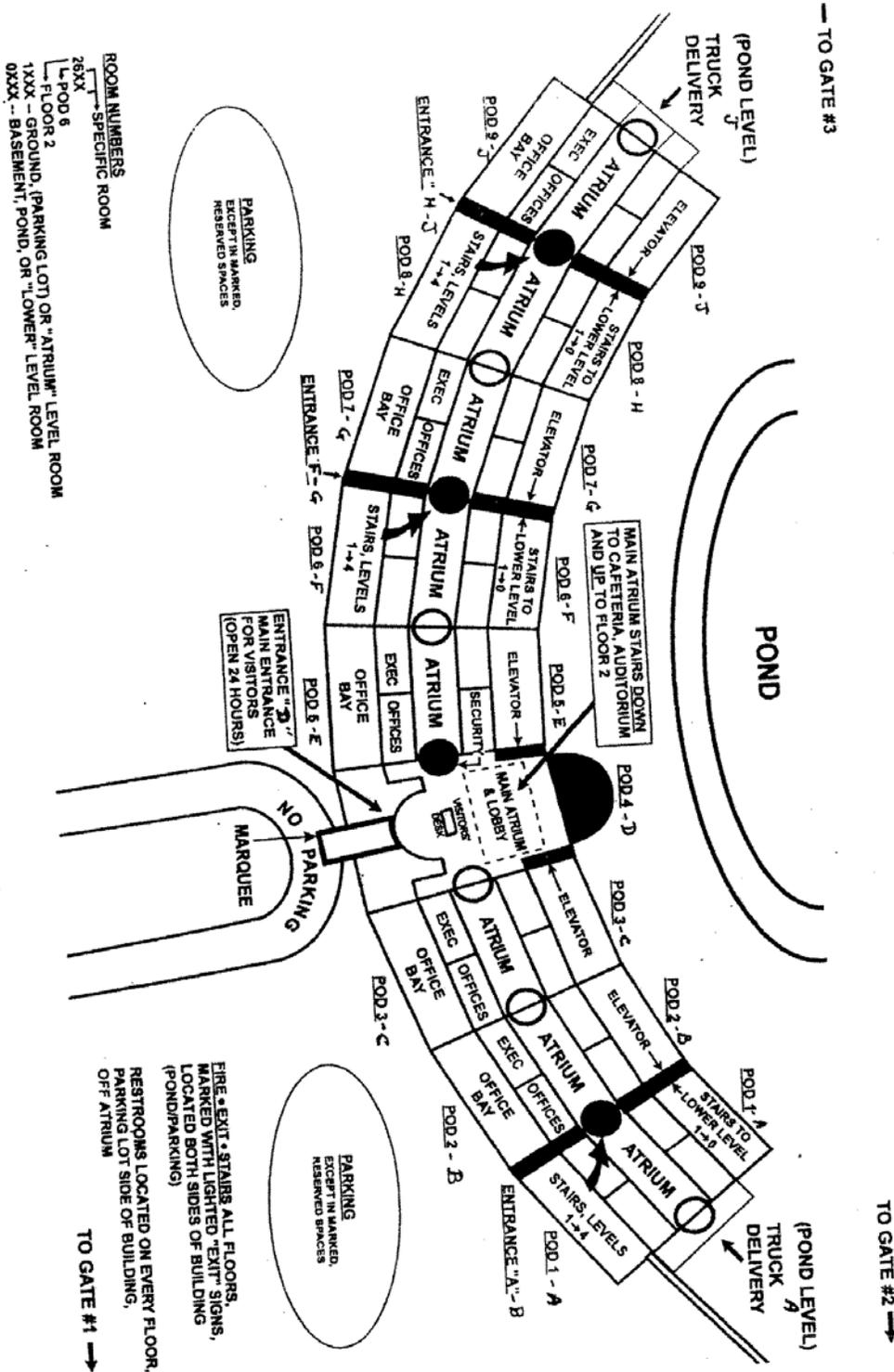


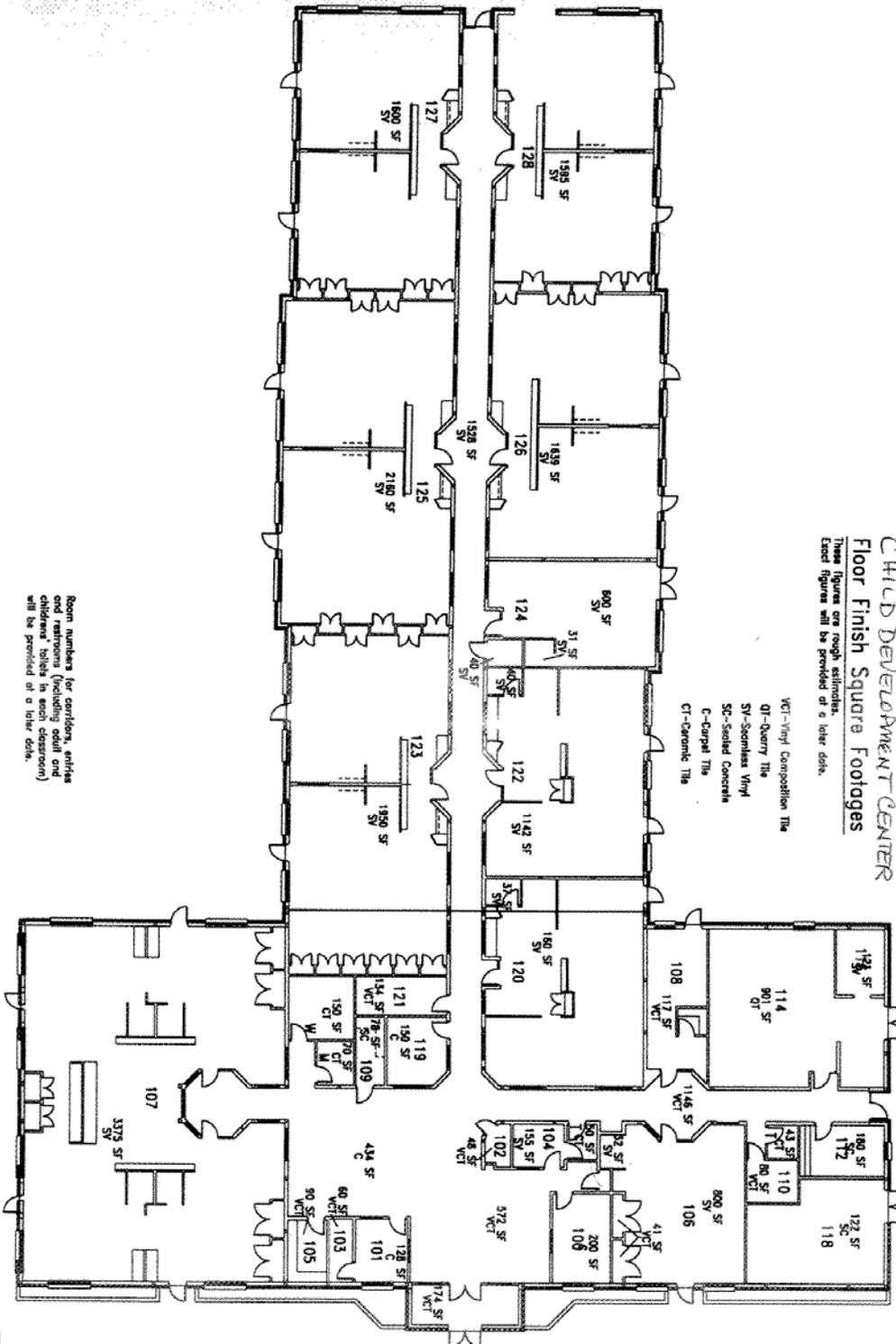
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

<u>ATTACHMENT NO.</u>	<u>ATTACHMENT NAME</u>	<u>PAGE</u>
C1	SECTION C – STATEMENT OF WORK	
C2	Wage Determination/Service Contract/Davis-Bacon Act (Located within Solicitation)	
C3	DESCRIPTION OF FACILITIES	
C4	GOVERNMENT FURNISHED FACILITIES	
C5	GOVERNMENT FURNISHED EQUIPMENT	
C6	GOVERNMENT FURNISHED MATERIAL	
C7	CONTRACTOR FURNISHED MATERIAL	
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C24	CLIENT AUTHORIZATION FORM	
C25	PAST PERFORMANCE SURVEY	

ATTACHMENT C3
DESCRIPTION OF FACILITIES

NAVIGATING THE HEADQUARTERS COMPLEX HQC, FT. BELVOIR





CHILD DEVELOPMENT CENTER
Floor Finish Square Footages
These figures are rough estimations.
Exact figures will be provided at a later date.

- VCT-Vinyl Composition Tile
- QT-Quarry Tile
- SV-Scarless Vinyl
- SC-Scrub Concrete
- C-Corral Tile
- CT-Ceramic Tile

Room numbers for corridors, entries and restrooms (including dual entry children's toilets (restrooms)) will be provided at a later date.



**DTRC ENTRANCE
LEVEL 1**

NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITTING	09/15/09	J. SMITH	J. SMITH
2	ISSUED FOR CONSTRUCTION	09/15/09	J. SMITH	J. SMITH
3	ISSUED FOR AS-BUILT	09/15/09	J. SMITH	J. SMITH
4	ISSUED FOR RECORD	09/15/09	J. SMITH	J. SMITH
5	ISSUED FOR ARCHIVE	09/15/09	J. SMITH	J. SMITH

- KEYNOTES**
- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES.
 - 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL MECHANICAL AND ELECTRICAL PLUMBING (IMEP) CODES.
 - 3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL CODES OF BOARDS AND STANDARDS (ICBS).
 - 4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL CODES OF BOARDS AND STANDARDS (ICBS).
 - 5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL CODES OF BOARDS AND STANDARDS (ICBS).

ATTACHMENT C4
GOVERNMENT FURNISHED FACILITIES

The Government shall provide the Contractor with two (2) rooms to be used for office space, rooms 0605 and 0607.

ATTACHMENT C5
GOVERNMENT FURNISHED EQUIPMENT

1. The Government will provide the Contractor with a workstation for a Supervisor, access to a Local Area Network (LAN) computer line, a personal computer to input data into the FACILITY CENTER FM system, and a telephone (Class C line) for use of the Supervisor/Project Manager for official business only. The Contractor may arrange for the installation of private business telephones at his expense and furnish the COR a list of those numbers.
2. The Contractor shall provide all other equipment and tools necessary for the proper performance of the work in this contract. Such equipment/tools shall be of the type customarily used in work of this kind and shall meet the approval of the COR. Back-up equipment/tools shall be made available to replace any defective equipment/tools that cannot be replaced within 72 hours.

**ATTACHMENT C6
GOVERNMENT FURNISHED MATERIAL**

- A. The Government will provide the Contractor with a workstation for a supervisor, access to a Local Area Network (LAN) computer line, a personal computer to input data in the SPAN FM system, and a telephone (Class C line) for use of the supervisor/project manager for official business only. The Contractor may arrange for the installation of a private telephone at his expense and furnish the COR a list of those numbers.
- B. The table below identifies specific Government furnished equipment. The Contractor shall provide all other equipment and tools necessary for the proper performance of the work in this contract. Such equipment/tools shall be of the type customarily used in work of this kind and shall meet the approval of the COR. Back-up equipment/tools shall be made available to replace any defective equipment/tools that cannot be replaced within 72 hours.

TRACKING NO.	ITEM	QTY	DESCRIPTION
AA	Tube Cleaner	1	REAM-A-Matic, Model #RAM-4, Serial # 20925 Included: remote foot switch, 20' cable, 40-1/2" nylon brushes, 4-5/8" brushes (all brushes in good condition)
AB	Ladder	2	8 foot, Fiberglass #FS2008
AC	Ladder	2	6 foot Fiberglass #FS2006
AD	Tank Sprayer	1	1.5 Gallon #3ZC31
AE	Tank	1	Fuel, 275 Gallon with Legs
AF	Network Terminal	1	Metasys, IO_NTU102-0, revision E, S/N 157368
AG	Zone Terminal	2	Metasys, AS-ZT100-1, Revision B, Programmed for fan powered box, with cord assembly and case S/N #DASC-W0003, S/N #DASC-W0009
AH	Zone Terminal	2	Metasys, AS-ZT100-1, revision B, Programmed for terminal reheat unit, with cord assembly and case S/N #DASC-W0007, S/N #DASC-W0010
AI	Zone Terminal	2	Metasys, AS-ZTU100-1, revision B, Programmed for dual duct VAV, with cord assembly and case, S/N #DASC-W0006, S/N #DASC-W0004
AJ	Monitor	1	LG Electronics Modes # 78W, S/N #803KG00169
AK	CPU	1	Gateway #BATC, S/N #0006572254
AL	Printer	1	HP Laser Jet 4, Model #C2001A, S/N #JPBXQ27243
AM	Model	1	External, Hayes Accura 28.8 Fax Modem, Model #5901US, S/N #A58759013122
AN	Keyboard	1	Dell, DS/NTH-0463 CD-37171-060-B532, DP/N 0463CD
AO	Mouse	1	Microsoft, S/N #3882A611
AP	Monitor	1	Goldstar, Model #Studio works 781, S/N #707KG02580
AQ	CPU	1	HP Vectra S/N #U574701652
AR	Printer	1	LaserJet, JP 4 Plus, Model #C2037A, S/N #USFC212319, with 10 Base-T Jet Direct Card
AS	Keyboard	1	HP M #970815196

AT	Mouse	1	Microsoft S/N #00119222
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- C. The table below identifies insurance items provided by the Government as discussed in Section C-1.3 (c). The Contractor shall be required to verify insurance items and quantities with the COR.

ITEM NO.	ITEM	QTY	DESCRIPTION
AA	DRIVE BELTS	13	4L270
AB	DRIVE BELTS	11	4L280
AC	DRIVE BELTS	10	4L290
AD	DRIVE BELTS	1	4L340
AE	DRIVE BELTS	2	5VX1120
AF	DRIVE BELTS	4	5VX1250
AG	DRIVE BELTS	22	5VX1320
AH	DRIVE BELTS	12	5VX1500
AI	DRIVE BELTS	5	5VX1600
AJ	DRIVE BELTS	4	A29
AK	DRIVE BELTS	9	A37
AL	DRIVE BELTS	1	A39
AM	DRIVE BELTS	24	A46
AN	DRIVE BELTS	9	A75
AO	DRIVE BELTS	5	AX34
AP	DRIVE BELTS	6	AX35
AQ	DRIVE BELTS	1	AX37
AR	DRIVE BELTS	4	AX42
AS	DRIVE BELTS	8	AX46
AT	DRIVE BELTS	7	AX48
AU	DRIVE BELTS	4	AX60
AV	DRIVE BELTS	2	AX68
AW	DRIVE BELTS	2	AX70
AX	DRIVE BELTS	11	BX38
AY	DRIVE BELTS	10	BX42
AZ	DRIVE BELTS	3	BX46
BA	DRIVE BELTS	1	BX54
BB	DRIVE BELTS	1	BX55
BC	DRIVE BELTS	1	BX60
BD	DRIVE BELTS	2	BX61
BE	DRIVE BELTS	3	BX62
BF	DRIVE BELTS	3	BX63
BG	DRIVE BELTS	2	BX65
BH	DRIVE BELTS	1	BX66
BI	DRIVE BELTS	5	BX67
BJ	DRIVE BELTS	1	BX71
BK	DRIVE BELTS	4	BX79
BL	DRIVE BELTS	2	BX83
BM	DRIVE BELTS	12	BX85
BN	DRIVE BELTS	2	BX103
BO	DRIVE BELTS	2	BX108
BP	DRIVE BELTS	22	BX162
BQ	COOLING TOWER MOTOR	1	US Motors, 25hp, 3 phase, 60 cycle, 208/230-460 volts, frame 284T, 1765 RPM, type D, Model #J374A, S/N #J374-Y11Y263R046

BR	MOTOR	1	Secondary Loop, Baldor Super E, 60dp hp, 3 phase, 60 cycle, 230/460 volts, frame 364TS, 1780 RPM, Series P10-95, Cat#M30D
BS	MOTOR SPEED CONTROL	1	Graham Frequency Control, 77amp capacity, with Logic Board, Model #2001H77
BT	MOTOR SPEED CONTROL	1	Graham Frequency Control, 96amp capacity, with Logic Board, Model #2001H96
BU	GOULD SHAWMUT, 700 VOLTS	10	A70P200-4
BV	GOULD SHAWMUT, 700 VOLTS	25	A70Q175-4
BW	GOULD SHAWMUT, 700 VOLTS	10	A70Q125-4
BX	GOULD SHAWMUT, 700 VOLTS	30	A50QS90-4
BY	GOULD SHAWMUT, 600 VOLTS	10	ATMR5
BZ	FERRAZ, PROTISTOR, 660/700 VOLTS	25	M330015, 30 amp
CA	LITTLE FUSE, 600 VOLTS	10	KLDR2
CB	GASKET, WATER BOX	6	09XB5500 1801
CC	GASKET, WATER BOX	6	10XB5500 1801
CD	OIL, REFRIGERATION, SYNTHETIC (5 GALLON SEALED CONTAINER)	2	400CA COMPRESSOR OIL
CE	IMPELLER	1	02XB3502 0150, with balance certification
CF	THRUST BRG & SHAFT	1	19XL660 011
CG	FILTER KIT	3	02XB660 004
CH	FILTER CARTRIDGE	1	KH09AZ 003
CI	FILTER	2	KH42ME 060
CJ	FILTER, LIQUID	1	P502-8415
CK	STRAINER	1	KH11NG 070
CL	FILTER, DEMISTER	1	02XB3501 7601
CM	FILTER, DEMISTER	1	02XB3501 7801
CN	GASKET, RING	2	19XB550 2503
CO	SHIM, IMPELLER	1	02XB3500 6901
CP	GASKET, FLARE	6	DD24FA 301
CQ	O RING	1	KK71EW 015
CR	O RING	1	KK71EW 128
CS	O RING	2	KK71EW 229
CT	O RING	1	KK71EW 245
CU	O RING	1	KK71EW 263
CV	O RING	1	KK71EW 449
CW	O RING	1	KK71EW 463
CX	O RING	1	KK71EW 469
CY	O RING	1	KK71EW 470
CZ	O RING	1	KK71EW 471
DA	TRANSMITTER, 40 TO 140	1	TX15079
DB	TRANSMITTER, -30 TO 130	3	TX1507
DC	HIGH SELECT MODULE	2	CS1403
DD	LOW SELECT MODULE	2	CS1402
DE	1/4 DIN CONTROLLER	6	SD1000
DF	TEMPERATURE SENSOR, -58 TO 375	4	TS1028
DG	TEMPERATURE SENSOR, -50 TO 375	3	TS1023
DH	TEMPERATURE SENSOR, -50 TO 375	1	TS1002
DI	SWITCH, DUAL PRESSURE	4	16275
DJ	PITOT TUBE SENSORS, 13"	1	
DK	PITOT TUBE SENSORS, 10"	15	

DL	PITOT TUBE SENSORS, 6"	5	
DM	PITOT TUBE SENSORS, 4"	14	
DN	PITOT TUBE SENSORS, 3"	5	
DO	SIGNAL CONDITONER	2	6408
DP	120 VOLT RELAY	8	RH3B-U
DQ	120 VOLT RELAY	20	RH2B-U
DR	FLOW SWITCH	3	F61KB-11C
DS	TRANSDUCER	5	EP-8000-4
DT	SOLENOID AIR VALVE	6	V11HAA-100G
DU	SIGNAL INPUT MODULE	4	R353AA-1C
DV	METASTAT DOOR REPLACEMENT KIT, (10 IN. PACKAGE)	1	TE-6400-601
DW	METASTAT PLATE KIT	3	TE-6400W-600
DX	FILTER, CHARCOAL	1	A-4000-633
DY	VALVE – 2 WAY	1	J654CO308GB00
DZ	ACTUATOR, DAMPER, 2 MIN.	3	ATP-2040-222
EA	THERMOSTAT	1	T22AAA-1C
EB	DIAPHRAM KIT, 12 PER PKG	2	V-3000-6000
EC	VALVE, ½	9	VTM-UC047-313
ED	VALVE, ½	2	VTM-UN047-313
EE	THERMOSTAT	9	TE-6410W-1000
EF	TRANSFORMER, 24 VOLT	13	Y65GS-1C
EG	SEAL KIT, CERAMIC	4	Q26-240-434
EH	BEARING, NTN	4	052935
EI	GASKET, SEAL CAP	4	A5371-L15
EJ	GASKET, CASE	2	B7391-L13
EK	GASKET, CASE	2	B7390-L13

ATTACHMENT C7
CONTRACTOR FURNISHED MATERIAL

A. General. Except for those items or services specifically stated to be Government furnished, the Contractor shall furnish everything to perform work under this contract.

B. The Contractor shall furnish all supplies, material, personnel, tools and equipment necessary for the performance of work required by this contract. Warranties applicable to any equipment must be considered by the Contractor prior to performance of any service/maintenance. Equipment under warranty shall be maintained in accordance with warranty provisions and manufacturer instructions and conditions. Replacement parts used must be identical make and model of the part being replaced, or equal. All equal parts must be approved by the COR in advance of installation.

C. The Contractor shall maintain an on-site stock of expendable supply items at the HQC where the work is being performed. All supplies shall be stored in such a way that they do not present a threat to the safety and well being of building occupants or visitors. All material used and in storage shall comply with the current Commonwealth of Virginia, federal and Local regulatory requirements.

D. The Government shall not be liable for any loss, breakage, or damage which might result to supplies and equipment stored by the Contractor or to any of his equipment or supplies which he chooses to leave in any of the buildings serviced. Equipment, supplies, or materials must be stored in designated places listed under Government Furnished Facilities.

ATTACHMENT C8
LIST OF RECORDS AND REPORTS

INITIAL REQUIREMENTS	SCHEDULED SUBMISSION
Proposed Joint Inspection Plan	Ten (10) calendar days after Notice of Award
Designation of Supervisory Personnel	Ten (10) calendar days after Notice of Award
Insurance Certificates	Thirty (30) calendar days after Notice of Award
Schedule of Deductions	Thirty (30) calendar days after Notice of Award
Annual Work Schedule (Initial)	Thirty (30) days prior to contract start
Annual Work Schedule	Thirty (30) days after exercising Contract Option
Monthly Work Schedule	Thirty (30) days prior to Contract Start
Building Operating Plan	Thirty (30) days prior to Contract Start
Contractor Work Control Forms	Thirty (30) days prior to Contract Start
Strike Contingency Plan	Fifteen (15) days prior to Contract Start
Contractor Emergency Plan	Fifteen (15) days prior to Contract Start
Water Treatment Program	Fifteen (15) days prior to Contract Start
Quality Control Plan	Fifteen (15) days prior to Contract Start
Contracts and Subcontracts	Ten (10) days prior to Contract Start
Pre-existing Deficiency Report	Five (5) days after Joint Inspection
Personnel Security Forms (DLAH 1728)	Prior to Contract Start
Copies of all Licenses	Prior to Contract Start
Joint Inventory of GFE	Prior to Contract Start
Joint Inventory of GFM	Prior to Contract Start
Resumes of Proposed Personnel	Within Five (5) days after Contract Start
Completion of Backlogged Service Orders	Within Twenty (20) days after Contract Start
Initial Water Analysis	Within Thirty (30) days after Contract Start
Hazardous Material Inventory	Within Thirty (30) days after Contract Start

INITIAL REQUIREMENTS AFTER CONTRACT START	SCHEDULED SUBMISSION
PM Schedules entered into the FACILITY CENTER System	Thirty (30) days after contract start
Inventory List of Equipment	Thirty (30) days after contract start
Tour Plan for the HQC, CDC, HQC/DTRA addition	Thirty (30) days after contract start
Submission of Reports	Thirty (30) days after contract start
Joint Inspection Plan	Ten (10) days after contract start
Pre-Existing Deficiency List	Five (5) days after Joint Inspection
Watch Requirement Plan for HQC, CDC, HQC/DTRA addition	Thirty (30) days after contract start

OPERATIONAL REQUIREMENTS	SCHEDULED SUBMISSION
Monthly Work Schedule	Five (5) working days prior to scheduled month
Changes to Work Schedule	Three (3) days prior to performance
Service Interruptions	Fifteen (15) working days prior to interruption
Utility Outage Requests	Ten (10) days prior to outage
Notification of Building Monitor	Two (2) working days prior to work
Request for Changes in Working Hours	Two (2) working days prior to work
Revisions to As-Built Drawings	Five (5) days after completion of work
Completed Service Orders	Two (2) days after completion of work
Completed Preventive Maintenance	Two (2) days after completion of work
Completed Minor Work	Two (2) days after completion of work
Chiller/Boiler cannot go on-line	Within one (1) hour of occurrence
Chiller/Boiler Operational Emergency	Within Thirty (30) minutes of occurrence
Notice of Annual Boiler Overhaul and Insp.	Thirty (30) days prior to work
Water Treatment Service Report	Monthly, within five (5) working days after start of month
Utility Meter Readings	Monthly, within two (2) working days after reading
Key Control Inventory Report	Monthly, within five (5) working days after start of month
Indefinite Delivery/Indefinite Quantity Work Proposal	Fifteen (15) calendar days after receipt of RFP
Changes to IDIQ Scope of Work	Two (2) working days after site visit
Operation and Maintenance Reports	Monthly, within five (5) working days after start of month
Roster of Visitors	Twenty-four (24) hours in advance
Changes to Hazardous Material Inventory (HMI)	Within Ten (10) days
DO Daily Report to Inspector	Daily by 8:00 A.M.

PHASE-OUT REQUIREMENTS	SCHEDULED SUBMISSION
Joint Inventory of GFM	At Completion or Termination of Contract
Copies of all Reports	Five (5) days prior to Completion of Termination of Contract
Contractor Phase-out Plan	Ninety (90) days prior to Completion of Termination of Contract

ATTACHMENT C9
HISTORICAL DATA

HISTORICAL DATA FOR THE HQC

A. Service Order Historical Data. The HQC was partially occupied beginning in July 1995 and the facility was not fully occupied until October 1995. The FACILITY CENTER FM System that monitors and controls the work service tickets was not operational until mid July 1996. The HQC/DTRA addition was occupied in September of 2005. Historical data reflects the type and number of service calls expected during the term of this contract, the counts are only an estimated. The Service Orders issued during the period mid July, 1996 through November 4, 2008 for the HQC and CDC were for emergency, routine, urgent and minor work service orders. The HQC expects Service Orders to be typical of a facility of this type. The summary of historical data is listed below includes HQC, HQC/DTRA addition and CDC.

Average Routine Service Orders	95.6 per month or	1147.2 per year
Average Emergency Service Orders	6.6 per month or	79.2 per year
Average Urgent Service Orders	2.6 per month or	31.2 per year

B. Minor Work Historical Data. The HQC was partially occupied beginning in July 1995 and the facility was not fully occupied until October 1995. The majority of the Minor Work issued during the first eight months was primarily for items relating to construction of the new facility. Historical data for Minor Work during this time period may not accurately reflect the type, cost and number of Minor Work expected during the term of this contract. A summary of historical data is listed below:

Average Minor Work Requests	1.4 per month or	16.8 per year
	Average cost per Minor Work Request	\$899.63

ATTACHMENT C10
PREVENTIVE MAINTENANCE PROGRAM

Per section C.1.8(h), the Contractor shall be required to establish Preventive Maintenance Schedules in the FACILITY CENTER FM system within thirty (30) days of modification for the HQC, CDC and HQC/DTRA addition equipment and systems. The current Preventive Maintenance Guides are found in Attachment C23.

ATTACHMENT C11
MANAGEMENT REQUIREMENTS

A. PERFORMANCE WORK STATEMENT

1. The Contractor is fully responsible for the efficient, economical, and satisfactory operation, maintenance, and repair of the buildings covered by this contract.
2. The Contractor shall provide all management, administrative, and technical functions necessary for the effective and timely accomplishment of all contract requirements. The Contractor shall develop a Building Operating Plan (BOP) in accordance with the requirements specified in Attachment C13. The Contractor shall operate all equipment and systems, as specified in the approved BOP. The Contractor may submit to the COR suggestions for improvements to the BOP during the contract period. Throughout the term of this contract, the Government will inspect and audit the Contractor's activities to ensure compliance with all contractual requirements. The Contractor shall provide the necessary staff and training required to perform maintenance and operational functions including the planning, scheduling, and allocation of resources.
3. The Contractor shall develop and maintain records sufficient to accomplish the above functions and provide comprehensive, timely, and accurate monthly reports to the Government for review and approval, in accordance with contract requirements or as requested by the COR.
4. Prime Contractor personnel that require access to HQC/DTRA addition shall, at a minimum, hold a current SECRET level clearance as verified through the Joint Personnel Adjudication System (JPAS). Prior to commencement of work, the Prime Contractor shall provide Visit Authorization Requests in accordance with the National Industrial Security Program Manual (DOD 5220.22-M) and any instructions contained in the DD Form 254 (Contract Security Classification Specification), on all personnel that will be required to have access to HQC/DTRA addition.

B. PERSONNEL

1. General
 - a. The Contractor shall employ at all times a sufficient number of qualified employees (in accordance with Section C) to properly, safely, and economically manage, operate, and maintain the building HVAC, mechanical, plumbing and utility equipment and systems.
 - b. All matters pertaining to the employment, supervision, or compensation, promotion, and discharge of contract employees are the responsibility of the Contractor, who is, in all respects, their employer.
 - c. Each employee of the Contractor shall be a citizen of the United States and must read, write, and speak fluent English.
 - d. The KO may require the immediate dismissal of any Contractor employee and/or subcontractor employee who is identified as a potential threat to health, safety, security, general well being, or operational mission of the building and its population. The KO may require the Contractor to remove any employee from the HQC who is found objectionable by the KO. The removal from the HQC of such person(s) shall not relieve the Contractor of the requirement to provide sufficient personnel to perform adequate and timely service.

- e. The Government may require medical screening of Contractor personnel at Contractor's expense, to ascertain whether employee(s) has/have been using a controlled substance and/or alcohol.
- f. Contractor personnel shall present a neat appearance and be easily recognized. The employee(s) must wear Contractor issued distinctive clothing bearing a distinguishing emblem or patch. The clothing shall be approved by the KO or the COR. Supervisory employees shall be easily distinguished from non-supervisory employees by wearing white uniform shirts. Identification badges issued by the Government (refer to Section C-1.1(5) to Contractor employees must be conspicuously displayed on the front upper quadrant of all Contractor employees while work is being performed under this contract.
- g. Contractor employees shall not loiter around the HQC during off-duty hours.
- h. Health Examinations
 - a. The Contractor shall be responsible for all pre-employment physical examinations. The pre-employment physical exam shall include a tuberculin skin test or chest x-ray. A physician's certificate showing the results of the exam shall be provided to the COR before the employee is assigned to perform duties in the CDC. The physician's certificate shall state that the employee does not have any condition that would interfere with the safe interaction of children. The physical exam and TB skin test shall be updated annually. Current health cards issued by a source approved by the State of Virginia shall be maintained for each staff member by the Contractor for inspections at all times. Required medical examinations and treatments for all related illnesses or injuries shall be the responsibility of the Contractor. The Contracting Officer reserves the right to require a more definitive examination of any employee assigned to perform duties in the CDC.
 - b. Contractor personnel assigned to work in the CDC who have been absent for a potentially transmissible illness or for a period of three (3) or more days, shall present a statement from a physician that they are free from illness or disease on return to duty. A copy of the statement shall be submitted to the COR. The Government reserves the right to require examinations or re-examinations of any employee as determined necessary by the Contracting Officer.
 - c. The Government reserves the right to take microbiological specimen for cultures from contractor personnel when recommended by the Contracting Officer.
 - d. Contractor staff shall have received requisite immunization (i.e., tetanus and tuberculosis) prior to beginning work in the CDC. Immunization required are tetanus, measles, (rubella), polio and tuberculosis testing. The Contractor shall document in the employee's record and submit proof of such immunizations to the COR prior to contract performance.

2. Supervisory Employees

- a. General: The Contractor shall provide sufficient on-site supervision to fulfill the terms and conditions of this contract. The Contractor shall ensure that all work required by this contract is satisfactorily supervised by a Project Manager, On-site Supervisor, and Shift Supervisor. The Project Manager, On-site Supervisor, and Shift Supervisor shall be available at all times, while contract work is in progress, to receive notices, reports, or requests from either the KO or COR. The names and telephone numbers of the individuals designated as supervisory employees shall be furnished to the COR within ten (10) days after contract award date. Government employees are not authorized to

exercise either direct or indirect supervision over the Contractor's and/or subcontractor's employees.

The Supervisory employees shall be required to operate the FACILITY CENTER system to receive and process service calls, provide the status of on-going work, close-out Service Orders, PM Service Orders, and Minor Work at a minimum.

- b. Contact after Normal Hours: After normal work hours, the Project Manager or the On-site Supervisor shall be available within one (1) hour at the site. The Contractor shall provide the COR with a written listing of telephone numbers which the Government may use at any time to directly contact the Contractor, Project Manager, and On-site Supervisor prior to the contract start date. The Contractor shall immediately notify the COR of any change in these numbers.
- c. Project Manager: The term Project Manager means a person designated in writing by the Contractor, who has complete authority to act for the Contractor in every detail during the term of the Contract. The Project Manager shall have signature authority and be permitted to accept Service orders, Notices of Deductions, Inspection Reports, and all other correspondence on behalf of the Contractor. The Project Manager shall be on-site within one (1) hour of request by the COR. The Project Manager shall be responsible for the satisfactory performance of all work done by Contractor personnel.
- (1) The Project Manager shall be responsible for the overall management and coordination of all work, and shall act as a central point of contact with the Government.
 - (2) The Project Manager shall possess the following minimum experience in the operation and maintenance of building equipment and systems:
 - a) At least three (3) years of recent (within the last five (5) years) management experience in the management and supervision of mechanical equipment and systems for building(s) of the approximate size and characteristics of the building(s) covered by this contract.
 - b) A thorough understanding and knowledge of heating, ventilation, air conditioning, refrigeration, electrical and plumbing systems.
 - c) The ability to read and interpret plans and specifications.
 - (3) Prior to assignment of the Project Manager to the contract, a detailed resume containing, as a minimum, the information specified below must be submitted to the KO for approval. These qualification standards and resume requirements shall apply to both new and replacement Project Managers.
 - a) The full name of the proposed Project Manager
 - b) A detailed description of his/her previous five (5) years employment history
 - c) The names and addresses of the companies for whom the proposed Project Manager worked during the past five (5) years, along with the names and telephone numbers of his or her immediate supervisor.
- d. On-Site Supervisor: An On-site supervisor is a person (or persons), designated in writing by the Contractor, who has the authority to act for the Project Manager on all matters relating to daily contract requirements.
- a) The On-site Supervisor shall possess at least ten (10) years experience as an Operating Engineer and possess the current Boiler and Stationary Engineer licenses specified in this contract. The On-site supervisor shall possess at least two (2) years

(within the past five (5) years) experience in directing personnel responsible for the operation, maintenance, and repair of building equipment and systems of the approximate size and characteristics of the HQC. The On-site Supervisor shall possess at least five (5) years (within the last eight (8) years) experience in the operation and maintenance of chillers rated at least 500 tons and boilers rated at least 125 boiler-horsepower.

b) Detailed resumes containing, as a minimum, the information specified below must be submitted to the KO for approval prior to the assignment of the On-site Supervisor. These qualification standards and resume requirements shall apply to both new and replacement On-site Supervisors.

- (1) The full name of the proposed On-site Supervisor
- (2) A detailed description of his/her previous ten (10) years employment history
- (3) The names and addresses of the companies for whom the proposed On-site Supervisor worked during the past ten (10) years, along with the names and telephone numbers of his or her immediate supervisor.
- (4) Copies of current licenses and certificates required for the performance of work under this contract. Copies of certificates of pertinent training for the past ten (10) years.

e. Shift Supervisor: The Contractor shall designate a minimum of one (1) Stationary Engineer during each shift, who shall have operational authority at the job-site over all work while it is being performed. This individual shall be classes as a working supervisor and may perform functions of a Stationary Engineer and a supervisor concurrently. The Shift Supervisor shall possess at least five (5) years (within the last eight (8) years) experience in the operation and maintenance of chillers rated at least 500 tons and boilers rated at least 125 boiler-horsepower.

a) Detailed resumes containing, as a minimum, the information specified below must be submitted to the KO for approval prior to the assignment of the Shift Supervisor. These qualification standards and resume requirements shall apply to both new and replacement Shift Supervisors.

- (1) The full name of the proposed Shift Supervisor
- (2) A detailed description of his/her previous ten (10) years employment history
- (3) The names and addresses of the companies for who the proposed Shift Supervisor worked during the past ten (10) years, along with the names and
- (4) Telephone numbers of his or her immediate supervisor.
- (5) Copies of current licenses and certificates required for the performance of work under this contract. Copies of certificates of pertinent training for the past ten (10) years.
- (6) Each Shift Supervisor shall demonstrate complete knowledge of the Building Operating Plan to the Project Manager. The Project Manager shall certify completion of this requirement to the COR prior to the assignment of Shift Supervisor duties.

3. Craft Personnel (non-supervisory): The Contractor shall have licensed or certified journeyman mechanics for each craft such as plumber, pipe fitter, stationary engineer, maintenance mechanic, controls technician, electronic controls technician, sprinkler pipe fitter or other crafts or trades required for performance of this contract. The Stationary Engineers and/or Mechanics shall possess the necessary skills required to operate, service, maintain, and answer service calls associated with all equipment and systems covered by this contract.

a. Stationary Engineers: The Contractor shall provide sufficient Stationary Engineers to provide coverage of the central cooling plant twenty-four (24) hours a day, seven (7) days

a week. The Contractor may designate an employee as both a Stationary Engineer and Boiler Operator. The Stationary Engineers shall possess the following minimum experience in the operation and maintenance of building equipment and systems:

- At least three (3) years of recent (within the last five (5) years) experience in the operation and maintenance of mechanical equipment and systems for building(s) of the approximate size and characteristics of the building(s) covered by this contract.
- A thorough understanding and knowledge of heating, ventilation, air conditioning, refrigeration, electrical and plumbing systems.
- At least five (5) years (within the last eight (8) years) experience in the operation and maintenance of chillers rated at least 500 tons.
- All necessary licenses and certifications as required by this contract, the Commonwealth of Virginia, Federal, and local laws.

b. Boiler Operators: The Contractor shall provide sufficient Boiler Operators to provide coverage of the central heating plant twenty-four (24) hours a day, seven (7) days a week. The Contractor may designate an employee as both a Boiler Operator and Stationary Engineer. The Boiler Operator shall possess the following minimum experience in the operation and maintenance of building equipment and systems:

- At least three (3) years of recent (within the last five (5) years) experience in the operation and maintenance of mechanical equipment and systems for building(s) of the approximate size and characteristics of the building(s) covered under this contract.
- A thorough understanding and knowledge of heating, ventilation, air conditioning, refrigeration, electrical and plumbing systems.
- At least five (5) years (within the last eight (8) years) experience in the operation and maintenance of boilers rated at least 125 boiler-horsepower.
- All necessary licenses and certifications as required by this contract, the Commonwealth of Virginia, Federal, and local laws.

c. Maintenance Mechanics: The Contractor shall provide sufficient Maintenance Mechanics to perform preventive maintenance, service calls, minor work and operations required by this contract. The Maintenance Mechanics shall possess the following minimum experience in the operation and maintenance of building equipment and systems:

- At least three (3) years of recent (within the last five (5) years) experience in the maintenance of mechanical equipment and systems for building(s) of the approximate size and characteristics of the building(s) covered by this contract.
- A thorough understanding and knowledge of heating, ventilation, air conditioning, refrigeration, electrical and plumbing systems.
- All necessary licenses and certifications as required by this contract, the Commonwealth of Virginia, Federal, and local laws.

c. Plumbers: The Contractor shall provide a full-time Plumber a minimum forth (40) hours a week to perform preventive maintenance, service calls, minor work and operations required by this contract. The Plumber shall be on-site during regular working hours as defined in Section C-1.1.d of this contract. The Plumber shall possess the following minimum experiences in the operation and maintenance of building equipment and systems.

- At least three (3) years of recent (within the last five (5) years) experience in the maintenance of plumbing systems, mechanical equipment and systems for building(s) of the approximate size and characteristics of the building(s) covered by this contract.
- A thorough understanding and knowledge of heating, ventilation, air conditioning, refrigeration, electrical and plumbing systems.
- All necessary licenses and certifications as required by this contract, the Commonwealth of Virginia, Federal, and local laws.

4. Administrative Assistant (non-supervisory): The Contractor shall have qualified personnel to provide administrative support on-site eight (8) hours a day. The Administrative Assistant shall possess the necessary skills to: operate a computer, be familiar with the Contractor's work control procedures, receive and process service calls, provide the status of on-going work to the COR, operation of the FACILITY CENTER system, and the terms and conditions of this contract. The Administrative Assistant shall possess at least one (1) year (within the last three (3) years) experience performing work of this nature.

A detailed resume containing, as a minimum, the information specified below must be submitted to the KO for approval prior to the assignment of any non-supervisory employees to this contract.

- The full name of the proposed employee
- A detailed description of his/her previous five (5) years employment history
- The names and addresses of the companies for whom the proposed employee worked during the past five (5) years, along with the names and telephone numbers of his or her immediate supervisor.
- Copies of current licenses and certificates required for the performance of work under this contract. Copies of certificates of pertinent training for the past five (5) years.

5. The Contractor shall provide to the COR three (3) emergency telephone numbers to be used in case of emergency within thirty (30) days of contract start.

ATTACHMENT C12
OPERATION, MAINTENANCE AND REPAIR OF MECHANICAL EQUIPMENT

A. PERFORMANCE STANDARDS

All mechanical, plumbing, sewer and utility systems shall be operated compatible with the current Federal energy conservation requirements, and maintained at an acceptable level, throughout the contract performance period. An "acceptable level" of maintenance is defined as the level of maintenance which will preserve the equipment in un-impaired operating condition; (i.e., the normal life expectancy of the equipment). The Contractor is responsible for performing scheduled and unscheduled maintenance and repairs, as necessary, on a twenty-four (24) hour a day, 365 days per year basis, including emergency call-back service. The Contractor is responsible for punching/cleaning and Eddy Current Testing (as defined in Attachment C10) of all tubes each year on two (2) heat exchangers associated with the chillers under this contract.

B. FACILITY EQUIPMENT AND SYSTEMS

1. The equipment and systems to be operated, maintained and repaired include all mechanical, plumbing, fire protection and utility systems installed at the site, including, but not limited to:
 - a) Air conditioning equipment and systems
 - b) Air handling/distribution equipment and systems
 - c) Domestic water equipment and systems
 - d) Heating equipment and systems
 - e) Heating, ventilating, and air-conditioning system controls, monitoring and recording equipment
 - f) Sanitary sewage ejection equipment and systems including grease traps
 - g) All underground utility systems
 - h) Fire protection equipment and systems
 - i) Roof drains
 - j) Storm water drains and systems
2. Contractor responsibility for all utility systems shall begin immediately at the point where local provider terminates service. This shall include all building support services including water, natural gas, and sewer.
3. The Inventory, Attachment C14, provides an inventory of the equipment and systems installed in the facility which requires the performance of preventive maintenance. This inventory represents the most accurate accounting which DLA has available for reference of mechanical equipment and systems but is not absolute. The Contractor shall verify the equipment inventory for accuracy with on-site inspectors prior to Technical proposal and Bid submittal. The equipment inventory list does not contain information on underground utility systems which are the Contractor's responsibility.
4. Equipment may be added or deleted during the term of this contract. In the event that equipment is added or deleted, a contract modification will be prepared based on the changes clause, 52.243-1.
5. The Contractor is not responsible for operation, maintenance, or repair of occupant agency program equipment, including, but not limited to: computers, office machines, mail handling equipment, printing equipment, laboratory equipment and personally owned appliances.
6. The Contractor may tour the facility to determine the condition of the equipment and systems as arranged at the pre-bid meeting.
7. On a daily basis, the Contractor shall immediately report to the COR the status of any major equipment or systems not operating, or that become non-operational during the workday. Any system or piece of equipment not operational by the official start time of the occupants shall be reported to the COR by 8:00 A.M.

C. OPERATIONAL REQUIREMENTS

1. The facility systems shall be operated in an energy efficient manner to provide the environmental conditions specified by this contract.
2. Temperature controls shall be set to maintain the space temperature as specified in Section C-1.18.
3. Ventilation shall be as defined in ASHRAE 62-1989, Ventilation for Acceptable Indoor Air Quality. Air shall be adequately filtered at all times to ensure a safe and healthful environment at all times.
4. Environmental conditions in special areas such as the computer rooms and storage vaults shall be maintained at the temperature and humidity requirements specified in Section C-1.18.
5. Domestic hot water will be provided as specified in Section C-1.15. Chilled water drinking units will be provided at 50 degrees Fahrenheit at the point of use.
6. Running test checks of large or high energy use equipment, such as chillers, pumps, air handling equipment, etc., shall be performed during hours of operations; provided that such tests do not cause an interruption in service or increase monthly electrical demand costs. The COR will define the peak usage periods, during which hours tests or checks are prohibited, and will provide this information to the Contractor.
7. Tours involve observing and inspecting operating equipment for proper operation, turning equipment on or off, and making minor adjustments to equipment throughout the building. The Contractor shall conduct mechanical tours in the HQC/CDC/DTRA as specified in Attachment C16.

a)

D. HOURS OF OPERATION

The operating time for building mechanical equipment and systems shall be considered as the time required to operate the building's heating, ventilating and air-conditioning (HVAC) equipment to provide the environmental temperatures as specified in this contract. It shall be the Contractor's responsibility to establish the appropriate times for HVAC equipment operation. The Contractor shall identify the hours of operation for each equipment in the Contractor's Building Operating Plan specified in Attachment C13. The Contractor shall start the building HVAC equipment at an hour, based upon weather conditions, which will provide proper environmental conditions during regular working hours. This same equipment shall not be operated unnecessarily outside regular working hours. The only exceptions to operating this equipment at times other than regular working hours are for special purpose rooms such as computer rooms, archive storage vaults and command conference rooms and for providing freeze protection for the building and systems when weather conditions warrant such operation.

E. PREVENTIVE MAINTENANCE (PM) STANDARDS

1. The Contractor shall develop and implement a Preventive Maintenance (PM) Program. All equipment and systems shall be maintained at an acceptable level, as previously defined, to assure that the facility is operated in an efficient manner. The PM program shall include, but shall not be limited to: periodic inspection, testing, cleaning, lubrication, adjustment, filter cleaning and replacement, and furnishing the necessary parts and labor to keep the equipment and systems in optimum operating condition.
2. The equipment and systems listed in Attachment C14 are essential to the operation of the building. As a minimum, all equipment listed in Attachment C14 shall be maintained in accordance with the following methods; manufacturer's recommendations, Contractor's approved PM program, and Government furnished maintenance guides as listed in Attachment C10.
3. As part of the Technical Proposal, the Contractor shall submit the PM program for all of the equipment and systems listed in Attachment C14. The Contractor shall identify those items on which Pm will be performed. For each item identified, the Contractor will indicate the frequency the PM will be performed and shall provide a description of the work to be done. The Contractor shall use the Government furnished maintenance guides listed in Attachment C10 in the preparation of the Contractor's PM program.

4. The Contractor shall be responsible for verifying the accuracy of the Government's inventory listed in Attachment C14, physically locating all of the equipment on this list and shall correct the list of any discrepancies found, including quantity and location of equipment, in writing, as part of the PM program requirements. If any corrections in this inventory list cause additional work or a reduction in work to the Contractor, the Contractor shall submit a cost proposal to the COR for such changes. The corrected inventory list shall be submitted to the COR 30 days after contract start.
5. The Contractor shall physically label mechanical, plumbing and utility system equipment with Government provided bar code labels when requested by the COR. In addition to physically affixing the bar code label to the equipment, the Contractor shall also collect associated data using a Government provided bar code scanner.
6. The Contractor shall be responsible for repair and replacement costs, including labor, equipment, and supplies for all equipment and systems up to the limits specified in Section C-1.14.
7. The Contractor shall submit annual and monthly schedules for the accomplishment of all PMs as specified in Section C. The schedule shall be divided into weekly increments and shall list, at a minimum, each piece of equipment and its specific location, the date for the scheduled maintenance, the HQC nomenclature of the equipment (e.g., Air Handler No. 1) and the equipment bar code number.
8. Equipment for which scheduled maintenance is to be performed less frequently than annually (i.e., every two, three or five years) shall be scheduled for completion during the initial twelve (12) month period.
9. Equipment under warranty shall be maintained in accordance with warranty instructions and conditions. It shall be the responsibility of the Contractor to complete service calls, repairs, and the maintenance of this equipment.
10. The COR is to be notified in writing twenty-four (24) hours in advance when maintenance or repair work is to be done which required opening or dismantling of equipment. Such equipment will include, but shall not be limited to, boilers, chillers, pumps, air handlers, and such equipment as determined as critical by the COR. Government at its option will inspect the equipment before, during, and after any work is performed.
11. The Contractor shall be responsible for correcting all deficiencies identified during PM inspections subject to the limits specified in Section C-1.14.
12. The Contractor shall be responsible for maintaining PM records in the FACILITY CENTER system for each piece of equipment or system. These records shall reflect maintenance performed, scheduled dates, actual completion dates, labor hours expended and material costs. The Contractor shall update the FACILITY CENTER system as required by Section C-1.14.

F. WATER TREATMENT

The Contractor shall provide and administer a comprehensive water treatment program as specified in Section C-1.21.

ATTACHMENT C13
BUILDING OPERATING PLAN

The Building Operating Plan (BOP) shall be developed by the Contractor as a critical part of the Management Plan and shall be submitted for approval thirty (30) days prior to the contract start date. The BOP shall include, as a minimum, the following:

- a) The Contractor's start-up and shut-down procedures for the building HVAC, mechanical, plumbing, fire protection, and utility equipment and systems that will be operated to provide the environment specified in this contract.
- b) The Contractor shall identify emergency/damage control procedures for operation/control of the building systems during conditions of utility loss/interruptions or HVAC plant equipment loss.
- c) A list of equipment and systems, by DLA bar code number, that will provide the building heating, cooling and ventilation requirements.
- d) Identify the hours of operation for the equipment listed above for heating and cooling seasons.
- e) Identify the energy conservation methods and procedures the Contractor shall use during the equipment operation. Operation of all mechanical systems and equipment covered under this contract shall be in accordance with all standards and requirements which would be in force in the same size office building in Fairfax, Virginia.

All laws and regulations shall be complied with during the operation, maintenance, and/or repair of all equipment and systems covered by this contract.

ATTACHMENT C14
INVENTORY

The following provides the most recent inventory list of equipment for the HQC, CDC and HQC/DTRA addition buildings. It is the responsibility of the contractor to verify the inventory list and quantities.

BARCODE	REFERENCE ID	DESCRIPTION
200168	HVC/ACU001	Comp Room A/C Unit #01
200149	HVC/ACU001	Comp Room A/C Unit #03
200169	HVC/ACU001	Comp Room A/C Unit #04
200137	HVC/ACU001	Comp Room A/C Unit #05
200135	HVC/ACU001	Comp Room A/C Unit #06
200136	HVC/ACU002	Comp Room A/C Unit #07
200150	HVC/ACU003	Comp Room A/C Unit #10
200221	HVC/ACU003	Comp Room A/C Unit #11
200222	HVC/ACU006	Fan Coil Unit #04
200189	HVC/ACU006	Fan Coil Unit #04
200288	HVC/ACU010	Fan Coil Unit #03
200253	HVC/ACU010	Fan Coil Unit #04
200223	HVC/ACU011	Fan Coil Unit #02
200388	HVC/ACU011	Fan Coil Unit #02
200384	HVC/ACU012	Fan Coil Unit #13
200020	HVC/ACU013	Comp Room A/C Unit #08
200208	HVC/ACU014	Comp Room A/C Unit #09
202213	HVC/ACU014	Comp Room A/C Unit #12
202586	HVC/ACU016	Comp Room A/C Unit #02
202578	HVC/ACU017	Gatehouse #1 Fan Coil Unit
202579	HVC/ACU018	Gatehouse #1 Condensing Unit
202577	HVC/ACU019	Gatehouse #2 Fan Coil Unit
202580	HVC/ACU019	Gatehouse #3 Fan Coil Unit
202576	HVC/ACU020	Gatehouse #2 Condensing Unit
202581	HVC/ACU021	Gatehouse #3 Condensing Unit
202585	HVC/ACU022	Fan Coil A/C
202583	HVC/ACU023	Fan Coil A/C
202584	HVC/ACU023	Fan Coil A/C
313020	HVC/ACU023	
313030	HVC/ACU023	
313029	HVC/ACU023	
313032	HVC/ACU024	Fan Coil A/C
202460	HVC/ACU025	
202461	HVC/ACU026	
202462	HVC/ACU027	
202463	HVC/ACU028	

202464	HVC/ACU029	
313031	HVC/ACU030	
313024	HVC/ACU031	
313028	HVC/ACU032	
313021	HVC/ACU033	
313022	HVC/ACU033	
313797	HVC/ACU034	
309973	HVC/ACU035	
309966	HVC/ACU036	
313796	HVC/ACU037	
313791	HVC/ACU038	
313792	HVC/ACU038	
313788	HVC/ACU039	
307091	HVC/ACU039	
313790	HVC/ACU040	
200257	HVC/AHU001	AHU-01
200299	HVC/AHU001	AHU-02
200245	HVC/AHU001	AHU-03
200177	HVC/AHU001	AHU-07
200262	HVC/AHU001	AHU-08
200218	HVC/AHU001	AHU-09
200290	HVC/AHU002	AHU-04
200252	HVC/AHU003	AHU-05
200164	HVC/AHU004	AHU-06
200002	HVC/AHU004	AHU-11
200167	HVC/AHU005	AHU-10
200129	HVC/AHU005	AHU-19
200013	HVC/AHU006	AHU-13
200034	HVC/AHU007	AHU-14
200022	HVC/AHU008	AHU-15
200038	HVC/AHU009	AHU-16
200103	HVC/AHU010	AHU-17
200112	HVC/AHU011	AHU-18
200480	HVC/AHU013	AHU-12
200194	HVC/AHU014	Hot Duct Unit #03
201240	HVC/AHU014	Hot Duct Unit #18
200141	HVC/AHU014	Hot Duct Unit #21
201237	HVC/AHU014	Hot Duct Unit #24
200155	HVC/AHU014	Hot Duct Unit #27
200096	HVC/AHU014	Hot Duct Unit #47
200123	HVC/AHU014	Hot Duct Unit #53
200021	HVC/AHU015	Heating & Vent Unit #05
200181	HVC/AHU015	Hot Duct Unit #01

200234	HVC/AHU015	Hot Duct Unit #02
200139	HVC/AHU015	Hot Duct Unit #04
200220	HVC/AHU015	Hot Duct Unit #05
201244	HVC/AHU015	Hot Duct Unit #07
201242	HVC/AHU015	Hot Duct Unit #08
200152	HVC/AHU015	Hot Duct Unit #13
201246	HVC/AHU015	Hot Duct Unit #14
201241	HVC/AHU015	Hot Duct Unit #16
200153	HVC/AHU015	Hot Duct Unit #19
201248	HVC/AHU015	Hot Duct Unit #20
201238	HVC/AHU015	Hot Duct Unit #22
200154	HVC/AHU015	Hot Duct Unit #23
200140	HVC/AHU015	Hot Duct Unit #26
200005	HVC/AHU015	Hot Duct Unit #28
200156	HVC/AHU015	Hot Duct Unit #32
200065	HVC/AHU015	Hot Duct Unit #37
200039	HVC/AHU015	Hot Duct Unit #38
200102	HVC/AHU015	Hot Duct Unit #39
200104	HVC/AHU015	Hot Duct Unit #44
200122	HVC/AHU015	Hot Duct Unit #51
200207	HVC/AHU016	Hot Duct Unit #06
201236	HVC/AHU016	Hot Duct Unit #09
200233	HVC/AHU016	Hot Duct Unit #15
200378	HVC/AHU016	Hot Duct Unit #17
200003	HVC/AHU016	Hot Duct Unit #30
200101	HVC/AHU016	Hot Duct Unit #41
200116	HVC/AHU016	Hot Duct Unit #50
200142	HVC/AHU017	Hot Duct Unit #25
200015	HVC/AHU017	Hot Duct Unit #33
200017	HVC/AHU017	Hot Duct Unit #36
200012	HVC/AHU018	Hot Duct Unit #29
200014	HVC/AHU019	Hot Duct Unit #31
200016	HVC/AHU019	Hot Duct Unit #34
200095	HVC/AHU019	Hot Duct Unit #40
200090	HVC/AHU019	Hot Duct Unit #42
200097	HVC/AHU019	Hot Duct Unit #45
200110	HVC/AHU019	Hot Duct Unit #46
200115	HVC/AHU019	Hot Duct Unit #48
200148	HVC/AHU019	Hot Duct Unit #52
200481	HVC/AHU020	Heating & Vent Unit #06
200138	HVC/AHU020	Heating & Vent Unit #07
200031	HVC/AHU020	Heating & Vent Unit #08
200314	HVC/AHU022	Heating & Vent Unit #03

200313	HVC/AHU022	Heating & Vent Unit #04
200085	HVC/AHU023	Heating & Vent Unit #01
200338	HVC/AHU024	Heating & Vent Unit #02
400024	HVC/AHU026	AHU #1 Home Base A&B
400035	HVC/AHU026	AHU #12 Kitchen
400025	HVC/AHU026	AHU #2 Home Base A&B
400026	HVC/AHU026	AHU #3 Home Base A&B
400027	HVC/AHU026	AHU #4 Home Base A&B
400028	HVC/AHU026	AHU #5 Home Base A&B
400029	HVC/AHU026	AHU #6 Infant Area A&B
400033	HVC/AHU027	AHU #10 Office Areas
400036	HVC/AHU027	AHU #13 Corridor
400037	HVC/AHU027	AHU #14 Corridor
400038	HVC/AHU027	AHU #15 Corridor
400039	HVC/AHU027	AHU #16 Corridor
400040	HVC/AHU027	AHU #17 Corridor
400041	HVC/AHU027	AHU #18 Corridor
400030	HVC/AHU027	AHU #7 Learning Center A&B
400031	HVC/AHU027	AHU #8 Learning Center C&D
400032	HVC/AHU027	AHU #9 Infant Area A&B
400034	HVC/AHU028	AHU #11 Infant Area
400042	HVC/AHU029	AHU #19 Kitchen
200058	HVC/BLR001	Boiler #1
200059	HVC/BLR001	Boiler #2
200060	HVC/BLR001	Boiler #3
200055	HVC/BLR002	Boiler #1 Burner
200056	HVC/BLR002	Boiler #2 Burner
200057	HVC/BLR002	Boiler #3 Burner
200041	HVC/BLR004	Hot Water Heater #1 Burner
200042	HVC/BLR004	Hot Water Heater #2 Burner
200046	HVC/BLR004	Hot Water Heater #3 Burner
200047	HVC/BLR004	Hot Water Heater #4 Burner
400047	HVC/BLR006	CDC Boiler
400153	HVC/BLR007	CDC WH#1 Burner Assembly
400154	HVC/BLR007	CDC WH#2 Burner Assembly
200084	HVC/CHL001	Chiller #1
200083	HVC/CHL001	Chiller #2
200146	HVC/CHL001	Chiller #3
201477	HVC/CHL002	Ice Chiller
400023	HVC/CHL003	CDC Chiller
400138	HVC/CHL004	CDC Air Separator
400139	HVC/CHL005	CDC Air Dryer
400147	HVC/CHL006	CDC Chiller Compressor #1

400148	HVC/CHL006	CDC Chiller Compressor #2
307079	HVC/CHL007	
313795	HVC/CHL008	
200235	HVC/CLT001	Cooling Tower #1
200249	HVC/CLT001	Cooling Tower #2
201243	HVC/CLT001	Cooling Tower #3
307088	HVC/CLT002	
200033	HVC/CNT001	Air Compressor
200054	HVC/CNT002	Air Dryer
400064	HVC/CNT003	Air Compressor
202582	HVC/DHM001	Archive Storage Room Dehumidifier
313027	HVC/DHM002	
200385	HVC/HTR001	Unit Heater #01
200477	HVC/HTR002	Unit Heater #05
200475	HVC/HTR002	Unit Heater #09
200476	HVC/HTR003	Unit Heater #07
200469	HVC/HTR004	Unit Heater #06
200182	HVC/HTR005	Unit Heater #27
200342	HVC/HTR006	Space Heater - Gen #1
200352	HVC/HTR006	Space Heater - Gen #2
200348	HVC/HTR006	Space Heater - Gen #3
200318	HVC/HTR006	Space Heater - Gen #4
200470	HVC/HTR006	Unit Heater #08
200387	HVC/HTR007	Unit Heater #24
200386	HVC/HTR007	Unit Heater #25
200240	HVC/HTR007	Unit Heater #26
200009	HVC/HTR009	Unit Heater #02
200010	HVC/HTR009	Unit Heater #03
200011	HVC/HTR009	Unit Heater #04
200147	HVC/HTR009	Unit Heater #10
200134	HVC/HTR009	Unit Heater #11
200128	HVC/HTR009	Unit Heater #12
200064	HVC/HTR010	Unit Heater #38
200255	HVC/HTR011	Unit Heater #28, AHU-1
200298	HVC/HTR011	Unit Heater #29, AHU-2
200242	HVC/HTR011	Unit Heater #30, AHU-3
200304	HVC/HTR011	Unit Heater #31, AHU-5
200238	HVC/HTR011	Unit Heater #32, for AHU-4
200161	HVC/HTR011	Unit Heater #33, AHU-6
200166	HVC/HTR011	Unit Heater #34
200198	HVC/HTR011	Unit Heater #35
200202	HVC/HTR011	Unit Heater #36
200232	HVC/HTR011	Unit Heater #37

400022	HVC/HTR015	Air Curtain
400084	HVC/HTR016	CDC Unit Heater #1
400085	HVC/HTR017	CDC Unit Heater #2
400086	HVC/HTR018	CDC Unit Heater #3
200086	HVC/PDS001	Pump Down System
200048	HVC/PMP001	Pump #09, H.S.
200049	HVC/PMP001	Pump #10, H.S.
200050	HVC/PMP001	Pump #11, H.S.
200068	HVC/PMP002	Pump #04, Condenser Water Pump
200069	HVC/PMP002	Pump #05, Condenser Water Pump
200070	HVC/PMP002	Pump #06, Condenser Water Pump
200077	HVC/PMP003	Pump#01, Prim Chilled Water Pump
200076	HVC/PMP003	Pump#02, Prim Chilled Water Pump
200078	HVC/PMP003	Pump#03, Prim Chilled Water
200087	HVC/PMP004	Pump#07, Sec Chilled Water Pump
200088	HVC/PMP004	Pump#08, Sec Chilled Water Pump
200145	HVC/PMP005	Dom Boost Sys, Pumps #35/36/37
200351	HVC/PMP007	Pump #33, HW Recirc
200350	HVC/PMP007	Pump #34, HW Recirc
200389	HVC/PMP008	Pump #12, AHU-1 Preheat
200285	HVC/PMP008	Pump #13, AHU-2 Preheat
200241	HVC/PMP008	Pump #14, AHU-3 Preheat
200291	HVC/PMP008	Pump #15, AHU-4 Preheat
200251	HVC/PMP008	Pump #16, AHU-5 Preheat
200160	HVC/PMP008	Pump #17, AHU-16 Preheat
200165	HVC/PMP008	Pump #18, AHU-7 Preheat
200199	HVC/PMP008	Pump #19, AHU-8 Preheat
200203	HVC/PMP008	Pump #20, AHU-9 Preheat
200206	HVC/PMP008	Pump #21, AHU-10 Preheat
200008	HVC/PMP008	Pump #22, AHU-11 Preheat
200479	HVC/PMP008	Pump #23, AHU-12 Preheat
200380	HVC/PMP008	Pump #24, AHU-13 Preheat
200027	HVC/PMP008	Pump #25, AHU-14 Preheat
200379	HVC/PMP008	Pump #39, H&V #5
200023	HVC/PMP009	Pump #26, AHU-15 Preheat
200376	HVC/PMP009	Pump #27, AHU-16 Preheat
200111	HVC/PMP009	Pump #29, AHU-18 Preheat
201247	HVC/PMP009	Pump #38, H&V-1
200098	HVC/PMP010	Pump #28, AHU-17 Preheat
200130	HVC/PMP010	Pump #30, AHU-19 Preheat
200091	HVC/PMP012	Jockey Pump Motor
200144	HVC/PMP012	Pump #32, Jockey
201408	HVC/PMP013	Pump #WT1, Cooling Tower #1

201409	HVC/PMP013	Pump #WT2, Cooling Tower #1
201410	HVC/PMP013	Pump #WT3, Cooling Tower #1
201411	HVC/PMP013	Pump #WT4, Cooling Tower #2
201412	HVC/PMP013	Pump #WT5, Cooling Tower #2
201413	HVC/PMP013	Pump #WT6, Cooling Tower #2
201414	HVC/PMP013	Pump #WT7, Cooling Tower #3
201415	HVC/PMP013	Pump #WT8, Cooling Tower #3
201416	HVC/PMP013	Pump #WT9, Cooling Tower #3
400044	HVC/PMP014	CDC Heating Pump #1
400045	HVC/PMP014	CDC Heating Pump #2
400046	HVC/PMP015	CDC Chilled Water Pump #3
400082	HVC/PMP016	CDC HW Recirc Pump #4
400083	HVC/PMP016	CDC HW Recirc Pump #5
307082	HVC/PMP017	
307084	HVC/PMP018	
307086	HVC/PMP018	
313794	HVC/PMP019	
313793	HVC/PMP019	
201418	HVC/PNL001	Panel #01, VAV w/ RF System 11
201419	HVC/PNL001	Panel #02, HDU's System 28,29,30
201420	HVC/PNL001	Panel #03, Spare Panel
201421	HVC/PNL001	Panel #04, Const Vol Fan Sys 1
201422	HVC/PNL001	Panel #05, HDU's System 34, 36
201423	HVC/PNL001	Panel #06, VAV w/ RF System 13
201424	HVC/PNL001	Panel #07, HDU's System 31,32,33
201425	HVC/PNL001	Panel #08, Spare
201426	HVC/PNL001	Panel #09, AHU-15,EF-137,138,156
201427	HVC/PNL001	Panel #10, Vent Unit System 7
201428	HVC/PNL001	Panel #11, AHU System 16, TF-47,
201429	HVC/PNL001	Panel #12, HDU's 37, 38
201430	HVC/PNL001	Panel #13, Spare
201431	HVC/PNL001	Panel #14, HW Boilers B1-3
201432	HVC/PNL001	Panel #15, Vent Unit System 8
201433	HVC/PNL001	Panel #16, VAV RF System 14
201434	HVC/PNL001	Panel #17, Vent Unit for Boiler,
201435	HVC/PNL001	Panel #18, Chilled Water System,
201436	HVC/PNL001	Panel #19, H&V Unit, Refrig Room
201437	HVC/PNL001	Panel #20, Spare
201438	HVC/PNL001	Panel #21, HDU's System 42,44
201439	HVC/PNL001	Panel #22, VAV w/ RF System 17
201440	HVC/PNL001	Panel #23, HDU's System 39,40,41
201441	HVC/PNL001	Panel #24, Spare
201442	HVC/PNL001	Panel #25, Vent Unit System 3,4,

201443	HVC/PNL001	Panel #26, HDU's System 48,50
201444	HVC/PNL001	Panel #27, HDU's System 45,46,47
201445	HVC/PNL001	Panel #28, VAV w/ RF System 18
201446	HVC/PNL001	Panel #29, Spare
201447	HVC/PNL001	Panel #30, HDU's System 51,52,53
201448	HVC/PNL001	Panel #31, VAV w/ RF System 19
201449	HVC/PNL001	Panel #32, Spare
201450	HVC/PNL001	Panel #33, HDU's System 25,26,27
201451	HVC/PNL001	Panel #34, HDU's System 22,23,24
201452	HVC/PNL001	Panel #35, HDU's System 19,20,21
201453	HVC/PNL001	Panel #36, HDU's System 16,17,18
201454	HVC/PNL001	Panel #37, HDU's System 13,14,15
201455	HVC/PNL001	Panel #38, HDU's System 7,8,9
201456	HVC/PNL001	Panel #39, HDU's System 4,5,6
201457	HVC/PNL001	Panel #40, HDU's System 1,2,3
201458	HVC/PNL001	Panel #41, VAV w/ RF System 10
201459	HVC/PNL001	Panel #42, Spare
201460	HVC/PNL001	Panel #43, VAV w/ RF System 9
201461	HVC/PNL001	Panel #44, Spare
201462	HVC/PNL001	Panel #45, VAV w/ RF System 8
201463	HVC/PNL001	Panel #46, Spare
201464	HVC/PNL001	Panel #47, VAV w/ RF System 7
201465	HVC/PNL001	Panel #48, Spare
201466	HVC/PNL001	Panel #49, VAV w/ RF System 6
201467	HVC/PNL001	Panel #50, Spare
201468	HVC/PNL001	Panel #51, VAV w/ RF System 5
201469	HVC/PNL001	Panel #52, VAV w/ RF System 4
201470	HVC/PNL001	Panel #53, Spare
201472	HVC/PNL001	Panel #54, VAV w/ RF System 3
201471	HVC/PNL001	Panel #55, Spare
201473	HVC/PNL001	Panel #56, VAV w/ RF System 2
201474	HVC/PNL001	Panel #57, Spare
201475	HVC/PNL001	Panel #58, VAV w/ RF System 1
201476	HVC/PNL001	Panel #59, Spare
200067	HVC/TNK001	Expansion Tank #1, HW
200066	HVC/TNK001	Expansion Tank #2, HW
200092	HVC/TNK001	Expansion Tank #3, CHW
200080	HVC/TNK001	Expansion Tank #4, CHW
200337	HVC/TNK001	Expansion Tank, Air Separator
200377	HVC/TNK002	Storage Tank
200364	HVC/TNK002	Storage Tank
200363	HVC/TNK005	Expansion Tank, Air Separator
201515	HVC/TNK006	Tank, Salt for Make-up

400087	HVC/TNK007	CDC Expansion Tank #1
400088	HVC/TNK008	CDC Expansion Tank #2
400089	HVC/TNK009	CDC Glycol Feed Tank
400090	HVC/TNK010	CDC Chemical Feed Tank
200390	HVC/VNT001	Fan #EF-058
200260	HVC/VNT001	Fan #EF-059
200246	HVC/VNT001	Fan #EF-060
200239	HVC/VNT001	Fan #EF-061
200275	HVC/VNT001	Fan #EF-062
200176	HVC/VNT001	Fan #EF-063
200292	HVC/VNT001	Fan #EF-137
200307	HVC/VNT001	Fan #EF-138
200273	HVC/VNT001	Fan #EF-146
200247	HVC/VNT001	Fan #EF-147
200192	HVC/VNT001	Fan #EF-148
200217	HVC/VNT001	Fan #EF-149
200228	HVC/VNT001	Fan #EF-150
200195	HVC/VNT001	Fan #EF-151
200306	HVC/VNT001	Fan #EF-156
200478	HVC/VNT002	Fan #EF-139
200535	HVC/VNT002	Fan #EF-140
201245	HVC/VNT002	Fan #EF-141
200471	HVC/VNT002	Fan #EF-142
201417	HVC/VNT002	Fan #EF-143
200375	HVC/VNT002	Fan #EF-145
200151	HVC/VNT005	Fan #RF-136
200006	HVC/VNT007	Fan #RF-032
200126	HVC/VNT007	Fan #RF-056, AHU-19
200026	HVC/VNT009	Fan #SF-043
200382	HVC/VNT010	Fan #SF-052
200029	HVC/VNT011	Fan #SF-040
200323	HVC/VNT012	Fan #RF-038
200325	HVC/VNT012	Fan #RF-050, AHU-17
200381	HVC/VNT013	Fan #OF-039
200268	HVC/VNT016	Fan #SEF-064
200269	HVC/VNT016	Fan #SEF-065
200267	HVC/VNT016	Fan #SEF-066
200270	HVC/VNT016	Fan #SEF-067
200259	HVC/VNT016	Fan #SEF-068
200271	HVC/VNT016	Fan #SEF-069
200258	HVC/VNT016	Fan #SEF-070
200272	HVC/VNT016	Fan #SEF-071
200283	HVC/VNT016	Fan #SEF-072

200266	HVC/VNT016	Fan #SEF-073
200282	HVC/VNT016	Fan #SEF-074
200281	HVC/VNT016	Fan #SEF-075
200286	HVC/VNT016	Fan #SEF-076
200279	HVC/VNT016	Fan #SEF-077
200284	HVC/VNT016	Fan #SEF-078
200280	HVC/VNT016	Fan #SEF-079
200308	HVC/VNT016	Fan #SEF-080
200312	HVC/VNT016	Fan #SEF-081
200310	HVC/VNT016	Fan #SEF-083
200293	HVC/VNT016	Fan #SEF-084
200311	HVC/VNT016	Fan #SEF-085
200294	HVC/VNT016	Fan #SEF-086
200309	HVC/VNT016	Fan #SEF-087
200263	HVC/VNT016	Fan #SEF-088
200237	HVC/VNT016	Fan #SEF-089
200303	HVC/VNT016	Fan #SEF-090
200250	HVC/VNT016	Fan #SEF-091
200289	HVC/VNT016	Fan #SEF-092
200276	HVC/VNT016	Fan #SEF-093
200301	HVC/VNT016	Fan #SEF-094
200302	HVC/VNT016	Fan #SEF-095
200248	HVC/VNT016	Fan #SEF-096
200261	HVC/VNT016	Fan #SEF-097
200158	HVC/VNT016	Fan #SEF-098
200274	HVC/VNT016	Fan #SEF-099
200159	HVC/VNT016	Fan #SEF-100
200287	HVC/VNT016	Fan #SEF-101
200157	HVC/VNT016	Fan #SEF-102
200300	HVC/VNT016	Fan #SEF-103
200171	HVC/VNT016	Fan #SEF-104
200172	HVC/VNT016	Fan #SEF-105
200170	HVC/VNT016	Fan #SEF-106
200173	HVC/VNT016	Fan #SEF-107
200190	HVC/VNT016	Fan #SEF-108
200174	HVC/VNT016	Fan #SEF-109
200191	HVC/VNT016	Fan #SEF-110
200175	HVC/VNT016	Fan #SEF-111
200184	HVC/VNT016	Fan #SEF-112
200185	HVC/VNT016	Fan #SEF-113
200183	HVC/VNT016	Fan #SEF-114
200186	HVC/VNT016	Fan #SEF-115
200197	HVC/VNT016	Fan #SEF-116

200187	HVC/VNT016	Fan #SEF-117
200196	HVC/VNT016	Fan #SEF-118
200188	HVC/VNT016	Fan #SEF-119
200229	HVC/VNT016	Fan #SEF-128
200227	HVC/VNT016	Fan #SEF-129
200231	HVC/VNT016	Fan #SEF-130
200225	HVC/VNT016	Fan #SEF-131
200230	HVC/VNT016	Fan #SEF-132
200224	HVC/VNT016	Fan #SEF-133
200219	HVC/VNT016	Fan #SEF-134
200226	HVC/VNT016	Fan #SEF-135
200343	HVC/VNT017	Fan #EF-Gen1
200331	HVC/VNT017	Fan #EF-Gen2
200373	HVC/VNT017	Fan #EF-Gen3
200362	HVC/VNT017	Fan #EF-Gen4
200216	HVC/VNT017	Fan #SEF-120
200209	HVC/VNT017	Fan #SEF-121
200215	HVC/VNT017	Fan #SEF-122
200210	HVC/VNT017	Fan #SEF-123
200213	HVC/VNT017	Fan #SEF-124
200211	HVC/VNT017	Fan #SEF-125
200214	HVC/VNT017	Fan #SEF-126
200212	HVC/VNT017	Fan #SEF-127
200531	HVC/VNT018	AHU-01 Exhaust Fan
200546	HVC/VNT018	AHU-02 Exhaust Fan
200533	HVC/VNT018	AHU-03 Exhaust Fan
200545	HVC/VNT018	AHU-04 Exhaust Fan
200506	HVC/VNT018	AHU-06 Exhaust Fan
200507	HVC/VNT018	AHU-07 Exhaust Fan
200532	HVC/VNT018	AHU-08 Exhaust Fan
200519	HVC/VNT018	AHU-09 Exhaust Fan
200494	HVC/VNT018	AHU-10 Exhaust Fan
200520	HVC/VNT019	AHU-05 Exhaust Fan
400091	HVC/VNT020	CDC Home Base A Roof Exhaust #5
400092	HVC/VNT021	CDC Home Base A Roof Exhaust
400093	HVC/VNT022	CDC Learning Center Roof Exhaust
400094	HVC/VNT024	CDC Toilet Roof Exhaust
400095	HVC/VNT025	CDC Mechanical Rm Exhaust Fan
400096	HVC/VNT026	CDC Storage Exhaust Fan
400097	HVC/VNT027	CDC Kitchen Upblast Exhaust Fan
400098	HVC/VNT028	CDC Kitchen Upblast Exhaust
400099	HVC/VNT029	CDC Intake Penthouse Fan #1
400100	HVC/VNT030	CDC Intake Penthouse Fan #2

400101	HVC/VNT031	CDC Intake Penthouse Fan #3
400102	HVC/VNT032	CDC Intake Penthouse Fan #4
400103	HVC/VNT033	CDC Intake Penthouse Fan #5
400104	HVC/VNT034	CDC Intake Penthouse Fan #6
400105	HVC/VNT035	CDC RF-1 Deodorizing Fan
400114	HVC/VNT035	CDC RF-10 Deodorizing Fan
400115	HVC/VNT035	CDC RF-11 Deodorizing Fan
400116	HVC/VNT035	CDC RF-12 Deodorizing Fan
400117	HVC/VNT035	CDC RF-13 Deodorizing Fan
400118	HVC/VNT035	CDC RF-14 Deodorizing Fan
400106	HVC/VNT035	CDC RF-2 Deodorizing Fan
400107	HVC/VNT035	CDC RF-3 Deodorizing Fan
400108	HVC/VNT035	CDC RF-4 Deodorizing Fan
400109	HVC/VNT035	CDC RF-5 Deodorizing Fan
400110	HVC/VNT035	CDC RF-6 Deodorizing Fan
400111	HVC/VNT035	CDC RF-7 Deodorizing Fan
400112	HVC/VNT035	CDC RF-8 Deodorizing Fan
400113	HVC/VNT035	CDC RF-9 Deodorizing Fan
200040	HVC/WHR001	Hot Water Heater #1
200043	HVC/WHR001	Hot Water Heater #2
200044	HVC/WHR002	Hot Water Heater #3
200045	HVC/WHR002	Hot Water Heater #4
400048	HVC/WHR003	CDC Hot Water Heater #1
400049	HVC/WHR004	CDC Hot Water Heater #2
201405	HVC/WTC001	WT Panel #1, Cooling Tower 1
201406	HVC/WTC001	WT Panel #2, Cooling Tower 2
201407	HVC/WTC001	WT Panel #3, Cooling Tower 3

The following is HQC Kitchen Inventory:

BAR CODE	REF ID	DESCRIPTION
202331	DINING/140	1 DOOR OVEN
202313	DINING/142	2.DOOR OVEN
202330	DINING/139	4DOOR OVEN
201902	DINING/034	Automatic Station Filter
201980	DINING/091	Cold Food Pan
201981	DINING/091	Cold Food Pan
201900	DINING/035	CombiCraft Oven Steamer
201903	DINING/035	CombiCraft Oven Steamer
202022	DINING/112	Condensate Exhaust
202021	DINING/112	Condensate Exhaust
201894	DINING/031	CONVECTION, OVEN
202322	DINING/031	CONVECTION, OVEN

202336	DINING/031	CONVECTION, OVEN
202337	DINING/031	CONVECTION, OVEN
202023	DINING/105	Conveyor, Soiled Tray
202328	DINING/137	COUNTER SINK W/HOSE
202316	DINING/137	COUNTER SINK W/HOSE
202329	DINING/137	COUNTER SINK W/HOSE
202318	DINING/137	COUNTER SINK W/HOSE
202327	DINING/143	DEEP FRYER
202013	DINING/047	Direct Steam Kettle
202025	DINING/047	Direct Steam Kettle
202010	DINING/107	Dish Table WASHER
202005	DINING/107	Dish Table WASHER
202315	DINING/115	DISHWASHER
201877	DINING/014	Food Cutter w/Bowl
202335	DINING/014	Food Cutter w/Bowl
201952	DINING/067	Food Warming Cabinet
201938	DINING/011	Garbage Disposer
202325	DINING/011	Garbage Disposer
201892	DINING/049	GAS Table Top Kettle
201901	DINING/033	Gas Fryer
201893	DINING/029	Gas Skillet
202212	DINING/120	Grease Trap
201895	DINING/032	Griddle Top Gas Range
201941	DINING/054	Griddle, Stand Mount
202028	DINING/039	HOOD WASH
201929	DINING/039	HOOD WASH
201908	DINING/039	HOOD WASH
201907	DINING/038	Hood Wash System
202333	DINING/147	HOSHIZAKI, ICE MAKER
202308	DINING/147	HOSHIZAKI, ICE MAKER
201982	DINING/092	Hot Food Unit, 2 Well
201970	DINING/082	Hot Food Unit, 4 Well
201969	DINING/082	Hot Food Unit, 4 Well
201974	DINING/088	Hot Food Unit, 5 Well
202009	DINING/114	Hot Water Booster Heater
201953	DINING/068	Pizza Oven, Conveyorized
201875	DINING/012	Pre-Rinse Spray Hose
202036	DINING/062	Reach-in Freezer
202033	DINING/061	Reach-in Refrig Cabinet

201964	DINING/076	Refrig Cold Food Pan
201976	DINING/076	Refrig Cold Food Pan
201927	DINING/053	Refrig. Sandwich Unit
201940	DINING/053	Refrig. Sandwich Unit
202312	DINING/053	Refrig. Sandwich Unit
201973	DINING/085	Refrigerated Deli Case
201965	DINING/077	Refrigerated Display Case
202320	DINING/141	REFRIGERATOR
202339	DINING/141	REFRIGERATOR
202314	DINING/141	REFRIGERATOR
202016	DINING/051	Retractable Hose Reel
202014	DINING/051	Retractable Hose Reel
202321	DINING/051	Retractable Hose Reel
201968	DINING/081	Roll Warmer, 2 Drawer
202324	DINING/081	Roll Warmer, 2 Drawer
201989	DINING/087	Roll Warmer, 2 Drawer
201880	DINING/009	Table, Veg Prep w Sinks
201881	DINING/009	Table, Veg Prep w Sinks
201873	DINING/009	Table, Veg Prep w Sinks
201878	DINING/017	Vegetable Processing Mach
201916	DINING/018	Vertical Food Mixer 60 qt
201915	DINING/018	Vertical Food Mixer 60 qt
201912	DINING/006	Walk-in Refrig/Freezer
202334	DINING/006	Walk-in Refrig/Freezer
202035	DINING/072	Workcounter with Sink
201956	DINING/072	Workcounter with Sink
BARCODE	REFERENCE ID	DESCRIPTION
328306	HVC/A/PMP003	Pump, Sump
313032	HVC/ACU024	Fan Coil Unit
202585	HVC/ACU022	Fan Coil Unit
400024	HVC/AHU026	Air Handler (4.5 ton)
400033	HVC/AHU027	Air Handler (3 ton)
400034	HVC/AHU028	Air Handler (2 ton)
400035	HVC/AHU026	Air Handler (4.5 ton)
400036	HVC/AHU027	Air Handler (3 ton)
400037	HVC/AHU027	Air Handler (3 ton)
400038	HVC/AHU027	Air Handler (3 ton)
400039	HVC/AHU027	Air Handler (3 ton)
400040	HVC/AHU027	Air Handler (3 ton)

400041	HVC/AHU027	Air Handler (3 ton)
400042	HVC/AHU029	Air Handler (7.5 ton)
400025	HVC/AHU026	Air Handler (4.5 ton)
400026	HVC/AHU026	Air Handler (4.5 ton)
400027	HVC/AHU026	Air Handler (4.5 ton)
400028	HVC/AHU026	Air Handler (4.5 ton)
400029	HVC/AHU026	Air Handler (4.5 ton)
400030	HVC/AHU027	Air Handler (3 ton)
400031	HVC/AHU027	Air Handler (3 ton)
400032	HVC/AHU027	Air Handler (3 ton)
200257	HVC/AHU001	HVAC Air Handling Unit
200531	HVC/VNT018	AHU Exhaust Fan
200299	HVC/AHU001	HVAC Air Handling Unit
200546	HVC/VNT018	AHU Exhaust Fan
200245	HVC/AHU001	HVAC Air Handling Unit
200533	HVC/VNT018	AHU Exhaust Fan
200290	HVC/AHU002	HVAC Air Handling Unit
200545	HVC/VNT018	AHU Exhaust Fan
200252	HVC/AHU003	HVAC Air Handling Unit
200520	HVC/VNT019	AHU Exhaust Fan
200164	HVC/AHU004	HVAC Air Handling Unit
200506	HVC/VNT018	AHU Exhaust Fan
200177	HVC/AHU001	HVAC Air Handling Unit
200507	HVC/VNT018	AHU Exhaust Fan
200262	HVC/AHU001	HVAC Air Handling Unit
200532	HVC/VNT018	AHU Exhaust Fan
200218	HVC/AHU001	HVAC Air Handling Unit
200519	HVC/VNT018	AHU Exhaust Fan
200167	HVC/AHU005	HVAC Air Handling Unit
200494	HVC/VNT018	AHU Exhaust Fan
200002	HVC/AHU004	HVAC Air Handling Unit
200480	HVC/AHU013	HVAC Air Handling Unit
200013	HVC/AHU006	HVAC Air Handling Unit
200034	HVC/AHU007	HVAC Air Handling Unit
200022	HVC/AHU008	HVAC Air Handling Unit
200038	HVC/AHU009	HVAC Air Handling Unit
200103	HVC/AHU010	HVAC Air Handling Unit
200112	HVC/AHU011	HVAC Air Handling Unit
200129	HVC/AHU005	HVAC Air Handling Unit

400064	HVC/CNT003	Air Compressor
200033	HVC/CNT001	Pneumatic Cntl Air Comp
400022	HVC/HTR015	Air Curtain
200054	HVC/CNT002	Pneum. Controls Air Dryer
202582	HVC/DHM001	Dehumidifier
200058	HVC/BLR001	Gas-Fired Firtube Boiler
200055	HVC/BLR002	Firepower Burner
200059	HVC/BLR001	Gas-Fired Firtube Boiler
200056	HVC/BLR002	Firepower Burner
200060	HVC/BLR001	Gas-Fired Firtube Boiler
200057	HVC/BLR002	Firepower Burner
400139	HVC/CHL005	Air Dryer
400138	HVC/CHL004	Air Separator
400047	HVC/BLR006	Boiler
400090	HVC/TNK010	Chemical Feed Tank
400046	HVC/PMP015	Chilled Water Pump
400023	HVC/CHL003	Chiller (70 ton)
400147	HVC/CHL006	35 Ton Compressor
400148	HVC/CHL006	35 Ton Compressor
400087	HVC/TNK007	Expansion Tank 45 Gal
400088	HVC/TNK008	Expansion Tank 22 Gal
400089	HVC/TNK009	Glycol Chemical Feed Tank
400082	HVC/PMP016	Recirculating Pump
400083	HVC/PMP016	Recirculating Pump
400044	HVC/PMP014	Hot Water Pump
400045	HVC/PMP014	Hot Water Pump
400092	HVC/VNT021	Roof Exhaust Fan
400091	HVC/VNT020	Roof Exhaust Fan
400048	HVC/WHR003	Hot Water Heater (125gal)
400049	HVC/WHR004	Hot Water Heater (250gal)
400099	HVC/VNT029	Intake Fan
400100	HVC/VNT030	Intake Fan
400101	HVC/VNT031	Intake Fan
400102	HVC/VNT032	Intake Fan
400103	HVC/VNT033	Intake Fan
400104	HVC/VNT034	Intake Fan
400098	HVC/VNT028	Upblast Exhaust Fan
400097	HVC/VNT027	Upblast Exhaust Fan
400093	HVC/VNT022	Roof Exhaust Fan

400095	HVC/VNT025	Wall Exhaust Fan
400105	HVC/VNT035	Recirculating Fan
400114	HVC/VNT035	Recirculating Fan
400115	HVC/VNT035	Recirculating Fan
400116	HVC/VNT035	Recirculating Fan
400117	HVC/VNT035	Recirculating Fan
400118	HVC/VNT035	Recirculating Fan
400106	HVC/VNT035	Recirculating Fan
400107	HVC/VNT035	Recirculating Fan
400108	HVC/VNT035	Recirculating Fan
400109	HVC/VNT035	Recirculating Fan
400110	HVC/VNT035	Recirculating Fan
400111	HVC/VNT035	Recirculating Fan
400112	HVC/VNT035	Recirculating Fan
400113	HVC/VNT035	Recirculating Fan
400096	HVC/VNT026	Ceiling Exhaust Fan
400094	HVC/VNT024	Roof Exhaust Fan
400084	HVC/HTR016	Recessed Unit Heater
400085	HVC/HTR017	Recessed Unit Heater
400086	HVC/HTR018	Horizontal Unit Heater
400153	HVC/BLR007	Burner Assembly
400154	HVC/BLR007	Burner Assembly
309156	HVC/ACU043	FAN COIL UNIT
309158	HVC/ACU043	FAN COIL UNIT
309161	HVC/ACU043	FAN COIL UNIT
309164	HVC/ACU043	FAN COIL UNIT
328193	HVC/A/CHL001	Chiller R-123
328192	HVC/A/CHL001	Chiller R-123
328191	HVC/A/CHL001	Chiller R-123
307079	HVC/CHL007	Refrigeration Machine
200084	HVC/CHL001	Refrigeration Machine
200083	HVC/CHL001	Refrigeration Machine
200146	HVC/CHL001	Refrigeration Machine
200168	HVC/ACU001	AC Package Unit - Comp Rm
202586	HVC/ACU016	AC Package Unit - Comp Rm
200149	HVC/ACU001	AC Package Unit - Comp Rm
200169	HVC/ACU001	AC Package Unit - Comp Rm
200137	HVC/ACU001	AC Package Unit - Comp Rm
200135	HVC/ACU001	AC Package Unit - Comp Rm

200136	HVC/ACU002	AC Package Unit - Comp Rm
200020	HVC/ACU013	AC Package Unit - Comp Rm
200208	HVC/ACU014	AC Package Unit - Comp Rm
200150	HVC/ACU003	AC Package Unit - Comp Rm
200221	HVC/ACU003	AC Package Unit - Comp Rm
202213	HVC/ACU014	AC Package Unit - Comp Rm
200235	HVC/CLT001	Cooling Tower
200249	HVC/CLT001	Cooling Tower
201243	HVC/CLT001	Cooling Tower
200145	HVC/PMP005	Domestic Water Boost Sys
200067	HVC/TNK001	370 Gal Expansion Tank
200066	HVC/TNK001	370 Gal Expansion Tank
200092	HVC/TNK001	370 Gal Expansion Tank
200080	HVC/TNK001	370 Gal Expansion Tank
200337	HVC/TNK001	370 Gal Expansion Tank
200363	HVC/TNK005	Expansion Tank
309152	HVC/ACU041	FAN COIL UNIT
309153	HVC/ACU041	FAN COIL UNIT
200390	HVC/VNT001	Exhaust Fan
200260	HVC/VNT001	Exhaust Fan
200246	HVC/VNT001	Exhaust Fan
200239	HVC/VNT001	Exhaust Fan
200275	HVC/VNT001	Exhaust Fan
200176	HVC/VNT001	Exhaust Fan
200292	HVC/VNT001	Exhaust Fan
200307	HVC/VNT001	Exhaust Fan
200478	HVC/VNT002	Propeller Wall Ventilator
200535	HVC/VNT002	Propeller Wall Ventilator
201245	HVC/VNT002	Propeller Wall Ventilator
200471	HVC/VNT002	Propeller Wall Ventilator
201417	HVC/VNT002	Propeller Wall Ventilator
200375	HVC/VNT002	Propeller Wall Ventilator
200273	HVC/VNT001	Exhaust Fan
200247	HVC/VNT001	Exhaust Fan
200192	HVC/VNT001	Exhaust Fan
200217	HVC/VNT001	Exhaust Fan
200228	HVC/VNT001	Exhaust Fan
200195	HVC/VNT001	Exhaust Fan
200306	HVC/VNT001	Exhaust Fan

200343	HVC/VNT017	Exhaust Fan
200331	HVC/VNT017	Exhaust Fan
200373	HVC/VNT017	Exhaust Fan
200362	HVC/VNT017	Exhaust Fan
200381	HVC/VNT013	Square In-Line Blower
200006	HVC/VNT007	Axivane V-Belt Drive Fan
200323	HVC/VNT012	Axivane V-Belt Drive Fan
200325	HVC/VNT012	Axivane V-Belt Drive Fan
200126	HVC/VNT007	Axivane V-Belt Drive Fan
200151	HVC/VNT005	Inline & Upblast Blower
200268	HVC/VNT016	Roof Vent
200269	HVC/VNT016	Roof Vent
200267	HVC/VNT016	Roof Vent
200270	HVC/VNT016	Roof Vent
200259	HVC/VNT016	Roof Vent
200271	HVC/VNT016	Roof Vent
200258	HVC/VNT016	Roof Vent
200272	HVC/VNT016	Roof Vent
200283	HVC/VNT016	Roof Vent
200266	HVC/VNT016	Roof Vent
200282	HVC/VNT016	Roof Vent
200281	HVC/VNT016	Roof Vent
200286	HVC/VNT016	Roof Vent
200279	HVC/VNT016	Roof Vent
200284	HVC/VNT016	Roof Vent
200280	HVC/VNT016	Roof Vent
200308	HVC/VNT016	Roof Vent
200312	HVC/VNT016	Roof Vent
200310	HVC/VNT016	Roof Vent
200293	HVC/VNT016	Roof Vent
200311	HVC/VNT016	Roof Vent
200294	HVC/VNT016	Roof Vent
200309	HVC/VNT016	Roof Vent
200263	HVC/VNT016	Roof Vent
200237	HVC/VNT016	Roof Vent
200303	HVC/VNT016	Roof Vent
200250	HVC/VNT016	Roof Vent
200289	HVC/VNT016	Roof Vent
200276	HVC/VNT016	Roof Vent

200301	HVC/VNT016	Roof Vent
200302	HVC/VNT016	Roof Vent
200248	HVC/VNT016	Roof Vent
200261	HVC/VNT016	Roof Vent
200158	HVC/VNT016	Roof Vent
200274	HVC/VNT016	Roof Vent
200159	HVC/VNT016	Roof Vent
200287	HVC/VNT016	Roof Vent
200157	HVC/VNT016	Roof Vent
200300	HVC/VNT016	Roof Vent
200171	HVC/VNT016	Roof Vent
200172	HVC/VNT016	Roof Vent
200170	HVC/VNT016	Roof Vent
200173	HVC/VNT016	Roof Vent
200190	HVC/VNT016	Roof Vent
200174	HVC/VNT016	Roof Vent
200191	HVC/VNT016	Roof Vent
200175	HVC/VNT016	Roof Vent
200184	HVC/VNT016	Roof Vent
200185	HVC/VNT016	Roof Vent
200183	HVC/VNT016	Roof Vent
200186	HVC/VNT016	Roof Vent
200197	HVC/VNT016	Roof Vent
200187	HVC/VNT016	Roof Vent
200196	HVC/VNT016	Roof Vent
200188	HVC/VNT016	Roof Vent
200216	HVC/VNT017	Exhaust Fan
200209	HVC/VNT017	Exhaust Fan
200215	HVC/VNT017	Exhaust Fan
200210	HVC/VNT017	Exhaust Fan
200213	HVC/VNT017	Exhaust Fan
200211	HVC/VNT017	Exhaust Fan
200214	HVC/VNT017	Exhaust Fan
200212	HVC/VNT017	Exhaust Fan
200229	HVC/VNT016	Roof Vent
200227	HVC/VNT016	Roof Vent
200231	HVC/VNT016	Roof Vent
200225	HVC/VNT016	Roof Vent
200230	HVC/VNT016	Roof Vent

200224	HVC/VNT016	Roof Vent
200219	HVC/VNT016	Roof Vent
200226	HVC/VNT016	Roof Vent
200029	HVC/VNT011	Axivane V-Belt Drive Fan
200026	HVC/VNT009	Axivane V-Belt Drive Fan
200382	HVC/VNT010	Axivane V-Belt Drive Fan
202584	HVC/ACU023	Fan Coil A/C
202583	HVC/ACU023	Fan Coil A/C
200388	HVC/ACU011	Fan Coil Unit
200223	HVC/ACU011	Fan Coil Unit
200288	HVC/ACU010	Fan Coil Unit
200222	HVC/ACU006	Fan Coil Unit
200253	HVC/ACU010	Fan Coil Unit
200189	HVC/ACU006	Fan Coil Unit
200384	HVC/ACU012	Fan Coil Unit
328235	HVC/A/VNT014	Fan, Exhaust GEF-1
328249	HVC/A/VNT005	Fan, Exhaust GEF-1
328250	HVC/A/VNT020	Fan, Exhaust GEF-6
202579	HVC/ACU018	Outdoor Condensing Unit
202578	HVC/ACU017	Indoor Fan Coil
202576	HVC/ACU020	Outdoor Condensing Unit
202577	HVC/ACU019	Indoor Fan Coil
202581	HVC/ACU021	Outdoor Condensing Unit
202580	HVC/ACU019	Indoor Fan Coil
200085	HVC/AHU023	Heating and Vent Unit
200338	HVC/AHU024	Heating and Vent Unit
200314	HVC/AHU022	Heating and Vent Unit
200313	HVC/AHU022	Heating and Vent Unit
200021	HVC/AHU015	Hot Duct Unit
200481	HVC/AHU020	Heating and Vent Unit
200138	HVC/AHU020	Heating and Vent Unit
200031	HVC/AHU020	Heating and Vent Unit
200181	HVC/AHU015	Hot Duct Unit
200234	HVC/AHU015	Hot Duct Unit
200194	HVC/AHU014	Hot Duct Unit
200139	HVC/AHU015	Hot Duct Unit
200220	HVC/AHU015	Hot Duct Unit
200207	HVC/AHU016	Hot Duct Unit
201244	HVC/AHU015	Hot Duct Unit

201242	HVC/AHU015	Hot Duct Unit
201236	HVC/AHU016	Hot Duct Unit
200152	HVC/AHU015	Hot Duct Unit
201246	HVC/AHU015	Hot Duct Unit
200233	HVC/AHU016	Hot Duct Unit
201241	HVC/AHU015	Hot Duct Unit
200378	HVC/AHU016	Hot Duct Unit
201240	HVC/AHU014	Hot Duct Unit
200153	HVC/AHU015	Hot Duct Unit
201248	HVC/AHU015	Hot Duct Unit
200141	HVC/AHU014	Hot Duct Unit
201238	HVC/AHU015	Hot Duct Unit
200154	HVC/AHU015	Hot Duct Unit
201237	HVC/AHU014	Hot Duct Unit
200142	HVC/AHU017	Hot Duct Unit
200140	HVC/AHU015	Hot Duct Unit
200155	HVC/AHU014	Hot Duct Unit
200005	HVC/AHU015	Hot Duct Unit
200012	HVC/AHU018	Hot Duct Unit
200003	HVC/AHU016	Hot Duct Unit
200014	HVC/AHU019	Hot Duct Unit
200156	HVC/AHU015	Hot Duct Unit
200015	HVC/AHU017	Hot Duct Unit
200016	HVC/AHU019	Hot Duct Unit
200017	HVC/AHU017	Hot Duct Unit
200065	HVC/AHU015	Hot Duct Unit
200039	HVC/AHU015	Hot Duct Unit
200102	HVC/AHU015	Hot Duct Unit
200095	HVC/AHU019	Hot Duct Unit
200101	HVC/AHU016	Hot Duct Unit
200090	HVC/AHU019	Hot Duct Unit
200104	HVC/AHU015	Hot Duct Unit
200097	HVC/AHU019	Hot Duct Unit
200110	HVC/AHU019	Hot Duct Unit
200096	HVC/AHU014	Hot Duct Unit
200115	HVC/AHU019	Hot Duct Unit
200116	HVC/AHU016	Hot Duct Unit
200122	HVC/AHU015	Hot Duct Unit
200148	HVC/AHU019	Hot Duct Unit

200123	HVC/AHU014	Hot Duct Unit
200040	HVC/WHR001	Hot Water Heater
200041	HVC/BLR004	Water Htr Burner/Firetube
200043	HVC/WHR001	Hot Water Heater
200042	HVC/BLR004	Water Htr Burner/Firetube
200044	HVC/WHR002	Hot Water Heater
200046	HVC/BLR004	Water Htr Burner/Firetube
200045	HVC/WHR002	Hot Water Heater
200047	HVC/BLR004	Water Htr Burner/Firetube
201477	HVC/CHL002	Ice Chiller Thermal Store
200091	HVC/PMP012	Jockey Pump
201418	HVC/PNL001	HVAC Control System Panel
201419	HVC/PNL001	HVAC Control System Panel
201420	HVC/PNL001	HVAC Control System Panel
201421	HVC/PNL001	HVAC Control System Panel
201422	HVC/PNL001	HVAC Control System Panel
201423	HVC/PNL001	HVAC Control System Panel
201424	HVC/PNL001	HVAC Control System Panel
201425	HVC/PNL001	HVAC Control System Panel
201426	HVC/PNL001	HVAC Control System Panel
201427	HVC/PNL001	HVAC Control System Panel
201428	HVC/PNL001	HVAC Control System Panel
201429	HVC/PNL001	HVAC Control System Panel
201430	HVC/PNL001	HVAC Control System Panel
201431	HVC/PNL001	HVAC Control System Panel
201432	HVC/PNL001	HVAC Control System Panel
201433	HVC/PNL001	HVAC Control System Panel
201434	HVC/PNL001	HVAC Control System Panel
201435	HVC/PNL001	HVAC Control System Panel
201436	HVC/PNL001	HVAC Control System Panel
201437	HVC/PNL001	HVAC Control System Panel
201438	HVC/PNL001	HVAC Control System Panel
201439	HVC/PNL001	HVAC Control System Panel
201440	HVC/PNL001	HVAC Control System Panel
201441	HVC/PNL001	HVAC Control System Panel
201442	HVC/PNL001	HVAC Control System Panel
201443	HVC/PNL001	HVAC Control System Panel
201444	HVC/PNL001	HVAC Control System Panel
201445	HVC/PNL001	HVAC Control System Panel

201446	HVC/PNL001	HVAC Control System Panel
201447	HVC/PNL001	HVAC Control System Panel
201448	HVC/PNL001	HVAC Control System Panel
201449	HVC/PNL001	HVAC Control System Panel
201450	HVC/PNL001	HVAC Control System Panel
201451	HVC/PNL001	HVAC Control System Panel
201452	HVC/PNL001	HVAC Control System Panel
201453	HVC/PNL001	HVAC Control System Panel
201454	HVC/PNL001	HVAC Control System Panel
201455	HVC/PNL001	HVAC Control System Panel
201456	HVC/PNL001	HVAC Control System Panel
201457	HVC/PNL001	HVAC Control System Panel
201458	HVC/PNL001	HVAC Control System Panel
201459	HVC/PNL001	HVAC Control System Panel
201460	HVC/PNL001	HVAC Control System Panel
201461	HVC/PNL001	HVAC Control System Panel
201462	HVC/PNL001	HVAC Control System Panel
201463	HVC/PNL001	HVAC Control System Panel
201464	HVC/PNL001	HVAC Control System Panel
201465	HVC/PNL001	HVAC Control System Panel
201466	HVC/PNL001	HVAC Control System Panel
201467	HVC/PNL001	HVAC Control System Panel
201468	HVC/PNL001	HVAC Control System Panel
201469	HVC/PNL001	HVAC Control System Panel
201470	HVC/PNL001	HVAC Control System Panel
201472	HVC/PNL001	HVAC Control System Panel
201471	HVC/PNL001	HVAC Control System Panel
201473	HVC/PNL001	HVAC Control System Panel
201474	HVC/PNL001	HVAC Control System Panel
201475	HVC/PNL001	HVAC Control System Panel
201476	HVC/PNL001	HVAC Control System Panel
200068	HVC/PMP002	Condenser Water Pump
200069	HVC/PMP002	Condenser Water Pump
200070	HVC/PMP002	Condenser Water Pump
200048	HVC/PMP001	Hot Water Pump
200049	HVC/PMP001	Hot Water Pump
200050	HVC/PMP001	Hot Water Pump
200389	HVC/PMP008	Inline Preheat Pump
200285	HVC/PMP008	Inline Preheat Pump

200241	HVC/PMP008	Inline Preheat Pump
200291	HVC/PMP008	Inline Preheat Pump
200251	HVC/PMP008	Inline Preheat Pump
200160	HVC/PMP008	Inline Preheat Pump
200165	HVC/PMP008	Inline Preheat Pump
200199	HVC/PMP008	Inline Preheat Pump
200203	HVC/PMP008	Inline Preheat Pump
200206	HVC/PMP008	Inline Preheat Pump
200008	HVC/PMP008	Inline Preheat Pump
200479	HVC/PMP008	Inline Preheat Pump
200380	HVC/PMP008	Inline Preheat Pump
200027	HVC/PMP008	Inline Preheat Pump
200023	HVC/PMP009	Inline Preheat Pump
200376	HVC/PMP009	Inline Preheat Pump
200098	HVC/PMP010	Inline Preheat Pump
200111	HVC/PMP009	Inline Preheat Pump
200130	HVC/PMP010	Inline Preheat Pump
200144	HVC/PMP012	Jockey Pump
200351	HVC/PMP007	Recirculating Pump
200350	HVC/PMP007	Recirculating Pump
201247	HVC/PMP009	Inline Preheat Pump
200379	HVC/PMP008	Inline Preheat Pump
201408	HVC/PMP013	Water Treatment Pump
201409	HVC/PMP013	Water Treatment Pump
201410	HVC/PMP013	Water Treatment Pump
201411	HVC/PMP013	Water Treatment Pump
201412	HVC/PMP013	Water Treatment Pump
201413	HVC/PMP013	Water Treatment Pump
201414	HVC/PMP013	Water Treatment Pump
201415	HVC/PMP013	Water Treatment Pump
201416	HVC/PMP013	Water Treatment Pump
200086	HVC/PDS001	Refrigerant Pump Down Sys
200077	HVC/PMP003	Chilled Water Pump
200076	HVC/PMP003	Chilled Water Pump
200078	HVC/PMP003	Chilled Water Pump
200087	HVC/PMP004	Chilled Water Pump
200088	HVC/PMP004	Chilled Water Pump
309159	HVC/ACU042	FAN COIL UNIT
309160	HVC/ACU042	FAN COIL UNIT

309162	HVC/ACU042	FAN COIL UNIT
309163	HVC/ACU042	FAN COIL UNIT
309157	HVC/ACU042	FAN COIL UNIT
309165	HVC/ACU042	FAN COIL UNIT
309155	HVC/ACU042	FAN COIL UNIT
309154	HVC/ACU042	FAN COIL UNIT
200342	HVC/HTR006	Unit Heater
200352	HVC/HTR006	Unit Heater
200348	HVC/HTR006	Unit Heater
200318	HVC/HTR006	Unit Heater
200377	HVC/TNK002	Underground Storage Tank
200364	HVC/TNK002	Underground Storage Tank
201515	HVC/TNK006	Water Treatment Tank
328264	HVC/A/HTR004	Heater, Unit
200385	HVC/HTR001	Unit Heater
200009	HVC/HTR009	Unit Heater
200010	HVC/HTR009	Unit Heater
200011	HVC/HTR009	Unit Heater
200477	HVC/HTR002	Unit Heater
200469	HVC/HTR004	Unit Heater
200476	HVC/HTR003	Unit Heater
200470	HVC/HTR006	Unit Heater
200475	HVC/HTR002	Unit Heater
200147	HVC/HTR009	Unit Heater
200134	HVC/HTR009	Unit Heater
200128	HVC/HTR009	Unit Heater
200387	HVC/HTR007	Unit Heater
200386	HVC/HTR007	Unit Heater
200240	HVC/HTR007	Unit Heater
200182	HVC/HTR005	Unit Heater
200255	HVC/HTR011	Unit Heater for Roof AHU
200298	HVC/HTR011	Unit Heater for Roof AHU
200242	HVC/HTR011	Unit Heater for Roof AHU
200304	HVC/HTR011	Unit Heater for Roof AHU
200238	HVC/HTR011	Unit Heater for Roof AHU
200161	HVC/HTR011	Unit Heater for Roof AHU
200166	HVC/HTR011	Unit Heater for Roof AHU
200198	HVC/HTR011	Unit Heater for Roof AHU
200202	HVC/HTR011	Unit Heater for Roof AHU

200232	HVC/HTR011	Unit Heater for Roof AHU
200064	HVC/HTR010	Unit Heater
328304	HVC/A/HTR002	Unit Heater, Wall
328305	HVC/A/HTR003	Unit Heater, Wall
201405	HVC/WTC001	Water Treatment Control
201406	HVC/WTC001	Water Treatment Control
201407	HVC/WTC001	Water Treatment Control
328315	HVC/A/PNL004	Bas Controller Panel Terminals Unit
328316	HVC/A/PNL002	Bas Controller Panel AHU 08
328317	HVC/A/PNL002	Bas Controller Panel AHU 08
328319	HVC/A/PNL004	Bas Controller Panel Terminals Unit
328320	HVC/A/PNL002	Bas Controller Panel AHU 08
328321	HVC/A/PNL002	Bas Controller Panel AHU 08
328322	HVC/A/PNL004	Bas Controller Panel Terminals Unit
328323	HVC/A/BAS005	Bas Bacnet Router
328324	HVC/A/PNL002	Bas Controller Panel AHU 08
328325	HVC/A/PNL001	Bas Controller Panel AHU 01
328326	HVC/A/PNL004	Bas Controller Panel Terminals Unit
328328	HVC/A/BAS006	Bas Bacnet Router
20430	HVC/A/FCU04	Fan Power Terminal Unit
328161	HVC/A/FCU002	Fan Coil Unit
328367	HVC/A/WHR001	Hot Water Heater Gas
328288	HVC/A/HUM001	Humidifier, Duct
328199	HVC/A/PMP002	Chemical Pump
328273	HVC/A/FCU002	Fan Coil Unit
10315	HVC/A/FCU03	Fan Power Terminal Unit
10322	HVC/A/FCU05	Fan Power Terminal Unit
20115	HVC/A/FCU02	Fan Power Terminal Unit
20117	HVC/A/FCU03	Fan Power Terminal Unit
20123	HVC/A/FCU03	Fan Power Terminal Unit
20135	HVC/A/FCU04	Fan Power Terminal Unit
20142	HVC/A/FCU05	Fan Power Terminal Unit
20216	HVC/A/FCU02	Fan Power Terminal Unit
20223	HVC/A/FCU02	Fan Power Terminal Unit
20234	HVC/A/FCU03	Fan Power Terminal Unit
20241	HVC/A/FCU05	Fan Power Terminal Unit
20252	HVC/A/FCU06	Fan Power Terminal Unit
20316	HVC/A/FCU02	Fan Power Terminal Unit
20327	HVC/A/FCU03	Fan Power Terminal Unit

20334	HVC/A/FCU04	Fan Power Terminal Unit
20345	HVC/A/FCU07	Fan Power Terminal Unit
20417	HVC/A/FCU02	Fan Power Terminal Unit
20428	HVC/A/FCU04	Fan Power Terminal Unit
20435	HVC/A/FCU05	Fan Power Terminal Unit
20446	HVC/A/FCU05	Fan Power Terminal Unit
20453	HVC/A/FCU08	Fan Power Terminal Unit
30117	HVC/A/FCU02	Fan Power Terminal Unit
30124	HVC/A/FCU03	Fan Power Terminal Unit
30135	HVC/A/FCU04	Fan Power Terminal Unit
30142	HVC/A/FCU05	Fan Power Terminal Unit
30216	HVC/A/FCU03	Fan Power Terminal Unit
30223	HVC/A/FCU03	Fan Power Terminal Unit
30234	HVC/A/FCU04	Fan Power Terminal Unit
30241	HVC/A/FCU05	Fan Power Terminal Unit
30311	HVC/A/FCU02	Fan Power Terminal Unit
30318	HVC/A/FCU03	Fan Power Terminal Unit
30329	HVC/A/FCU04	Fan Power Terminal Unit
328205	HVC/A/HTR001	Unit Heater
328206	HVC/A/HTR001	Unit Heater
328208	HVC/A/VNT009	Exhaust Fan
328211	HVC/A/PMP006	Pump Primary Hot Water
328213	HVC/A/AHU001	Air Handler Unit
328215	HVC/A/AHU001	Air Handler Unit
328216	HVC/A/AHU002	Air Handler Unit
328218	HVC/A/AHU001	Air Handler Unit
328220	HVC/A/VNT008	Exhaust Fan
328221	HVC/A/VNT008	Exhaust Fan
328223	HVC/A/VNT004	Exhaust Fan
328224	HVC/A/PMP003	Pump, Sump
328225	HVC/A/BLR001	Boiler Steam-Gas
328274	HVC/A/FCU005	Fan Coil Unit
328276	HVC/A/FCU007	Fan Coil Unit
328278	HVC/A/FCU001	Fan Coil Unit
328279	HVC/A/FCU006	Fan Coil Unit
328280	HVC/A/FCU008	Fan Coil Unit
328282	HVC/A/FCU004	Fan Coil Unit
328283	HVC/A/FCU006	Fan Coil Unit
328284	HVC/A/PMP003	Pump, Sump

328286	HVC/A/HUM001	Humidifier, Duct
328289	HVC/A/HUM001	Humidifier, Duct
328291	HVC/A/HUM001	Humidifier, Duct
328293	HVC/A/FCU008	Fan Coil Unit
328296	HVC/A/AC001	A/C Unit MiniMate
328297	HVC/A/FCU003	Fan Coil Unit
328302	HVC/A/PMP003	Pump, Sump
328308	HVC/A/PNL002	Bas Controller Panel AHU 08
328310	HVC/A/PNL002	Bas Controller Panel AHU 08
328311	HVC/A/PNL002	Bas Controller Panel AHU 08
328313	HVC/A/PNL002	Bas Controller Panel AHU 08
20244	HVC/A/FCU05	Fan Power Terminal Unit
20246	HVC/A/FCU05	Fan Power Terminal Unit
20249	HVC/A/FCU06	Fan Power Terminal Unit
20250	HVC/A/FCU06	Fan Power Terminal Unit
20251	HVC/A/FCU06	Fan Power Terminal Unit
20253	HVC/A/FCU06	Fan Power Terminal Unit
20312	HVC/A/FCU02	Fan Power Terminal Unit
20313	HVC/A/FCU02	Fan Power Terminal Unit
20314	HVC/A/FCU02	Fan Power Terminal Unit
20315	HVC/A/FCU02	Fan Power Terminal Unit
20317	HVC/A/FCU03	Fan Power Terminal Unit
20318	HVC/A/FCU03	Fan Power Terminal Unit
20319	HVC/A/FCU03	Fan Power Terminal Unit
20320	HVC/A/FCU03	Fan Power Terminal Unit
20321	HVC/A/FCU03	Fan Power Terminal Unit
20323	HVC/A/FCU03	Fan Power Terminal Unit
20324	HVC/A/FCU03	Fan Power Terminal Unit
20325	HVC/A/FCU03	Fan Power Terminal Unit
20326	HVC/A/FCU03	Fan Power Terminal Unit
20329	HVC/A/FCU04	Fan Power Terminal Unit
20330	HVC/A/FCU04	Fan Power Terminal Unit
20331	HVC/A/FCU04	Fan Power Terminal Unit
20332	HVC/A/FCU04	Fan Power Terminal Unit
20333	HVC/A/FCU04	Fan Power Terminal Unit
20335	HVC/A/FCU04	Fan Power Terminal Unit
20337	HVC/A/FCU04	Fan Power Terminal Unit
20338	HVC/A/FCU04	Fan Power Terminal Unit
20339	HVC/A/FCU04	Fan Power Terminal Unit

20341	HVC/A/FCU06	Fan Power Terminal Unit
20342	HVC/A/FCU06	Fan Power Terminal Unit
20343	HVC/A/FCU06	Fan Power Terminal Unit
20344	HVC/A/FCU06	Fan Power Terminal Unit
20411	HVC/A/FCU02	Fan Power Terminal Unit
20413	HVC/A/FCU02	Fan Power Terminal Unit
20414	HVC/A/FCU02	Fan Power Terminal Unit
20415	HVC/A/FCU02	Fan Power Terminal Unit
20416	HVC/A/FCU02	Fan Power Terminal Unit
20418	HVC/A/FCU02	Fan Power Terminal Unit
20420	HVC/A/FCU03	Fan Power Terminal Unit
20421	HVC/A/FCU03	Fan Power Terminal Unit
20422	HVC/A/FCU03	Fan Power Terminal Unit
20424	HVC/A/FCU03	Fan Power Terminal Unit
20425	HVC/A/FCU03	Fan Power Terminal Unit
20426	HVC/A/FCU03	Fan Power Terminal Unit
20427	HVC/A/FCU03	Fan Power Terminal Unit
20429	HVC/A/FCU04	Fan Power Terminal Unit
30229	HVC/A/FCU04	Fan Power Terminal Unit
30247	HVC/A/FCU05	Fan Power Terminal Unit
30324	HVC/A/FCU03	Fan Power Terminal Unit
30423	HVC/A/FCU03	Fan Power Terminal Unit
30441	HVC/A/FCU04	Fan Power Terminal Unit
30459	HVC/A/FCU05	Fan Power Terminal Unit
10314	HVC/A/FCU03	Fan Power Terminal Unit
10117	HVC/A/FCU03	Fan Power Terminal Unit
10123	HVC/A/FCU05	Fan Power Terminal Unit
10128	HVC/A/FCU05	Fan Power Terminal Unit
10136	HVC/A/FCU03	Fan Power Terminal Unit
10147	HVC/A/FCU06	Fan Power Terminal Unit
10216	HVC/A/FCU04	Fan Power Terminal Unit
10222	HVC/A/FCU05	Fan Power Terminal Unit
10229	HVC/A/FCU06	Fan Power Terminal Unit
10234	HVC/A/FCU04	Fan Power Terminal Unit
10240	HVC/A/FCU05	Fan Power Terminal Unit
10247	HVC/A/FCU05	Fan Power Terminal Unit
30456	HVC/A/FCU05	Fan Power Terminal Unit
30457	HVC/A/FCU05	Fan Power Terminal Unit
30458	HVC/A/FCU05	Fan Power Terminal Unit

10211	HVC/A/FCU01	Fan Power Terminal Unit
10228	HVC/A/FCU06	Fan Power Terminal Unit
10246	HVC/A/FCU05	Fan Power Terminal Unit
20114	HVC/A/FCU02	Fan Power Terminal Unit
20129	HVC/A/FCU04	Fan Power Terminal Unit
20211	HVC/A/FCU01	Fan Power Terminal Unit
20229	HVC/A/FCU03	Fan Power Terminal Unit
20247	HVC/A/FCU05	Fan Power Terminal Unit
20322	HVC/A/FCU03	Fan Power Terminal Unit
20423	HVC/A/FCU03	Fan Power Terminal Unit
20441	HVC/A/FCU05	Fan Power Terminal Unit
30130	HVC/A/FCU04	Fan Power Terminal Unit
30211	HVC/A/FCU02	Fan Power Terminal Unit
30432	HVC/A/FCU04	Fan Power Terminal Unit
30452	HVC/A/FCU05	Fan Power Terminal Unit
30325	HVC/A/FCU04	Fan Power Terminal Unit
30314	HVC/A/FCU02	Fan Power Terminal Unit
30341	HVC/A/FCU05	Fan Power Terminal Unit
30342	HVC/A/FCU05	Fan Power Terminal Unit
30438	HVC/A/FCU04	Fan Power Terminal Unit
30416	HVC/A/FCU02	Fan Power Terminal Unit
30447	HVC/A/FCU04	Fan Power Terminal Unit
10242	HVC/A/FCU05	Fan Power Terminal Unit
10317	HVC/A/FCU04	Fan Power Terminal Unit
10212	HVC/A/FCU02	Fan Power Terminal Unit
10125	HVC/A/FCU05	Fan Power Terminal Unit
10113	HVC/A/FCU02	Fan Power Terminal Unit
328153	HVC/A/CLT001	Cooling Tower
328154	HVC/A/CLT001	Cooling Tower
328155	HVC/A/CLT001	Cooling Tower
328156	HVC/A/VNT018	Fan, Exhaust GEF-6
328157	HVC/A/VNT002	Exhaust Fan
328159	HVC/A/VNT001	Exhaust Fan
328158	HVC/A/VNT003	Exhaust Fan
328160	HVC/A/VNT003	Exhaust Fan
328164	HVC/A/AHU002	Air Handler Unit
328167	HVC/A/AHU002	Air Handler Unit
328168	HVC/A/AHU002	Air Handler Unit
328169	HVC/A/AHU002	Air Handler Unit

328170	HVC/A/AHU002	Air Handler Unit
328171	HVC/A/AHU002	Air Handler Unit
328174	HVC/A/TNK003	Expansion Tank
328175	HVC/A/BLR002	Boiler Hot Water-Gas
328176	HVC/A/BLR002	Boiler Hot Water-Gas
328179	HVC/A/AHU001	Air Handler Unit
328180	HVC/A/PMP005	Pump Primary Chilled
328181	HVC/A/PMP008	Pump Condenser
328182	HVC/A/PMP005	Pump Primary Chilled
328183	HVC/A/PMP008	Pump Condenser
328185	HVC/A/PMP008	Pump Condenser
328187	HVC/A/WHR001	Hot Water Heater Gas
328188	HVC/A/PMP004	Pump Booster
328190	HVC/A/PMP007	Pump Secondary Chilled
328195	HVC/A/EXC002	Heat Exchanger
328200	HVC/A/PMP002	Chemical Pump
328203	HVC/A/HTR001	Unit Heater
328204	HVC/A/HTR001	Unit Heater
20239	HVC/A/FCU04	Fan Power Terminal Unit
20240	HVC/A/FCU04	Fan Power Terminal Unit
20242	HVC/A/FCU05	Fan Power Terminal Unit
20243	HVC/A/FCU05	Fan Power Terminal Unit
20222	HVC/A/FCU02	Fan Power Terminal Unit
20225	HVC/A/FCU03	Fan Power Terminal Unit
20226	HVC/A/FCU03	Fan Power Terminal Unit
20228	HVC/A/FCU03	Fan Power Terminal Unit
20230	HVC/A/FCU03	Fan Power Terminal Unit
20231	HVC/A/FCU03	Fan Power Terminal Unit
20232	HVC/A/FCU03	Fan Power Terminal Unit
20233	HVC/A/FCU03	Fan Power Terminal Unit
20236	HVC/A/FCU04	Fan Power Terminal Unit
20237	HVC/A/FCU04	Fan Power Terminal Unit
20238	HVC/A/FCU04	Fan Power Terminal Unit
328151	HVC/A/FCU002	Fan Coil Unit
328272	HVC/A/FCU002	Fan Coil Unit
328301	HVC/A/PMP003	Pump, Sump
328173	HVC/A/AHU003	Air Handler Unit
328241	HVC/A/VNT016	Fan, Exhaust GEF-2
328242	HVC/A/DET01	Gas Sensor/Transmitter

328244	HVC/A/WS001	Water Softener
328245	HVC/A/DET01	Gas Sensor/Transmitter
328248	HVC/A/VNT007	Fan, Supply GSF-1
328252	HVC/A/VNT006	Fan, Supply GSF-4
328261	HVC/A/VNT011	Fan, Exhaust GEF-4
328262	HVC/A/CMP001	Dry Pipe, Air Compressor
328265	HVC/A/VNT011	Fan, Exhaust GEF-4
328266	HVC/A/VNT010	Fan, Supply GSF-3
328268	HVC/A/VNT014	Fan, Exhaust GEF-1
328269	HVC/A/VNT005	Fan, Exhaust GEF-1
328270	HVC/A/VNT005	Fan, Exhaust GEF-1
328303	HVC/A/PMP003	Pump, Sump
328198	HVC/A/TNK003	Expansion Tank
30345	HVC/A/FCU06	Fan Power Terminal Unit
30346	HVC/A/FCU06	Fan Power Terminal Unit
30411	HVC/A/FCU01	Fan Power Terminal Unit
30413	HVC/A/FCU02	Fan Power Terminal Unit
30414	HVC/A/FCU02	Fan Power Terminal Unit
30415	HVC/A/FCU02	Fan Power Terminal Unit
30418	HVC/A/FCU02	Fan Power Terminal Unit
30419	HVC/A/FCU02	Fan Power Terminal Unit
30420	HVC/A/FCU02	Fan Power Terminal Unit
30421	HVC/A/FCU02	Fan Power Terminal Unit
30422	HVC/A/FCU02	Fan Power Terminal Unit
30424	HVC/A/FCU03	Fan Power Terminal Unit
30425	HVC/A/FCU03	Fan Power Terminal Unit
30426	HVC/A/FCU03	Fan Power Terminal Unit
30427	HVC/A/FCU03	Fan Power Terminal Unit
30429	HVC/A/FCU03	Fan Power Terminal Unit
30430	HVC/A/FCU03	Fan Power Terminal Unit
30431	HVC/A/FCU03	Fan Power Terminal Unit
30433	HVC/A/FCU04	Fan Power Terminal Unit
30434	HVC/A/FCU04	Fan Power Terminal Unit
30436	HVC/A/FCU04	Fan Power Terminal Unit
30437	HVC/A/FCU04	Fan Power Terminal Unit
30439	HVC/A/FCU04	Fan Power Terminal Unit
30440	HVC/A/FCU04	Fan Power Terminal Unit
30442	HVC/A/FCU04	Fan Power Terminal Unit
30443	HVC/A/FCU04	Fan Power Terminal Unit

30444	HVC/A/FCU04	Fan Power Terminal Unit
30445	HVC/A/FCU04	Fan Power Terminal Unit
30448	HVC/A/FCU04	Fan Power Terminal Unit
30449	HVC/A/FCU04	Fan Power Terminal Unit
30450	HVC/A/FCU04	Fan Power Terminal Unit
30451	HVC/A/FCU04	Fan Power Terminal Unit
30454	HVC/A/FCU05	Fan Power Terminal Unit
30455	HVC/A/FCU05	Fan Power Terminal Unit
20235	HVC/A/FCU04	Fan Power Terminal Unit
20248	HVC/A/FCU06	Fan Power Terminal Unit
20227	HVC/A/FCU03	Fan Power Terminal Unit
20245	HVC/A/FCU05	Fan Power Terminal Unit
20419	HVC/A/FCU03	Fan Power Terminal Unit
20340	HVC/A/FCU05	Fan Power Terminal Unit
20328	HVC/A/FCU04	Fan Power Terminal Unit
20452	HVC/A/FCU07	Fan Power Terminal Unit
20436	HVC/A/FCU05	Fan Power Terminal Unit
20311	HVC/A/FCU02	Fan Power Terminal Unit
20336	HVC/A/FCU04	Fan Power Terminal Unit
20412	HVC/A/FCU02	Fan Power Terminal Unit
20440	HVC/A/FCU05	Fan Power Terminal Unit
20443	HVC/A/FCU05	Fan Power Terminal Unit
30214	HVC/A/FCU03	Fan Power Terminal Unit
30118	HVC/A/FCU03	Fan Power Terminal Unit
30137	HVC/A/FCU05	Fan Power Terminal Unit
30236	HVC/A/FCU05	Fan Power Terminal Unit
30114	HVC/A/FCU02	Fan Power Terminal Unit
30143	HVC/A/FCU05	Fan Power Terminal Unit
30250	HVC/A/FCU06	Fan Power Terminal Unit
30219	HVC/A/FCU03	Fan Power Terminal Unit
30233	HVC/A/FCU04	Fan Power Terminal Unit
30412	HVC/A/FCU02	Fan Power Terminal Unit
10320	HVC/A/FCU04	Fan Power Terminal Unit
10325	HVC/A/FCU05	Fan Power Terminal Unit
10326	HVC/A/FCU05	Fan Power Terminal Unit
20111	HVC/A/FCU02	Fan Power Terminal Unit
20112	HVC/A/FCU02	Fan Power Terminal Unit
20113	HVC/A/FCU02	Fan Power Terminal Unit
10323	HVC/A/FCU05	Fan Power Terminal Unit

10324	HVC/A/FCU05	Fan Power Terminal Unit
20118	HVC/A/FCU03	Fan Power Terminal Unit
20119	HVC/A/FCU03	Fan Power Terminal Unit
20120	HVC/A/FCU03	Fan Power Terminal Unit
20122	HVC/A/FCU03	Fan Power Terminal Unit
20124	HVC/A/FCU03	Fan Power Terminal Unit
20125	HVC/A/FCU03	Fan Power Terminal Unit
20126	HVC/A/FCU04	Fan Power Terminal Unit
20127	HVC/A/FCU04	Fan Power Terminal Unit
20128	HVC/A/FCU04	Fan Power Terminal Unit
20130	HVC/A/FCU04	Fan Power Terminal Unit
20132	HVC/A/FCU04	Fan Power Terminal Unit
20133	HVC/A/FCU04	Fan Power Terminal Unit
20134	HVC/A/FCU04	Fan Power Terminal Unit
20136	HVC/A/FCU04	Fan Power Terminal Unit
20137	HVC/A/FCU04	Fan Power Terminal Unit
20139	HVC/A/FCU04	Fan Power Terminal Unit
20140	HVC/A/FCU04	Fan Power Terminal Unit
20141	HVC/A/FCU05	Fan Power Terminal Unit
20143	HVC/A/FCU05	Fan Power Terminal Unit
20144	HVC/A/FCU06	Fan Power Terminal Unit
20145	HVC/A/FCU06	Fan Power Terminal Unit
20146	HVC/A/FCU06	Fan Power Terminal Unit
20147	HVC/A/FCU06	Fan Power Terminal Unit
20212	HVC/A/FCU02	Fan Power Terminal Unit
20213	HVC/A/FCU02	Fan Power Terminal Unit
20214	HVC/A/FCU02	Fan Power Terminal Unit
20215	HVC/A/FCU02	Fan Power Terminal Unit
20217	HVC/A/FCU02	Fan Power Terminal Unit
20218	HVC/A/FCU02	Fan Power Terminal Unit
20219	HVC/A/FCU02	Fan Power Terminal Unit
20220	HVC/A/FCU02	Fan Power Terminal Unit
20221	HVC/A/FCU02	Fan Power Terminal Unit
10245	HVC/A/FCU05	Fan Power Terminal Unit
10248	HVC/A/FCU06	Fan Power Terminal Unit
10311	HVC/A/FCU01	Fan Power Terminal Unit
10312	HVC/A/FCU02	Fan Power Terminal Unit
10313	HVC/A/FCU02	Fan Power Terminal Unit
10316	HVC/A/FCU04	Fan Power Terminal Unit

10318	HVC/A/FCU04	Fan Power Terminal Unit
10319	HVC/A/FCU04	Fan Power Terminal Unit
30218	HVC/A/FCU03	Fan Power Terminal Unit
30220	HVC/A/FCU03	Fan Power Terminal Unit
30221	HVC/A/FCU03	Fan Power Terminal Unit
30222	HVC/A/FCU03	Fan Power Terminal Unit
30224	HVC/A/FCU04	Fan Power Terminal Unit
30225	HVC/A/FCU04	Fan Power Terminal Unit
30226	HVC/A/FCU04	Fan Power Terminal Unit
30227	HVC/A/FCU04	Fan Power Terminal Unit
30228	HVC/A/FCU04	Fan Power Terminal Unit
30230	HVC/A/FCU04	Fan Power Terminal Unit
30231	HVC/A/FCU04	Fan Power Terminal Unit
30232	HVC/A/FCU04	Fan Power Terminal Unit
30235	HVC/A/FCU04	Fan Power Terminal Unit
30237	HVC/A/FCU05	Fan Power Terminal Unit
30238	HVC/A/FCU05	Fan Power Terminal Unit
30239	HVC/A/FCU05	Fan Power Terminal Unit
30240	HVC/A/FCU05	Fan Power Terminal Unit
30242	HVC/A/FCU05	Fan Power Terminal Unit
30243	HVC/A/FCU05	Fan Power Terminal Unit
30244	HVC/A/FCU05	Fan Power Terminal Unit
30245	HVC/A/FCU05	Fan Power Terminal Unit
30246	HVC/A/FCU05	Fan Power Terminal Unit
30248	HVC/A/FCU05	Fan Power Terminal Unit
30249	HVC/A/FCU05	Fan Power Terminal Unit
30251	HVC/A/FCU06	Fan Power Terminal Unit
30312	HVC/A/FCU02	Fan Power Terminal Unit
30313	HVC/A/FCU02	Fan Power Terminal Unit
30315	HVC/A/FCU02	Fan Power Terminal Unit
30316	HVC/A/FCU03	Fan Power Terminal Unit
30317	HVC/A/FCU03	Fan Power Terminal Unit
30319	HVC/A/FCU03	Fan Power Terminal Unit
30320	HVC/A/FCU03	Fan Power Terminal Unit
30321	HVC/A/FCU03	Fan Power Terminal Unit
30322	HVC/A/FCU03	Fan Power Terminal Unit
30323	HVC/A/FCU03	Fan Power Terminal Unit
30326	HVC/A/FCU04	Fan Power Terminal Unit
30327	HVC/A/FCU04	Fan Power Terminal Unit

30328	HVC/A/FCU04	Fan Power Terminal Unit
30330	HVC/A/FCU04	Fan Power Terminal Unit
30331	HVC/A/FCU04	Fan Power Terminal Unit
30332	HVC/A/FCU04	Fan Power Terminal Unit
30333	HVC/A/FCU04	Fan Power Terminal Unit
30334	HVC/A/FCU04	Fan Power Terminal Unit
30335	HVC/A/FCU04	Fan Power Terminal Unit
30337	HVC/A/FCU04	Fan Power Terminal Unit
30338	HVC/A/FCU05	Fan Power Terminal Unit
30339	HVC/A/FCU05	Fan Power Terminal Unit
30340	HVC/A/FCU05	Fan Power Terminal Unit
30343	HVC/A/FCU05	Fan Power Terminal Unit
30344	HVC/A/FCU05	Fan Power Terminal Unit
328152	HVC/A/VNT012	Exhaust Fan
20224	HVC/A/FCU03	Fan Power Terminal Unit
20116	HVC/A/FCU03	Fan Power Terminal Unit
20131	HVC/A/FCU04	Fan Power Terminal Unit
20121	HVC/A/FCU03	Fan Power Terminal Unit
20138	HVC/A/FCU04	Fan Power Terminal Unit
30336	HVC/A/FCU04	Fan Power Terminal Unit
30347	HVC/A/FCU06	Fan Power Terminal Unit
30417	HVC/A/FCU02	Fan Power Terminal Unit
30428	HVC/A/FCU03	Fan Power Terminal Unit
30435	HVC/A/FCU04	Fan Power Terminal Unit
30446	HVC/A/FCU04	Fan Power Terminal Unit
30453	HVC/A/FCU05	Fan Power Terminal Unit
30112	HVC/A/FCU02	Fan Power Terminal Unit
328217	HVC/A/AHU001	Air Handler Unit
328219	HVC/A/AHU001	Air Handler Unit
328329	HVC/A/BAS001	Bas Bacnet Equipment Gateway
328331	HVC/A/PNL003	Bas Controller Panel CWS
328334	HVC/A/PNL002	Bas Controller Panel AHU 08
328336	HVC/A/PNL002	Bas Controller Panel AHU 08
328339	HVC/A/PNL002	Bas Controller Panel AHU 08
328341	HVC/A/BAS007	Bas Bacnet Router
328343	HVC/A/BAS008	Bas Bacnet Router
328275	HVC/A/FCU005	Fan Coil Unit
328222	HVC/A/AHU002	Air Handler Unit
328285	HVC/A/HUM001	Humidifier, Duct

328287	HVC/A/HUM001	Humidifier, Duct
328290	HVC/A/HUM001	Humidifier, Duct
328348	HVC/A/PNL001	Bas Controller Panel AHU 01
328295	HVC/A/AC001	A/C Unit MiniMate
328271	HVC/A/FCU002	Fan Coil Unit
10122	HVC/A/FCU04	Fan Power Terminal Unit
10124	HVC/A/FCU05	Fan Power Terminal Unit
10126	HVC/A/FCU05	Fan Power Terminal Unit
10127	HVC/A/FCU05	Fan Power Terminal Unit
10129	HVC/A/FCU05	Fan Power Terminal Unit
10130	HVC/A/FCU05	Fan Power Terminal Unit
10131	HVC/A/FCU05	Fan Power Terminal Unit
10132	HVC/A/FCU06	Fan Power Terminal Unit
10133	HVC/A/FCU01	Fan Power Terminal Unit
10137	HVC/A/FCU04	Fan Power Terminal Unit
10138	HVC/A/FCU04	Fan Power Terminal Unit
10141	HVC/A/FCU05	Fan Power Terminal Unit
10142	HVC/A/FCU05	Fan Power Terminal Unit
10146	HVC/A/FCU06	Fan Power Terminal Unit
10213	HVC/A/FCU03	Fan Power Terminal Unit
10214	HVC/A/FCU03	Fan Power Terminal Unit
10215	HVC/A/FCU03	Fan Power Terminal Unit
10217	HVC/A/FCU04	Fan Power Terminal Unit
10218	HVC/A/FCU04	Fan Power Terminal Unit
10219	HVC/A/FCU04	Fan Power Terminal Unit
10220	HVC/A/FCU04	Fan Power Terminal Unit
10221	HVC/A/FCU05	Fan Power Terminal Unit
10223	HVC/A/FCU05	Fan Power Terminal Unit
10224	HVC/A/FCU06	Fan Power Terminal Unit
10225	HVC/A/FCU06	Fan Power Terminal Unit
10226	HVC/A/FCU06	Fan Power Terminal Unit
10227	HVC/A/FCU06	Fan Power Terminal Unit
10230	HVC/A/FCU08	Fan Power Terminal Unit
10231	HVC/A/FCU02	Fan Power Terminal Unit
10232	HVC/A/FCU03	Fan Power Terminal Unit
10233	HVC/A/FCU03	Fan Power Terminal Unit
10235	HVC/A/FCU04	Fan Power Terminal Unit
10236	HVC/A/FCU05	Fan Power Terminal Unit
10237	HVC/A/FCU05	Fan Power Terminal Unit

10238	HVC/A/FCU05	Fan Power Terminal Unit
10239	HVC/A/FCU05	Fan Power Terminal Unit
10241	HVC/A/FCU05	Fan Power Terminal Unit
10243	HVC/A/FCU05	Fan Power Terminal Unit
10244	HVC/A/FCU05	Fan Power Terminal Unit
30122	HVC/A/FCU03	Fan Power Terminal Unit
30123	HVC/A/FCU03	Fan Power Terminal Unit
30125	HVC/A/FCU03	Fan Power Terminal Unit
30126	HVC/A/FCU04	Fan Power Terminal Unit
30127	HVC/A/FCU04	Fan Power Terminal Unit
30128	HVC/A/FCU04	Fan Power Terminal Unit
30129	HVC/A/FCU04	Fan Power Terminal Unit
30131	HVC/A/FCU04	Fan Power Terminal Unit
30132	HVC/A/FCU04	Fan Power Terminal Unit
30133	HVC/A/FCU04	Fan Power Terminal Unit
30134	HVC/A/FCU04	Fan Power Terminal Unit
30136	HVC/A/FCU04	Fan Power Terminal Unit
30138	HVC/A/FCU05	Fan Power Terminal Unit
30139	HVC/A/FCU05	Fan Power Terminal Unit
30140	HVC/A/FCU05	Fan Power Terminal Unit
30141	HVC/A/FCU05	Fan Power Terminal Unit
30144	HVC/A/FCU05	Fan Power Terminal Unit
30145	HVC/A/FCU06	Fan Power Terminal Unit
30146	HVC/A/FCU06	Fan Power Terminal Unit
30147	HVC/A/FCU06	Fan Power Terminal Unit
30212	HVC/A/FCU02	Fan Power Terminal Unit
30213	HVC/A/FCU02	Fan Power Terminal Unit
30215	HVC/A/FCU03	Fan Power Terminal Unit
30217	HVC/A/FCU03	Fan Power Terminal Unit
328330	HVC/A/PNL003	Bas Controller Panel CWS
328332	HVC/A/PNL001	Bas Controller Panel AHU 01
328333	HVC/A/PNL002	Bas Controller Panel AHU 08
328335	HVC/A/PNL002	Bas Controller Panel AHU 08
328337	HVC/A/PNL002	Bas Controller Panel AHU 08
328338	HVC/A/PNL002	Bas Controller Panel AHU 08
328340	HVC/A/BAS001	Bas Bacnet Equipment Gateway
328342	HVC/A/BAS002	Bas Modbus Communication Device
328344	HVC/A/BAS002	Bas Modbus Communication Device
328345	HVC/A/PNL004	Bas Controller Panel Terminals Unit

328346	HVC/A/PNL002	Bas Controller Panel AHU 08
328347	HVC/A/BAS009	Bas Bacnet Router
328349	HVC/A/PNL002	Bas Controller Panel AHU 08
328354	HVC/A/PNL004	Bas Controller Panel Terminals Unit
328281	HVC/A/FCU006	Fan Coil Unit
328166	HVC/A/AHU002	Air Handler Unit
328318	HVC/A/PNL002	Bas Controller Panel AHU 08
328298	HVC/A/FCU003	Fan Coil Unit
328163	HVC/A/AHU002	Air Handler Unit
328307	HVC/A/BAS004	Bas Bacnet Router
328309	HVC/A/PNL002	Bas Controller Panel AHU 08
328312	HVC/A/BAS002	Bas Modbus Communication Device
328314	HVC/A/PNL002	Bas Controller Panel AHU 08
328162	HVC/A/AHU004	Air Handler Unit Gas
328350	HVC/A/BAS003	Bas Operators Work Station
328277	HVC/A/FCU008	Fan Coil Unit
328207	HVC/A/HTR001	Unit Heater
328178	HVC/A/TNK002	Air Separator
328184	HVC/A/PMP005	Pump Primary Chilled
328186	HVC/A/VNT019	Make-up Air Fan
328189	HVC/A/PMP007	Pump Secondary Chilled
328194	HVC/A/EXC002	Heat Exchanger
328196	HVC/A/TNK001	Expansion Tank
328201	HVC/A/PMP002	Chemical Pump
328210	HVC/A/PMP006	Pump Primary Hot Water
328299	HVC/A/PMP001	Pump, Dom. Hot Water
328327	HVC/A/BAS001	Bas Bacnet Equipment Gateway
328212	HVC/A/AHU001	Air Handler Unit
328214	HVC/A/AHU002	Air Handler Unit
10121	HVC/A/FCU04	Fan Power Terminal Unit
313027	HVC/DHM002	DEHUMIDIFIER
313020	HVC/ACU023	Fan Coil A/C
313030	HVC/ACU023	Fan Coil A/C
313028	HVC/ACU032	FAN COIL UNIT
313029	HVC/ACU023	Fan Coil A/C
313021	HVC/ACU033	FAN COIL UNIT
313022	HVC/ACU033	FAN COIL UNIT
313797	HVC/ACU034	FAN COIL UNIT
309973	HVC/ACU035	FAN COIL UNIT

309966	HVC/ACU036	FAN COIL UNIT
202460	HVC/ACU025	Computer Room AC Unit
202461	HVC/ACU026	Computer Room AC Unit
202462	HVC/ACU027	Computer Room AC Unit
202463	HVC/ACU028	Computer Room AC Unit
202464	HVC/ACU029	Computer Room AC Unit
313031	HVC/ACU030	Computer Room AC Unit
307082	HVC/PMP017	CHILLED WATER PUMP
307084	HVC/PMP018	PUMP
307086	HVC/PMP018	PUMP
307088	HVC/CLT002	COOLING TOWER
313795	HVC/CHL008	CHILLER # 5 (Refrigeration Machine)
313794	HVC/PMP019	Recirculating Pump
313793	HVC/PMP019	Recirculating Pump
313796	HVC/ACU037	FAN COIL UNIT
313791	HVC/ACU038	FAN COIL UNIT
313792	HVC/ACU038	FAN COIL UNIT
313788	HVC/ACU039	FAN COIL UNIT
313790	HVC/ACU040	FAN COIL UNIT
307091	HVC/ACU039	FAN COIL UNIT
313024	HVC/ACU031	FAN COIL UNIT
10111	HVC/A/FCU02	Fan Power Terminal Unit
10112	HVC/A/FCU02	Fan Power Terminal Unit
10114	HVC/A/FCU02	Fan Power Terminal Unit
10115	HVC/A/FCU02	Fan Power Terminal Unit
10116	HVC/A/FCU03	Fan Power Terminal Unit
10118	HVC/A/FCU03	Fan Power Terminal Unit
10119	HVC/A/FCU03	Fan Power Terminal Unit
10120	HVC/A/FCU04	Fan Power Terminal Unit
20431	HVC/A/FCU04	Fan Power Terminal Unit
20432	HVC/A/FCU04	Fan Power Terminal Unit
20433	HVC/A/FCU04	Fan Power Terminal Unit
20434	HVC/A/FCU04	Fan Power Terminal Unit
20437	HVC/A/FCU05	Fan Power Terminal Unit
20438	HVC/A/FCU05	Fan Power Terminal Unit
20439	HVC/A/FCU05	Fan Power Terminal Unit
20442	HVC/A/FCU05	Fan Power Terminal Unit
20444	HVC/A/FCU05	Fan Power Terminal Unit
20445	HVC/A/FCU05	Fan Power Terminal Unit

20447	HVC/A/FCU05	Fan Power Terminal Unit
20448	HVC/A/FCU05	Fan Power Terminal Unit
20449	HVC/A/FCU06	Fan Power Terminal Unit
20450	HVC/A/FCU06	Fan Power Terminal Unit
20451	HVC/A/FCU06	Fan Power Terminal Unit
20454	HVC/A/FCU08	Fan Power Terminal Unit
20455	HVC/A/FCU08	Fan Power Terminal Unit
20456	HVC/A/FCU08	Fan Power Terminal Unit
20457	HVC/A/FCU08	Fan Power Terminal Unit
30111	HVC/A/FCU02	Fan Power Terminal Unit
30113	HVC/A/FCU02	Fan Power Terminal Unit
30115	HVC/A/FCU02	Fan Power Terminal Unit
30116	HVC/A/FCU02	Fan Power Terminal Unit
30119	HVC/A/FCU03	Fan Power Terminal Unit
30120	HVC/A/FCU03	Fan Power Terminal Unit
30121	HVC/A/FCU03	Fan Power Terminal Unit

ATTACHMENT C15
HAZARDOUS MATERIALS

1. Thirty (30) days after contract start date, the Contractor shall submit to the COR for approval, an inventory of all hazardous materials/chemicals that the Contractor (or a sub-contractor) intends to use in the performance of this contract.
2. The inventory shall include a Hazardous Material Inventory Sheet (HMI) for each chemical proposed. The Contractor shall not use materials/chemicals unacceptable to the COR and shall substitute alternatives with fifteen (15) days after notification of submittal rejection, or as directed by the COR. The Contractor shall attach the appropriate Material Safety Data Sheet (MSDS) for each chemical in the inventory.
3. The Contractor shall notify the COR, within ten (10) days in writing, of any change in the Hazardous Material Inventory. Prior to using any new or substitute chemical, the Contractor shall obtain all of the aforementioned approvals from the COR.
4. Contractor material/chemical use shall in no way threaten the health or safety of the general public or disrupt tenant agency operations. The Contractor shall comply with all existing Commonwealth of Virginia, Federal, and local laws and regulations for safe handling, storage, disposal, use, and recycling of hazardous materials/chemicals.
5. The words materials and chemicals are interchangeable for the purpose of this exhibit.

ATTACHMENT C16
TOUR REQUIREMENTS

1. Tours are the physical inspections performed to observe equipment and to ensure proper operation, to turn equipment on or off, and to make required adjustments to equipment located throughout the building.

A. The following equipment shall be toured once per shift:

Air Handlers: Air handlers may consist of a centrifugal fan, heating and cooling coils, dampers, filters, controls, fan belts, motor, bearings, and circulating pump, etc. Tour activities should consist of the following:

Openings: Check dampers for proper entry or discharge of outside air, check conditions of screens which prevent entry of birds, check condition of rain deflectors, flashing, louvers, etc.

Filter Bank: Note pressure drop across filter bank, check condition of filter frames and media, check for presence of places for air to by-pass the filter, check condition and tightness of any access doors, etc.

Dampers: Note operation of dampers; outside air, return air, and supply air. Look for freedom of motion, condition of damper and linkage, presence of dirt or build-up, response to control's signals, etc.

Coils: Check to see that proper circulation exists in chilled water, preheat, and reheat coils. Note condition of fins, and remove or report any obstruction to the air flow. Look for rusting, corrosion, or build-up, and check for proper condensate drainage.

Controls: Visually check control units, valve relays, piping, and gauges to see that they are working properly and are in good condition. During heating season, be sure the controls that protect against freeze-up work properly.

Belts: Check for loose belts, excessive vibration, and squealing of belts as a drive is started and while it is running.

Condensate Return Systems: These systems can be either gravity or pumped. If a duplex pump unit is used, it shall be counted as two separate systems. Observe operation of the pumps, check to see if they are cycling properly, and check for leaks.

Cooling Towers: Check air circulation and operation of the water level controls. Leaks, even small ones, should be noted and scheduled for repair. Inspect sumps, tanks, distribution headers, sprays, and/or pans, collection pans, etc., for cleanliness, slime formation, or algae growth. Check spray heads and remove obstructions. Check drains, overflow pipe and continuous bleed line. Check motor, belts, and related parts for proper operation.

Pneumatic Air Supply System: Observe operation of air compressor for one cycle. Note operation of pressure control and un-loader valves. Check condition of air intake filter and clean as required. Check discharge lines, storage tank, etc. Look for signs of misalignment or unusual belt wear. Check belt tension. Check pulleys, belts, guards, etc. Check motor, controls, and compressor oil. Be alert for unusual sound, vibration, odor, or temperature. Observe operation of automatic dryer as appropriate.

Elevator Machine Room Units: Because of the importance to operate this equipment efficiently, a complete check and thorough observation should be performed. This includes, but is not limited to: check of filters, discharge air, controls, and condensate drains.

Computer Room A/C Units: A complete check and thorough observation should be performed on all the special A/C units in Computer Rooms and the Archive Storage Vault. This shall include checking room temperature and opening panels to check filters, humidifiers, controls, and drains.

B. The following equipment shall be toured twice per shift:

Boilers: Check and record water level, boiler water temperature, boiler pressure, burner flame, flue gas emission, and operating conditions.

Chillers: Check and record oil and refrigerant levels, oil pressure, and operating conditions.

Central Plant (Heating and Cooling): Check controls, pumps, automatic valves, water and condensate temperatures, tanks, traps, and filters.

C. The following equipment shall be toured once per week:

Fans, Centrifugal and Propeller: Observe condition of the housing, coverings, supports, shaft, bearings, belts, guard, etc. Observe operation. Be alert for any unusual noise, vibration, odor, or temperature in either fan or motor.

Pumps: Pumps that shall be toured include, but are not limited to: fire pumps, domestic water pumps, chilled water pumps, hot water pumps, booster system pumps, condenser water pumps and sump pumps.

D. The following equipment shall be toured twice a week:

Central Drinking Water System: Tour activities should consist of an operational temperature test and general observation to see if the equipment is operating properly. Note any unusual noise on the tour log sheet or in the watch log book.

Sump Pumps and Sewage Ejectors: Observe overall operation of each unit and the system, noting performance of the float mechanisms, or other controls, as well as pumping or ejecting action. Check operation of check valves, particularly for proper holding and seating. Observe operation of the high water alarms for proper function. Look for vibration or malfunctioning in the pump units, motor, or piping.

ATTACHMENT C17
WATCH REQUIREMENTS

1. The Contractor shall perform watches as specified herein. Watches include, but are not limited to; starting equipment, checking all operating equipment at designated intervals, taking and recording readings, switching equipment and loads, making adjustments at the local or central control center, taking water samples, performing tests, and adding chemicals as indicated by test results. The Contractor shall comply with the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and other regulatory authorities as applicable under the Commonwealth of Virginia, Federal, and local laws and regulations.
2. Requirements for a heating or cooling plant watch are as follows:
 - a. Putting plant into operation
 - b. Performing water treatment activities including feeding, testing, and shut down of the plant as required.
 - c. Inspecting equipment operating in the watch area, including checking out the boiler and/or chiller control panel, taking readings, and maintaining the log. Inspections shall be performed every four (4) hours.
 - d. Switching auxiliary equipment on and turning equipment off as required.
3. The Contractor shall develop a Watch Operator's Assignment Sheet. This assignment sheet shall cover all equipment located in the watch area. The watch area shall encompass the physical boundaries as defined by the actual location(s) of all components which comprise the system covered by the watch. The assignment sheet shall be based on manufacturer's operational requirements for the installed equipment, all applicable Commonwealth of Virginia, Federal and local laws and regulations, and shall fully describe the duties of the operator in the heating or cooling plant during the watch shift. These duties shall include the following as a minimum:
 - a. Instruction to follow the Building Operating Plan which describes when the plant is to be placed in operation and when the plant is to be shut-down. This plan is to be adhered to under all conditions unless countermanded by the KO or COR.
 - b. Instructions on special conditions and operations for a particular installation.
 - c. Guidelines and information on utility conservation in regard to plant operation to avoid peak demands.
 - d. Instruction on types of information to be included in the plant log.
 - e. Water testing and treating requirements.
4. The Contractor's assignment sheet must be submitted to the COR within thirty (30) days after contract award date. The COR shall be notified immediately as changes in assignment occur.

ATTACHMENT C18
PERFORMANCE REQUIREMENTS SUMMARY TABLE

1. The contract requirements listed in the attached Performance Requirements Summary (PRS) summarizes specific firm fixed-price tasks which are to be performed under this contract. The Performance Requirements associated with each contract requirement are as shown in the PRS and include:
 - a. Contract Requirement. A list of the contract requirements (column 1 of the PRS) most critical tasks to be performed.
 - b. Standard of Performance. The Standard of Performance for each work requirement (column 2 of the PRS) by reference to the respective paragraph in Section C which specifies in detail the work to be performed.
 - c. Acceptable Quality Level (AQL). The standards (column 3 of the PRS) indicate the levels of performance deemed acceptable to the Government.
 - d. Deduction Table Reference. The item number (column 4 of the PRS) in Attachment C22, Schedule of Deductions which corresponds to the PRS contract requirement.
2. At the end of each month, the Government will compare Contractor performance to the contract standards and AQL. The Government will evaluate each required service based on one or both of the following inspections methods:
 - a. One hundred (100) percent inspections.
 - b. Validated customer complaints.
3. Performance of a required service is considered satisfactory when the number of defective units (unsatisfactory outputs) found by the Government during contract surveillance does not exceed that allowed by the AQL. When the number of defective units discovered by the COR exceeds the AQL, the Contractor's overall performance for that type of service is considered unsatisfactory. The Contractor shall respond in writing to a Quality Deficiency Report (QDR). The QDR will require the Contractor to explain, in writing, why performance was unacceptable, how performance will be returned to satisfactory levels, and how recurrence of the problem will be prevented in the future.
 - a. The reject (unacceptable) level equals the total number of defects.
 - b. The Contractor shall re-perform, without additional cost to the Government, ALL work found to be unsatisfactory. The COR will determine the amount of time the Contractor will be given to re-perform the work on a case by case basis. Re-performance will not improve the overall rating of the service in question.
 - c. The Government reserves the right to deduct for all services not provided.
4. Monthly payment to the Contractor will be reduced for unsatisfactory performance,. If performance of required service is unsatisfactory, and the unsatisfactory performance is clearly the fault of the Contractor, an amount equal to the percentage of unsatisfactory performance will be deducted from the referenced item number in the deduction table.

EXAMPLE: Assume an acceptable quality level of 10% for routine service orders, a monthly total of 100 service orders, 30 defective service orders, and a value of \$1,000.00 for the routine service order item number in the deduction schedule. The deduction from the Contractor's monthly payment is:

Routine Service Order Value	\$ 1,000.00
Percentage of Unsatisfactory Performance (30/100)	<u>x 30.00%</u>
Deduction for Item Number	\$300.00

**ATTACHMENT C18
PERFORMANCE REQUIREMENTS SUMMARY (PRS)**

CONTRACT REQUIREMENT	STANDARD OF PERFORMANCE	AQL	DEDUCTION TABLE REFERENCE NO.
Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems	Section C-1.5 Section C-1.15 Section C-1.16 Section C-1.17 Section C-1.18 Section C-1.19	95.0%	1.
Service and Maintenance of Fire Protection System	Section C-1.20	100.0%	2.
Provide Water Treatment Services	Section C-1.21	98.0%	5.
Perform Preventive Maintenance/Inspection on Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components	Section C-1.14 Section C, Attachment C23	95%	3.
Fire Pump	Section C-1.14 Section C, Attachment C23 PM Guide FSP/PMP/A PM Guide FSP/PMP/M PM Guide FSP/PMP/S PM Guide FSP/PMP/W	100.0%	3.a.
Fire Suppression	Section C-1.14 Section C, Attachment C23 PM Guide FSP/SYS/A PM Guide FSP/SYS/M PM Guide FSP/SYS/Q PM Guide FSP/SYS/QA PM Guide FSP/SYS/S PM Guide FSP/SYS/W	100.0%	3.b.
Air Handlers	Section C-1.14 Section C, Attachment C23 PM Guide HVC/AHU/A PM Guide HVC/AHU/M PM Guide HVC/AHU/Q PM Guide HVC/AHU/S	95.0%	3.c.
CONTRACT REQUIREMENT	STANDARD OF PERFORMANCE	AQL	DEDUCTION TABLE REFERENCE NO.
Boilers	Section C-1.14 Section C, Attachment C23 PM Guide HVC/BLR/A PM Guide HVC/BLR/M	100.0%	3.d.

	PM Guide HVC/BLR/Q PM Guide HVC/BLR/S PM Guide HVC/BLR/W		
Chillers	Section C-1.14 Section C, Attachment C23 PM Guide HVC/CHL/A PM Guide HVC/CHL/Q	100.0%	3.e.
Non-Destructive Chiller Tube Analysis	Section C-1.14 Section C, Attachment C23 PM Guide HVC/CHL/TA	100.0%	3.f.
Cooling Towers	Section C-1.14 Section C, Attachment C23 PM Guide HVC/CLT/A PM Guide HVC/CLT/Q PM Guide HVC/CLT/M	100.0%	3.g.
Pneumatic Air Compressor	Section C-1.14 Section C, Attachment C23 PM Guide HVC/CMP/A PM Guide HVC/CMP/Q PM Guide HVC/CMP/S	95.0%	3.i.
Convectors	Section C-1.14 Section C, Attachment C23 PM Guide HVC/CVR/BA	95.0%	3.i.
Electric Water Heater	Section C-1.14 Section C, Attachment C23 PM Guide HVC/EWH/A	95.0%	3.j.
Fans	Section C-1.14 Section C, Attachment C23 PM Guide HVC/FAN/Q	95.0%	3.k.
Fan Coil Units	Section C-1.14 Section C, Attachment C23 PM Guide HVC/FCU/A PM Guide HVC/FCU/S	95.0%	3.l.
Humidifiers	Section C-1.14 Section C, Attachment C23 PM Guide HVC/HMD/S	95.0%	3.m.

CONTRACT REQUIREMENT	STANDARD OF PERFORMANCE	AOL	DEDUCTION TABLE REFERENCE NO.
Ice Chiller	Section C-1.14 Section C, Attachment C23 PM Guide HVC/ICHL/A PM Guide HVC/ICHL/S PM Guide HVC/ICHL/M	95.0%	3.n.
Computer Room A/C	Section C-1.14		

Units	Section C, Attachment C23 PM Guide HVC/PAC/A PM Guide HVC/PAC/S PM Guide HVC/PAC/M PM Guide HVC/PAC/Q	95.0%	3.o.
Pumps	Section C-1.14 Section C, Attachment C23 PM Guide HVC/PMP/A PM Guide HVC/PMP/S PM Guide HVC/PMP/Q	95.0%	3.p.
Hot Water Pumps	Section C-1.14 Section C, Attachment C23 PM Guide HVC/PMPH/A PM Guide HVC/PMPA/S PM Guide HVC/PMPH/Q	95.0%	3.q.
Refrigerant Pump Down Sys.	Section C-1.14 Section C, Attachment C23	100.0%	3.r.
Unit Heaters	Section C-1.14 Section C, Attachment C23 PM Guide HVC/UHT/A PM Guide HVC/UHT/S	95.0%	3.s.
Hot Duct/Vent Units	Section C-1.14 Section C, Attachment C23 PM Guide HVC/VNT/A PM Guide HVC/VNT/S PM Guide HVC/VNT/M	95.0%	3.t.
Gas Water Heaters	Section C-1.14 Section C, Attachment C23 PM Guide HVC/WHR/A PM Guide HVC/WHR/S PM Guide HVC/WHR/Q PM Guide HVC/WHR/M	95.0%	3.u.
Water Treatment Equipment	Section C-1.14 Section C, Attachment C23 PM Guide HVC/WT/A PM Guide HVC/WT/S PM Guide HVC/WT/Q	95.0%	3.v.
CONTRACT REQUIREMENT	STANDARD OF PERFORMANCE	AOL	DEDUCTION TABLE REFERENCE NO.
Backflow Preventor	Section C-1.14 Section C, Attachment C23 PM Guide HVC/BFP/A	100.0%	3.w.
Pneumatic Control Valves	Section C-1.14 Section C, Attachment C23	95.0%	3.x.

	PM Guide HVC/PNC/A		
Roof Drains	Section C-1.14 Section C, Attachment C23 PM Guide HFC/RFD/S	95.0%	3.y.
Regulating & Safety Valves	Section C-1.14 Section C, Attachment C23 PM Guide HVC/RGV/A	100.0%	3.z.
Sewer Manholes	Section C-1.14 Section C, Attachment C23 PM Guide HVC/SMH/Q	95.0%	3.aa.
Storm Drains	Section C-1.14 Section C, Attachment C23 PM Guide HVC/STD/S	95.0%	3.ab.
Variable Frequency Drives	Section C-1.14 Section C, Attachment C23 PM Guide ELE/VFD/A	95.0%	3.ac.
Perform all service calls to the heating, ventilation, air conditioning, plumbing, sewage, roof drains and storm water systems and components	Section C-1.13	SEE BELOW	4.
Routine Service Calls	Section C-1.13	95.0%	4.a.
Urgent Service Calls	Section C-1.13	98.0%	4.b.
Emergency Service Calls	Section C-1.13	100.0%	4.c.

ATTACHMENT C19
TASK ORDER FORM

ATTACHMENT C20
INVOICING INSTRUCTIONS

1. CONTRACTOR RESPONSIBILITIES. An original and five (5) copies of each invoice, with all supporting documentation, shall be submitted to the Contracting Officer's Representative (COR) at the address listed below for certification by the first of each month following services provided. At the same time, another copy of the invoice with all supporting documentation shall be submitted to the Contract Pricing Review Team listed below for review.

Andrew T. McNamara Headquarters Complex
Room 0126, ATTN: _____ (Contracting Officer's Representative)
8725 John J. Kingman Road, Bldg. 2462
Ft. Belvoir, VA 22060-6220

Contract Review Team
Andrew T. McNamara Headquarters Complex
Room 1145, ATTN: Beverly J. Williams
8725 John J. Kingman Road, Bldg 2462
Ft. Belvoir, VA 22060-6220

2. COR RESPONSIBILITIES. The COR will annotate on the invoice the date received. If acceptable, the COR will include the statement, "THIS INVOICE IS CERTIFIED CORRECT AND PROPER FOR PAYMENT", if no certification statement has already been included on the invoice. The Contractor's invoice must be certified within five (5) days of receipt. The COR then will sign and date it, include their office symbol and telephone number; and forward the original to DFAS Columbus for payment. If the COR disagrees with the invoice, the COR shall immediately notify the Contractor telephonically of non-certification and state the area(s) of disagreement. The COR will then return only the Original invoice to the Contractor as an enclosure to a written letter, listing the area(s) of disagreement and send a copy of the letter with enclosure to the Contracting Officer. The COR is not authorized to correct invoices.

ATTACHMENT C21
DIRECTIVES

COMPLIANCE REGULATIONS LISTING

FEDERAL LAWS

Clean Air Act Amendments of 1990 – Title VI Stratospheric Ozone Protection
 Clean Water Act
 Defense Authorization Act FY 1993 Section 326 (P.L. 102-484)
 Resource Conservation and Recovery Act (RCRA)
 Safe Drinking Water Act (SDWA)
 Toxic Substances Control Act (TSCA)

FEDERAL REGULATIONS

40 CFR 136		Sampling and Analysis of Water
40 CFR 260-267		Control and Disposal of Hazardous Waste
40 CFR 761		Control and Disposal of PCBs
29 CFR 1901.1001	Asbestos in General Industry	
29 CFR 1926.58		Asbestos in the Construction Industry
49 CFR		Hazardous Substances – Spill Response Law

STANDARDS

ANSI A40.8-55		National Plumbing Code
BOCA		Basic Plumbing Code
ASME		Boiler and Pressure Vessel Code
NFPA 13		Sprinkler Systems
NFPA 14		Standpipe, Hose Systems
NFPA 20		Centrifugal Fire Pumps
NFPA 25		Water Based Fire Protection Systems
NFPA 51		Welding and Cutting
NFPA 70		National Electrical Code

National Board of Boiler and Pressure Vessel Inspection Code

SPECIFICATIONS

HQC Construction Specifications and Drawings

ATTACHMENT C22
SCHEDULE OF DEDUCTIONS

SCHEDULE OF DEDUCTIONS

Schedule of Deductions					
Base Year					
<u>Item #</u>	<u>Supplies/Services</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Ext. Price</u>
1	Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Drains	12	Months		
2	Service and Maintenance of Fire Protection System	12	Months		
3	Perform Preventive Maintenance/Inspection of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components for the HQC, CDC and HQC/ addition buildings				
3a.	Fire Pump	2	EA		
3b.	Fire Suppression	4	System		
3c.	Air Handlers	39	EA		
3d.	Boilers	6	EA		
3e.	Chillers	9	EA		
3f.	Non-Destructive Chiller Tube Analysis	7	EA		
3g.	Cooling Towers	7	EA		
3h.	Pneumatic Air Compressor	1	EA		
3i.	Convectors	23	EA		
3j.	Electric Water Heaters	4	EA		
3k.	Fans	137	EA		
3l.	Fan Coil Units	27	EA		
3m.	Humidifiers	18	EA		
3n.	Ice Chiller	1	EA		
3o.	Computer Room A/C Units	13	EA		
3p.	Pumps	34	EA		
3q.	Hot Water Pumps	28	EA		
3r.	Refrigerant Pump Down System	2	EA		
3s.	Unit Heaters	38	EA		
3t.	Hot Duct/Vent Units	55	EA		
3u.	Gas Water Heaters	8	EA		
3v.	Water Treatment Equipment	2	System		
3w.	Backflow Preventor	10	EA		
3x.	Pneumatic Control Valves	97	EA		
3y.	Roof Drains	77	EA		
3z.	Regulating & Safety Valves	10	EA		
3aa.	Sewer Manholes	1	System		
3ab.	Storm Drains	1	System		
3ac.	Variable Frequency Drives	82	EA		
4	Perform all service calls to the Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components as specified for the HQC, CDC and HQC/DTRA addition buildings.				
4a.	Routine Service Calls	12	Months		

4b.	Urgent Service Calls	12	Months		
4c.	Emergency Service Calls	12	Months		
5	Provide Water Treatment Services for the HQC and CDC	12	Months		
6	Provide Kitchen Equipment Maintenance Services	12	Months		
TOTAL FIXED PRICE					
<u>Option Year One</u>					
<u>Item #</u>	<u>Supplies/Services</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Ext. Price</u>
1	Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Drains	12	Months		
2	Service and Maintenance of Fire Protection System	12	Months		
3	Perform Preventive Maintenance/Inspection of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components for the HQC, CDC and HQC/DTRA addition Buildings				
3a.	Fire Pump	2	EA		
3b.	Fire Suppression	4	System		
3c.	Air Handlers	39	EA		
3d.	Boilers	6	EA		
3e.	Chillers	9	EA		
3f.	Non-Destructive Chiller Tube Analysis	7	EA		
3g.	Cooling Towers	7	EA		
3h.	Pneumatic Air Compressor	1	EA		
3i.	Convectors	23	EA		
3j.	Electric Water Heaters	4	EA		
3k.	Fans	137	EA		
3l.	Fan Coil Units	27	EA		
3m.	Humidifiers	18	EA		
3n.	Ice Chiller	1	EA		
3o.	Computer Room A/C Units	13	EA		
3p.	Pumps	34	EA		
3q.	Hot Water Pumps	28	EA		
3r.	Refrigerant Pump Down System	2	EA		
3s.	Unit Heaters	38	EA		
3t.	Hot Duct/Vent Units	55	EA		
3u.	Gas Water Heaters	8	EA		
3v.	Water Treatment Equipment	2	System		
3w.	Backflow Preventor	10	EA		
3x.	Pneumatic Control Valves	97	EA		
3y.	Roof Drains	77	EA		
3z.	Regulating & Safety Valves	10	EA		
3aa.	Sewer Manholes	1	System		
3ab.	Storm Drains	1	System		
3ac.	Variable Frequency Drives	82	EA		
4	Perform all service calls to the Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components as specified for the HQC, CCC and HQC/DTRA addition buildings.				
4a.	Routine Service Calls	12	Months		
4b.	Urgent Service Calls	12	Months		

4c.	Emergency Service Calls	12	Months		
5	Provide Water Treatment Services for the HQC and CDC	12	Months		
6	Provide Kitchen Equipment Maintenance Services	12	Months		
TOTAL FIXED PRICE					

<u>Option Year Two</u>					
<u>Item #</u>	<u>Supplies/Services</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Ext. Price</u>
1	Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Drains	12	Months		
2	Service and Maintenance of Fire Protection System	12	Months		
3	Perform Preventive Maintenance/Inspection of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components for the HQC, CDC and HQC/DTRA addition buildings				
3a.	Fire Pump	2	EA		
3b.	Fire Suppression	4	System		
3c.	Air Handlers	39	EA		
3d.	Boilers	6	EA		
3e.	Chillers	9	EA		
3f.	Non-Destructive Chiller Tube Analysis	7	EA		
3g.	Cooling Towers	7	EA		
3h.	Pneumatic Air Compressor	1	EA		
3i.	Convectors	23	EA		
3j.	Electric Water Heaters	4	EA		
3k.	Fans	137	EA		
3l.	Fan Coil Units	27	EA		
3m.	Humidifiers	18	EA		
3n.	Ice Chiller	1	EA		
3o.	Computer Room A/C Units	13	EA		
3p.	Pumps	34	EA		
3q.	Hot Water Pumps	28	EA		
3r.	Refrigerant Pump Down System	2	EA		
3s.	Unit Heaters	38	EA		
3t.	Hot Duct/Vent Units	55	EA		
3u.	Gas Water Heaters	8	EA		
3v.	Water Treatment Equipment	2	System		
3w.	Backflow Preventor	10	EA		
3x.	Pneumatic Control Valves	97	EA		
3y.	Roof Drains	77	EA		
3z.	Regulating & Safety Valves	10	EA		
3aa.	Sewer Manholes	1	System		
3ab.	Storm Drains	1	System		
3ac.	Variable Frequency Drives	82	EA		
4	Perform all service calls to the Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components as specified for the HQC, CDC and HQC/DTRA addition buildings.				
4a.	Routine Service Calls	12	Months		
4b.	Urgent Service Calls	12	Months		
4c.	Emergency Service Calls	12	Months		
5	Provide Water Treatment Services for the HQC and CDC	12	Months		
6	Provide Kitchen Equipment Maintenance Services	12	Months		
TOTAL FIXED PRICE					

Option Year Three					
<u>Item #</u>	<u>Supplies/Services</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Ext. Price</u>
1	Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Drains	12	Months		
2	Service and Maintenance of Fire Protection System	12	Months		
3	Perform Preventive Maintenance/Inspection of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components for the HQC, CDC and HQC/DTRA addition Buildings				
3a.	Fire Pump	2	EA		
3b.	Fire Suppression	4	System		
3c.	Air Handlers	39	EA		
3d.	Boilers	6	EA		
3e.	Chillers	9	EA		
3f.	Non-Destructive Chiller Tube Analysis	7	EA		
3g.	Cooling Towers	7	EA		
3h.	Pneumatic Air Compressor	1	EA		
3i.	Convectors	23	EA		
3j.	Electric Water Heaters	4	EA		
3k.	Fans	137	EA		
3l.	Fan Coil Units	27	EA		
3m.	Humidifiers	18	EA		
3n.	Ice Chiller	1	EA		
3o.	Computer Room A/C Units	13	EA		
3p.	Pumps	34	EA		
3q.	Hot Water Pumps	28	EA		
3r.	Refrigerant Pump Down System	2	EA		
3s.	Unit Heaters	38	EA		
3t.	Hot Duct/Vent Units	55	EA		
3u.	Gas Water Heaters	8	EA		
3v.	Water Treatment Equipment	2	System		
3w.	Backflow Preventor	10	EA		
3x.	Pneumatic Control Valves	97	EA		
3y.	Roof Drains	77	EA		
3z.	Regulating & Safety Valves	10	EA		
3aa.	Sewer Manholes	1	System		
3ab.	Storm Drains	1	System		
3ac.	Variable Frequency Drives	82	EA		
4	Perform all service calls to the Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components as specified for the HQC, CCC and HQC/DTRA addition buildings.				
4a.	Routine Service Calls	12	Months		
4b.	Urgent Service Calls	12	Months		
4c.	Emergency Service Calls	12	Months		
5	Provide Water Treatment Services for the HQC and CDC	12	Months		
6	Provide Kitchen Equipment Maintenance Services	12	Months		
TOTAL FIXED PRICE					

<u>Option Year Four</u>					
<u>Item #</u>	<u>Supplies/Services</u>	<u>Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Ext. Price</u>
1	Operations and Maintenance of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Drains	12	Months		
2	Service and Maintenance of Fire Protection System	12	Months		
3	Perform Preventive Maintenance/Inspection of Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components for the HQC, CDC and HQC/DTRA addition Buildings				
3a.	Fire Pump	2	EA		
3b.	Fire Suppression	4	System		
3c.	Air Handlers	39	EA		
3d.	Boilers	6	EA		
3e.	Chillers	9	EA		
3f.	Non-Destructive Chiller Tube Analysis	7	EA		
3g.	Cooling Towers	7	EA		
3h.	Pneumatic Air Compressor	1	EA		
3l.	Convectors	23	EA		
3j.	Electric Water Heaters	4	EA		
3k.	Fans	137	EA		
3l.	Fan Coil Units	27	EA		
3m.	Humidifiers	18	EA		
3n.	Ice Chiller	1	EA		
3o.	Computer Room A/C Units	13	EA		
3p.	Pumps	34	EA		
3q.	Hot Water Pumps	28	EA		
3r.	Refrigerant Pump Down System	2	EA		
3s.	Unit Heaters	38	EA		
3t.	Hot Duct/Vent Units	55	EA		
3u.	Gas Water Heaters	8	EA		
3v.	Water Treatment Equipment	2	System		
3w.	Backflow Preventor	10	EA		
3x.	Pneumatic Control Valves	97	EA		
3y.	Roof Drains	77	EA		
3z.	Regulating & Safety Valves	10	EA		
3aa.	Sewer Manholes	1	System		
3ab.	Storm Drains	1	System		
3ac.	Variable Frequency Drives	82	EA		
4	Perform all service calls to the Heating, Ventilation, Air Conditioning, Plumbing, Sewage, Roof Drains and Storm Water Systems and Components as specified for the HQC, CCC and HQC/DTRA addition buildings.				
4a.	Routine Service Calls	12	Months		
4b.	Urgent Service Calls	12	Months		
4c.	Emergency Service Calls	12	Months		
5	Provide Water Treatment Services for the HQC and CDC	12	Months		
6	Provide Kitchen Equipment Maintenance Services	12	Months		
TOTAL FIXED PRICE					

ATTACHMENT C23
PREVENTIVE MAINTENANCE GUIDES

The following are mechanical assets and Preventive Maintenance (PM) schedules for installed equipment at the HQC, CDC and HQC/DTRA addition.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
ELE/MTR/A	Electric Motor Annual PM	MECH01	365		12

Procedures

- 1 *****PREVENTIVE MAINTENANCE*****
- 2 Schedule outage if necessary.
- 3 Review manufacturer's instructions.
- 4 De-energize, lock out and tag electrical circuit serving motor, when applicable.
- 5 Check ventilation ports for soil accumulation, clean if necessary.
- 6 Clean exterior of motor surfaces of soil accumulation. Lubricate bearings according to horsepower ratings:
- 7 1 to 7.5 hp : every 4 years
- 8 over 7.5 hp and less than 50 hp : yearly
- 9 over 50 hp : semi-annually
- 10 Remove filler and drain plugs.
- 11 Free drain hole of any hard grease.
- 12 Add grease - use good grade lithium base grease unless otherwise noted.
- 13 Check motor windings for accumulation of soil. Blow out with air if required.
- 14 Check hold-down bolts and grounding straps for tightness.
- 15 Remove tag and lock, energize, and return to service.
- 16 *****PREDICTIVE MAINTENANCE*****
- 17 The following electrical tests are to be done on motors rated a 10 hp and greater, and is to be accomplished at the motor control panel and should be completely non-destructive.
- 18 Testing shall be done to establish the present operating parameters of the wiring and the motors for the following aspects:
- 19 Leaks to ground with results expected to be greater than 5 megaohms in each phase; per IEEE 43-1974. A megger will give this result. Establish log and record readings (see example enclosed).
- 20 Record amps at full load or at maximum design load to be on system with results expected to be less than nameplate at full load amps.
- 21 Compare the results of each test with the previous year's results. Consider the seriousness of the problems and what priority they have for repair or correction.
- 22 Report on any visual findings of significance or conditions found from testing that need further investigation.
- 23 Remove tags and return to service.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
ELE/VFD/A	Annual Variable Freq Drive PM	MECH01	365		12

Procedures

- 1 Visually inspect panel interior.
- 2 Check all electrical connections are tight.
- 3 Thoroughly blow out interior of all dust and dirt with dry air or nitrogen.
- 4 Check for proper operation and make adjustments when necessary.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/A	Annual CO Detection PM	MECH04		

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform all weekly, monthly, quarterly and semi-annual inspection testing and maintenance
- 3 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 4 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 5 *****INSPECTION*****
- 6 Procedures being developed.
- 7 *****MAINTENANCE*****
- 8 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/M	Monthly CO Detection PM	MECH04		

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform all weekly inspection testing and maintenance
- 3 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 4 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 5 *****INSPECTION*****
- 6 Procedures being developed.
- 7 *****MAINTENANCE*****
- 8 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/Q	Quarterly CO Detection PM	MECH04		

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform all weekly and monthly inspection testing and maintenance
- 3 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 4 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 5 *****INSPECTION*****
- 6 Procedures being developed.
- 7 *****MAINTENANCE*****
- 8 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/QA	Fifth Year CO Detection PM	MECH04		

Procedures

-
- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
 - 2 Perform all weekly, monthly, quarterly, semi-annual and annual inspection testing and maintenance
 - 3 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
 - 4 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
 - 5 *****INSPECTION*****
 - 6 Procedures being developed.
 - 7 *****MAINTENANCE*****
 - 8 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/S	Semi Annual CO Detection PM	MECH04		

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform all weekly, monthly and quarterly inspection testing and maintenance
- 3 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 4 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 5 *****INSPECTION*****
- 6 Procedures being developed.
- 7 *****MAINTENANCE*****
- 8 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/COD/W	Weekly CO Detection PM	MECH04		

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 3 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 4 *****INSPECTION*****
- 5 Procedures being developed.
- 6 *****MAINTENANCE*****
- 7 Procedures being developed.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRY/A	Annual Fire Suppression Dry PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly and semi-annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRY/M	Monthly Fire Suppression Dry PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRY/Q	Quarterly Fire Suppression Dry PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly and monthly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRY/QA	5 Year Fire Suppression Dry PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly, semi-annual and annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/DRY/S	Semi Annual Fire Suppression Dry PM	MECH04		

Procedures

-
- 1 Procedures
 - 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
 - 3 Perform all weekly, monthly and quarterly inspection testing and maintenance.
 - 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
 - 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
 - 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
 - 7 *****INSPECTION*****
 - 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
 - 9 *****MAINTENANCE*****
 - 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/DRY/W	Weekly Fire Suppression Dry PM	MECH04		

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 4 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 5 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 6 *****INSPECTION*****
- 7 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 8 *****MAINTENANCE*****
- 9 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRYTS/QA	5 Year Fire Supp. Dry test & PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly, semi-annual and annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/DRYTST/A	Annual Fire Supp. Dry test & PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly and semi-annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/DRYTST/Q	Quarterly Fire Supp. Dry test & PM	MECH04		

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly and monthly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/DRYTST/S	Semi Annual Fire Supp. Dry test & PM	MECH04		

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly and quarterly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Dry Pipe Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/PMP/A	Annual Fire Pump PM	MECH04	365		12

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform all weekly, monthly and semi-annual inspection testing and maintenance (FSP/PMP/W, FSP/PMP/M, FSP/PMP/S).
- 3 *****INSPECTION*****
- 4 Perform flow test of fire pump.
- 5 Grease motor on drive shaft if grease fittings are present.
- 6 Be sure test header piping and valves are free of water due to possible freezing.
- 7 *****MAINTENANCE*****
- 8 (hydraulic system) Lubricate pump bearings.
- 9 (hydraulic system) Check shaft end play, and adjust if necessary.
- 10 (hydraulic system) Check accuracy of pressure sensor (if greater than 15% out of calibration).
- 11 (hydraulic system) Check pump coupling alignment.
- 12 (mechanical transmission) Lubricate pump coupling.
- 13 (mechanical transmission) Lubricate right angle gear drive.
- 14 (electrical system) Trip circuit breaker (if mechanism is provided).
- 15 (electrical system) Inspect and operate emergency manual starting means (without power).
- 16 (electrical system) Tighten electrical connections as necessary.
- 17 (electrical system) Lubricate mechanical moving parts (excluding starters and relays).
- 18 (electrical system) Calibrate pressure switch settings.
- 19 (electrical system) Grease motor bearings.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/PMP/M	Monthly Fire Pump PM	MECH04	30	1

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 *****MOTOR DRIVE TEST*****
- 3 Conduct test of electric motor driven pump assembly without flowing water.
- 4 Allow automatic starting of pump to occur.
- 5 Allow pump to run for a minimum of ten (10) minutes.
- 6 Water shall discharge from the circulating relief valve (if installed).
- 7 *****WHILE PUMP IS RUNNING*****
- 8 Record system suction and discharge pressure gauge readings.
- 9 Check fire pump rotation
- 10 Check pump head packing glands for slight discharge.
- 11 Adjust gland nuts if necessary.
- 12 Check for unusual noise or vibration.
- 13 Check packing boxes, bearings, or pump casing for overheating.
- 14 Record pump starting pressure.
- 15 Observe time for motor to accelerate to full speed.
- 16 Record time pump runs after starting (for automatic stop controllers).
- 17 *****INSPECTION*****
- 18 Check that casing relief valve is discharging at proper pressure.
- 19 Check that pump head overflow drip cup is not clogged and is flowing properly through pipe.
- 20 Check that fire pump control valves are open, packing glands are not leaking and valve is properly tapped.
- 21 Check all piping associated with fire pump for visible signs of leaks or deterioration of pipe.
- 22 Check fire pump by-pass line.
- 23 Check fire pump test header and test valves for defects.
- 24 Be sure test header piping and valves are free of water to prevent possible freezing.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/PMP/M	Monthly Fire Pump PM	MECH04	30		1

Procedures

- 25 *****JOCKEY PUMP INSPECTION*****
- 26 Check jockey pump control valve for leaks, tamper alarm switch, and proper tag.
- 27 Check rotation on motor.
- 28 Check relief valve for proper setting.
- 29 Check water gauges.
- 30 Check jockey pump siamese line (cut-in/cut-off setting) with fire pump and sprinkler system.
- 31 *****CONTROLLER INSPECTION*****
- 32 Check mercoid pressure switch for proper adjustment for the cut-in/cut-off setting associated with sprinkler system demand and fire pump. (fire and jockey pump controllers)
- 33 Check indicating power lights on fire pump and jockey pump controllers.
- 34 Check controller timer if applicable, for start/stop run period of time (fire pump controller).
- 35 *****MAINTENANCE*****
- 36 Exercise isolating switch and circuit breaker.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/PMP/S	Semi Annual Fire Pump PM	MECH04	180		6

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 2 Perform Monthly Fire Pump PM (guideline FSP/PMP/M).
- 3 Operate manual starting means (electrical).

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/PMP/W	Weekly Fire Pump Test	MECH04	7		0

Procedures

- 1 Allow pump to run for a minimum of ten (10) minutes.
- 2 Water shall discharge from the circulating relief valve (if installed).
- 3 *****WHILE PUMP IS RUNNING*****
- 4 Record system suction and discharge pressure gauge readings.
- 5 Check pump packing glands for slight discharge.
- 6 Adjust gland nuts if necessary.
- 7 Check for unusual noise or vibration.
- 8 Check packing boxes, bearings, or pump casing for overheating.
- 9 Record pump starting pressure.
- 10 Observe time for motor to accelerate to full speed.
- 11 Record time pump runs after starting (for automatic stop controllers).
- 12 Conduct test of electric motor driven pump assembly without flowing water.
- 13 Allow automatic starting of the pump to occur.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/A	Annual Fire Suppress Preaction PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly and semi-annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 11 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/M	Monthly Fire Suppress Preaction PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/Q	Quarterly Fire Suppress Preaction PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly and monthly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/QA	5 Year Fire Suppress Preaction PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly, semi-annual and annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****INSPECTION*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.
- 9 *****MAINTENANCE*****
- 10 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/S	Semi Annual Fire Suppress Preaction PM	MECH04
Procedures		
1	Procedures	
2	Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).	
3	Perform all weekly, monthly and quarterly inspection testing and maintenance.	
4	Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c	
5	Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an	
6	Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance	
7	***INSPECTION***	
8	All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.	
9	***MAINTENANCE***	
10	All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.	

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRE/W	Weekly Fire Suppress Preaction PM	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 4 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 5 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 6 ***INSPECTION***
- 7 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals
- 8 ***MAINTENANCE***
- 9 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
FSP/PRETS/QA	5 Year Fire Suppress Preaction Test	MECH04		

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly, semi-annual and annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRETST/A	Annual Fire Suppress Preaction Test	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly, monthly, quarterly and semi-annual inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
FSP/PRETST/Q	Quarterly Fire Supp. Preaction Test	MECH04

Procedures

- 1 Procedures
- 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
- 3 Perform all weekly and monthly inspection testing and maintenance.
- 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
- 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
- 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
- 7 *****TEST PROCEDURES*****
- 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
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FSP/PRETST/S	Semi Annual Fire Suppress Preaction Test	MECH04
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Procedures

-
- 1 Procedures
 - 2 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 20 and 25 at a minimum).
 - 3 Perform all weekly, monthly and quarterly inspection testing and maintenance.
 - 4 Refer to MAINTENANCE INSTRUCTIONS provided in current Viking Data describing individual components of the Viking Preaction System used. Where difficulty in performance is experienced, the valve manufacturer or his authorized representative shall be c
 - 5 Records of the inspection, tests and maintenance of the system and its components shall be made available to the Authority having jurisdiction upon request. Typical records include, but not limited to, valve inspections; flow, drain and pump test; an
 - 6 Acceptance test records should be retained for the life of the system or its special components. Subsequent test records should be retained for a period of 1 year after the next test. The comparison determines deterioration of the system performance
 - 7 *****TEST PROCEDURES*****
 - 8 All procedures shall be in accordance with NFPA 25 and manufactures recommendations. Use forms for Inspection, Testing and maintenance of Preaction and Deluge Sprinkler Systems found in NFPA 25 and guidelines in operation and maintenance manuals

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/A	Annual Fire Supp Insp. & Maint	MECH01	365		12

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 14, 20 and 25 at a minimum).
- 2 Perform all weekly, monthly and quarterly inspection, testing and maintenance (FSP/SYS/W, FSP/SYS/M, FSP/SYS/Q).
- 3 *****SPRINKLER SYSTEM ALARM VALVE*****
- 4 Check static and residual testing through 2" drain valve.
- 5 Be sure all valves on alarm valve trim are properly tagged.
- 6 Check for any water leaks associated with alarm valve piping or trim.
- 7 *****SIAMESE CONNECTION*****
- 8 Check ball drip valve to see if all excess water has drained out of piping to prevent possible freezing of pipe.
- 9 *****SPRINKLER RISER (Zone Control Valves & Assemblies)*****
- 10 Check for any visible sign of water leak.
- 11 Check for proper sign tagging of valves (control valve & test drain valve).
- 12 *****SPRINKLER VISUAL INSPECTION*****
- 13 Check for proper installation of sprinkler piping or heads.
- 14 Check for proper coverage of sprinkler heads.
- 15 Check for any unsprinklered areas or modifications that could affect sprinkler head distribution coverage per NFPA 13.
- 16 Check for painted or damaged sprinkler heads.
- 17 Check for bent, missing or damaged sprinkler line supports.
- 18 Check for visible signs of sprinkler water leaks or water damage.
- 19 Check for sprinkler piping or sprinkler heads that are possibly exposed to freezing conditions.
- 20 Check exterior of sprinkler piping for possible corrosion.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/M	Monthly Fire Supp Insp. & Maint	MECH04	30		1

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 14, 20 and 25 at a minimum).
- 2 Perform all weekly inspection, testing and maintenance (FSP/SYS/W).
- 3 Check all sprinkler system alarm valve gauges.
- 4 Check swivels of fire department connection for siamese connection.
- 5 Be sure that fire department connection (siamese) caps are installed.
- 6 ***SPRINKLER RISER (ZONE CONTROL VALVES & ASSEMBLIES)
- 7 Check all valves for proper operation, all parts should move freely.
- 8 Check tamper switches for proper adjustment and that they are responding to alarm annunciator panel.
- 9 ***SPRINKLER RISER (STANDPIPE FIRE HOSE VALVES)***
- 10 Check valves for possible leaks.
- 11 Check valves for any physical damage (hand wheel).
- 12 Check for valve caps installed.
- 13 ***SPRINKLER HEAD STORAGE CABINET***
- 14 Check to see that proper amount of sprinkler heads are in cabinet.
- 15 Check to see that the heads are proper style and temperature consistent with what is installed.
- 16 Check to see that correct sprinkler head wrench is stored in head cabinet, consistent with heads installed.
- 17 ***SPRINKLER VISUAL INSPECTION***
- 18 Check all main control valves, sectional control valves, and auxiliary sprinkler valves for any physical damage, appropriate open or closed position, tagged properly and alarmed and chained properly.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/Q	Quarterly Fire Supp Insp. & Maint	MECH04	90		3

Procedures

- 1 Perform inspection, testing and maintenance per applicable NFPA guidelines (NFPA 13, 14, 20 and 25 at a minimum).
- 2 Perform all weekly and monthly inspection, testing and maintenance (FSP/SYS/W, FSP/SYS/M).
- 3 Check all Sprinkler System Alarm Valve fire alarm devices.
- 4 ***SPRINKLER RISER***
- 5 Check sprinkler water flow switch for signal to annunciator panel and proper time setting on water flow.
- 6 Check inspector's test valve per water flow.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/QA	5 Year Fire Supp Insp. & Maint	MECH04	1825		61

Procedures

1 procedure being developed.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/S	Semi Annual Fire Supp Insp. & Maint	MECH04	180		6

Procedures

1 procedure being developed.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
FSP/SYS/W	Weekly Fire Supp Insp. & Maint	MECH04	7		0

Procedures

1 procedure being developed.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/AHU/A	Annual Air Handler Preventive Maint.	MECH01	365		12

Procedures

- 1 Verify proper operation.
- 2 *****SUPPLY AND RETURN AIR FAN/MOTOR ASSEMBLIES*****
- 3 Inspect fan bearings for alignment, excessive wear and end play. Make repairs and adjustments as necessary.
- 4 Check fan bearings for excessive temperature and noise.
- 5 Lubricate fan bearings.
- 6 Inspect drive couplings and pulleys.
- 7 Check belts for wear, alignment and tension. Replace belts with matched set.
- 8 Check fan for wear and dirt. Clean as necessary.
- 9 Check alignment, balance and security to shaft.
- 10 Lubricate motor bearings to manufacturer's recommendations. 1.5 to 7.5 hp every three years; 10 to 40 hp every year; 50 to 150 hp every 9 months.
- 11 Record operating volts.
- 12 Record operating amps.
- 13 *****FILTER SECTION*****
- 14 Check and replace filters.
- 15 *****COOLING/HEATING COILS*****
- 16 Inspect and clean condensate pans and drains.
- 17 Inspect and clean coils.
- 18 Check coils for leaking and tightness of fittings.
- 19 Use fin comb to straighten coil fins.
- 20 *****DAMPERS*****
- 21 Check operation and clean dampers, louvers and shutters.
- 22 Check damper linkage for lubrication and tightness of linkage joints setscrews.
- 23 Lubricate all pivot points and linkages as needed.
- 24 Tighten any loose connectors (mechanical/electrical/pneumatic).

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PM TASK	DESCRIPTION	SHOP FREQUENCY:	Days	or	Months
HVC/AHU/A	Annual Air Handler Preventive Maint.	MECH01	365		12

Procedures

-
- 25 ***TEMPERATURE CONTROL SYSTEM***
 - 26 Check operation of controls.
 - 27 Clean and adjust controls as necessary.
 - 28 ***OPERATION INSPECTION***
 - 29 Check controls and unit for proper operation.
 - 30 Check for unusual noises or vibration.
 - 31 Inspect exterior piping and valves for leaks. Tighten connections as necessary.
 - 32 Verify freeze protection.
 - 33 ***ECONOMIZER***
 - 34 Check economizer operation.
 - 35 Check and tighten electrical connections.
 - 36 Check operation and setting of mixed air thermostat.
 - 37 Check operation and setting of outdoor air thermostat.
 - 38 Check dampers and linkage for binding.
 - 39 Lubricate damper linkage.
 - 40 Check operation and setting of damper minimum position.
 - 41 Check operation of pressure relief dampers.
 - 42 Check economizer power exhaust.
 - 43 ***ELECTRICAL DISCONNECT - SUPPLY AND RETURN FANS***
 - 44 Check and tighten electrical connections.
 - 45 *****WHERE APPLICABLE*****
 - 46 ***Do Fan Terminal Unit PM for ALL Fan Terminal Units Associated with this Air Handler***
 - 47 Clean blower wheel and housing of dirt and dust
 - 48 Inspect and clean wiring and pneumatic controls.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/AHU/A	Annual Air Handler Preventive Maint.	MECH01	365		12

Procedures

- 49 Tighten electrical connections.
- 50 Check temperature control valves for leaks and travel.
- 51 Check and clean coils and finned surfaces.
- 52 Visually inspect valves and piping for leaks.
- 53 Verify operation.
- 54 Change air filters.
- 55 Clean, prime and paint rust and corrosion.
- 56 Lubricate motors provided with oiler tubes. No lubrication is necessary on belt drive units (blower shaft bearings and motor bearings are permanently lubricated and sealed).

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/AHU/M	Monthly Air Handler PM	MECH01	30		1

Procedures

- 1 Check controls for proper operation
- 2 Amp motor and log results: amp 1 amp 2 amp 3
- 3 Check belts for wear, verify alignment and tension. Replace as necessary with matched set of belts.
- 4 Inspect and replace air filters as necessary

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/AHU/Q	Quarterly Air Handler PM	MECH01	90		3

Procedures

- 1 Inspect fan bearings for alignment, excessive wear and end play. Make repairs and adjustments as necessary.
- 2 Check fan bearings for excessive temperature and noise.
- 3 Lubricate fan bearings.
- 4 Inspect and adjust drive couplings and pulleys.
- 5 Check belts for wear, alignment and tension. Replace as necessary with matched set of belts.
- 6 Check fan for wear and dirt. Clean as necessary.
- 7 *****FILTER SECTION*****
- 8 Check filters and replace as necessary.
- 9 *****COOLING/HEATING COILS*****
- 10 Inspect and clean condensate pans and drains.
- 11 Inspect and clean coils.
- 12 *****OPERATION INSPECTION*****
- 13 Check controls and unit for proper operation.
- 14 Check for unusual noise or vibration.
- 15 Inspect exterior piping and valves for leaks. Tighten connections as necessary.
- 16 *****SUPPLY AND RETURN AIR FAN/MOTOR ASSEMBLIES*****

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/AHU/S	Semi Annual Air Handler PM	MECH01	182		6

Procedures

- 1 *****SUPPLY AND RETURN AIR FAN/MOTOR ASSEMBLIES*****
- 2 Inspect fan bearings for alignment, excessive wear and end play. Make repairs and adjustments as necessary.
- 3 Check fan bearings for excessive temperature and noise.
- 4 Lubricate fan bearings.
- 5 Inspect and adjust drive couplings and pulleys.
- 6 Check belts for wear, verify alignment and tension. Replace as necessary with matched set of belts.
- 7 Check fan for wear and dirt. Clean as necessary.
- 8 *****FILTER SECTION*****
- 9 Check filters and replace as necessary.
- 10 *****COOLING/HEATING COILS*****
- 11 Inspect and clean condensate pans and drains.
- 12 Inspect and clean coils.
- 13 *****DAMPERS*****
- 14 Check operation and clean dampers.
- 15 Check damper linkage for lubrication and tightness of linkage joints setscrews.
- 16 Lubricate all pivot points and linkages as needed.
- 17 Tighten any loose connectors (mechanical/electric/pneumatic).
- 18 *****OPERATION INSPECTION*****
- 19 Check controls and unit for proper operation.
- 20 Check for unusual noises or vibration.
- 21 Inspect exterior piping and valves for leaks. Tighten connections as necessary.
- 22 *****ECONOMIZER*****
- 23 Check economizer operation.
- 24 Check and tighten electrical connections.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/AHU/S	Semi Annual Air Handler PM	MECH01	182	6

Procedures

-
- 25 Check operation and setting of mixed air thermostat.
 - 26 Check operation and setting of outdoor air thermostat.
 - 27 Check dampers and linkage for binding.
 - 28 Lubricate damper linkage.
 - 29 Check operation and setting of damper minimum position.
 - 30 Calibrate damper minimum position.
 - 31 Check operation of pressure relief dampers.
 - 32 Check economizer power exhaust.
 - 33 *****WHERE APPLICABLE*****
 - 34 ***Do Fan Terminal Unit PM for ALL Fan Terminal Units Associated with this Air Handler***
 - 35 Inspect and clean electrical wiring and pneumatic controls.
 - 36 Tighten all electrical connections.
 - 37 Check temperature control valves for leaks and travel.
 - 38 Check and clean coils and finned surfaces.
 - 39 Visually inspect valves and piping for leaks.
 - 40 Verify operation
 - 41 Change air filters.
 - 42 Check motor/blower for wear and lubricate.
 - 43 Clean the blower wheel and housing of dust and dirt.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/BAT/S	Semi- Annual Bathroom Maintenance	MECH03	180		6

Procedures

- 1 Check sink drains for proper operation, repair leaks and clear drain if needed
- 2 Check toilets and wax rings for leaks and proper operation, repair if needed
- 3 Check flush valves for proper operation, repair if needed
- 4 In men's rooms, check urinal for proper operation and leaks, repair if needed
- 5 Check floor drain for proper water level. Check trap primer for proper operation, repair if needed
- 6 Check floor drain cover for missing screws, replace any missing.
- 7 Check faucets for proper operation, repair if needed
- 8 Check faucets, faucet stops and water lines for leaks and repair if needed

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/BLR/A	Annual Boiler PM	MECH03	365	12

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 3 Perform blowdown .
- 4 Examine the venting system for proper connections and alignment
- 5 Oil the blower motor and wipe oil and dust from the burner.
- 6 Clean the blower wheel as necessary.
- 7 Inspect all parts and make replacements as necessary.
- 8 Check wiring for loose connections and burned wires.
- 9 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 10 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 11 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 12 Inspect operating controls to ensure they are level.
- 13 Make sure that connecting tube is not kinked or damaged on remote bulb thermostats.
- 14 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly, it must be replaced.
- 15 Check water level controls.
- 16 Check samples of boiler water in accordance with water treatment plan.
- 17 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 18 Verify that controls are in a plumb position for proper performance.
- 19 Verify that piping is vertically aligned.
- 20 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 21 Remove the low-water cut-off operating mechanism from the bowl. check and clean float ball, internal moving parts and bowl housing. Also check cross connecting piping to make certain that it is clean and free of obstruction.
- 22 Inspect electrode on electronic low water device.
- 23 *****BURNER MAINTENANCE*****
- 24 The Turbopower module is heavy. No attempt should be made to hold, lift or position module without proper equipment capable of handling the weight.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/BLR/A	Annual Boiler PM	MECH03	365		12

Procedures

- 25 Shut off fuel and electrical power supplies.
- 26 Drain the boiler.
- 27 Disconnect wiring to the burner and gas from burner at incoming union to burner.
- 28 Remove the four nuts that hold the burner assembly to the module and the bolts that hold the flue collector to the module.
- 29 Disconnect the stack from the flue outlet on the collector.
- 30 Carefully remove the burner and then the flue collector assembly from the module.
- 31 Pull the burner straight out with a slight twisting motion to avoid damaging the combustion chamber refractory material.
- 32 Remove the bolts on the front tubesheet. Break the seal at gasket or o-ring from the tank flange and pull the module from the boiler. Use extreme caution in handling the module to avoid bending or distorting the firetubes.
- 33 Clean the module with high pressure hose or an inhibited acid as recommended by chemical supplier for removal of scale from the fire tubes.
- 34 Reinstall the module after it has been cleaned using a new o-ring or gasket.
- 35 Retorque bolts to 35-40 ft.-lbs. using an alternating star pattern to insure proper seating of the o-ring or gasket. A small amount of silicon sealant or other suitable adhesive may be used to hold the o-ring or gasket in place while positioning.
- 36 Apply adhesive sparingly. Replace any damaged bolts with those of a comparable grade only.
- 37 When module is installed, fill the boiler with water and check for leaks.
- 38 Check for baffles in all fire tubes. Position end of baffle even with end of firetube.
- 39 Check the insulating seal on the flue collector before replacing in module. If damaged, it may be patched with any suitable 400 deg F insulation material.
- 40 Reassemble the unit in the same order it was disassembled and return to service.
- 41 ***BOILER MAINTENANCE***

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/BLR/M	Monthly Boiler PM	MECH03	30		1

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Check samples of boiler water in accordance with water treatment plan.
- 3 Remove the pipe plugs from the tees and crosses and make certain the cross connecting piping is clean and free of obstructions.
- 4 Verify that controls are in a plumb position for proper performance.
- 5 Verify that piping is vertically aligned.
- 6 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 7 Perform and record flue gas analysis, room temperature including CO2 and O2.
- 8 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly, it must be replaced.
- 9 Check water level controls.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/BLR/Q	Quarterly Boiler PM	MECH03	90		3

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Perform blowdown.
- 3 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 4 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 5 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 6 Inspect operating controls to ensure they are level.
- 7 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 8 Check the pressure relief valve for proper operation. If valve does not open and close properly, it must be replaced.
- 9 Check water level controls.
- 10 Check samples of boiler water in accordance with water treatment plan.
- 11 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 12 Verify that controls are in a plumb position for proper performance.
- 13 Verify that piping is vertically aligned.
- 14 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 15 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/BLR/S	Semi Annual Boiler PM	MECH03	365	12

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Perform blowdown.
- 3 Oil the blower motor and wipe oil and dust from the burner.
- 4 Clean the blower wheel if necessary.
- 5 Inspect all parts and make replacements when necessary.
- 6 Check wiring for loose connections and burned wires.
- 7 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 8 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 9 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 10 Inspect operating controls to ensure they are level.
- 11 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 12 Check the Pressure Relief Valve for proper operation. If valve does not open and close properly, it must be replaced.
- 13 Check water level controls.
- 14 Check samples of boiler water in accordance with water treatment plan.
- 15 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 16 Verify that controls are in a plumb position for proper performance.
- 17 Verify that piping is vertically aligned.
- 18 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 19 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/BLR/W	Weekly Boiler Panel PM	MECH03	7		0

Procedures

- 1 If sequence equals SEQ B, change to SEQ C.
- 2 If sequence equals SEQ C, change to SEQ A.
- 3 Record Boiler #1 hours of burner operation.
- 4 Record Boiler #1 flame signal strength
- 5 Record Boiler #2 hours of burner operation.
- 6 Record Boiler #2 flame signal strength
- 7 Record Boiler #3 hours of burner operation.
- 8 Record Boiler #3 flame signal strength
- 9 Change Boiler Sequencer to next available of three positions as listed below:
- 10 If sequence equals SEQ A, change to SEQ B.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
HVC/BLRSTMA	Annual Steam Boiler PM	MECH03

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 3 Perform blowdown .
- 4 Examine the venting system for proper connections and alignment
- 5 Oil the blower motor and wipe oil and dust from the burner.
- 6 Clean the blower wheel as necessary.
- 7 Inspect all parts and make replacements as necessary.
- 8 Check wiring for loose connections and burned wires.
- 9 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 10 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 11 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 12 Inspect operating controls to ensure they are level.
- 13 Make sure that connecting tube is not kinked or damaged on remote bulb thermostats.
- 14 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly, it must be replaced.
- 15 Check water level controls.
- 16 Check samples of boiler water in accordance with water treatment plan.
- 17 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 18 Verify that controls are in a plumb position for proper performance.
- 19 Verify that piping is vertically aligned.
- 20 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 21 Remove the low-water cut-off operating mechanism from the bowl. check and clean float ball, internal moving parts and bowl housing. Also check cross connecting piping to make certain that it is clean and free of obstruction.
- 22 Inspect electrode on electronic low water device.
- 23 *****BURNER MAINTENANCE*****
- 24 The Turbopower module is heavy. No attempt should be made to hold, lift or position module without proper equipment capable of handling the weight.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
HVC/BLRSTMA	Annual Steam Boiler PM	MECH03

Procedures

-
- 25 Shut off fuel and electrical power supplies.
 - 26 Drain the boiler.
 - 27 Disconnect wiring to the burner and gas from burner at incoming union to burner.
 - 28 Remove the four nuts that hold the burner assembly to the module and the bolts that hold the flue collector to the module.
 - 29 Disconnect the stack from the flue outlet on the collector.
 - 30 Carefully remove the burner and then the flue collector assembly from the module.
 - 31 Pull the burner straight out with a slight twisting motion to avoid damaging the combustion chamber refractory material.
 - 32 Remove the bolts on the front tubesheet. Break the seal at gasket or o-ring from the tank flange and pull the module from the boiler. Use extreme caution in handling the module to avoid bending or distorting the firetubes.
 - 33 Clean the module with high pressure hose or an inhibited acid as recommended by chemical supplier for removal of scale from the fire tubes.
 - 34 Reinstall the module after it has been cleaned using a new o-ring or gasket.
 - 35 Retorque bolts to 35-40 ft.-lbs. using an alternating star pattern to insure proper seating of the o-ring or gasket. A small amount of silicon sealant or other suitable adhesive may be used to hold the o-ring or gasket in place while positioning.
 - 36 Apply adhesive sparingly. Replace any damaged bolts with those of a comparable grade only.
 - 37 When module is installed, fill the boiler with water and check for leaks.
 - 38 Check for baffles in all fire tubes. Position end of baffle even with end of firetube.
 - 39 Check the insulating seal on the flue collector before replacing in module. If damaged, it may be patched with any suitable 400 deg F insulation material.
 - 40 Reassemble the unit in the same order it was disassembled and return to service.
 - 41 *****BOILER MAINTENANCE*****

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
HVC/BLRSTM/M	Monthly Steam Boiler PM	MECH03

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Check samples of boiler water in accordance with water treatment plan.
- 3 Remove the pipe plugs from the tees and crosses and make certain the cross connecting piping is clean and free of obstructions.
- 4 Verify that controls are in a plumb position for proper performance.
- 5 Verify that piping is vertically aligned.
- 6 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 7 Perform and record flue gas analysis, room temperature including CO2 and O2.
- 8 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly, it must be replaced.
- 9 Check water level controls.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/BLRSTM/Q	Quarterly Steam Boiler PM	MECH03		

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Perform blowdown.
- 3 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 4 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 5 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 6 Inspect operating controls to ensure they are level.
- 7 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 8 Check the pressure relief valve for proper operation. If valve does not open and close properly, it must be replaced.
- 9 Check water level controls.
- 10 Check samples of boiler water in accordance with water treatment plan.
- 11 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 12 Verify that controls are in a plumb position for proper performance.
- 13 Verify that piping is vertically aligned.
- 14 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 15 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/BLRSTM/S	Semi Annual Steam Boiler PM	MECH03		

Procedures

- 1 Follow all manufacturer's recommendations as outlined in the service manual
- 2 Perform blowdown.
- 3 Oil the blower motor and wipe oil and dust from the burner.
- 4 Clean the blower wheel if necessary.
- 5 Inspect all parts and make replacements when necessary.
- 6 Check wiring for loose connections and burned wires.
- 7 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 8 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 9 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 10 Inspect operating controls to ensure they are level.
- 11 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 12 Check the Pressure Relief Valve for proper operation. If valve does not open and close properly, it must be replaced.
- 13 Check water level controls.
- 14 Check samples of boiler water in accordance with water treatment plan.
- 15 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 16 Verify that controls are in a plumb position for proper performance.
- 17 Verify that piping is vertically aligned.
- 18 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 19 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days or Months
HVC/BLRSTM/W	Steam Boiler Weekly PM	MECH03

Procedures

- 1 Follow all manufacturers' recommendations as outlined in the service manual.
- 2 Perform blow down of boiler.
- 3 Record Boiler #1 hours of burner operation.
- 4 Record Boiler #1 flame signal strength.
- 5 Make sure blow off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 6 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 7 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 8 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 9 Inspect operating controls to ensure they are level.
- 10 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 11 Check the pressure relief valve for proper operation. If valve does not open and close properly, it must be replaced.
- 12 Check water level controls.
- 13 Check samples of boiler water in accordance with water treatment plan.
- 14 Remove the pipe plugs from the tees or crosses and make certain the cross connecting piping is clean and free of obstructions.
- 15 Verify that controls are in a plumb position for proper performance.
- 16 Verify that piping is vertically aligned.
- 17 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/CDCAHU/A	Annual Air Handler PM	MECH01	365	12

Procedures

- 1 Inspect & Replace filters as necessary
- 2 Check & Clean Condenser Pan
- 3 Inspect coils for proper air flow
- 4 Check belts and pulleys
- 5 Check bearing locking collar and set screws
- 6 Check Controls for proper operation
- 7 Amp motor and log results
- 8 Check and Tighten all electrical connections
- 9 Clean Strainer
- 10 Check and Calibrate chilled and hot water valves for proper operation
- 11 Clean fan wheels and shaft
- 12 Check and calibrate Control Circuit
- 13 Check and repair Air Handler insulation and flex connectors
- 14 Check and repair pipe insulation
- 15 Check Dampers and Linkage and Lubricate
- 16 Clean cooling and hot water coils

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCAHU/M	Monthly Air Handler PM	MECH01	30		1

Procedures

- 1 Inspect & Replace air Filters as necessary
- 2 Check belts and pulleys
- 3 Check Controls for proper operation
- 4 Amp motor and log results Amps1____ Amps2____ Amps3____

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCAHU/S	Semi Annual Air Handler PM	MECH01	180		6

Procedures

- 1 Inspect & Replace Filters as necessary
- 2 Check & Clean Condenser Pan
- 3 Inspect Coils for proper Air Flow
- 4 Check belts and pulleys
- 5 Check bearing locking collars and set screws
- 6 Check Controls for proper operation
- 7 Amp motor and log results

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCAS/A	Annual Air Seperator PM	MECH01	365		12

Procedures

- 1 Check and record refrigerant pressures
- 2 Blowdown Seperator
- 3 Check and change filters as needed
- 4 Clean coil
- 5 Check and tighten all electrical connections
- 6 Change particulate filter

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCAS/M	Monthly Air Seperator PM	MECH01	30		1

Procedures

- 1 Check and record refrigerant pressures
- 2 Blowdown seperator
- 3 Check and change filters as needed

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCHL/A	CDC CHILLER PM	MECH01	365		12

Procedures

- 1 Check the oil level and refrigerant charge.
- 2 Perform compressor(s) oil analysis to determine system moisture content and acid level. If corrective action is necessary, follow manufacturer's recommendations.
- 3 Check operating and safety controls, inspect electrical components for deficiencies. Tighten all electrical connections as required.
- 4 Inspect all piping components for leakage and damage. Clean out any inline strainers. Clean the condenser fans.
- 5 Check the fan assemblies for proper clearance in the fan openings and for motor shaft misalignment, abnormal end-play, vibration and noise.
- 6 Clean and repaint any areas that show signs of corrosion. All paint used shall be manufacturer's specification.
- 7 Perform all monthly maintenance procedures.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCHL/M	MONTHLY CHILLER PM	MECH01	30		1

Procedures

- 1 Inspect the entire system for unusual conditions and inspect the condenser coils for dirt and debris. If conditions warrant, clean condenser coils per manufacturer's specifications.
- 2 If operating temperatures/pressures and sight glass conditions seem to indicate a refrigerant overage or shortage, take action per manufacturer's recommendations.
- 3 Check the evaporator and condenser refrigerant pressure in the Refrigerant Report Menu on the Clear Language Display.
- 4 Manually retate condenser fans to insure proper clearance on the fan openings.
- 5 Check the liquid sight glasses. The refrigerant flow past the sight glasses should be clear.
- 6 Measure and record the system superheat/subcooling.
- 7 After unit has operated for 30 minutes and the system has stabilized, check the following items.
- 8 Check fan for proper rotation.
- 9 Inspect fan/motor assembly for corrosion.
- 10 Check belt alignment, condition and tension and make repairs or adjustments as necessary.
- 11 Inspect and clean fan blades.
- 12 Check fan blade balance and re-balance if necessary.
- 13 Check and tighten mounting bolts.
- 14 Check fans and air intake screens and remove all dirt and debris.
- 15 Check spray distribution system.
- 16 Check and re-orientate nozzles (if necessary) on evaporative condensers and industrial fluid coolers.
- 17 Inspect eliminators and replace if necessary.
- 18 Adjust flush troughs (if necessary).
- 19 Check and clean water outlet strainer.
- 20 Check bleed off rate and adjust if necessary.
- 21 Check operating water level in pan. Adjust float controls (water level sensors and feed solenoids).
- 22 Clean sensor probes.
- 23 Check tightness and adjustments of thrust collars on sleeve bearing units and locking collars on ball bearing units. Check for security to shaft and end play.
- 24 Clean and flush sump.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCHL/M	MONTHLY CHILLER PM	MECH01	30		1

Procedures

- 25 Check sump strainer.
- 26 Check and adjust sump water level.
- 27 Inspect and clean overflow as required.
- 28 Check drain for obstructions.
- 29 Inspect complete tower assembly for corrosion and wear.
- 30 Scrape/clean/paint rust spots as required.
- 31 Check for leaks.
- 32 Check and record water inlet and outlet temperature.
- 33 Check tower fan thermostat setting and operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCHL/S	CDC Chiller PM Semi -Annual	MECH01	180		6

Procedures

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCMP/A	Annual Pneumatic Air Comp PM	MECH01	365		12

Procedures

- 1 Check belts and pulleys
- 2 Check relief valve
- 3 Check oil level
- 4 Amp motors and log results
- 5 Blowdown
- 6 Change Oil
- 7 Change Air filter

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCCMP/M	Monthly Pneumatic Air Comp PM	MECH01	30		1

Procedures

- 1 Check belts and Pulleys
- 2 Check Relief Valve (Run compressor until relief valve opens and reset)
- 3 Check oil level
- 4 Amp motor and log results
- 5 Blow Down

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCMXF/A	Annual Mechanical Room Exhaust Fan PM	MECH01	365		12

Procedures

- 1 Check belts and pulleys
- 2 Check for unusual noise
- 3 Check controls for proper operation
- 4 Check & lube dampers and linkage
- 5 Lubricate all bearings
- 6 Amp motor and record readings
- 7 Clean fan blades
- 8 Check starter & clean contactor, replace if needed
- 9 Check & tighten all electrical connections

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCMXF/M	Monthly Mechanical Room Exhaust Fan PM	MECH01	30		1

Procedures

- 1 Check belts & pulleys
- 2 Check for unusual noises
- 3 Check controls for proper operation
- 4 Check & Lubricate dampers and linkage

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCMXF/S	Semi Annual Mech. Room Exhaust Fan PM	MECH01	180		6

Procedures

- 1 Check belts & pulleys
- 2 Check for unusual noise
- 3 Check controls for proper operation
- 4 Check and lubricate dampers & linkage
- 5 Lubricate all bearings
- 6 Amp motor and record readings
- 7 Clean fan blades

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCPHF/M	Monthly Penthouse Fan PM	MECH01	30		1

Procedures

-
- 1 Check filters and clean as needed

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCPMP/A	Annual Pump PM	MECH01	365		12

Procedures

- 1 Check seals & bearings
- 2 Amp motor and log readings
- 3 Check pump coupler
- 4 Check for unusual vibration
- 5 Record pressure differential
- 6 Lubricate pump & motor bearings
- 7 Clean Strainer
- 8 Check & tighten all electrical connections
- 9 Clean & paint as needed
- 10 Repair any damaged insulation
- 11 Check expansion tank

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCPMP/M	Monthly Pump PM	MECH01	30		1

Procedures

- 1 Check seals & bearings
- 2 Amp motor & log readings
- 3 Check pump coupler
- 4 Check for unusual vibration
- 5 Record pressure differential

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCPMP/S	Semi Annual Pump PM	MECH01	180		6

Procedures

- 1 Check seals & bearings
- 2 Amp motor and log readings
- 3 Check pump coupler
- 4 Check for unusual vibration
- 5 Record pressure differential
- 6 Lubricate pump & motor bearings

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCRF/M	Monthly Recirculating Fan PM	MECH01	30		1

Procedures

- 1 Check Filter
- 2 Check Fan Motor
- 3 Check for proper operation

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCRI/A	Annual Reach In Fridge and Freezer PM	MECH01	365		12

Procedures

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCRI/M	Monthly Reach In Fridge and Freezer PM	MECH01	30		1

Procedures

- 1 Check Indicator Lights
- 2 Check & Verify Box Temperature

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCRI/S	Semi Annual Reach In Fridge and Frzr PM	MECH01	180		6

Procedures

- 1 Check Indicator lights
- 2 Check & Verify Box Temperature
- 3 Check condenser & evaporator fans for proper operation
- 4 Check door seal & hardware
- 5 Check T/stat for proper operation

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCSXF/S	Semi Annual Store Room Exhaust Fan PM	MECH01	180		6
<u>Procedures</u>					

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCWT/A	Annual Water Treatment Equip PM	MECH01	365		12

Procedures

- 1 Drain & Flush Tank
- 2 Clean & Repaint Tank

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCWT/W	Weekly Water Treatment Equip PM	MECH01	7		0

Procedures

-
- 1 Check & Log Readings

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCXF/A	Annual exhaust fan PM	MECH01	365		12

Procedures

- 1 Check belts & pulleys
- 2 Check for noisy operation
- 3 Check & lubricate linkage
- 4 Check dampers for proper operation
- 5 Grease bearings
- 6 Amp Motor and log results
- 7 Check motor starter and clean contactors
- 8 Check & tighten all electrical connections
- 9 Check controls for proper operation

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCXF/M	Monthly Exhaust Fan PM	MECH01	30		1

Procedures

- 1 Check belts & pulleys
- 2 Check operation (noisy?)
- 3 Check & lubricate linkage operation
- 4 Check dampers for proper operation

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CDCXF/S	Semi Annual Exhaust Fan PM	MECH01	180		6

Procedures

- 1 Check belts & pulleys
- 2 Check for noisy operation
- 3 Check & lubricate linkage
- 4 Check dampers for proper operation
- 5 Grease all bearings
- 6 Amp motor and log

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/CHL/A	Annual Chiller PM	MECH01	365	12

Procedures

- 1 Test motor winding insulation resistance.
- 2 Check inlet valve operator and linkage. Lubricate where required.
- 3 Check compressor bearings/gear for signs of wear.
- 4 *****LUBRICATION SYSTEM*****
- 5 Change oil, oil filter, oil reclaim filter and refrigerant filter dryer.
- 6 Conduct analysis on oil and oil filter at manufacturer (Carrier) and provide recommendation for repair actions, if any.
- 7 Check oil pump, seal and motor. Test operation.
- 8 Clean dirt leg.
- 9 Check and adjust immersion oil heater and thermostat.
- 10 Check all other system components including cooler, strainer and solenoid valve (if applicable).
- 11 *****STARTER*****
- 12 Check and clean contactors.
- 13 Check linkage.
- 14 Tighten all electrical connections and check terminals.
- 15 Clean or replace air filter.
- 16 Vacuum or blow off accumulated debris.
- 17 Check for proper sequence of operation of starter mounted controls.
- 18 *****CONTROL PANEL*****
- 19 Tighten all electrical connections and clean panel.
- 20 Verify proper operation and settings of all operating and safety devices.
- 21 Check oil pressure, condenser pressure and cooler pressure transducers. calibrate and make repairs as needed.
- 22 Test all indicator lights.
- 23 *****CONDENSER*****
- 24 Check water flow.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CHL/A	Annual Chiller PM	MECH01	365		12

Procedures

- 25 Check flow switch operation.
- 26 Remove condenser head and inspect.
- 27 Mechanically brush clean condenser water tubes.
- 28 ***COOLER***
- 29 Check the water flow.
- 30 Check flow switch operation.
- 31 Inspect and clean cooler tubes.
- 32 ***GENERAL MAINTENANCE***
- 33 Conduct a leak check. Identify and correct leak sources.
- 34 Replenish refrigerant level as required.
- 35 Record condition of sight glasses.
- 36 Check refrigerant cycle to verify the proper operating balance.
- 37 Check condenser water and chilled water heat transfer.
- 38 Repair insulation removed for inspection and maintenance.
- 39 Inspect piping and relief valves. Make repairs as necessary.
- 40 Recalibrate Chiller Pressure Transducer.
- 41 Recalibrate Condenser Pressure Transducer.
- 42 Recalibrate Oil Pressure Transducer.
- 43 Perform vibration analysis as a predictive maintenance procedure - provide a report with repair actions identified - if any - to maintain chillers in maximum availability; reliability status.
- 44 ***MOTOR***
- 45 Record voltages.
- 46 *** Building 2462A Only***
- 47 *** Purge Unit***
- 48 Clean & inspect all valves which are part of the purge unit system

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CHL/A	Annual Chiller PM	MECH01	365		12

Procedures

-
- 49 Drain & flush the oil & refrigerant from the purge unit shell
 - 50 * Before flushing, remove the float assembly from the purge unit shell
 - 51 * Disconnect the oil line from the bottom of the purge unit
 - 52 * To clean - flush refrigerant from the top of the purge unit shell and let the refrigerant drain from the bottom thru the oil line connection
 - 53 * After a complete flushing, replace the float assembly and the oil drain line.
 - 54 Clean one orifice in the liquid line feed to the cooling coil & purge unit exhaust orifice
 - 55 Inspect the foul gas inlet check valve

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CHL/M	Monthly Chiller PM	MECH01	30		1

Procedures

- 1 Perform vibration analysis as a predictive maintenance procedure - provide a report with repair actions identified - if any - to maintain chillers in maximum availability, reliability status.
- 2 Check motor mounting screws for tightness

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CHL/Q	Quarterly Chiller PM	MECH01	90		3

Procedures

- 1 Check operation of controls.
- 2 Check oil and refrigerant levels.
- 3 Check operation of lube systems.
- 4 Check the oil return system.
- 5 Check operation of motor and starter.
- 6 Record operating conditions.
- 7 Check log and review chiller system operation with operator.
- 8 Log and report repairs and parts that are required.
- 9 Check oil pressure drop for filter replacement.
- 10 Recalibrate Chiller Pressure Transducer.
- 11 Recalibrate Condenser Pressure Transducer.
- 12 Recalibrate Oil Pressure Transducer.
- 13 Conduct analysis of oil and oil filter at manufacturer (Carrier) and provide recommendations for repair actions, if any.
- 14 Perform vibration analysis as a predictive maintenance procedure - provide a report with repair actions identified - if any - to maintain chillers in maximum availability; reliability status.
- 15 Inspect cooler and condenser tubes for scale. Clean tubes. perform this step in the Fall Quarter only.
- 16 Inspect chiller and adjust operating and safety controls.
- 17 ***** IF REQUIRED *****
- 18 *** PURGE UNIT***
- 19 Change purge unit dehydrator
- 20 *** Oil Return System***
- 21 Change the dehydrator in the oil return system
- 22 Check eductor nozzle for any foreign particles. (Clean or replace as needed)

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PM TASK	DESCRIPTION	SHOP FREQUENCY:	Days	or	Months
HVC/CHL/TA	Non-Destructive Chiller Tube Analysis	MECH01	730		24

Procedures

- 1 Complete an eddy current test of all heat exchanger tubes, both cooler and condenser.
- 2 The test shall be performed in accordance with current requirements and procedures of ASME Boiler and Pressure Vessel Code Section V Nondestructive examination, Article 8, Eddy Current Examination of Tubular Products and applicable ASTM standards.
- 3 A certified Level II or higher Technician or equivalent shall be used for this analysis in accordance with the American Society of Nondestructive Testing Recommended Practices, SNT-TC-1A, or current version.
- 4 The test is to be witnessed by the COR or designated inspector.
- 5 *****TEST PROCEDURES*****
- 6 Prepare equipment for non-destructive testing (NDT). Remove heat exchanger heads, piping, clean tubes, and erect scaffolding as needed.
- 7 Test shall be recorded as required by the ASME code Section V (Article 8 - Appendix I, Article I-20).
- 8 System calibration shall be confirmed hourly.
- 9 The written procedure in paragraph I-23, Article 8 - Appendix I in the ASME code is required to be followed.
- 10 Strip Chart recordings shall be provided for:
 - 11 a. Each calibration standard and artificial discontinuity comparator used. Annotate to identify each defect machined in the standard and calibration of each division on the chart.
 - 12 b. Typical good tube in each bundle.
 - 13 c. For each defective tube, annotate to identify tube. Indicate nature and extent of defect.
- 14 Test each tube to detect, as a minimum, leaks, saddle damage, pitting, interior erosion/corrosion, gasket condition, presence of "tramp" metal, presence of tube bulges, tube seem condition; visual inspect of scale build up, and tube sheet condition.
- 15 Correct deficiencies as directed.
- 16 Restore equipment to service.
- 17 *****REPORTS AND RECORDS*****
- 18 A copy of the magnetic tape record shall be maintained by the NDT contractor and furnished if requested by the Government.
- 19 A preliminary job site report shall be provided as soon as the test is completed.
- 20 Within ten (10) working days following completion of the test, the NDT contractor shall provide two complete test reports including the following:
 - 21 a. Written test procedure.
 - 22 b. Recommendations - list all tubes recommended for replacement or isolation.
 - 23 c. Make complete description of defects (location, depth, inside or outside surface).
 - 24 d. Map location - show tube row, number, and support for each tube bundle.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CHL/TA	Non-Destructive Chiller Tube Analysis	MECH01	730		24

Procedures

- 25 e. Name of technician performing tests and evaluating data.
- 26 f. Contractor's certification of technician qualifications.
- 27 ***SPECIAL INSTRUCTIONS***
- 28 Coordinate performance of this activity with annual PM (HVC/CHL/A).

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/CLT/A	Annual Cooling Tower PM	MECH01	365	12

Procedures

- 1 Refill tower.
- 2 Verify proper operation of electrical disconnect.
- 3 Lubricate motor and/or fan bearings.
- 4 Check for unusual bearing wear.
- 5 Check for fan balance and alignment.
- 6 Check fan for proper rotation.
- 7 Inspect fan/motor assembly for corrosion.
- 8 Check belt alignment, condition and tension and make repairs or adjustments as necessary.
- 9 Inspect and clean fan blades.
- 10 Check fan blade balance and re-balance if necessary.
- 11 Check and tighten mounting bolts.
- 12 Check fans and air intake screens and remove all dirt and debris.
- 13 Check spray distribution system.
- 14 Check and re-orientate nozzles (if necessary) on evaporative condensers and industrial fluid coolers.
- 15 Inspect eliminators and replace if necessary.
- 16 Adjust flush troughs (if necessary).
- 17 Check and clean water outlet strainer.
- 18 Check bleed off rate and adjust if necessary.
- 19 Check operating water level in pan. Adjust float controls (water level sensors and feed solenoids).
- 20 Clean sensor probes.
- 21 Check tightness and adjustments of thrust collars on sleeve bearing units and locking collars on ball bearing units. Check for security to shaft and end play.
- 22 Clean and flush sump.
- 23 Check sump strainer.
- 24 Check and adjust sump water level.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CLT/A	Annual Cooling Tower PM	MECH01	365		12

Procedures

-
- 25 Inspect and clean overflow as required.
 - 26 Check drain for obstructions.
 - 27 Inspect complete tower assembly for corrosion and wear.
 - 28 Scrape/clean/paint rust spots as required.
 - 29 Check for leaks.
 - 30 Check and record water inlet and outlet temperature.
 - 31 Check tower fan thermostat setting and operation.
 - 32 This maintenance procedure must coincide with the annual chiller maintenance (HVC/CHL/A).
 - 33 Drain, flush, pressure wash and/or brush to remove accumulated foreign material. make repairs as necessary.
 - 34 *** AS REQUIRED***
 - 35 VARIABLE FREQUENCY DRIVE
 - 36 Visually inspect panel interior
 - 37 Check that all electrical connections are tight
 - 38 Thoroughly blow out interior of all dust and dirt with dry air or nitrogen
 - 39 Check for proper operation and make adjustments when necessary

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CLT/M	Monthly Cooling Tower PM	MECH01	30		1

Procedures

- 1 Check fans and air intake screens and remove all dirt and debris.
- 2 Check spray distribution system.
- 3 Check and re-orientate nozzles (if necessary).
- 4 Adjust flush troughs (if necessary).
- 5 Check all condenser piping for proper support and insulation.
- 6 Check bleed of rate and adjust if necessary.
- 7 Check operating water level in pan. Adjust float controls (water level sensors and feed solenoids).
- 8 Check tightness and adjustments of thrust collars on sleeve bearing units and locking collars on ball bearing units.
- 9 Inspect sump, clean and flush if necessary.
- 10 Clean sump strainer.
- 11 Check and adjust sump water level.
- 12 Lubricate motor and/or fan bearings.
- 13 Check belt alignment, condition and tension and make repairs or adjustments as necessary.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CLT/Q	Quarterly Cooling Tower PM	MECH01	90		3

Procedures

- 1 Check belt alignment, condition and tension and make repairs or adjustment as necessary.
- 2 Check and tighten mounting bolts.
- 3 Check fans and air intake screens and remove all dirt and debris.
- 4 Check spray distribution system.
- 5 Check and re-orientate nozzles (if necessary) on evaporative condensers and industrial fluid coolers.
- 6 Adjust flush troughs (if necessary).
- 7 Check and clean water outlet strainer.
- 8 Check bleed off rate and adjust if necessary.
- 9 Check operating water level in pan. Adjust float controls (water level sensors and feed solenoid).
- 10 Clean sensor probes.
- 11 Check tightness and adjustments of thrust collars on sleeve bearing units and locking collars on ball bearing units. Check for security to shaft and end play.
- 12 Clean and flush sump.
- 13 Check sump strainer.
- 14 Check and adjust sump water level.
- 15 Check drain for obstructions.
- 16 Check for leaks.
- 17 Check and record water inlet and outlet temperature.
- 18 Check tower fan thermostat setting and operation.
- 19 Lubricate motor and/or fan bearings.
- 20 Check for unusual bearing wear.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/CMP/A	Annual Pneumatic Air Comp PM	MECH01	365	12

Procedures

- 1 Check oil level of both compressor and engine. Change compressor oil and oil filter.
- 2 Inspect tank for oil and water.
- 3 Drain moisture from tank by opening drain cock at bottom of tank. DO NOT OPEN drain if tank pressure exceeds 40 psi.
- 4 Check automatic tank drain.
- 5 Clean dust and foreign matter from the cylinder head, motor, fan blade, air lines, intercooler and tank.
- 6 Replace air intake filter.
- 7 Check and record run-time and off-time.
- 8 Check belts for wear, tension and alignment. Replace worn belts and make adjustments as necessary.
- 9 Check and inspect motor.
- 10 Lubricate motor bearings.
- 11 Change crankcase oil.
- 12 Inspect and clean starter.
- 13 Tighten all electrical connections.
- 14 Check entire system for air leaks around fittings, connections and gaskets.
- 15 Tighten nuts and cap screws as necessary.
- 16 Check and clean compressor valves, replace springs, disc, and seats if worn or damaged.
- 17 Test relief valves for proper operation by pulling ring on all PRVs. replace PRV if operating incorrectly.
- 18 Replace PRV filter.
- 19 Verify control operation through full sequence. Check all operating pressures.
- 20 Check proper position of dryer bypass valve.
- 21 Check dryer, verify operation and clean dryer.
- 22 Change dryer filter.
- 23 Clean, scrape and paint rust spots as required.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CMP/Q	Quarterly Pneumatic Air Comp PM	MECH01	90		3

Procedures

- 1 Check entire system for air leaks around fittings, connections, and gaskets.
- 2 Check crankcase oil.
- 3 Check air filter and replace as necessary.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/CMP/S	Semi Annual Pneumatic Air Comp PM	MECH01	365	12

Procedures

- 1 Run system and check for excessive noise or vibrations.
- 2 Drain moisture from tank by opening tank drain cock at bottom of tank. DO NOT OPEN drain if tank pressure exceeds 40 psi.
- 3 Clean dust and foreign matter from the cylinder head, motor, fan blade, air lines, intercooler and tank.
- 4 Remove and clean air intake filter.
- 5 Check belts for wear, tension and alignment. Replace worn belts and make adjustments as necessary.
- 6 Change crankcase oil.
- 7 Check entire system for air leaks around fittings, connections and gaskets.
- 8 Tighten nuts and cap screws as necessary.
- 9 Check and clean compressor valves, replace springs, disc, and seats if worn or damaged.
- 10 Test relief valves for proper operation by pulling ring on all PRVs. Replace PRV if operating incorrectly.
- 11 Verify operation through full sequence. Check all operating pressures.
- 12 Check proper position of dryer bypass valve.
- 13 Check dryer and verify operation.
- 14 Change dryer filter.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/COND/A	Outside A/C Condensing Unit	MECH01	365		12

Procedures

- 1 Check and clean condenser coil. Straighten fins as necessary.
- 2 Inspect condenser fan motor and fan blade
- 3 Inspect all piping for leaks. If leaks noted, use proper procedures to repair
- 4 Repair pipe insulation if necessary
- 5 Operate system and check for correct superheat per manufacturers specifications. Correct if necessary.
- 6 Inspect cabinet and touch-up paint if necessary.
- 7 Secure and tag-out power. Check and tighten all wiring connections.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/COND/Q	Outside A/C Condensing Unit	MECH01	90		3

Procedures

- 1 Check and clean condenser coil if necessary.
- 2 Check condenser fan operation.
- 3 Check operating pressures and make corrections as necessary. Record before and after pressures with ambient temperature.
- 4 Check and record full load amperage.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/COND/S	Outside A/C Condensing Unit	MECH01	180		6

Procedures

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/CVR/BA	Bi Annual Convectore PM	MECH01	730		24

Procedures

- 1 Check housing, braces, supports, hangers, and hardware for signs of deterioration or damage.
- 2 Wire brush and treat with rust inhibitor all rusted areas.
- 3 Check coils, piping, and fin material for damage, leaks or looseness. Straighten finned material as necessary.
- 4 Check temperature or flow controls, shutoff valves, vents and traps for proper operation.
- 5 Vacuum or blow out finned tube area and interior housing.
- 6 Touch up paint as required.
- 7 Clean and replace covers or wall panels and caulk wall panels if required.
- 8 Replace air filter.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/EWH/A	Annual Water Heater (Electric) PM	MECH03	365		12

Procedures

- 1 Review manufacturer's instructions.
- 2 Make sure the area surrounding the water heater is free of flammable liquids.
- 3 Lift and release the lever handle on the temperature pressure relief valve located on or near the top of the water heater, to make certain the valve operates freely. Make certain the discharged water is directed to an open drain.
- 4 Flush sediment from tank.
- 5 Check all connections - electric and water. Tighten as necessary.
- 6 Check operation and setting of aquastat. Check hot water temperature with dial thermometer, and set aquastat at minimum value (110 degrees Fahrenheit).
- 7 Check amperage draw of elements and compare to nameplate data.
- 8 Clean element contacts, and check for proper closing under load.
- 9 Inspect anode rod to determine if replacement is necessary.
- 10 Check entire heater and associated piping for leaks. Repair and record as necessary.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/FAN/Q	Quarterly Fan PM	MECH01	90		3

Procedures

- 1 Record operating volts.
- 2 Record operating amps.
- 3 Remove dirt, dust and grease build-up on motor to ensure proper motor cooling.
- 4 Check and clean fan (blade and wheel) of dirt, dust and grease. Clean only exterior surface on Supply and Return Air fans.
- 5 Check fan for proper alignment.
- 6 Check belts and pulleys for wear, tension and alignment.
- 7 Replace belts and align as necessary.
- 8 Lubricate greasable fan bearings in accordance with conditions chart in operations and maintenance manual.
- 9 Check operation of dampers and lubricate.
- 10 Check inlet vanes for freedom of operation and excessive wear.
- 11 Check unit for proper operation. Check for vibration, noise and overheating.
- 12 Check fan for correct coupling alignment.
- 13 Check operation of controls and motor control center.
- 14 Motor bearings are pre-lubricated and under normal conditions will not require maintenance for a period of ten years. If subject to greater usage, check every three years.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/FCU/A	Annual Fan Coil Unit PM	MECH01	365		12

Procedures

- 1 Clean blower wheel and housing of dirt and dust.
- 2 Inspect and clean wiring and controls.
- 3 Tighten electrical connections.
- 4 Check temperature control valves.
- 5 Check and clean coils and finned surfaces.
- 6 Visually inspect valves and piping for leaks.
- 7 Verify operation.
- 8 Change air filters.
- 9 Check condensate pans and drains to ensure free flowing condensate.
- 10 Clean, prime and paint rust and corrosion.
- 11 Lubricate motors provided with oiler tubes. No lubrication is necessary on belt drive units (blower shaft bearings and motor bearings are permanently lubricated and sealed).
- 12 Check for belt tension and wear.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/FCU/S	Semi Annual Fan Coil Unit PM	MECH01	180		6

Procedures

- 1 Inspect and clean electrical wiring and controls.
- 2 Tighten all electrical connections.
- 3 Check temperature control valves.
- 4 Check and clean coils and finned surfaces.
- 5 Visually inspect valves and piping for leaks.
- 6 Verify operation
- 7 Change air filters.
- 8 Check pans and drains to ensure free flowing condensate.
- 9 Check motor/blower belt for tension and wear.
- 10 Clean the blower wheel and housing of dust and dirt.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/HMD/S	Semi-Annual Humidifier PM	MECH01	180		6

Procedures

- 1 Inspect water fill valve for proper operation.
- 2 Check safety interlocks (air flow, high limit, etc.).
- 3 Check immersion heater for correct amperage draw.
- 4 Humidifier cover/tank should be inspected for leaks and repairs made if necessary.
- 5 Check and clean tri-probe of excessive mineral build-up.
- 6 Check and clean draw valve/piping to ensure free flow of overflow/drain lines.
- 7 Check flexible hose for cracks and/or leaks.
- 8 Verify humidistat operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/HUMID/S	Semi - Annual Steam Humidifier PM	MECH01			

Procedures

- 1 Inspect and clean distribution nozzles as necessary
- 2 Check and clean condensate pan and drain lines as necessary
- 3 Check all valves for leaks and controls for proper operation
- 4 Check steam traps for proper operation and rebuild as necessary
- 5 Check insulation and repair as needed
- 6 Verify humidistat operation

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/ICHL/A	Annual Ice Chiller PM	MECH01	365		12

Procedures

- 1 Test water properties.
- 2 Check water level.
- 3 Check operating voltage of AIR PUMP.
- 4 Check operating current of AIR PUMP.
- 5 Check AIR PUMP oil level.
- 6 Drain and refill AIR PUMP oil with fresh lubricants.
- 7 Check condition of ICE THICKNESS sensor and control box.
- 8 Inspect unit protective finish.
- 9 Check controls for proper operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/ICHL/M	Monthly Ice Chiller PM	MECH01	30		1

Procedures

- 1 Check water level.
- 2 Check and clean AIR PUMP filters.
- 3 Check AIR PUMP oil level.
- 4 Check controls for proper operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/ICHL/SA	Semi-Annual Ice Chiller PM	MECH01	365		12

Procedures

- 1 Test water properties.
- 2 Check water level.
- 3 Check operating voltage of AIR PUMP.
- 4 Check operating current of AIR PUMP.
- 5 Check AIR PUMP oil level.
- 6 Drain and refill AIR PUMP oil with fresh lubricant.
- 7 Check condition of ICE THICKNESS sensor and control box.
- 8 Check FEED SYSTEM controls for properation.
- 9 Check FEED SYSTEM solenoid strainer.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PAC/A	Annual Comp Room A/C Unit PM	MECH01	365		12

Procedures

- 1 Check belt for tension and wear and make repairs as necessary.
- 2 NOTE - Blower bearings are permanently lubricated and do not require maintenance.
- 3 If the blower motor has sealed bearings, no maintenance is required. If the blower motor has Zirk fittings, it must be greased.
- 4 Do not over-grease, only 1 or 2 pumps from a manual gun are required. Do not grease until coming out of bearing caps.
- 5 Check fan shaft bearing wear and end play.
- 6 Check security of fan hub to shaft.
- 7 Check condition of blower wheels.
- 8 Clean blower wheels as required.
- 9 Check motor/fan assembly for imbalance condition.
- 10 Check operation and setting of differential pressure switch.
- 11 Check condition of pan.
- 12 Clean pan as required.
- 13 Check operation of auto-flush system.
- 14 Steam Generator Humidifier. Replace humidifier cylinder.
- 15 Check/adjust water flow rate.
- 16 Check condition of cooling and reheat coils. Use fin comb if necessary to straighten fins.
- 17 A dirty coil surface can be cleaned using a coil cleaner solution and warm water.
- 18 Check control panel indicators.
- 19 Tighten all wiring connections.
- 20 Check and clean fan/humidifier/heater contactors.
- 21 Check calibration of temperature and humidity controllers and alarm devices.
- 22 Verify proper operating and control sequence.
- 23 Inspect piping for leaks and clearance. Pipes must not rub against other pipes or structures.
- 24 Clean/scrape/paint rust spots as required.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PAC/A	Annual Comp Room A/C Unit PM	MECH01	365		12

Procedures

-
- 25 Check condition of exterior panels hinges and latches.
 - 26 Change filters.
 - 27 Check V-Belt condition.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PAC/M	Monthly Comp Room A/C Unit PM	MECH01	30		1

Procedures

- 1 Check fan, motor and V-belt condition if applicable
- 2 Check for belt tension and wear and make repairs as necessary.
- 3 Check condensate pump and discharge piping for operation and leaks. (If applicable)

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PAC/Q	Quarterly Comp Room A/C Unit	MECH01	90		3

Procedures

- 1 Check belt for tension and wear and make repairs as necessary.
- 2 Check Steam Generator Humidifier.
- 3 Check/adjust water flow rate.
- 4 Check control panel indicators.
- 5 Check and clean fan/humidifier/heater contactors.
- 6 Check calibration of temperature and humidity controllers and alarm devices.
- 7 Verify proper operating and control sequence.
- 8 Visually inspect floor drain for blockages. Clean strainer if necessary. Notify COR if drain is clogged or restricted.
- 9 Change dust filters.
- 10 Check V-Belt condition.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PAC/S	Semi Annual Comp Room A/C Unit PM	MECH01	365		12

Procedures

- 1 Check belt for tension and wear and make repairs as necessary.
- 2 Check Steam Generator Humidifier.(If applicable)
- 3 Check/adjust water flow rate.
- 4 Check condition of cooling and reheat coils. Use fin comb if necessary to straighten fins.
- 5 A dirty coil surface can be cleaned using a coil cleaner solution and warm water.
- 6 Check control panel indicators.
- 7 Check and clean fan/humidifier/heater contactors.
- 8 Check calibration of temperature and humidity controllers and alarm devices.
- 9 Verify proper operating and control sequence.
- 10 Change dust filters.
- 11 Check V-Belt condition. (If applicable)

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMP/A	Annual Pump PM	MECH01	365		12

Procedures

- 1 Inspect and clean starter.
- 2 Record motor name plate volts.
- 3 Record motor name plate amps.
- 4 Record motor operating volts.
- 5 Record motor operating amps.
- 6 Lubricate motor bearings.
- 7 Examine motor mounts. Check that base bolts are securely fastened.
- 8 Tighten or replace loose, missing or damaged nuts, bolts and screws.
- 9 Check alignment of couplings and make adjustments as required. Alignment must be within manufacturer's specifications.
- 10 Inspect coupling for wear and shaft security.
- 11 *****PUMP HOUSING*****
- 12 Check mechanical seals for leakage.
- 13 Repair and adjust mechanical seals as required.
- 14 Inspect gaskets for leakage and deterioration.
- 15 Repair or replace gaskets as required.
- 16 Check condition of insulation on Chilled Water Pumps and make repairs as necessary.
- 17 *****GENERAL MAINTENANCE*****
- 18 Open and close hand valve & check for leaks.
- 19 Check pressure gauges as required.
- 20 Adjust and replace pressure gauges as required.
- 21 Inspect and clean strainers.
- 22 Clean pump exterior and scrape/paint rust spots as required on pump exterior and base plate.
- 23 Pull strainer and clean.
- 24 Clean sump.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMP/A	Annual Pump PM	MECH01	365		12

Procedures

-
- 25 Check and replace cover gasket if necessary.
 - 26 Lubricate bearings.
 - 27 ***OPERATIONAL INSPECTION ***
 - 28 Verify proper operation.
 - 29 Test float switches (if applicable).
 - 30 Switch lead pump (if applicable).
 - 31 Check pump, gear and motor for unusual noise & surface temp.
 - 32 Check float level (if applicable).
 - 33 Check suction or discharge, pressure gauge readings and flow rate.
 - 34 Check and adjust vacuum switch setting.
 - 35 Check and tighten electrical connections.
 - 36 Verify proper operation and rotation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMP/Q	Quarterly Pump PM	MECH01	90		3

Procedures

- 1 Repair and adjust mechanical seals as required.
- 2 Inspect gaskets for leakage and deterioration.
- 3 Repair or replace gaskets as required.
- 4 Check condition of Chilled Water Pumps (if applicable) and make repairs as necessary.
- 5 ***OPERATIONAL INSPECTION***
- 6 Verify operation.
- 7 Switch lead pump (if applicable).
- 8 Check for unusual noise and surface temp.
- 9 Check and record inlet and discharge pressures.
- 10 Check and adjust vacuum switch setting, if required.
- 11 ***PUMP HOUSING***
- 12 Check mechanical seals for leakage.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMP/S	Semi Annual Pump PM	MECH01	365		12

Procedures

- 1 Inspect coupling for wear and shaft security. Lubricate as required.
- 2 Clean pump exterior and check for corrosion on pump exterior and base plate.
- 3 Check that base bolts are securely fastened.
- 4 Tighten or replace loose, missing, or damaged nuts, bolts and screws.
- 5 Check bearing oil level and lubricate as necessary.
- 6 *****PUMP HOUSING*****
- 7 Check mechanical seals as required.
- 8 Repair and adjust mechanical seals as required.
- 9 Inspect gaskets for leakage and deterioration.
- 10 Repair or replace gaskets as required.
- 11 Check condition of insulation for Chilled Water Pumps and make repairs as necessary.
- 12 *****OPERATIONAL INSPECTION*****
- 13 Verify operation.
- 14 Switch lead pump if applicable.
- 15 Check pump, gear and motor for unusual noise & surface Temp.
- 16 Check for leaks on suction and discharge piping, seals, packing, glands, etc.
- 17 Check suction or discharge, pressure gauge readings and flow rate.
- 18 Check Vacuum switch setting and adjust if required.
- 19 *****GENERAL MAINTENANCE*****
- 20 Lubricate motor bearings.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/PMP1/A	Annual Pump PM	MECH01		

Procedures

- 1 ***Variable Freq Drive ***
- 2 Visually inspect panel interior.
- 3 Check all electrical connections are tight.
- 4 Thoroughly blow out interior of all dust and dirt with dry air or nitrogen.
- 5 Check for proper operation and make adjustments when necessary.
- 6 ***PROCEDURES***
- 7 Inspect and clean starter.
- 8 Record motor name plate volts.
- 9 Record motor name plate amps.
- 10 Record motor operating volts.
- 11 Record motor operating amps.
- 12 Lubricate motor bearings.
- 13 Examine motor mounts. Check that base bolts are securely fastened.
- 14 Tighten or replace loose, missing or damaged nuts, bolts and screws.
- 15 Check alignment of couplings and make adjustments as required. Alignment must be within manufacturer's specifications.
- 16 Inspect coupling for wear and shaft security.
- 17 ***PUMP HOUSING***
- 18 Check mechanical seals for leakage.
- 19 Repair and adjust mechanical seals as required.
- 20 Inspect gaskets for leakage and deterioration.
- 21 Repair or replace gaskets as required.
- 22 Check condition of insulation on Chilled Water Pumps and make repairs as necessary.
- 23 ***GENERAL MAINTENANCE***
- 24 Open and close hand valve & check for leaks.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/PMP1/A	Annual Pump PM	MECH01		

Procedures

- 25 Check pressure gauges as required.
- 26 Adjust and replace pressure gauges as required.
- 27 Inspect and clean strainers.
- 28 Clean pump exterior and scrape/paint rust spots as required on pump exterior and base plate.
- 29 Pull strainer and clean.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMPH/A	Annual Pump (Hot Water & Condensate) PM	MECH03	365		12

Procedures

- 1 Inspect and clean starter.
- 2 Record motor name plate volts
- 3 Record motor name plate amps.
- 4 Record motor operating volts.
- 5 Record motor operating amps.
- 6 Lubricate motor bearings.
- 7 Examine motor mounts. Check that base bolts are securely fastened.
- 8 Tighten or replace loose, missing or damaged nuts, bolts and screws.
- 9 Check alignment of couplings and make adjustments as required. Alignment must be within manufacturer's specifications.
- 10 Inspect coupling for wear and shaft security.
- 11 *****PUMP HOUSING*****
- 12 Check mechanical seals for leakage.
- 13 Repair mechanical seals as required.
- 14 Inspect gaskets for leakage and deterioration.
- 15 Repair or replace gaskets as required.
- 16 *****GENERAL MAINTENANCE*****
- 17 Open and close hand valve & check for leaks.
- 18 Check pressure gauge as required.
- 19 Adjust and replace pressure gauges as required.
- 20 inspect and clean strainers.
- 21 Clean pump exterior and scrape/paint rust spots as required on pump exterior and base plate.
- 22 Pull strainer and clean.
- 23 Clean sump.
- 24 Check and replace cover gasket if necessary.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMPH/A	Annual Pump (Hot Water & Condensate) PM	MECH03	365		12

Procedures

-
- 25 Lubricate bearings.
 - 26 ***OPERATIONAL INSPECTION***
 - 27 Verify proper operation.
 - 28 Test float switches if applicable.
 - 29 Switch lead pump, if applicable.
 - 30 Check pump, gear and motor for unusual noise & surface temp.
 - 31 Check float level, if applicable.
 - 32 Check suction or discharge, pressure gauge readings and flow rate.
 - 33 Check and adjust vacuum switch setting, if required.
 - 34 Check and tighten electrical connections.
 - 35 Verify proper operation and rotation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMPH/Q	Quarterly Pump (Hot Water & Condensate)	MECH03	90		3

Procedures

- 1 ***Pump Housing***
- 2 Check mechanical seals for leakage
- 3 Repair mechanical seals as required.
- 4 Inspect gaskets for leakage and deterioration.
- 5 Repair or replace gaskets as required.
- 6 ***OPERATIONAL INSPECTION***
- 7 Verify operation.
- 8 Check for unusual noise and surface temp.
- 9 Check and record inlet and discharge pressures.
- 10 ***PUMP HOUSING***

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/PMPH/S	Semi Annual Pump (H W & Condensate) PM	MECH03	180		6

Procedures

- 1 ***GENERAL MAINTENANCE***
- 2 Lubricate motor bearings.
- 3 Inspect coupling for wear and shaft security. Lubricate as required.
- 4 Clean pump exterior and check for corrosion on pump exterior and base plate.
- 5 Check that base bolts are securely fastened.
- 6 Tighten or replace loose, missing, or damaged nuts, bolts and screws.
- 7 Check bearing oil level and lubricate as necessary.
- 8 ***PUMP HOUSING***
- 9 Check mechanical seals as required.
- 10 Repair mechanical seals as required.
- 11 Inspect gaskets for leakage and deterioration.
- 12 Repair or replace gaskets as required.
- 13 ***OPERATIONAL INSPECTION***
- 14 Verify operation.
- 15 Switch lead pump if applicable.
- 16 Check pump, gear and motor for unusual noise and surface temp.
- 17 Check for leaks on suction and discharge piping, seals, packing, glands, etc.
- 18 Check vacuum switch setting and adjust if required.
- 19 ***GENERAL MAINTENANCE***

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/RAF/A	Annual Supply/Return Air Fan PM	MECH01	365		12

Procedures

- 1 ***FAN/MOTOR ASSEMBLY***
- 2 Inspect blades.
- 3 Clean dirt accumulation inside and outside of unit.
- 4 Inspect bearings for excessive wear and end play.
- 5 Inspect bearings for excessive temperature and noise.
- 6 Lubricate bearings.
- 7 Inspect drive couplings, pulleys and belts.
- 8 Adjust drive couplings, pulleys and belts.
- 9 Inspect for corrosion and wear.
- 10 Check housing clearance.
- 11 Check alignment, balance and security to shaft.
- 12 Verify operation.
- 13 Record name plate volts.
- 14 Record name plate amps.
- 15 Record operating volts.
- 16 Record operating amps.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/RAF/Q	Quarterly Supply/Return Air Fan PM	MECH01	90		3

Procedures

- 1 ***FAN/MOTOR ASSEMBLY***
- 2 Inspect bearings for excessive wear and end play.
- 3 Inspect drive couplings, pulleys and belts
- 4 Adjust drive couplings, pulleys and belts.
- 5 Verify operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/RAF/S	Semi Annual Supply/Return Air Fan PM	MECH01	365		12

Procedures

- 1 ***FAN/MOTOR ASSEMBLY***
- 2 Inspect bearings for excessive wear and end play.
- 3 Inspect bearings for excessive temperature and noise.
- 4 Lubricate bearings.
- 5 Inspect drive couplings, pulleys and belts.
- 6 Adjust drive couplings, pulleys and belts.
- 7 Verify operation.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/SEF/A	Annual Smoke Exhaust Fan (SEF) PM	MECH01	365	12

Procedures

- 1 Motor bearings are pre-lubricated and under normal conditions will not require maintenance for a period of ten years. If subject to greater usage, check every three years.
- 2 Record operating volts.
- 3 Record operating amps.
- 4 Remove dirt, dust and grease build-up on motor to ensure proper motor cooling.
- 5 Check and clean fan (blade and wheel) of dirt, dust and grease. Clean only exterior surface on Supply and Return Air fans.
- 6 Check fan for proper alignment.
- 7 Check belts and pulleys for wear, tension, and alignment.
- 8 Replace belts and align as necessary.
- 9 Lubricate greasable fan bearings in accordance with conditions chart in operations and maintenance manual.
- 10 Check operation of dampers and lubricate.
- 11 Check inlet vanes for freedom of operation and excessive wear.
- 12 Check unit for proper operation. Check for vibration, noise, and overheating.
- 13 Check fan for correct coupling alignment.
- 14 Check operation of controls and control center.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/SMPMP/A	Annual Sump Pump PM	MECH03		

Procedures

- 1 Check and tighten electrical connections
- 2 Verify proper operation and rotation
- 3 Inspect and clean starter
- 4 Record motor name plate volts
- 5 Record motor operation operating volts
- 6 Record motor operation operating amps
- 7 Lubricate motor bearings if applicable
- 8 Examine motor mounts. Check that base bolts are securely fastened.
- 9 Tighten or replace loose, missing or damaged nuts, bolts and screws.
- 10 Check alignment of couplings (if applicable) and make adjustments as required. Alignment must be within manufacturer's specifications
- 11 Inspect coupling for wear and shaft security
- 12 *****GENERAL MAINTENANCE*****
- 13 Open and close hand valve & check for leaks.
- 14 Clean sump.
- 15 Check and replace cover gasket if necessary
- 16 *****OPERATIONAL INSPECTION*****
- 17 Verify proper operation.
- 18 Test float switches if applicable.
- 19 Switch lead pump, if applicable.
- 20 Check pump, gear and motor for unusual noise.
- 21 Check float level, if applicable.
- 22 Check suction or discharge, pressure gauge readings and flow rate.
- 23 Check and adjust alternator switch, if applicable.
- 24 Check high water alarm , if applicable

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/SMPMP/Q	Quarterly Sump Pump PM	MECH03		

Procedures

- 1 ***OPERATIONAL INSPECTION***
- 2 Verify operation.
- 3 Check for unusual noise.
- 4 Check and record motor amps.
- 5 Check high water alarm.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/SMPMP/S	Semi - Annual Sump Pump PM	MECH03		

Procedures

- 1 ***GENERAL MAINTENANCE***
- 2 Lubricate motor bearings if applicable.
- 3 Check and record motor Amps
- 4 Check and clean sump of debris.
- 5 Check and replace sump gaskets as necessary.
- 6 ***OPERATIONAL INSPECTION***
- 7 Verify operation.
- 8 Switch lead pump if applicable.
- 9 Check pump, gear and motor for unusual noise.
- 10 Check alternator switch and adjust if Applicable.
- 11 Verify high water alarm (where applicable).

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/UHT/A	Annual Unit Heater PM	MECH03	365		12

Procedures

- 1 ***FAN***
- 2 Inspect and check.
- 3 Clean as required.
- 4 Check bearings for excessive wear.
- 23 ***GENERAL MAINTENANCE***
- 24 Check thermostat operation.
- 25 Adjust thermostat as required.
- 26 Verify operation.
- 27 Check integrity of heat exchanger.
- 29 Check start and test operation.
- 30 Inspect finned surfaces.
- 31 Clean finned surfaces as necessary.
- 32 Check operation of thermostat.
- 33 Calibrate thermostat.
- 34 Check for and repair leaks.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/UHT/S	Semi Annual Unit Heater PM	MECH03	365		12

Procedures

- 1 GENERAL MAINTENANCE
- 2 Verify operation.
- 3 Check integrity of heat exchanger.
- 4 Check start and test operation.
- 5 Check operation of thermostat.
- 6 Inspect draft fan.
- 7 Lubricate draft fan.
- 8 Clean draft fan as necessary.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/VNT/A	Annual Hot Duct /Vent Unit PM	MECH01	365		12

Procedures

- 1 Inspect and check fan. Clean fan wheels and vacuum entire unit.
- 2 Observe operation of all dampers and make adjustments in linkage and blades to ensure proper operation.
- 3 Change filters.
- 4 Inspect fan shaft bearings and grease as necessary.
- 5 Inspect belts for tension, wear and alignment. replace entire set of belts if any one belt needs replaced.
- 6 Check bearing locking collar or set screws for tightness.
- 7 Inspect and clean coils.
- 8 Check operation of valves and operators.
- 9 Tighten all electrical connections.
- 10 Verify control operation through full sequence.
- 11 Check operating temperatures and pressures.
- 12 Calibrate controls as required.
- 13 Verify freeze protection.
- 14 Clean and adjust controls as required.
- 15 Verify proper unit operation.
- 16 Check for unusual noises, excessive heat and vibration.
- 17 Verify mounting base bolts are tight.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/VNT/M	Monthly Hot Duct /Vent Unit PM	MECH01	30		1

Procedures

- 1 Check and replace filters as needed.
- 2 Check for unusual noises, excessive heat or vibration

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/VNT/S	Semi Annual Hot Duct/VentUnit PM	MECH01	365		12

Procedures

- 1 Inspect and check fan.
- 2 Examine damper and operator linkage to ensure it is free and operating smoothly.
- 3 Change filters.
- 4 Inspect fan shaft bearings and grease as necessary.
- 5 Inspect belts for tension, wear and alignment. Replace complete set of belts if any one belts requires replacement.
- 6 Inspect unit cabinet and supporting structure for defects.
- 7 Check bearing locking collar or set screws for tightness.
- 8 Inspect and clean coils.
- 9 Tighten electrical connections.
- 10 Verify proper unit operation.
- 11 Check for unusual noises, excessive heat or vibration.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/WHR/A	Annual Water Heater (Gas) PM	MECH03	365	12

Procedures

- 1 *****BOILER MAINTENANCE*****
- 2 Make sure blow-off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 3 Flush tank.
- 4 Examine the venting system for proper connections and alignment.
- 5 Oil the blower motor and wipe oil and dust from the burner.
- 6 Clean the blower wheel as necessary.
- 7 Inspect all parts and make replacements when necessary.
- 8 Check wiring for loose connections and burned wires.
- 9 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 10 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 11 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 12 Make sure that connecting tube is not kinked or damaged on remote bulb thermostats.
- 13 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly it must be replaced.
- 14 Check water level controls.
- 15 Remove the pipe plugs from the tees and crosses and make certain the cross connecting piping is clean and free of obstructions.
- 16 Check temperature (HW #1 & #2 140 degrees F) (HW #3 & #4 110 degrees F).
- 17 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.
- 18 Check cross connecting piping to make certain that it is clean and free of obstruction.
- 19 *****BURNER MAINTENANCE*****
- 20 The Turbopower module is heavy. No attempt should be made to hold, lift or position module without proper equipment capable of handling the weight.
- 21 Shut off fuel and electrical power supplies.
- 22 Drain the water heater.
- 23 Disconnect wiring to the burner and gas from burner at incoming union to burner.
- 24 Remove the four nuts that hold the burner assembly to the module and the bolts that hold the flue collector to the module.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/WHR/A	Annual Water Heater (Gas) PM	MECH03	365	12

Procedures

- 25 Disconnect the stack from the flue outlet on the collector.
- 26 Carefully remove the burner and then the flue collector assembly from the module.
- 27 Pull the burner straight out with a slight twisting motion to avoid damaging the combustion chamber refractory material.
- 28 Remove the bolts on the front tubesheet. Break the seal at gasket or o-ring from the tank flange and pull the module from the boiler. Use extreme caution in handling the module to avoid bending or distorting the fire tubes.
- 29 Clean the module with high pressure hose or an inhibited acid as recommended by chemical supplier for removal of scale from the fire tubes.
- 30 Reinstall the module after it has been cleaned using a new o-ring or gasket.
- 31 Retorque bolts to 35-40 ft.lbs. using an alternating star pattern to insure proper seating of the o-ring or gasket. A small amount of silicon sealant or other suitable adhesive may be the o-ring or gasket in place while positioning.
- 32 Apply adhesive sparingly. Replace any damaged bolts with those of a comparable grade only.
- 33 When module is installed, fill the water heater with water and check for leaks.
- 34 Check for baffles in all fire tubes. Position end of baffle even with end of fire tube.
- 35 Check the insulating seal on the flue collector before replacing in module. If damaged, it may be patched with any suitable 400 deg F insulation material.
- 36 Reassemble the unit in the same order it was disassembled and return to service.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/WHR/M	Monthly Water Heater (Gas) PM	MECH03	30		1

Procedures

- 1 Check samples of water in accordance with water treatment plan.
- 2 Flush sediment from tank.
- 3 Check the Pressure Relief Valve for proper operation. If the valve does not open and close properly, it must be replaced.
- 4 Check controls.

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PM TASK	DESCRIPTION	SHOP FREQUENCY:	Days	or	Months
HVC/WHR/Q	Quarterly Water Heater (Gas) PM	MECH03	90		3

Procedures

- 1 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 2 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 3 Inspect and check-out the fuel valve operation (for tigh close-off). Refer to installation instructions for recommendations.
- 4 Make sure connecting tubing is not kinked or damaged on remote bulb thermostats.
- 5 Check the Pressure Relief Valve for proper operation. If valve does not open and close properly, it must be replaced.
- 6 Check water level controls.
- 7 Remove the pipe plugs from the tees and crosses and make certain the cross connecting piping is clean and free of obstructions.
- 8 Check wiring for loose connections and burned wires.
- 9 Check temperature.
- 10 Make sure blow-off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 11 Flush sediment from tank.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
HVC/WHR/S	Semi Annual Water Heater (Gas) PM	MECH03	365	12

Procedures

- 1 Make sure blow-off piping and tank are in proper operating condition and discharge vents are clear of obstruction, and that waste is piped to a point of safe discharge.
- 2 Flush tank.
- 3 Oil the blower motor and wipe oil and dust from the burner.
- 4 Clean the blower wheel if necessary.
- 5 Inspect all parts and make replacements when necessary.
- 6 Check wiring for loose connections and burned wires.
- 7 Inspect and check-out the burner ignition system. Refer to installation instructions for recommendations.
- 8 Inspect and check-out the control system. Refer to installation instructions for recommendations.
- 9 Inspect and check-out the fuel valve operation (for tight close-off). Refer to installation instructions for recommendations.
- 10 Make sure that connecting tubing is not kinked or damaged on remote bulb thermostats.
- 11 Check the Pressure Relief Valve for proper operation. If valve does not open and close properly, it must be replaced.
- 12 Check temperature (HW #1 & #2 140 degrees F) (HW #3 & #4 110 degrees F).
- 13 Replace broken or discolored sight glass. Always use new gaskets and proper size rubber packing when replacing glass.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/WT/A	Annual Water Treatment Equip PM	MECH01	365		12

Procedures

- 1 Change cartridge valves.
- 2 Check physical operating condition of pump.
- 3 Check for leaks around fittings and make necessary replacements.
- 4 Clean pump of dirt and debris.
- 5 Change the battery.
- 6 Clean the electrode.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/WT/Q	Quarterly Water Treatment Equip PM	MECH01	90		3

Procedures

- 1 Check physical operating condition of pump.
- 2 Clean pump of dirt and debris.
- 3 If pump has been out of service for 1 month or longer clean pump head valve assemblies by pumping fresh water for 30 minutes. If pump does not operate properly after this purging run, replace cartridge valve assemblies.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/WT/S	Semi Annual Water Trtm. Equip PM	MECH01	180		6

Procedures

- 1 Check physical operating condition of pump.
- 2 Replace cartridge valves.
- 3 Check for leaks around fittings and turbine and make necessary replacements.
- 4 Clean pump of dirt and debris.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC/XFN/A	Annual Exhaust Fan PM	MECH01	365		12

Procedures

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVC\CDC\DV	Dryer Vent Quarterly Maintenance	MECH01	90		3

Procedures

- 1 Disassemble vents
- 2 Clean lint
- 3 Reassemble Vents
- 4 Test for leaks

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
HVH/CDCRF/A	Annual Recirculating Fan PM	MECH01	365		12

Procedures

- 1 Check filter
- 2 Check Fan motor
- 3 Check for proper operation
- 4 Check all electrical connectors
- 5 Clean fan and housing

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/BFP/A	Annual Backflow Preventor PM	MECH03	365		12

Procedures

- 1 All data MUST be recorded on a Virginia approved Backflow Device Test Report and submit to the COR.
- 2 Review manufacturer's instructions for testing the valve and proper test procedures/equipment.
- 3 Secure the incoming water line.
- 4 Test for objects lodged in seat or disc.
- 5 Test for worn or loose disc or disc guide assembly.
- 6 Check for damage to seat.
- 7 Check for corrosion build-up.
- 8 Following the manufacturer's procedures, check and calibrate as required.
- 9 Following the manufacturer's procedures, vent both chambers and return system to normal operations.
- 10 Before beginning this preventive maintenance procedure, the Contractor MUST notify the COR.
- 11 Before beginning this preventive maintenance procedure, the Contractor MUST have a rebuild kit in-hand at the work site.

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PM TASK	DESCRIPTION	SHOP FREQUENCY: Days	or	Months
PIP/GDD/S	Semi Annual Garage & Dock Drain PM	MECH03		

Procedures

- 1 Remove all trash, debris, or unsecured material from garage floor and dispose of properly.
- 2 Clean out all drains and rain leaders.
- 3 Where applicable, examine strainers in drains and/or caps over rain leaders.
- 4 Test drains and rain leaders by flushing with sufficient water for line size.
- 5 Inspect rain leaders and branches for adequate anchors, tighten if necessary.
- 6 Clean up and remove all debris from work area.
- 7 Remove covers from French Drains and remove all debris, dirt and/or foreign matter from trough.
- 8 Replace all covers and strainers.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/GTP/M	Monthly Grease Trap PM	MECH03	30		1

Procedures

- 1 Clean out trap and sterilize
- 2 Inspect for clogging, scale, and improper positioned or missing baffles.
- 3 Tighten loose parts as necessary.
- 4 Clean up work area and remove all trash.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/MOV/5YR	5 Year Manually Operated Valve PM	MECH03	1825		61

Procedures

- 1 Operate valve in full open/closed position. Loss of ability to close tightly will require inspection of valve seats and discs for wear and contaminant build-up.
- 2 Check for sticking valve stems and lubricate stems and fittings sparingly.
- 3 Replace packing; dress, re-bush, or replace packing gland assembly, if required.
- 4 Check for freedom of motion on valves equipped with wheel and chain for remote operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/MOVC/A	Annual Manually Operated Critical Valve	MECH03	365		12

Procedures

- 1 Operate valve in full open/closed position. Loss of ability to close tightly will require inspection of valve seats and discs for wear and contaminant build-up.
- 2 Check for sticking valve stems and lubricate stems and fittings sparingly.
- 3 Replace packing; dress, re-bush, or replace packing gland assembly (if required).
- 4 Check for freedom of motion on valves equipped with wheel and chain for remote operation.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/MTR/M	Monthly Meter Readings	MECH03	30		1

Procedures

- 1 READ MAIN WATER METER
- 2 RECORD READING []
- 3 READ MAIN GAS METER
- 4 RECORD READING []
- 5 READ COOLING TOWER MAKEUP WATER METER 1
- 6 RECORD READING []
- 7 READ COOLING TOWER MAKEUP WATER METER 2
- 8 RECORD READING []
- 9 READ COOLING TOWER MAKEUP WATER METER 3
- 10 RECORD READING []

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/PNC/A	Annual Pneumatic Control Valve PM	MECH03	365		12

Procedures

- 1 Inspect valves for leaks, repair if necessary.
- 2 Adjust system pressure flow to verify valve is opening and closing properly over the full range.
- 3 Clean valve and area around valve.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/RFD/S	Semi Annual Roof Drain PM	MECH03	180		6

Procedures

- 1 Clean out all drains and gutters.
- 2 Where applicable, examine strainers in drains and/or screens over gutters.
- 3 If downspouts have heaters, test operation and correct deficiencies.
- 4 Test drains and/or downspouts by flushing with water.
- 5 Inspect gutters for adequate anchors, tighten if necessary.
- 6 Remove plant life that is growing on the roof, following approved methods. Do not allow roots to penetrate roof.
- 7 Clean up and remove all debris from work area.
- 8 Remove all trash, debris, or unsecured material from roof and dispose of properly.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/RGV/A	Annual Regulating Valve PM	MECH03	365		12

Procedures

- 1 Inspect for dirt collected at bleedport and restriction elbow. Clean if necessary.
- 2 Inspect joints for leakage. Tighten all bolts.
- 3 Check for dust or other material which may have sifted onto the upper face of the pilot pressure plate. Clean if necessary.
- 4 Remove and clean line strainer (back flush where possible).
- 5 Inspect valve head and seats for nicks or abrasions. Notify supervisor if valve requires regrinding.
- 6 Inspect pressure reading against set point.
- 7 Check for free operation of valve stem.
- 8 Inspect condition of diaphragm.
- 9 Inspect pilot line for leaks.

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PREVENTIVE MAINTENANCE GUIDE**

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/SMH/Q	Quarterly Sewer Manhole PM	MECH03	90		3

Procedures

- 1 Review safety procedures for "Confined Space Entry".
- 2 Review safety procedures for "Selection, Care and Use of Respiratory Protection".
- 3 Wear suitable protective clothing.
- 4 No open flames or smoking.
- 5 Use barricade around manhole.
- 6 Provide ventilation within manhole. Ensure that the exhaust from the gas or diesel powered air compressor or blower is directed well away from the manhole.
- 7 Test for gas.
- 8 Remove cover.
- 9 Observe flow.
- 10 Examine structural features of sewer line, interior of manhole, manhole frame and cover, etc.
- 11 Clean work area and remove all debris.

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PM TASK	DESCRIPTION	SHOP	FREQUENCY: Days	or	Months
PIP/STD/S	Semi Annual Storm Drain PM	MECH03	180		6

Procedures

- 1 Remove grate if applicable.
- 2 Clean drain and area leading to drain.
- 3 Remove debris and trash, and dispose of properly.
- 4 Test drain for free water flow by flushing with hose.
- 5 Replace grate if applicable.

**ATTACHMENT C24
CLIENT AUTHORIZATION LETTER**

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SOURCE SELECTION INFORMATION - SEE FAR 3.104

**Client Authorization Letter
(TO BE ACCOMPLISHED BY OFFEROR)**

NOTE TO OFFERORS: To assist the Government's Contracting Office in assessing past performance on relevant commercial contracts, the following letter must be sent to points of contact (POCs) for those commercial efforts that you identify to us in your past performance volume. It is your sole responsibility, as the offeror, to then send out these authorization letters with the questionnaire to your own POCs and to those of your subcontractors, teaming contractors, or joint venture partners and include a copy in the past performance volume.

Dear (Client):

We are currently responding to the Defense Logistics Agency, DES Corporate Contracting Division, Request for Proposal (RFP) (_____) for the procurement requirement to obtain operation, maintenance, service, repair and minor construction/alteration services for buildings and structures on mechanical systems at the Defense Logistics Agency, Andrew T. McNamara Headquarters Complex (HQC, HQC/DTRA addition) and the Child Development Center (CDC) building structures that are within the HQC fence line, Fort Belvoir, VA.

As you know, an offeror's past performance has become an element of increased emphasis in the Department of Defense (DoD) acquisitions. They are requesting that clients of companies who submit proposals in response to their RFP be contacted, and that their participation in the validation process be requested. We, therefore, respectfully request and hereby authorize you to complete the attached Questionnaire with regards to work we have performed for you, and forward it directly to the Government Point(s) of Contact at the following address:

Defense Logistics Agency
DSS Corporate Contracting Office
ATTN: Beverly J. Williams, DCSO-H
8725 John J. Kingman Road, Suite 0119
Fort Belvoir, VA 22060-6220
Reference: RFP SP4700-02-R-0010
Fax number (703) 767-1183

We have identified Mr./Ms. (Name) of your organization as the point of contact based on their knowledge concerning our work. Your cooperation in this matter is appreciated. Any questions may be directed to [NAME, PHONE NUMBER, FAX NUMBER FOR THE OFFEROR'S POINT OF CONTACT]

Sincerely,

[OFFEROR'S POINT OF CONTACT]

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ATTACHMENT C25
PAST PERFORMANCE QUESTIONNAIRE

PAST PERFORMANCE QUESTIONNAIRE

Survey should be completed and mailed or fax'd to:

Defense Logistics Agency
DSS Corporate Contracting Office
ATTN: Beverly J. Williams (DCSO-H)
8725 John J. Kingman Road, Suite 1145
Fort Belvoir, VA 22060-6220
Reference: RFP # **SP4705-09-R-0002**
Fax number (703) 767-1183

<p><u>EVALUATION SUBMITTED BY:</u></p> <p>1. Organization/Office Symbol: _____</p> <p>2. Name & Title: _____</p> <p>3. Relationship to contract: _____ (CO or ACO, COR, COTR)</p> <p>3. Signature: _____ Date: _____</p>

<p><u>EVALUATION OF:</u></p> <p>4. Contractor's Name: _____</p> <p>5. Contract Number: _____</p> <p>6. Type of Contract: () Negotiated () Sealed Bid () Cost Reimbursement () Fixed Price () Other: _____</p> <p>7. Description and location of work: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>8. Contract Amount: \$ _____ Status: () Active () Completed</p> <p>9. Date of award: _____ Date of completion: _____</p>
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Summarize contractor performance in each of the rating areas.

Assign each area a rating of : (Poor), 1 (Fair), 2 (Good), 3 (Excellent), N/A (Not Applicable).

Use the following instructions as guidance in making these evaluations.

0	Poor	Requires major and repeated correction of identified quality deficiencies.
1	Fair	Requires minor but repeated correction of identified quality deficiencies
2	Good	Provided quality, timely performance with infrequent quality deficiencies.
3	Excellent	Performance without quality deficiencies and no deductions.
N/A	Not Applicable	Does not apply or you do not know

SIMILAR SCOPE AND COMPLEXITY:

1. Completion of Preventive Maintenance tasks on schedule and with high quality.	0	1	2	3	N/A
2. Responsiveness to tenant service call problems.	0	1	2	3	N/A
3. Contractor’s effectiveness in troubleshooting and repair.	0	1	2	3	N/A
4. Ability to properly develop a comprehensive, efficient large property maintenance plan.	0	1	2	3	N/A
5. Contractor demonstrated competency in all, aspects of mechanical systems; maintenance and repair of utilities, maintenance and repair of heating, ventilation air conditioning, regridration equipment and associated systems, operation of boilers, chillers and plumbing systems, sewage, roof drain and storm water systems, operation and maintenance of fire suppression systems, maintenance and repair of kitchen equipment, dish washing units, laundry equipment, exhaust and ventilation equipment and hoods.	0	1	2	3	N/A
6. Contractor possess a current Secret Facility Clearance	0	1	2	3	N/A
7. Contractor employees possess current secret security clearances.	0	1	2	3	N/A

QUALITY OF PRODUCT:

8. How would you rate the contractor’s <i>overall?</i> <i>technical performance</i> on this contract?	0	1	2	3	N/A
9. If reports were required, were they accurate in meeting contract requirements?	0	1	2	3	N/A
10. To what extent did the contractor use appropriate personnel for contract requirements?	0	1	2	3	N/A

11. To what extent did the contractor display technical excellence?	0	1	2	3	N/A
12. To what extent was the contractor reasonable and cooperative?	0	1	2	3	N/A
13. What were the results of tenant surveys conducted during the performance period? (A copy of your survey form would be appreciated).	0	1	2	3	N/A
14. To what extent did the contractor notify the government of problems or potential problems?	0	1	2	3	N/A
15. To what extent was the contractor flexible in responding to changing needs?	0	1	2	3	N/A
16. To what extent effective were contractor recommended solutions?	0	1	2	3	N/A
17. Quality of contractor's overall performance which is why you would award this contractor a similar contract.	0	1	2	3	N/A

TIMELINESS OF PERFORMANCE:

18. Ability to utilize computer systems to plan, control and analyze the status of maintenance, repair and alteration tasks.	0	1	2	3	N/A
19. Ability to meet contract reporting requirements in a timely and high quality manner.	0	1	2	3	N/A
20. Quality of response by the contractor in Emergency situations.	0	1	2	3	N/A
21. Overall performance in planning, scheduling and providing advance notification of or maintenance tasks requiring notice to tenants.	0	1	2	3	N/A
22. Contractor's ability to phase-in on contract start up.	0	1	2	3	N/A
23. The quality of the local Project Manager's level of authority (in that he/she can make immediate decisions regarding the project or did he/she have to elevate most decisions to a higher level, thus causing time delays).	0	1	2	3	N/A
24. The quality of this contractor's comprehensive supervision and quality control. (Explain here if the contractor left the inspection effort fully to the customer?) Explain: _____	0	1	2	3	N/A
25. How would you rate the contractor's <i>overall management performance</i> on this contract/order?	0	1	2	3	N/A

CUSTOMER SATISFACTION:

26. Degree of contractor cooperation in working to solve problems	0 1 2 3 N/A
(NOTE: If contractor was given a cure notice, show cause, letters of direction or letter advising the contractor that the customer was choosing to make repairs itself due to the contractor's failure to perform, please indicate type below). Indicate Type: _____	
27. Has this contractor ever been given deductions for	YES____ NO____ inadequate performance?
28. Changes in contract dollar value throughout the life of the contract are attributable, for the most part, to: Indicate type: Government issued change orders () claims submitted by contractor () Other government actions () Other contractor actions () Please explain: _____	
29. How would you rate this contractor by the number of certifications received? Indicate here which awards were given:	0 1 2 3 N/A quality awards or _____
30. Has this contractor ever been partially or completely terminated?	YES ___ NO ___
31. Ability to prepare invoices in a timely manner without COR correction	0 1 2 3 N/A
32. Ability to bid individual jobs under your contract that are accurate, reasonable, and timely.	0 1 2 3 N/A

AVAILABILITY OF RESOURCES:

33. Effectiveness and reliability of contractor's key personnel.	0 1 2 3 N/A
34. Ability to recruit and maintain the quality and quantity of personnel necessary to consistently perform all contract requirements.	0 1 2 3 N/A
35. Ability to maintain supplies and parts for routine maintenance and repairs.	0 1 2 3 N/A
36. Ability to effectively manage subcontractors for major support functions for maintenance and repair of utilities, heating, ventilation, air conditioning, refrigeration equipment, boilers, chillers and plumbing systems sewage, roof drain, storm drain systems, testing of fire suppression systems, and repair of kitchen equipment, dishwashing laundry equipment, exhaust, ventilation equipment and hoods during daytime or after hours.	0 1 2 3 N/A
37. How would you rate the contractor's overall personnel resources on this contract/order?	0 1 2 3 N/A

Past Performance of Offeror in Complying with Requirements of FAR 52.219-9:

Other Informational Comments:
