Filter		
Air Filter (HVAC)	AF-3, AF-4	2	See Tab: Detail - Air Filter		
Fan (duct)	BEF-1	1	Toilet 111		
Fan Coil Unit	BHP-1, BHP-2	2	HVAC Room 110		
Lighting (exterior)	Lighting		Attached to Exterior of Building 1113		
Lighting (interior)	Lighting		Building 1113		
Panelboard	PB-PP1, PB-PP2	2	Parachute Folding Rm 101		
Fire Detection and Alarm System	FA-1	1			
Fire Extinguisher (portable) - Monthly Inspection	FE-1, FE-2	2	Parachute Folding Rm 101		
Fire Extinguisher (portable) - Annual Maintenance	FE-1, FE-2	2	Parachute Folding Rm 101		
Fire Sprinkler - Wet Pipe	FSW-1		Parachute Folding Rm 101		
Hoist - Electric	H-1, H-2, H-3	3	Parachute Drying Tower 113		
Air Compressor	AC-1	1	Compressor Room	Bauer Compressors	DMT10-E3
Door-Overhead (manual)	DR-1	1	Parachute Folding Rm 101		
Drinking Fountain	DF-1	1	Parachute Folding Rm 101		
Gutters/Down Spouts Cleaning	G-1	1			
Plumbing Fixtures (by room)	PF-1 through PF-4	4	PF-1 (Oxygen Safe Room 105), PF-2 (Toilet 111), PF-3 (Vestibule 112), PF-4 (perimeter)		
Water Filtration - Reverse Osmosis	WF-1	1	Oxygen Safe Room 105	Watts	LC-200P
Water Heater-Electric	WH-1	1	Vestibule 112	Bradford White	M250T6D5-1NCWW

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

MCRC WINDY HILL, GA BUILDINGS 1102 (ISMIT TRAINING)					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	ACP-1	1	Perimeter, adj to building 1102	Trane	TSC092E3R0A0HH0B000000100
Air Conditioner - Split System	ACS-1	1	Perimeter, adj to building 1102	Mitsubishi	PUY-A18NHA2
Fan Coil Unit	FCU-1	1	Office	Mitsubishi	
Lighting (exterior)	Lighting		Attached to Exterior of Building 1102		
Lighting (interior)	Lighting		Building 1102		
Panelboard	PB-A, PB-B	2	Office		
Fire Detection and Alarm System	FA-1	1	Building 1102		
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-3	3	FE-1 (Office), FE-2 (Classroom), FE-3 (Compressor Room)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-3	3	FE-1 (Office), FE-2 (Classroom), FE-3 (Compressor Room)		
Air Compressor - Rotary	AC-1	1	Compressor Room	Ingersoll Rand	UP6-7.5TAS-125 PS
Drinking Fountain	DF-1, DF-2	2	Classroom		
Gutters/Down Spouts Cleaning	G-1	1	Building 1102		
Plumbing Fixtures (by room)	PF-1	1	Toilet		

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

MCRC WINDY HILL, GA BUILDINGS 1103 (GUARD SHACK), 1109, 1112, GROUNDS					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	ACP-1, ACP-2, ACP-3	3	ACP-1 (Building 1112, Office 1), ACP-2 (Building 1112, Office 2), ACP-3 (Building 1109)	Trane, Trane, Bard Manufacturing Co	PTEE1201UABB, PTEE1201UABB, Unknown
Air Conditioner - Split System	ACS-1	1	Perimeter, adj to Building 1112	Trane	RAUCC20ECZ130BD00009
Air Handling Unit	AHU-1	1	Building 1112, Storage 1	Powrmatic	TE-11HE
Fan Coil Unit	FCU-1	1	Building 1103	Carrier	FB48NF018
Heat Pump - Split	HPS-1	1	Adjacent to Building 1103	Carrier	38YCC018340
Lighting (exterior)	Lighting		All pole lighting in compound not attached to any buildings; Lights attached to buildings 1103 and 1112		
Lighting (interior)	Lighting		Buildings 1103, 1109, 1112		
Panelboard	PB-1, PB-2, PB-3	3	PB-1 (Building 1103), PB-2 (Building 1109), PB-3 (Building 1112)		
Fire Detection and Alarm System	FA-1	1	Building 1112		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-5	5	FE-1 (Building 1103), FE-2, FE-3 (Building 1112, Storage 1), FE-4, FE-5 (Building 1112, Storage 2)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-5	5	FE-1 (Building 1103), FE-2, FE-3 (Building 1112, Storage 1), FE-4, FE-5 (Building 1112, Storage 2)		
Fire Hydrant	FH-1, FH-2	2	FH-1 (adj to building 1101), FH-2 (adj to building 1107)		
Fire Sprinkler - Wet Pipe	FSW-1	1	Building 1112		
Hydraulic Lift - Loading Dock	HLD-1, HLD-2	2	Adj to Building 1114	Poweramp McGuire System	HSM535-15
Beam Barricade	BB-1	1	Adjacent to 1103	Delta Scientific	TT212EC (H)
Door-Overhead (manual)	DR-1	1	Building 1112, Storage 1		
Door-Overhead (motorized)	DR-2, DR-3	2	DR-2 (Building 1112, Storage 1), DR-3 (Building 1112, Storage 2)		
Gutters/Down Spouts Cleaning	G-1	1	Building 1112		
Plumbing Fixtures (by room)	PF-1	1	Building 1109		
Pump - Sanitary Lift	PSL-1, PSL-2	2	Adjacent to volley ball court		
Slide Gate Operator & Entry System	SGO-1	1	Gate by building 1114	Liftmaster	SL580-50-11-6

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

MCRC WINDY HILL, GA BUILDINGS 1105, 1107					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner - Package	ACP-1	1	Building 1105, Office	Inter-City Products	THA09K34STY
Air Conditioner-Window	ACW-1	1	Building 1107, Office		
Air Handling Unit	AHU-1	1	Building 1105, Work Area	Trane	TWE180B300BA
Fan (duct)	EF-1	1	Building 1105, Overhead, above Toilet		
Fan (wall)	EF-1, EF-2	2	EF-2 (Building 1107, Supply)		
Heat Pump - Split	HPS-1	1	Adjacent to building 1105	Trane	TWA180B300BA
Lighting (exterior)	Lighting		Attached to Exterior of Buildings 1105, 1107		
Lighting (interior)	Lighting		Buildings 1105, 1107		
Panelboard	PB-1, PB-2	2	PB-1 (Building 1105, Work area), PB-2 (Building 1107, Office)		
Fire Detection and Alarm System	FA-1	1	Building 1105		
Fire Extinguisher (portable)- Monthly Inspection	FE-1 through FE- 4	4	FE-1, FE-2 (Building 1105, Work area), FE-3 (Building 1107, Office), FE-4 (Building 1107, Supply)		
Fire Extinguisher (portable)- Annual Maintenance	FE-1 through FE- 4	4	FE-1, FE-2 (Building 1105, Work area), FE-3 (Building 1107, Office), FE-4 (Building 1107, Supply)		
Door-Overhead (manual)	DR-1	1	Building 1107, Supply		
Drinking Fountain	DF-1	1	Building 1105, Work Area		
Plumbing Fixtures (by room)	PF-1	1	Building 1105, Toilet		

ATTACHMENT J-1502000-19  
FACILITY SYSTEM INVENTORIES

MCRC WINDY HILL, GA BUILDINGS 1108 (VMF), HAZMAT LOCKER					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Damper-Motorized (OA Intake)	DM-1	1	Boat Engine Storage 100		
Fan (duct)	EF-1 (vehicle Exhaust), EF-2 (serves Battery Rm)	2	EF-1 (Maintenance Bay), EF-2 (overhead, above Battery Rm)		
Fan (duct)	EF-3 (serves Flammable Liquid Storage)	1	Overhead, above Flammable Storage Locker		
Fan (wall)	EF-4, EF-5, CEF-1	3	EF-4 (Maintenance Bay), EF-5 (HazMat Locker), CEF-1 (Boat Engine Storage 100)		
Fan Coil Unit	FCU-1	1	Overhead, above Corridor	Carrier	40AQ03030080
Heat Pump - Split	HPS-1	1	Adj to Building 1108	Rudd	UPKA-025JAZ
Heater-Unit, Forced Air, Electric	HUE-1, HUE-2	2	Boat Engine Storage 100		
Heater-Unit, Infra-red, Electric	HUIE-1 through HUIE-4	4	Maintenance Bay		
Lighting (exterior)	Lighting		Attached to Exterior of Building 1108		
Lighting (interior)	Lighting		Building 1108, HazMat Locker		
Panelboard	PB-A, PB-B, PB-HAZMAT, PB-PP2	4	PB-A, PB-B (Maintenance Bay), PB-HAZMAT (HazMat Locker), PB-PP2 (Boat Engine storage 100)		
Fire Detection and Alarm System	FA-1	1	Building 1108		
Fire Extinguisher (portable)-Monthly Inspection	FE-1, FE-2, FE-3	3	FE-1 (Corridor), FE-2, FE-3 (Maintenance Bay)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1, FE-2, FE-3	3	FE-1 (Corridor), FE-2, FE-3 (Maintenance Bay)		
Fire Sprinkler - Chemical (dry/wet)	FSC-1	1	HazMat Locker		
Fire Sprinkler - Wet Pipe	FSW-1	1	Storeroom		
Air Compressor	AC-1	1	Maintenance Bay	Saylor-Beall	705
Door-Overhead (manual)	DR-1	1	Boat Engine Storage 100		
Door-Overhead (motorized)	DR-2 through DR-5	4	Maintenance Bay		
Drinking Fountain	DF-1	1	Maintenance Bay		
Emergency Eyewash	EE-1	1	Maintenance Bay		
Gutters/Down Spouts Cleaning	G-1	1	Building 1108		
Oil Water Separator	OWS-1	1	Adj to Building 1108		
Plumbing Fixtures (by room)	PF-1	1	Toilet		
Water Heater-Electric	WHE-1	1	Maintenance Bay		

ATTACHMENT J-1502000-20  
FACILITY SYSTEM INVENTORIES

MCRC EASTOVER, SC ADMINISTRATIVE BUILDING, HAZMAT LOCKER					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Handling Unit	AHU-1 through AHU-4	4	AHU-1 (Gear Locker 132), AHU-2 (Assembly Hall 134), AHU-3 (Gear Locker 132), AHU-4 (Supply Storage 150)	McQuay	CAH 017 GDAC, LAH 010 A, LAH 005 ADH, LAH 010 ADV
Boiler	B-1	1	Mechanical 113	Weil-McLain	Model 88, Series 1
Chiller - Air Cooled	CH-1	1	Perimeter, adjacent to Mechanical 113	McQuay	AGZ085BSS27-ER11
Damper (Motorized)	D-1	1	Fire Pump 151		
Fan (duct)	EF-1 through EF-4, SF-1, SF-2	6	EF-1, SF-2 (Mechanical 113), EF-2 (Med Toilet 120), SF-1, EF-3 (Gear Locker 132), EF-4 (Fire Pump 151)		
Fan Coil Unit	FCU-1 through FCU-3	3	FCU-1 (Comm Rm 122), FCU-2 (Comm Tech 135), FCU-3 (Armory 131)	Enviro-Tec	HLP-Horizontal Concealed Plenum Return, HLE-Horizontal Ceiling Exposed Cabinet, HLE-Horizontal Ceiling Exposed Cabinet
Heater-Unit, Forced Air, Elect	EUH-1	1	Fire Pump 151		
System Water-Chilled	CW-1	1	Mechanical 113		
System Water-Heating Hot Water	HW-1	1	Mechanical 113		
Terminal-VAV	V-1 through V-16	16	Classroom 121, Classroom 121, Classroom 115, Classroom 115, Classroom 115, Med Office 116, Supply Office 114, Hall 102, Conference Room 104, Lounge 123, Lounge 123, Office 106, Office 107, Hall 103, Office 136, Hall 103	Enviro-Tec	SDR-WC
Lighting (exterior)	Lighting		Lights attached to all buildings and pole lighting		
Lighting (interior)	Lighting		Administrative		
Panelboard	PB-A, PB-B, PB-C, PB-M, PB-MDP, PB-HA, PB-LA	7	PB-A (Hall 103), PB-B (Hall 102), PB-C (Assembly Hall 134), PB-M, PB-MDP (Mechanical 113), PB-HA, PB-LA (Supply Storage 150)		
Fire Detection and Alarm System	FA-1	1	Administrative Building		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-10	10	FE-1, FE-2 (Hall 102), FE-3 (Hall 103), FE-4 (Mechanical 113), FE-5 (Gear Locker 132), FE-6 (Assembly Hall 134), FE-7, FE-8, FE-9 (Supply Storage 150), FE-10 (Fire Pump 151)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-10	10	FE-1, FE-2 (Hall 102), FE-3 (Hall 103), FE-4 (Mechanical 113), FE-5 (Gear Locker 132), FE-6 (Assembly Hall 134), FE-7, FE-8, FE-9 (Supply Storage 150), FE-10 (Fire Pump 151)		
Fire Hydrant	FH-1	1	Perimeter		
Fire Pump	FP-1	1	Fire Pump 151	Patterson Pump Company	8x8 MJ
Pump (Jockey pump)	P-1	1	Fire Pump 151	Grundfos	CR1-7 A-FGJ-A-E-HQQE
Fire Sprinkler, Wet	FSW-1	1	Administrative Building		
Door-Overhead (motorized)	DR-1	1	Supply Storge 150		
Drinking Fountain	DF-1 through DF-4	4	DF-1, DF-2 (Hall 102), DF-3, DF-4 (Assembly Hall 134)		
Gutters/Down Spouts Cleaning	G-1	1	Vehicle Wah Facility		
Plumbing Fixtures (by room)	PF-1 through PF-6	6	PF-1 (Med Toilet 120), PF-2 (Womens Toilet 125), PF-3 (Janitorial 126), PF-4 (Mens Toilet 128), PF-5 (Mens Locker Room 129), PF-6 (Shower 129A)		
Pump (chilled water)	CHWP-1, CHWP-2	2	Mechanical 113	Taco	KV3009AE2KC8721M

Pump (hot water)	HWP-1, HWP-2	2	Mechanical 113	Taco	1919
Pump-Sump	PS-1	1	Supply Storge 150		
Shutter-Roll-up (manual)	S-1	1	Comm Tech 135		
Shutter-Roll-up (motorized)	S-2	1	Supply Storge 150		
Water Heater-Electric	WHE-1	1	Mechanical 113	State Select	P6301OMSX
Water Heater-Oil	WHG-1	1	Mechanical 113	AO Smith	COF 199-940

ATTACHMENT J-1502000-20  
FACILITY SYSTEM INVENTORIES

**MCRC EASTOVER, SC VMF, HAZMAT LOCKER, GROUNDS**

Equipment	Designation	Quantity	Location	Manufacturer	Model
Damper (motorized)	D-1, D-2, D-3	3	DM-1 (Tool Rm 101), DM-2 (Oil Drum Storage 103), DM-3 (Mechanical Rm 154)		
Fan (duct)	EF-3 through EF-5, EF-6 (vehicle exhaust)	4	EF-3 (Tool Rm 102), EF-4 (Oil Drum Storage 103), EF-5 (Restroom 153), EF-6 (Bay 150)		
Fan (roof)	EF-1, EF-2	2	Roof	Greenheck	LB-24-7
Fan (wall)	EF-7 through EF-10	4	EF-7 (Mechanical Rm 154), EF-8 (Battery Rm 155), EF-9 (Electrical 156), EF-10 (HazMat Locker 1)		
Fan Coil Unit	HP-1 (indoor unit)	1	Corridor 203	Carrier	FX4CNF024
Heat Pump - Split	HP-1 (outdoor unit)	1	Perimeter, adj to Oil Drum Storage 103	Carrier	25HBB324A300
Heat Pump - Package	HP-2 (thru wall)	1	Office 151	Carrier	52CQF207351AA
Heater - Unit, Forced Air, Elect	EUH-1 through EUH-4	4	EUH-1 (Tool Rm 101), EUH-2 (Parts Rm 102), EUH-3 (Oil Drum Storage 103), EUH-4 (Battery Rm 155)	TPI Corporation	F1F5105N, F1F5103N, Unknown, HF2B5103N
Heater - Unit, Forced Air, Gas	GUH-1 through GUH-4	4	GUH-1 (Bay 150), GUH-2, GUH-3 (Bay 100), GUH-4 (Bay 150)	Reznor	F75-E-3
Lighting (exterior)	Lighting		VMF (lights attached to building exterior), Pole lighting		
Lighting (interior)	Lighting		VMF, HazMat Locker 1		
Panelboard	PB-PA, PB-MDB, PB-PB, PB-HazMat1, PB-LA (Adj to Drum Storage Facility)	5	PB-PA, PB-MDB (Elect/Telecom 157), PB-PB (Electrical 156), PB-HazMat (HazMat Locker 1), PB-LA (Adj to Drum Storage Facility)		
Fire Detection and Alarm System	FA-1	1	VMF		
Fire Extinguisher (portable) - Monthly Inspection	FE-1 through FE-6	6	FE-1 (Oil Drum Storage 103), FE-2 (Bay 150), FE-3, FE-4 (Corridor 203), FE-5 (Mezzaine 250), FE-6 (Vehicle Fuel Dispensing Station)		
Fire Extinguisher (portable) - Annual Maintenance	FE-1 through FE-6	6	FE-1 (Oil Drum Storage 103), FE-2 (Bay 150), FE-3, FE-4 (Corridor 203), FE-5 (Mezzaine 250), FE-6 (Vehicle Fuel Dispensing Station)		
Fire Sprinkler, Dry Chemical	FSD-1	1	FSD-1 (HazMat Locker 1)		
Fire Sprinkler - Wet Pipe	FSW-1	1	VMF		
Crane - Overhead Bridge	COB-1	1	Bay 100	Eastern Crane & Hoist Inc (Hoist: R&M Materials Handling Inc)	Hoist - SX50410080P56FDL04
Hydraulic Lift - Auto	HLA-1	1	Bay 150	Rotary Lift	SP09-200
Air Compressor	AC-1, AC-2	2	Mezzaine 250	Compair Kellog	B335BL
Air Dryer - Refrigerant	ADR-1	1	Mezzaine 250	Ingersol-Rand	Model-ESSICC Description-DSS50-H IR
Door, Overhead (motorized)	DR-1 through DR-5	6	DR-1 (Bay 100), DR-2 through DR-6 (Bay 150)		
Drinking Fountain	DF-1	1	Bay 150		
Emergency Eyewash & Shower	EES-1, EES-2	2	EES-1 (Bay 100), EES-2 (Bay 150)		
Plumbing Fixtures (by room)	PF-1, PF-2	2	PF-1 (Bay 150), PF-2 (Restroom 153)		
Pump	DHWP-1	1	Mezzaine 250		
Slide Gate Operator & Entry System	SGO-1	1	Entrance	Oscos	GSLG-A-111
Water Heater-Electric	WH-1	1	Mezzaine 250	AO Smith	ECT 40 200

ATTACHMENT J-1502000-21  
FACILITY SYSTEM INVENTORIES

MCRC MEMPHIS, TN					
Equipment	Designation	Quantity	Location	Manufacturer	Model
Air Conditioner (split system)	ACCU-1	1	Roof	Carrier	38BNB018311
Fan (roof)	EF-1 (serves Toilet 36), EF-2 (serves Toilet 27), EF-3	3	EF-1, EF-2 (roof), EF-3 (VMF, roof)	Breidert	RED12, RED10
Fan (wall)	EF-4, EF-5, EF-6	3	EF-4, EF-5 (Drill Hall 47), EF-6 (VMF, Training room)		
Fan (wall)	EF-7	1	HazMat Locker		
Fan Coil Unit	FCU-1	1	Armory 33	CAC/BDP	40BNB018301
Heater-Unit, Forced, Elect	UH-1, UH-2	2	Supply 45	TPI Corp	F2FUH05CA1
Heater-Unit, Forced, Gas	HUG-1 through HUG-9	9	HUG-1 (Corridor 46), HUG-2 through HUG-5 (Drill Hall 47), HUG-6, HUG-7 (VMF, Maint Bay), HUG-8, HUG-9 (VMF, Maint Bay 1)		
Heater-Unit, Infra-red, Gas	HUIG-1 through HUIG-4	4	HUIG-1 through HUIG-3 (VMF, Maint Bay), HUIG-4 (Maint Bay 1)		
Roortop Unit - Gas Heat	RTU-1 through RTU-4	4	Roof	Carrier	48TMD009-M-501GD, 48TMD008-A-501HV, 48TMD012-A-501GD, 48TMD012-A-501GD
Lighting (exterior)	Lighting		Wall packs attached to buildings and pole lighting		
Lighting (interior)	Lighting		Administrative, VMF, HazMat Locker		
Panelboard	PB-MDP, PB-B, PB-B1, PB-C, PB-E, PP-A_A, PP-P, PB-HazMat	8	PB-MDP, PB-B, PB-B1, PB-C, PB-E (Mech Rm 30), PP-A_A (Drill Hall 47), PP-P (VMF, Maint Bay), PB-HazMat (HazMat Locker)		
FP - Detection and Alarm System	FA-1	1	Building 26		
Fire Extinguisher (portable)-Monthly Inspection	FE-1 through FE-10	10	FE-1 (CPO 08), FE-2 through FE-5 (Corridor 31), FE-6 (Corridor 32), FE-7, FE-8 (Drill Hall 47), FE-9 (VMF, Maint Bay), FE-10 (VMF, Maint Bay 1)		
Fire Extinguisher (portable)-Annual Maintenance	FE-1 through FE-10	10	FE-1 (CPO 08), FE-2 through FE-5 (Corridor 31), FE-6 (Corridor 32), FE-7, FE-8 (Drill Hall 47), FE-9 (VMF, Maint Bay), FE-10 (VMF, Maint Bay 1)		
Fire Sprinkler - Chemical (dry/wet)	FSC-1	1	HazMat locker		
Door-Overhead (manual)	DR-1	1	VMF, Maint Bay 1		
Door-Overhead (motorized)	DR-2 through DR-5	4	DR-2 (Supply 45), DR-3 through DR-5 (VMF, Maint Bay)		
Plumbing Fixtures (by room)	PF-1 through PF-9	9	PF-1 (Work Area 24), PF-2 (Med Field 25), PF-3 (Toilet 27), PF-4 (Kitchen 29), PF-5 (Toilet 36), PF-6 (Janitor Closet 37), PF-7 (Shower 38A), PF-8 (Head 48), PF-9 (VMF, Head)		
Refrigerator	R-1	1	Med Field 25		
Slide Gate Operator & Entry System	SGO-1	1	Front gate	DKS Door King	
Water Heater-Gas	WHG-1	1	Mechanical Rm 30		

ATTACHMENT J-1502000-22  
TEMPERATURE STANDARDS

Area	Cooling Season*	Heating Season*
Living & Admin. Areas (Inactive Employment)	78	68
Working Areas (Active Employment)	78	68
Storage Areas	78	40
Computer Areas	70	68
Training Areas	75	68

NOTE: \*Degrees F. dry bulb

ATTACHMENT J-1502000-23  
MEMPHIS TENNESSEE  
BUILDING LAY-UP MONTHLY CHECKLIST

<b>Building No:</b>		<b>Building Name:</b>		
<b>Description (property record#, # floors, sq. ft., type of construction, use, location, etc..) :</b>				
<b>General Condition:</b>				
<b>Building Component</b>	<b>Layaway action</b>	<b>Present in bldg?</b>	<b>Complete (Y/N or NA)</b>	<b>Description of Layaway</b>
<b>Personal Property</b>	Inventory & secure in building.			Note location
<b>House Cleaning</b>	Remove debris & associated dumpsters. Broom sweep floors, vacuum carpets, clean bathrooms & fixtures			
<b>Roof</b>	Check strainers, gutters, down spouts, scuppers, and drains for proper operation. Ensure run-off from drainage systems is directed away from foundation walls. Repair and replace any damaged caps or counter flashing. Deteriorated caulking should be cleaned, backed, and caulked with new caulk to ensure the roof watertight.			Note location of leaks and associated repairs
<b>Exterior Surfaces</b>	Repair or replace any damaged exterior siding. Repair caulking failures around doorframes, window frames and other joints. Repair any masonry cracks that could allow moisture to penetrate into the facility. Secure exterior non-entry doors. Designate one point of entry/exit and identify with an 8x10inch bright yellow board with the words "AUTHORIZED PERSONNEL ONLY" in black. Any non-standard door should be locked/blocked from the inside and made as weather or windproof as possible. Close and lock all windows/screens. Repair and replace all broken windows/screens. Ensure all openings in buildings, such as chimneys, vents, grills, skylights, hatches, and louvers are screened, capped, or otherwise closed. Tighten any fasteners, screws, bolts, brackets, and nails securing exterior components.			Note location of repairs
<b>Locks &amp; Keys</b>	Key control should be obtained by changing existing locks on all exterior doors. Use established system for key control of interior doors. If no system is in place, leave keys in appropriate lock or bag and hang on the doorknob.			Note location of the keys. Contractors that need access shall have copies of new key.
<b>Heating, Air Conditioning Systems</b>	Building temperature should be no lower than 45 degrees and no higher than 85 degrees. Use existing thermostats and controls to maintain the temperature.			Note the location of valves shut. Secure makeup water lines.

<p><b>Heating, Air Conditioning Systems (cont.)</b></p>	<p>Shutdown boilers and related equipment in accordance with manufacturer’s guidelines. Consider the use of heat tape as a method to prevent pipes from freezing in areas of concern.</p> <p>Gas lines should be shut off and locked outside except when needed to provide heat. Humidifying systems should be shut down, flushed, cleaned, and drained.</p> <p>Chillers should be pumped down; any extra coolant should be removed.</p> <p>Receiver valves should be closed, tested for leaks and repaired.</p> <p>Water cooled chillers need the water drained or non-toxic antifreeze added to the system to prevent the bursting of pipes.</p> <p>Direct expansion systems should be pumped down and preserved in accordance with manufacturers guidelines</p> <p>Disconnect evaporator drains that are connected to the sanitary sewer system and cap.</p> <p>Air handlers that are not being used need filters removed. .</p> <p>Check all louvers/dampers are closed to the outside air, unless being used for a type of ventilation.</p> <p>Shut off water supply to cooling towers.</p> <p>Drain water from condenser and clean/neutralize in accordance to manufacturers guidelines.</p> <p>Disconnect drains that are connected to sewer lines</p> <p>All valves that get shut should be labeled with a vanilla tag that reads “<b>SHUT FOR LAYAWAY</b>”.</p>		
<p><b>Supplemental Ventilation</b></p>	<p><b>Passive ventilation-</b></p> <p>All interior room and closet doors are to be wedged in a fully open position.</p> <p>Exit stairwell fire doors should remain closed.</p> <p>In some cases just propping open existing louvers, may be enough passive ventilation.</p> <p><b>Mechanical ventilation-</b></p> <p>Controls must be replaced with components that sense and compare inside and outside relative humidity.</p> <p>The control system should be set to ensure the air handler is providing fresh air to the building if the RH is above 80%.</p> <p>Locate the indoor humidistat in a space that tends to have the highest RH.</p>		<p>Note which air handlers are being used for periodic maintenance</p>
<p><b>Plumbing Systems</b></p>	<p>Secure domestic water at the master valve or exterior curb valve.</p> <p>Inspect all supply and drain lines, repair and replace if necessary.</p>		<p>Note which systems are drained and tagged.</p>

	<p>If no curb valve and the main services lines are to remain active, one should be installed, and the line pumped out between it and the master valve.</p> <p>Check manufacturers specs to ensure hot water systems can be left dry.</p> <p>If so, then drain and post a note saying, “<b>SYSTEM DRAINED</b>”</p> <p>Open all interior and exterior faucets and drain all hot and cold water lines through valves, cleanout plugs, and other areas located at the lowest point in the system. Use compressed air to remove any remaining water from the pipes/lines.</p> <p>Traps need to be either blocked, covered, or kept wet.</p> <p>If flush meter is battery activated, disconnect batteries or maintain monthly. Take care not to block drain lines that service roof and floor drains those connections are to remain open.</p>		<p>Use ATV antifreeze in all drains that are subject to drying out and allowing sewer gases to escape.</p>
<p><b>Electrical Systems</b> <b>Electrical Systems</b> <b>(cont.)</b></p>	<p>All non-essential circuits are to be secured.</p> <p>Interior lighting should be left on to permit facility inspections.</p> <p>Update service box wiring chart to indicate which circuits that should remain energized.</p> <p>All electrical panels should be sealed as much as possible to minimize the moisture and pest intrusion</p> <p>Light switches should be in off position. All outlets should be de-energized.</p> <p>Care should be exercised not to de-energize circuits required for HVAC systems, fire and intrusion alarms, sump pumps, elevators and other essential electrical services.</p> <p>All motors should be stored in a dry location, protected in plastic.</p> <p>Any motors in a damp location should be cleaned covered and removed to a dry location.</p> <p>Exposed steel shafts should be cleaned with solvent and coated with corrosion preventive compound.</p> <p>Care should be taken not to get the compound in the bearings, brushes, windings, and similar parts.</p> <p>Grease bearings and wrap in plastic or waterproof paper to protect from dust and dirt.</p> <p>Lead acid batteries should be stored in a charging condition using a floating charge. If not possible to use a floating charge then drain the battery and place in dry storage.</p> <p>Nickel-Alkali batteries should be fully discharged and placed in dry storage.</p>		<p>Note which circuits are energized for layaway procedure</p>
	<p>Leads should be disconnected and taped.</p> <p>Terminals should be protected with corrosion preventive compound.</p>		

<b>Fire Protection &amp; Alarming Systems</b>	<p>Water supply should be maintained to fire hydrants throughout duration of the layaway. All fire protection should be maintained in an operational status, including fire alarms, sprinkler systems, individual building fire pumps, fire extinguishers, and other special systems.</p> <p>Drain piping in sprinkler systems if not in use.</p> <p>Locate and open all auxiliary drains on trapped sections.</p> <p>Remove all fire extinguishers if not needed, others shall be inspected regularly.</p>		<p>Confirm operational status</p>
<b>Elevators</b>	<p>Any elevator or escalator remaining in operational status must continue to be maintained, inspected, and certified in accordance with the Safety Code for Elevator and Escalators.</p> <p>Elevators taken out of service shall have power feed lines disconnected from the man disconnect switch.</p> <p>Suspension ropes should be removed, cars and counterweights shall be lowered to the bottom of the hoist way, and doors will be barricaded or sealed in the closed position on the hoist way side.</p> <p>Securely fasten signs to doors on each floor indicating that the unit is out of service.</p> <p>Layaway elevators in accordance to manufacturer's guideline.</p> <p>It may be necessary to maintain one or more elevators operational in certain buildings to allow maintenance personnel, when necessary maintain elevators in fully operational condition.</p>		<p>Note which elevators are still operational. Phones need to remain operational. Ensure contractor has key for inspections.</p>
<b>Miscellaneous Building Systems</b>	<p>Air compressors in all facilities should be drained of air and moisture.</p> <p>Preserve in accordance with manufacturers guidelines.</p> <p>Air dryers should be drained and preserved in accordance to manufacturer's guidelines.</p> <p>If Engines are present, run engines to remove fuel in lines, carburetors, fuel pumps, etc.</p> <p>Fuel lines and injectors shall be drained and filled with flushing oil.</p> <p>All openings in engine should be closed with plastic sheeting.</p> <p>Check all sump pumps for proper operation.</p>		<p>Note which engines have been drained and what kind of oil was drained from it</p>
<b>Appliances</b>	<p>Any vending machines, video games or related equipment should have the contract voided and have the equipment picked up.</p>		<p>Note location of vendors equipment</p>
	<p>Contracts need to be completed and paid in full</p> <p>Washer and Dryer if under contract have contractor pick them up, if not abandon in place.</p> <p>Notify the local telephone/internet provider to disconnect the service to the building.</p>		

<b>Pest Control Services</b> <b>Pest Control (Cont.)</b>	Ensure that all pest access points, such as chimneys, vents, grills, and louvers are screened, capped, or otherwise closed. Initiate treatment or prevention procedures for potentially damaging pests. Consider placement of rodent blocks where rodent activity is likely.			Note where activity is taking place if any
<b>Grounds</b>	<u>Remove all scrub brush, plants, and saplings from buildings to provide clear visibility of building doors and windows for security personnel.</u> <u>All manhole covers storm drains covers and tunnel or vault covers should be inspected to be sure they are in place and properly secured.</u> <u>Remove all brush and undergrowth from around fire hydrants.</u> <u>Repaint all fire hydrants so they are easily seen.</u> <u>Seal tunnels to prevent entrance to tunnels and closed buildings.</u>	-	-	-
<b>Contracts</b>	Close all contracts that will no longer be in use. For all other contracts, ensure modifications have been made.			Supply contractors that need access with new keys. Example of contracts: washer, dryer, vending, filter, janitorial, grounds, elevator, service, etc...

Submit a work request as needed to place the entrance information for new contracts.

The Contractor shall prepare and furnish a detailed cost estimate identifying proposed labor, hours, labor cost, material, O&P and equipment, per spec item 1502000, 3.1B to execute any required service identified above.

**Process**

The MARFORRES Regional Engineers will take action on the work order request. If approved, the Regional Engineers will forward the work order via share point to the MARFORRES facility Support Team. FST will contact the Contractor and arrange for the work to be completed. Per spec item J 1502000-05.

Point of contact Mr. Jack Patel jagdishchandra.patel@usmc.mil (504) 697-9841

**Report submission**

The contractor shall notify via email [anthony.m.martinez2@navy.mil](mailto:anthony.m.martinez2@navy.mil) and upload the monthly above report and any finding to Facility Service Contract Manager/COR. Per spec item 2.6.4