

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1 CONTRACT ID CODE

PAGE OF PAGES

1 42

2 AMENDMENT/MODIFICATION NO

000008

3 EFFECTIVE DATE

See Block 16C

4 REQUISITION/PURCHASE REQ NO

5 PROJECT NO (If applicable)

6 ISSUED BY

CODE

MSFC

7 ADMINISTERED BY (If other than Item 6)

CODE

MSFC

NAASA/Marshall Space Flight Center
Procurement Office
Marshall Space Flight Center AL 35812

NAASA/Marshall Space Flight Center
Marshall Space Flight Center AL 35812

8 NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code)

EG&G TECHNICAL SERVICES
9400 AMBERGLEN BOULEVARD BUILDING B
AUSTIN TX 78729-1100

9A AMENDMENT OF SOLICITATION NO

9B DATED (SEE ITEM 11)

10A MODIFICATION OF CONTRACT/ORDER NO
NNM08AA54C

10B DATED (SEE ITEM 13)

CODE 3CJJD0

FACILITY CODE

05/29/2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12 ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
<input type="checkbox"/>	A THIS CHANGE ORDER IS ISSUED PURSUANT TO (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A
<input type="checkbox"/>	B THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D OTHER (Specify type of modification and authority)
X	43.103(b)(1)

E. IMPORTANT: Contractor is not is required to sign this document and return 3 copies to the issuing office

14 DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Previous Amount: \$11,823,243.84
This Mod: \$ 0.00
Revised Amount: \$11,823,243.84

The purpose of this modification is to

1) add the job description qualification for Engineering Technician 4 and to change the personnel requirement from two to one for Engineer III(a no cost change);

2) make administrative changes to Section B.9 "Schedule of Prices For Lump Sum Work" "Description of Services/Supplies" for CLINs 0001.0304, 0001.0314, 0001.0813, 0001.1108, Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect

15A NAME AND TITLE OF SIGNER (Type or print)	16A NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
Anden T. Krupar, Program Manager	Anna C Stovall
15B CONTRACTOR/OFFEROR	15C DATE SIGNED
<i>Anden T. Krupar</i> (Signature of person authorized to sign)	30oct08
15D UNITED STATES OF AMERICA	16C DATE SIGNED
(Type or print)	10/30/08
	<i>Anna C. Stovall</i> (Signature of Contracting Officer)

CONTINUATION SHEET

REFERENCE NO OF DOCUMENT BEING CONTINUED
NNM08AA54C/000009

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NAME OF OFFEROR OR CONTRACTOR
EG&G TECHNICAL SERVICES

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>000.1202, 0001.1312, and the corresponding CLINs for Option Years 1-4 (a no cost change);</p> <p>3) make administrative change to E.9 "Performance Requirements Summary" page 10 of 16(a no cost change);</p> <p>4) make administrative changes at no cost to Attachment J-1 "Performance Work Statement" (a no cost change);</p> <p>In order to implement the changes resulting from this modification, the page(s) listed below are added / deleted from the contract as shown. In order to indicate the specific area(s) of change, vertical lines are shown in the right margin.</p> <p>Pages Deleted</p> <p>Section B.9 "Schedule of Prices For Lump Sum Work" Pages 1 thru 20</p> <p>Section E.9 "Performance Requirements Summary" Page 10 of 16</p> <p>Attachment J-1 Pages 60-61 Page 68 Pages 78-80 Page 99 Page 101 Pages 105-106 Pages 110-113 Pages 119-122</p> <p>Pages Added</p> <p>Section B.9 "Schedule of Prices For Lump Sum Work" Pages 1 thru 20 (Mod 8)</p> <p>Section E.9 "Performance Requirements Summary" Page 10 of 16 (Mod 8)</p> <p>Attachment J-1 (Mod 8) Pages 60-61 Page 68 Pages 78-80 Page 99 Page 101 Continued ...</p>				

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
NNM08AA54C/000008

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NAME OF OFFEROR OR CONTRACTOR
EG&G TECHNICAL SERVICES

ITEM NO (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Pages 105-106 Pages 110-113 Pages 119-122 Except as provided for herein, there are no other changes to NNM08AA54C.				

Pages 4 through 23 redacted for the following reasons:

(b)(4) Scheduld of Prices for Lump Sum Work

CLIN	CONTRACT REQUIREMENTS	WORK REQUIREMENTS	WEIGHT	AQL	NOTES	REQUIREMENT
00X1.0301	Safety and Health Plan	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197SA-001
00X1.0302	1. Quality Control Plan	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197QE-001
	2. Quarterly Summary Report	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197QE-001
00X1.0303	Technical Reference Library	1. Documentation 2. Timeliness	70% 30%	97% 98%	4 3	Para 3.2A.3
00X1.0304	Reliability Centered (RCM) Plan	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-002
00X1.0305	Work Control Center	1. Quality 2. Documentation 3. Timeliness	60% 20% 20%	97% 97% 97%	4 4 3	Para. 3.2B.1
00X1.0306	Computerized Maintenance Mgmt. System (CMMS)	1. Documentation 2. Timeliness	50% 50%	97% 97%	4 3	Para. 3.2B.2
00X1.0307	Annual Work Plan	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-003
00X1.0308	Five Year Maintenance Plan	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-005
00X1.0309	Facility Condition Assessment	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-006
00X1.0310	1. Facility Condition Assessment Schedule	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-006
00X1.0311	Facility Condition Assess Proj Recommendation	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-008
00X1.0312	Reliability Centered Maintenance Report	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-010
00X1.0313	Headquarters (HQ) Metrics	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-012
00X1.0314	IDIQ Schedule	1. Quality (content per DRD) 2. Timeliness	80% 20%	100% 98%	4 1	DRD 1197LS-016

the proper format. The BMAR associated with FCA's shall consist of labor cost, material cost, and contractor overhead.

5. Contract Element (CLIN – 00X1.0310) Facility Condition Assessment (FCA) Schedule. The Contractor shall provide an FCA schedule that provides individual FCA report dates for all MSFC facilities and the Center's infrastructure and associated BMAR data in accordance with DRD 1197LS-006.
6. Contract Element (CLIN - 00X1.0311) Facility Condition Assessment Project Recommendations. The Contractor shall provide to the Government a recommendation of projects, based on their FCA findings, for Government consideration in initiating capital investment projects. The Contractor shall provide FCA project recommendations in accordance with DRD 1197LS-008. After initial submittal the list shall be revised based on continuing FCA analysis combined with any Government direction associated with a specific Government need. Additional project lists may be requested on an as-needed basis throughout, the contract period. The additional lists should not exceed three in number for any contract year and will be in the format identified in DRD 1197LS-008. The specific project values will normally be the variable for developing the additional lists.
7. Contract Element (CLIN 00X1.0314) IDIQ Schedule. The Contractor shall provide a graphical schedule **weekly** for the use of the Government and the Contractor. This shall be the governing document for IDIQ work schedules. The Contractor shall provide a IDIQ Schedule in accordance with DRD 1197LS-016. The start and finish dates reflected in this schedule shall be the actual start and finish dates of the work and shall not include material delivery times. Regularly scheduled meetings shall be held with the Government to address scheduling problems and set priorities. Work that is in process shall be indicated by an "in progress" status in the CMMS. If work cannot be performed on an IDIQ that is scheduled for work it shall be placed in a hold status with an explanation. The Contractor shall schedule support crafts and equipment as well as the primary craft. Unavailability of support craft or equipment and tools will not be considered by the Government as sufficient justification for delay of work unless it was previously planned for by the Contractor and is unavailable through no fault of the Contractor.

D. Reliability Centered Maintenance (RCM)

1. The overall goal regarding Center operations and maintenance is to attain the building and system availability at the lowest life cycle cost (LLC) while meeting all standards for security, environmental health, safety, and MSFC mission requirements. RCM is the optimum mix of reactive, preventive, condition based, and proactive maintenance practices. Proactive maintenance includes Root Cause Failure Analysis (RCFA) and Failure Modes and Effects Analysis (FMEA) as well as Age Exploration. The maintenance strategies rather than being applied independently are integrated to take advantage of

their respective strengths in order to maximize facility and equipment operability and efficiency while minimizing life cycle cost. The RCM Report format will provide an opportunity for the Contractor to identify trends and to propose changes to the maintenance approach. When proposing changes to the maintenance approach, the Contractor shall use RCM strategy as defined in Paragraph 2.0, Definitions, and in NPR 88.31.2. The Government will consider all proposed changes, even those that reduce the recurring work load (without reducing the lump sum value per Paragraph 1.5, Lump Sum Work) if the result is increased facility availability and reliability. The RCM Report shall provide technical rationale for systems recommendations, and identify risk associated with proposed changes (probability of failure and effect on NASA mission or safety)

2. Contract Element (CLIN 00X1.0312) RCM Report. The Contractor shall provide a report to the COTR addressing RCM implementation and RCM metrics in accordance with DRD 1197LS-009.
 3. Contract Element (CLIN - 00X1.0304) Reliability Centered Maintenance (RCM) Plan. **ALL PM and PT&I shall be performed in compliance with an approved RCM Plan.** The Contractor shall prepare a RCM plan and submit it to the Government for approval. The Contractor shall prepare the RCM Plan in accordance with DRD 1197LS-002. This plan shall be developed utilizing the current PM and PT&I program data as shown in Attachments J-24 and J-25, manufacturer's recommendations, the Contractor's knowledge of RCM approaches, and the use of PT&I and best PM practices. All reports and evaluations associated with PM shall include PT&I unless otherwise stated by the Government. After approval, this plan shall become the basis for timeliness and quality evaluations for all PM actions required on this contract. In addition, this plan will become the baseline for any changes to the program as referenced in Paragraph 1.5.D.
 4. Commissioning/Retrocommissioning. The Contractor shall provide support for commissioning and retrocommissioning of systems. This requires tests of systems to verify operation meets design requirements. This work will also include adjustments and repairs as necessary to correct deficiencies. Work shall be accomplished as trouble calls or IDIQ depending on the scope of work required.
- E. Evaluation Period Status Report. The Contractor shall provide summary documentation for the firm fixed price and indefinite delivery indefinite quantity work performed for each evaluation period in accordance with DRD 1197MA-001.
- F. Contract Element (CLIN 00X1.0313) Headquarters (HQ) Metrics. The Contractor shall provide the HQ metrics in accordance with DRD 1197LS-012.

- Ensure that all applicable codes, standards, and other requirements are met in the performance of work
- Review all data collected for the Pre Flight Facilities Checkout Report (DRD 1197LS-010) and disposition all exceptions that are outside recommended operating limits.
- Provide specifications for replacement equipment when not specified by design
- Provide assistance to the RCM Engineer in the area of their expertise.
- Attend construction inspections and submit findings to the Construction Inspector.
- Provide field engineering support to technicians.

The contractor shall provide a Lifting Devices Engineer, whose primary responsibility will be to monitor and direct all maintenance, repair, modification, installation, and certification of lifting equipment, including but not limited to cranes, hoists, derricks, and elevators. The Lifting Devices Engineer shall be highly qualified in control systems used on lifting equipment. The contractor shall also have on staff engineers of other disciplines required to support the Lifting Devices Engineer in areas outside his major discipline. The LDE shall review all lifting procedures required for work under this contract. The LDE shall review the Annual Crane and Hoist Inspection Report (DRD 1197LS-013), the Annual Elevator Inspection Report (DRD 1197LS-014), and the Five Year Elevator Inspection Report (DRD 1197LS-015) prior to submission to the Government and shall ensure all discrepancies are corrected.

The contractor shall provide a full time RCM Engineer whose primary responsibility will be to lead and direct the implementation of the RCM program. Specific duties of the RCM Engineer shall include but not be limited to:

- Review PT&I data to identify impending equipment failures
- Investigate all equipment failures and determine the actions necessary to prevent or mitigate similar future failures
- Investigate multiple failures on individual pieces of equipment and perform root cause failure analyses.
- Review the **RCM** Plan and make recommendations for continuous improvement based upon equipment history, PT&I data and industry practice
- Monitor current industry state of the art in PT&I and PM practices and recommend changes to the current **RCM** Plan based on emerging technologies
- Prepare the Reliability Centered Maintenance Report (DRD 1197LS-009)
- Monitor equipment and system performance and initiate actions to resolve operational deficiencies, improve performance and increase reliability.
- Monitor the effectiveness of the PM and PT&I programs and recommend improvements
- Review CMMS and PT&I data to identify key areas for improvement in maintenance programs to optimize quality and timeliness of service and system reliability.

area shall be backfilled with material similar to the adjacent undisturbed material, compacted to a similar density, and temporarily patched as specified in Paragraph 8.4.B, Temporary Pavement Patching. The Government will grant extension times for completion if the Contractor chooses to apply a more permanent patch as specified in Paragraph 8.4.C, Bituminous Pavement Patching or Paragraph 8.4.D, Concrete Pavement Patching. Any landscaped areas or pavement markings damaged as a result of this work shall be restored to their original condition.

2. Water Main and Natural Gas Leak. When issuing a TC for a water main or natural gas leak, the TC shall be classified as an emergency TC according to Paragraph 4.2, Trouble Calls.
 3. Sanitary and Storm Sewer Stoppages. TCs for this work shall be considered urgent. When issued a TC for a sanitary or storm sewer stoppage, in addition to requirements defined in 4.2, the Contractor shall clean the stoppage as follows. During core working hours, the line shall be cleared within a four (4) hour period from initial notification including clean-up of any spillage. During non-core working hours, response, blockage removed, and line restored to normal shall occur within eight (8) hours. The Contractor shall use an approved disinfectant when applicable.
 4. Fire Sprinkler System Mechanical Malfunctions. TCs for this work shall be considered urgent. When issued a TC for this work, in addition to requirements defined in 4.2, the Contractor shall repair fire sprinkler systems as follows. During core working hours, repairs shall be accomplished within an eight (8) hour period and system restored to normal operating condition per proper automatic fire sprinkler system procedures. During non-core working hours, repairs shall be accomplished within the next core working day in compliance with the directive for repairs during core working hours.
 5. Water Meters. The Contractor shall maintain all water meters in a proper working order. Any meter that is inoperable or indicating false readings shall be repaired or replaced within five working days when first noticed upon inspection or notification by the Government.
- B. Contract Element (CLIN - 00X1.0801) Fire Suppression Wet Pipe System PM. The Contractor shall perform PM on all fire suppression wet pipe systems included in Attachment J-15 per NFPA 13 and NFPA 25. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
 - C. Contract Element (CLIN - 00X1.0802) Fire Suppression Pre-action System PM. The Contractor shall perform PM on all fire suppression pre-action systems listed in Attachment J-15 per NFPA 13 and NFPA 25. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
 - D. Contract Element (CLIN - 00X1.0803) Fire Suppression Dry System PM. The Contractor shall perform PM on all fire suppression dry systems included in

Attachment J-15 per NFPA 13 and NFPA, 25. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~

- E. Contract Element (CLIN - 00X1.0804) Fire Suppression Foam System PM. The Contractor shall perform PM on all fire suppression foam systems included in Attachment J-15 per NFPA 11. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- F. Contract Element (CLIN - 00X1.0805) Fire Suppression Dry Chemical PM. The Contractor shall perform PM on all fire suppression dry chemical systems included in Attachment J-15 per NFPA 17. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- G. Contract Element (CLIN - 00X1.0806) Emergency Shower/Eyewash Station Monthly PM. The Contractor shall perform PM on all fixed emergency shower/eyewash stations listed in Attachment J-16 per the ANSI Z358.1 for eyewash and safety showers.
- H. Contract Element (CLIN - 00X1.0807) Sump and Sewer Pump PM. The Contractor shall perform PM on all sump pumps included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- I. Contract Element (CLIN - 00X1.0808) Storm Drainage System PM. The Contractor shall keep all culverts, pipes, catch basins and drop inlets **included in attachment J-24** free of debris and sediments from the surface of and up to 15 feet beyond openings of such drainage structures. All ditches and swales bordering and traversing MSFC shall be kept free of all debris and sediments restricting the flow of water. All debris and sediment shall be disposed of in accordance with Paragraph 6.0. Environmental Management Support. Some of these areas are classified as wetlands and shall be managed per applicable Federal, state, and local laws and regulations. These efforts shall be coordinated with NASA, Environmental Engineering and Management Office. ~~All PM activities listed in Attachment J-24 shall be accomplished in compliance with the Contractor's PM plan.~~
- J. Contract Element (CLIN - 00X1.0809) Surfaced Areas Sweeping: Streets and Parking Lots. The Contractor shall maintain all streets at MSFC free of all debris to the curb or shoulder of the roadway. Debris shall be removed as required to provide a clean sweep. All street sweeping shall be performed during non-core work hours to minimize any disruption to the resident working population, and barricades shall be used to restrict traffic as needed. The Contractor shall sweep all parking lots and other areas as identified, to eliminate standing dirt and obstacles, so as to maintain all painted markings and designations visible and legible, and to remove all hazards to foot traffic, particularly at steps and curbs. All lots shall be swept during non-core work hours, and shall be barricaded to restrict parking and traffic during the sweeping operation. Debris shall not be swept into storm drains, nor left in piles. The Contractor shall submit a schedule for routine street and

parking lot sweeping within fifteen days of the contract start date. That schedule shall be the basis for timeliness associated with this contract element.

- K. Contract Element (CLIN - 00X1.0810) Fire Pump PM. The Contractor shall perform PM on all fire pumps included in Attachment J-15 per NFPA 25. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- L. Contract Element (CLIN - 00X1.0811) Standpipe PM. The Contractor shall perform PM on all standpipe included in Attachment J-15 per NFPA 25. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- M. Contract Element (CLIN - 00X1.0812) CO2 PM. The Contractor shall perform PM on all CO2 systems included in Attachment J-15 per NFPA 12. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- N. **RESERVED**
- O. Contract Element (CLIN - 00X1.0814) Miscellaneous Pump PM. The Contractor shall perform PM on all miscellaneous pumps not included in other contract elements but are included in Attachment J-6. Pumps in this classification include, but are not limited to, potable water, hydraulic, lawn sprinkler. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~

8.3 DOCUMENTATION AND REPORTING REQUIREMENTS

- A. Contract Element (Include in CLIN - 00X1.0306) Computerized Maintenance Management System (CMMS) Operations and Management. The Contractor shall continuously update the CMMS to reflect any and all equipment failures and corrective actions taken. All data shall be accurate and current.
- B. Contract Element (CLIN - 00X1.1014) Maintenance Procedures. The Contractor shall provide maintenance procedures in accordance with DRD 1197LS-011. The Contractor shall update and revise all maintenance procedures on a continuing basis as required by physical changes at no additional cost to the Government (See Paragraph 10.5.E, Maintenance Requirements and Procedures). Maintenance procedures shall be maintained in the TRL.
- C. Contract Element (CLIN - 00X 1.0815) Automatic Fire Sprinkler System Quarterly Inspection Report. The Contractor shall submit a quarterly automatic fire sprinkler system inspection report to the COTR to demonstrate acceptable operational status of the automatic fire sprinkler systems in accordance with DRD 1197LS-007.

8.4 IDIQ WORK

IDIQ work will be ordered in accordance with Paragraph 1.6, IDIQ Work and completed within the number of calendar or workdays specified in the FWR or DO.

10.0 MECHANICAL SYSTEMS

10.1 GENERAL REQUIREMENTS

The Contractor shall provide all labor, supervision, materials, lubricants, oils, tools, equipment, transportation, and management necessary to accomplish the operation, predictive maintenance, preventive maintenance (PM), trouble calls (TC), and repair of mechanical equipment and systems that includes, but not limited to: air compressors, roll doors, air dryers, elevators, cranes, and associated equipment identified in Attachments J-24, J-25, and J-6.

10.2 LUMP SUM WORK

The following contract elements shall be performed per the Performance Requirements Summary (PRS), Section E.9, at the frequencies or performance criteria specified within the contract requirement:

- A. Contract Element (Include in CLIN - 00X1.0401) Trouble Calls (TC). The Contractor shall respond to all TCs related to this paragraph and accomplish any necessary repairs per Paragraph 4.0, Trouble Calls/Trouble Call Services.
- B. Contract Element (CLIN - 00X1.1001) Horizontal and Vertical Sliding Roll Door PM. The Contractor shall perform PM for the roll doors listed in Attachment J-24 and in accordance with Paragraph 10.5.F. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- C. Contract Element (CLIN - 00X1.1002) Hoist, Crane, and Derrick PM. The Contractor shall perform load tests, PM and PT&I for hoists, cranes, and derricks listed in Attachment J-18 and in accordance with crane manufacturers operations and maintenance manuals and recommendations. The Government has determined that certain preventive maintenance and predictive testing and inspection shall be performed for this contract line item as enhancements to the existing PM program. These enhancements are as follows: Perform annual inspection of all wiring terminations and wiring harnesses. Perform annual infrared analysis on all electrical components. Perform annual vibration analysis on all electric motors. Documentation for the infrared analysis shall be the completed work order controlling the work. Documentation for the vibration analysis shall be the base documentation and the following annual inspections maintained in the predictive testing program by the Contractor.
- D. Contract Element (CLIN - 00X1.1003) Elevator PM. The Contractor shall perform PM for elevators listed in Attachment J-24 and in accordance with Paragraph 10.5.E, Maintenance Requirements and Procedures.
- E. Contract Element (CLIN - 00X1.1004) Heavy Equipment Operation. The Contractor shall provide operation and operator maintenance of heavy equipment including fixed equipment such as bridge and derrick cranes, hoists, and air bearings and mobile equipment such as truck-mounted cranes, bull dozers, and lift

operating procedures for this facility. These procedures shall be available for Government inspection at all times. The Contractor shall perform PM on all DI water equipment as listed in Attachment J-24. ~~in compliance with the Contractor's PM plan.~~

- H. Contract Element (CLIN - 00X1.1007) Industrial Wastewater Treatment Facility (IWTF) Operations and PM. The Contractor shall operate and maintain the IWTF in accordance with MSFC State Indirect Discharge (SID) permit (IU084500027). The IWTF has the capacity to treat 50,000 gallons per day of metal finishing wastewater, and 5,000 gallons per day of paint booth and water blast wastewater. Maintenance timeliness shall be the same as for trouble calls. Sample collection and reporting shall be in accordance with the SID Permit (see DRD 1197EE-004). The Contractor shall have a written operating procedure for this facility. These procedures shall be available for Government inspection at all times. The Contractor shall perform PM on all IWTF equipment as listed in Attachments J-24 and J-25 ~~in compliance with the Contractor's PM plan.~~
- I. Contract Element (CLIN - 00X1.1008) Air Compressor PM. The Contractor shall perform PM for all air compressors listed in Attachment J-24.
- J. Contract Element (CLIN - 00X1.1009) Air Dryer PM. The Contractor shall perform PM for all air dryers listed in Attachment J-24.
- K. Contract Element (CLIN - 00X1.1010) Ice Machine PM. The Contractor shall perform PM for all ice machines listed in Attachment J-24.
- L. Contract Element (CLIN - 00X1.1011) Special Purpose Shop Equipment PM
The Contractor shall perform PM for special purpose shop equipment listed in Attachments J-8 and J-24 .
- M. Contract Element (CLIN - 00X1.1012) Annual Crane and Hoist Inspection. The Contractor shall procure the services of an independent crane inspector to perform annual crane and hoist inspections in accordance with DRD 1197LS-013.
- N. Contract Element (CLIN - 00X1.1013) Elevator Inspection. The Contractor shall procure the services of an independent elevator inspector to perform annual inspections in accordance with DRD 1197LS-014 and a five-year inspection in accordance with DRD 1197LS-015.
- O. Contract Element (CLIN - 00X1.1015) Storage Tank Monitor PM. The Contractor shall perform PM for all storage tank monitors listed in Attachment J-24.

- the winter schedule will begin October 15th. The COTR will confirm actual schedule dates.
2. The Contractor shall perform fuel storage and transfer operations associated with boiler plant storage tanks (fuel oil to be furnished by the Government). The Contractor shall notify the Government of fuel needs allowing enough time for the Government to place an order and have the fuel delivered. This lead-time is typically one (1) week (seven (7) days)
 3. The Contractor shall prevent accumulation of boiler deposits and corrosion by carrying out a prescribed program of boiler water chemical treatment. This includes analyzing boiler and feed water, selecting chemicals and components according to formula and injecting carefully measured solutions into boiler and feed water.
- B. Contract Element (CLIN - 00X1.1102) Steam Distribution. The Contractor shall maintain and repair the entire steam distribution and condensate return systems continuously, 365 days per year minimizing steam and condensate losses due to leakage. Maintenance timeliness shall be the same as for trouble calls. Steam distribution includes all steam and condensate piping both north and south of Fowler Road that falls under the responsibility of MSFC. This shall include, but is not limited to, elevated and underground steel steam supply piping and condensate return piping, fittings, valves, insulation/lagging, aluminum jacketing, expansion loops, pipe hangers, anchors, structural supports, and touch-up painting. Steam distribution includes, but is not limited to, regulator adjustment, relief adjustment, strainer or trap cleaning, and isolation and return to service. Work shall be done in accordance with Paragraph 11.5.R, Maintenance Requirements and Procedures.
- C. Contract Element (CLIN - 00X1.1103) Primary Steam Boiler PM. The Contractor shall perform all primary steam generation boilers PM, listed in Attachment J-20 and in accordance with Paragraph 12.5.U, Maintenance Requirements and Procedures. ~~All PM activities shall be accompanied in compliance with the Contractor's PM plan.~~
- D. Contract Element (CLIN - 00X1.1104) Boiler Feed Water Pump PM. The Contractor shall perform PM on feed water pumps listed in Attachment J-24 and in accordance with Paragraph 11.5.R, Maintenance Requirements and Procedures. ~~All PM activities shall be accompanied in compliance with the Contractor's PM plan.~~
- E. Contract Element (CLIN - 00X1.1105) Condensate Pump PM. The Contractor shall perform PM on steam condensate return pumps as listed in Attachment J-24 and in accordance with Paragraph 11.5.R, Maintenance Requirements and Procedures. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- F. Contract Element (CLIN - 00X1.1106) Power Boiler Annual Certification. The Contractor shall procure the services of an independent inspector to perform annual boiler inspections in accordance with DRD 1197LS-004. The annual

certification consists of (1) Type A - internal and external, (2) Type B - internal and external with hydrostatic test, and (3) Type C - external under steam. This includes all Contractor support to the certifying agency.

- G. Contract Element (CLIN - 00X1.1107) Portable Boiler PM. The Contractor shall perform all portable steam generation boilers PM in accordance with Paragraph 11.5.R, Maintenance Requirements and Procedures. ~~All PM activities shall be accompanied in compliance with the Contractor's PM plan.~~
- H. Contract Element (CLIN - 00X1.1108) Steam Trap Inspection. The Contractor shall perform a yearly inspection of all steam traps prior to April 15th using the Government provided Trapman system. Trouble Calls or IDIQ's, as appropriate, shall be initiated for defective traps. Defective traps shall be repaired or replaced prior to October 15th. The Contractor shall enter all currently unidentified traps into the Trapman system and the CMMS. There are approximately 1000 steam traps. The currently identified traps are shown in Attachment J-12. If the number of traps varies more than 3% there will be an equitable adjustment made.

11.3 DOCUMENTATION AND REPORTING REQUIREMENTS

- A. Contract Element (Include in CLIN - 00X1.0306) Computerized Maintenance Management System (CMMS) Operations and Management The Contractor shall continuously update the CMMS to reflect any and all equipment failures and corrective actions taken. All data shall be accurate and current.
- B. Contract Element (CLIN - 00X1.1014) Maintenance Procedures. The Contractor shall provide maintenance procedures in accordance with DRD 1197LS-011. The Contractor shall update and revise all maintenance procedures on a continuing basis as required by physical changes at no additional cost to the Government (See Paragraph 10.5.E, Maintenance Requirements and Procedures). Maintenance procedures shall be maintained in the TRL.

11.4 IDIQ WORK

IDIQ work will be ordered in accordance with Paragraph 1.6, IDIQ Work, and may be ordered for any facility involving Steam Distribution Maintenance and Repair. IDIQ work shall be completed within the number of days specified on the FWR or DO.

11.5 DETAILED SPECIFICATIONS

The Contractor shall accomplish the following detailed specifications and requirements in accomplishing work required by this work paragraph:

- A. Interferences. The Contractor shall remove and reinstall interferences necessary to accomplish work required by this work paragraph.

12.0 HVAC/R SYSTEMS

12.1 GENERAL REQUIREMENTS

The Contractor shall provide all labor, supervision, materials, oils, lubricants, tools, equipment, transportation, and management necessary for the operation, predictive maintenance, preventive maintenance (PM), corrective maintenance, and repair of heating, ventilating, air conditioning, and refrigeration (HVAC/R) equipment, identified in Attachments J-24, J-25, and J-6. The work shall include PM and repair of equipment and system components consisting of, but not limited to, gas, oil, and electric heating boilers, centrifugal, reciprocating, screw, liquid and air-cooled air conditioning systems, direct expansion package air conditioning units, self-contained computer cooling units, electric heat pumps, through-the-wall heating and air conditioning units, cooling towers, air handling units, unit heaters, refrigerant compressors, humidifiers, ventilation blowers/fans, service valves, dampers, condensers, coils, chillers, pumps, purge units, electrical and mechanical controls, duct work, piping, motors, evaporators, air filters and dryers, thermostats, humidifiers, fan coil units, water coolers, ice machines, refrigerators, reach-in freezers, and performance of seasonal equipment start-ups and shut-downs; annual heating boiler overhaul, associated inspection and certification assistance; maintaining records and preparing reports to ensure safe and efficient equipment operation and to maximize the life of each piece of equipment for optimum operational efficiency. All additional costs associated with performance of refrigerant leak detection, reclamation, cleaning, reporting, and recycling shall be provided at no additional cost to the Government. PM and repair work shall comply with the applicable directives, manuals, and instructions listed in Attachment J-26.

12.2 LUMP SUM WORK

The following contract requirements shall be performed per the Performance Requirements Summary (PRS), Section E.9, at the frequencies or parameters specified within the contract requirement:

- A. Contract Element (CLIN - 00X1.1201) Hot Water Boiler PM. The Contractor shall perform PM on the boilers listed in Attachment J-19 and in accordance with Paragraph 12.5.U, Maintenance Requirements and Procedures. Annual certifications are required and shall be obtained by the Contractor. The annual certification consists of (1) Type A - Internal and External, (2) Type B - Internal and External with hydrostatic test, and Type C - External under steam. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- B. **RESERVED**
- C. Contract Element (CLIN - 00X1.1203) Boiler Feed water Pump PM. The Contractor shall perform PM on the boiler feed water pumps included in Attachment J-24 and in accordance with Paragraph 12.5, Detailed Requirements. All PM activities shall be accomplished in compliance with the Contractor's PM plan.

- D. Contract Element (CLIN - 00X1.1204) Chilled Water Pump PM. The Contractor shall perform PM on the chilled water pumps included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- E. Contract Element (CLIN - 00X1.1205) Chiller PM. The Contractor shall perform PM on the reciprocating A/C plants included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- F. Contract Element (CLIN - 00X1.1206) Air Handler Unit PM. The Contractor shall perform PM on the air handler units included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- G. Contract Element (CLIN - 00X1.1207) Exhaust Fan PM. The Contractor shall perform PM on the exhaust fans included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- H. Contract Element (CLIN - 00X1.1208) Cooling Tower PM. The Contractor shall perform PM on the cooling towers listed in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- I. Contract Element (CLIN - 00X1.1209) Cooling Tower Circulating Pump PM. The Contractor shall perform PM on the cooling tower circulating pumps included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- J. Contract Element (CLIN - 00X1.1210) Cooling Tower Water Treatment. The Contractor shall perform water treatment for the cooling towers. Water treatment equipment is shown in Attachment J-23. ~~All treatment activities shall be accomplished in compliance with the Contractor's PM plan.~~
- K. Contract Element (CLIN - 00X1.1211) Humidifier and Dehumidifier PM. The Contractor shall perform PM on the humidifiers and dehumidifiers listed in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- L. Contract Element (CLIN - 00X1.1212) Trailer Mounted Mobile Chiller (Emergency Chiller) PM. The Contractor shall perform a monthly PM on the trailer mounted mobile chillers included in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- M. Contract Element (CLIN - 00X1.1213) Water Treatment for Chilled Water Systems. The Contractor shall perform water treatment for the chilled water systems. ~~All water treatment activities shall be accomplished in compliance with the Contractor's PM plan.~~
- N. Contract Element (CLIN - 00X 1.1214) Water Treatment for Hot Water and Steam Boilers. The Contractor shall perform water treatment for the hot water and steam

boilers. Water treatment equipment is listed in Attachment J-23. ~~All activities shall be accomplished in compliance with the Contractor's PM plan.~~

- O. Contract Element (CLIN – 00X1.1215) Refrigerant Reclamation. The Contractor shall reclaim all CFC and HCFC refrigerants for reuse.
- P. Contract Element (CLIN – 00X1.1216) Supply and Return Air Fan PM. The Contractor shall perform PM for all supply and return air fans included in Attachment J-24.
- Q. Contract Element (CLIN – 00X1.1217) Heating Vent Unit PM. The Contractor shall perform PM for all heating vent units included in Attachment J-24.
- R. Contract Element (CLIN – 00X1.1218) Heating, Ventilating, Air Conditioning and Refrigeration (HVAC/R) Operations and Maintenance. The Contractor shall operate, maintain, and repair all MSFC HVAC/R systems continuously, 365 days per year, 24 hours per day, 7 days a week maintaining special environments that are currently in force in accordance with Attachment J-21. The special environment areas may be subject to change as Center objectives and programs are defined. The Contractor will not be responsible for operating and maintaining a new special environment with criteria that exceeds the HVAC/R design for that area without compensation from the Government. The Contractor shall minimize personnel discomfort in administrative areas when HVAC/R conditions are impacted by events outside of the Contractor's control. Operations shall include, but not be limited to, performance of seasonal equipment start-ups and shutdowns, calibrations, resetting and restarting tripped equipment, regulator or thermostat adjustments, filter replacements other than HEPA filters, and isolating and returning equipment to service as a result of planned or unplanned outages. The work shall also include repair of HVAC/R related components (for example, air compressors, air dryers, fans, chillers, cooling towers, DXAC units, humidifiers, pumps) and associated piping isolated to the first connection point upstream and downstream of each component. All piping, fittings, valves, insulation/ lagging, aluminum jacketing, expansion loops, traps, strainers, pipe hangers, anchors, structural supports, and touch-up painting are included. Work shall be done in accordance with Paragraph 12.5.U, Maintenance Requirements and Procedures. Maintenance timeliness shall be the same as for trouble calls. The Contractor's repair liability for servicing equipment and system components is limited to \$2000 per system, per occurrence. The Contractor shall not classify response to alarms associated with HVAC/R as trouble calls, exclusive of Utility Control System monitoring hardware. The Contractor shall respond to emergency situations with correct repair so scheduled test programs will not be delayed. Work shall conform to Federal and state Codes, EPA standards, OSHA regulations, and ASHRAE requirements. The HVAC systems and equipment the Contractor shall operate includes, but is not limited to, those identified in Attachments J-24, J-25, and J-6. Failure of the Government to supply water, fuel, or electricity for plant operations will relieve the Contractor of responsibility of operations during the time period the Government is remiss in these supply functions. If interrupted by the Government, the Contractor shall return the HVAC/R system on-line within two (2) hours of re-

establishment of Government service. The Government will provide the Contractor all operational procedures that are presently available for MSFC HVAC/R systems. It is understood that all critical and comfort environments shall be maintained within assigned set points and related dead bands. Furthermore, no routine visits by operators will be necessary if the zone environmental parameters are within assigned guidelines. Comfort zones shall be maintained in accordance with Paragraph 12.5.F.

- S. Contract Element (CLIN – 00X1.1219) DXAC/Heat Pump Unit PM. The Contractor shall perform PM on the DXAC/heat pump units included in Attachments J-24 and J-6. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- T. Contract Element (CLIN – 00X1.1220) Computer Room Unit PM. The Contractor shall perform PM on the computer room units included in Attachments J-24 and J-6. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- U. Contract Element (CLIN – 00X1.1221) Backflow Preventer PM. The Contractor shall perform PM on the back-flow preventers included in Attachments J-24 and J-6. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- V. Contract Element (CLIN – 00X1.1222) Air Filter PM. The Contractor shall perform PM on the filters included in Attachments J-24 and J-6. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- ~~W.~~ Contract Element (CLIN – 00X1.1223) Hot Water Pump PM. The Contractor shall perform PM on the hot water pumps included in Attachments J-24 and J-6. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- X. Contract Element (CLIN – 00X1.1225) Coil Cleaning. The contractor shall establish a program to clean all heating and cooling coils. The program shall clean the interior and exterior of all coils every five years (approximately 20% of the coils each year). The Contractor shall enter all coils into the CMMS equipment database. A list of air handlers is shown in Attachment J-22. There are approximately 1264 reheat coils that are not listed. If the number of reheat coils varies more than 3% there will be an equitable adjustment made.

- to Paragraph 13.5.D, Performance) for performance criteria. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- C. Contract Element (CLIN - 00X1.1302) Electrical Switchgear PM. The Contractor shall perform PM on all electrical switchgear. (Refer to Paragraph 13.5.D), Performance, for performance criteria. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- D. Contract Element (CLIN - 00X1.1303) Street and Perimeter Lighting PM. The Contractor shall inspect on a regular basis all street and perimeter lighting systems. Inspections shall take place after dark to locate inoperative fixtures. The Contractor shall relamp all burned out street and perimeter light fixtures and repair or replace all broken fixtures. Any inoperative fixtures reported to the Contractor by a TC shall be placed back in service within five working days from initial notification. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- E. Contract Element (CLIN - 00X1.1304) Mobile and Fixed Emergency Generator System Operation. The Contractor shall maintain the emergency generators as listed in Attachment J-11 in a ready state for use. The Contractor shall connect and disconnect, and operate portable generators during planned and unplanned power outages at various structures and remote locations when no normal source of power is available. Connection, disconnection and operation will be accomplished by TC, TCS or IDIQ. Government furnished portable generators shall be utilized. The Contractor shall provide emergency generators required by the Government in addition to the Government furnished generators under the indefinite quantity paragraph of this contract. (Refer to Paragraph 13.5.D.) Performance for performance criteria.
- F. Contract Element (CLIN -- 00X1.1305) Uninterrupted Power Supply, Rectifiers, and Battery Bank PM. The Contractor shall perform PM on the uninterrupted power supply, rectifiers, and battery bank systems listed in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- G. Contract Element (CLIN - 00X1.1306) Special Electrical Power Systems Operation. The Contractor shall operate, repair, maintain, inspect, and modify special electrical and electronic controlled power distribution systems in Building 4487. Special power systems are capable of supplying two to four hundred Volts of DC power from six patch panels. Two hundred lead acid batteries and forty battery chargers are included in the special power systems.
- H. Contract Element (CLIN - 00X1.1307) Interior and Exterior Low and High Voltage Distribution System PM. The Contractor shall accomplish all electrical system PM. ~~in compliance with their PM plan.~~ This shall include PT&I activities such as thermography to identify weak or failing system components.

- I. Contract Element (CLIN 00X1.1308) 4160-Volt Power Support. The Contractor shall perform operational support activities to service, maintain, repair and test 4160-Volt systems that are integral to the NASA MSFC systems. Typical systems throughout MSFC that the Contractor shall be responsible for include, but are not limited to, transfer switches, switchgear, and starters for chilled water system compressors, MSFC-owned 4160-Volt generators, transformers, and switchgear. The Contractor shall provide continuous maintenance support for all 4160-Volt outages that affect MSFC facilities. The Contractor shall ensure that affected parties are informed that power restoration is completed properly and that system configuration and integrity is not compromised at the conclusion of the work. The Contractor shall provide PM service and repair activities on MSFC-owned equipment. The Contractor's repair liability for servicing equipment and system components is limited to \$2000 per system, per occurrence. The repairs shall be accomplished on TC's or IDIQ's as required.

Additionally, the Contractor shall assist the Army Garrison High Voltage personnel involved with 4160-Volt Power equipment anomalies and scheduled power outages that affect NASA facilities. The Contractor is liable for support activities only on the Army Garrison-owned 4160-Volt systems.

- J. Contract Element (CLIN - 00X1.1309) Emergency Light PM. The Contractor shall inspect on a regular basis all emergency lighting systems. Emergency lights, as identified in NFPA Life Safety Code 101, shall be maintained in accordance with the Life Safety Code. Emergency lights that do not meet the definition of the Life Safety Code shall be maintained in accordance with Paragraph 4.0, Trouble Calls. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- K. Contract Element (CLIN - 00X1.1310) Variable Speed Drives PM. The Contractor shall perform PM on all variable speed drives listed in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- L. Contract Element (CLIN - 00X1.1311) Static Ground and Lightning Protection PM. The Contractor shall perform PM on all static ground and lightning protection systems listed in Attachment J-24. ~~All PM activities shall be accomplished in compliance with the Contractor's PM plan.~~
- M. **RESERVED**

13.3 DOCUMENTATION AND REPORTING REQUIREMENTS

- A. Contract Element (Include in CLIN - 00X1.0306) Computerized Maintenance Management System (CMMS) Operations and Management. The Contractor shall continuously update the CMMS to reflect any and all equipment failures and corrective actions taken. All data shall be accurate and current.

- B. Contract Element (CLIN - 00X1.1014) Maintenance Procedures. The Contractor shall provide maintenance procedures in accordance with DRD 1197LS-011. The Contractor shall update and revise all maintenance procedures on a continuing basis as required by physical changes at no additional cost to the Government (See Paragraph 10.5.E, Maintenance Requirements and Procedures). Maintenance procedures shall be maintained in the TRL.

13.4 IDIQ WORK

Indefinite quantity work will be ordered in accordance with Paragraph 1.6, IDIQ and completed within the number of calendar or workdays specified in the FWR or DO.

13.5 DETAILED REQUIREMENTS

- A. Emergency Generators. The Contractor shall make all necessary repairs to emergency generating equipment and ancillary component equipment, including diesel engines on a priority basis. The Contractor shall work continuously to repair the disabled system and shall provide the COTR with daily reports of progress until all repairs and tests are complete. The Contractor shall turn in used oil in containers to the hazardous waste storage facility.
- B. Batteries and Battery Charters. The Contractor shall maintain, repair, or provide labor to order and replace batteries and battery chargers of 12 and 24 Volts on emergency generators and up to 550 Volts for UPS systems. All batteries in service shall be maintained in a 100 percent working order.
- C. Storage Batteries. The Contractor shall maintain, repair, or replace batteries in storage per the manufacturer's recommendations.
- D. Performance. All equipment shall be operational, functional, and ready to respond to demand according to its design purpose and intent except for scheduled or planned outages. Note: Scheduled and planned outages for Buildings 4663 and 4207 will be very difficult to obtain and most likely will only be available during a holiday period such as Christmas. For unscheduled and unplanned outages, the electrical systems listed in Attachment J-10 shall be non-functional no greater than those occurrences and times specified in Attachment J-10, herein referred to as the "outage limit," except for scheduled or planned outages. For work that exceeds the TC limit, the time expended by the Contractor prior to the Contractor notifying the COTR of such condition shall be applied towards the outage limit. All other time will not be counted towards the outage limit for work exceeding the TC limit (reference note G on the Systems Availability Requirements Table in Attachment J-10). Planned outages for maintenance and repair shall follow standard labor hours and practices per the Means® Facilities Maintenance and Repair Cost Data Handbook. Anytime exceeding published labor hours may count towards the outage limit.

- E. All replacement electronic equipment (for example, electronic ballasts, variable frequency drives) shall have a total harmonic distortion (THD) of ten percent or less.

14.0 EMERGENCY MANAGEMENT SUPPORT

14.1 GENERAL REQUIREMENTS

The Contractor shall provide personnel to support the MSFC emergency program. It is expected that personnel on staff will be trained to perform this function and no additional personnel will be required.

14.2 LUMP SUM WORK

The following Contract Requirement shall be performed per the Performance Requirements Summary (PRS) Section E.9, at the frequencies or performance criteria specified within the contract requirement:

Contract Element (CLIN - 00X1.1401) Damage and Utility Control (DUC) Team. The Contractor shall respond to all emergencies and disasters at MSFC as part of the emergency response efforts for all facilities and equipment for which the Contractor has maintenance and/or repair responsibilities as directed by the Emergency Management Director (EMD). The Contractor shall provide a core complement of personnel that are trained in emergency response as damage and utility control specialists. This team will be referred to as the Damage and Utility Control Team (DUC Team) and will be responsible for isolating and making safe utilities such as electrical power, steam, natural gas, and water during emergency/disaster situations as well as helping to mitigate any additional damages. The team shall receive its directions from either the Incident Commander, EMD or Deputy EMD, or their designee during emergency situations. The Contractor shall determine the number of personnel that are trained as DUC Team members.

The Contractor shall respond to all major emergency/disaster events on a 24-hour, seven (7) day per week basis. The Contractor shall handle each event as an emergency TC with the corresponding limitations. Remaining work shall be accomplished at the Government's discretion per Paragraph 1.6, IDIQ Work. Historically, less than (5) five emergency/disaster situations occur per year.

DUC Team members shall be trained in Hazardous Waste Operations and Emergency Response (HAZWOPER), Incident Command, how to safely approach an emergency situation/disaster scene, and shall be totally familiar with utility cutoff procedures and locations for each facility/structure at MSFC. See Paragraph 6.0, Environmental Management Support for training.

(End of Attachment)