National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771

Reply to Attn of:
250

July 25, 2019

Director
Air Protection Division (3AP00)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Sir or Madam:

Please find the enclosed 6-Month Monitoring Report (January 2019 – June 2019), which details all monitoring required by the Title V Part 70 Operating Permit for NASA's Goddard Space Flight Center. The report shows that all the permit operating limits are being satisfied.

If you have any questions or comments concerning this matter, please call Ms. Kathleen Moxley at (301) 286-0717.

Sincerely,

Kimberly Finch, P.E.
Chief, Medical and Environmental Management Division

Enclosure

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Goddard Space Flight Center

Greenbelt, MD 20771

Six-Month Monitoring Report
January 2019 – June 2019

Prepared By:

DDC 4C

613 Lynnhaven Parkway, Suite 100
Virginia Beach, VA 23452
Phone: 757-498-0100

Enclosure

United States Environmental Protection Agency

OMB No. 2060-0336,
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS (CTAC)

This form must be completed, signed by the "Responsible Official" designated for the facility or emission unit, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

A. Responsible Official

Name: (Last) Finch (First) Kimberly (MI) ____

Title Chief, Medical and Environmental Management Division

Street or P.O. Box 8800 Greenbelt Road

City Greenbelt State MD ZIP 20771 - 2400

Telephone (301) 286 - 4230 Ext. ____ Facsimile (301) 286 - 1644

B. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) K. Finch

Name (typed) Kimberly Finch, P.E. Date: 07 / 25 / 2019

United States Environmental Protection Agency

OMB No. 2060-0336
Approval Expires 05/31/2019

Federal Operating Permit Program (40 CFR Part 71)
6-MONTH MONITORING REPORT (SIXMON)

Section A (General Information)

Permit No. 24-033-00675

Reporting Period: Beg. 01/01/2019 End 06/30/2019

Source / Company Name NASA Goddard Space Flight Center

Mailing Address:

Street or P.O. Box 8800 Greenbelt Road

City Greenbelt State MD ZIP 20771

Contact person Kathleen Moxley Title Environmental Engineer

Telephone (301) 286 - 0717 Ext. _____

Continued on next page

Section B (Monitoring Report)

Summarize all required monitoring, data, or analyses required by the permit for the reporting period. Describe and cross-reference the permit term and list the emission units (Unit IDs) where the monitoring was performed. Indicate whether a separate monitoring report is required, and if required, enter the date submitted. If submitted for the first time as an attachment to this form, assign an attachment ID, mark the attachment with that ID, and attach the report to this form.

Monitoring, Data, or Analysis (describe and cite):

1. None. Furthermore, the facility-wide operations are either not subject to COMAR 26.11.19 or COMAR 26.11.19 is already being implemented.

Emission Units (Unit IDs):

Facility wide operations

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Require each operator of the installation to attend operator training programs once every three years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors. Term 2.1.C.(4).
2. Operate and maintain the boilers in a manner to prevent visible emissions. Term 2.3.A.
3. Perform a visual observation of stack emissions for a 6-minute period once for each 168 hours that the boiler burns oil or at a minimum of once per year. Term 2.3.A.
4. Optimize combustion based on the combustion analysis. Term 2.3.C.
5. Measure the NO_x content of the flue gases from each boiler when burning natural gas, or landfill gas for a 3- to 5-minute period every 168 hours of operation. Term 2.3.D.(1).
6. Measure the NOx content of the flue gases from boilers when burning distillate fuel for a 3- to 5-minute period every 168 hours of operation, for any month that distillate fuel is burned in those boilers. Term 2.3.D.(2).
7. Use an analyzer approved by the Department that is properly calibrated and maintained in accordance with the vendor specification for all measurements. Term 2.3.D.(6).

Emission Units (Unit IDs):

EU24-1, EU24-2, and EU24-4: 3 Nebraska natural gas/landfill gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.
EU24-3 and EU24-5: 2 Nebraska natural gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Obtain fuel supplier certifications to demonstrate compliance with SO_2 standards. Term 2.3.B.
2. Monthly calculate the heat input to the boilers at the end of each month for the prior rolling 12-month period. Term 2.3.D.(3).

Emission Units (Unit IDs):

EU24-1, EU24-2, and EU24-4: 3 Nebraska natural gas/landfill gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.
EU24-3 and EU24-5: 2 Nebraska natural gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.

Separate Report? _X_ Yes ___ No Date _07/30/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Monthly calculate the average NO_x emission rate using all measurements taken from all five boilers for each calendar month. Term 2.3.D.(4).
2. Calculate the total annual SO_x emissions from all five boilers on a 12-month rolling basis. Term 2.3.D.(5).

Emission Units (Unit IDs):

EU24-1, EU24-2, and EU24-4: 3 Nebraska natural gas/landfill gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.
EU24-3 and EU24-5: 2 Nebraska natural gas/No.2 fuel oil fired boilers each rated at 49.5 MMBtu/hr.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Require each operator of the installation, except combustion turbines, to attend operator training programs at least once every three years, on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors. Term 3.1.C.(1).(d).
2. Perform preventative maintenance to optimize combustion performance. Term 3.3.A.
3. Calculate the capacity factor of each unit within 30 days after the end of each month. Term 3.3.C.
4. Maintain an operating log for each generator, listing the dates, hours of operation, and reason for generator operation. Term 3.3.D.

Emission Units (Unit IDs):

EU7-2: 1 emergency generator rated at 500 kW and firing No.2 fuel oil.
EU10-3: 1 emergency generator rated at 500 kW and firing No.2 fuel oil.
EU24C-1 through EU24C-4 and EU24C-8: 5 Caterpillar emergency generators each rated at 1,000 kW and firing No.2 fuel oil.
EU24C-6: 1 MTU Detroit Diesel emergency generator rated at 1,000 kW firing No.2 fuel oil.
EU31-1 through EU31-5: 5 Caterpillar emergency generators each rated at 1,450 kW and firing No.2 fuel oil.
EU29-1: 1 emergency generator rated at 1,000 kW firing No.2 fuel oil.
EU7-3: 1 emergency generator rated at 500 kW firing No.2 fuel oil.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Obtain a certification from the fuel supplier indicating that the fuel oil is in compliance with the limitation on the sulfur content of the fuel oil or obtain sulfur in fuel analyses of oil that is representative of the oil burned. Term 3.3.B.

Emission Units (Unit IDs):

EU7-2: 1 emergency generator rated at 500 kW and firing No.2 fuel oil.
EU10-3: 1 emergency generator rated at 500 kW and firing No.2 fuel oil.
EU24C-1 through EU24C-4 and EU24C-8: 5 Caterpillar emergency generators each rated at 1,000 kW and firing No.2 fuel oil.
EU24C-6: 1 MTU Detroit Diesel emergency generator rated at 1,000 kW firing No.2 fuel oil.
EU31-1 through EU31-5: 5 Caterpillar emergency generators each rated at 1,450 kW and firing No.2 fuel oil.
EU29-1: 1 emergency generator rated at 1,000 kW firing No.2 fuel oil.
EU7-3: 1 emergency generator rated at 500 kW firing No.2 fuel oil.

Separate Report? _X_ Yes ___ No Date _07/30/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Demonstrate compliance with the visible emissions limitations, control of nitrogen oxides, control of particulate matter, and control of carbon monoxide conditions by purchasing an engine certified to the emission standards in 40 CFR §60.4205(b). Terms 3a.3.A, C, D, & E.

Emission Units (Unit IDs):

EU24C-6: 1 MTU Detroit Diesel emergency generator rated at 1,000 kW firing No.2 fuel oil.

EU29-1: 1 emergency generator rated at 1,000 kW firing No.2 fuel oil.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Maintain a fuel supplier certification including a statement from the fuel supplier that the diesel fuel oil complies with the specifications of 40 CFR 80.510(b). Term 3a.3.B.

Emission Units (Unit IDs):

EU24C-6: 1 MTU Detroit Diesel emergency generator rated at 1,000 kW firing No.2 fuel oil.

EU29-1: 1 emergency generator rated at 1,000 kW firing No.2 fuel oil.

Separate Report? _X_ Yes ___ No Date _07/30/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Require installation operators to attend in-State operator training programs once every 3 years on combustion optimization that are sponsored by the Department, the EPA, or equipment vendors. Term 4.1.B.(1).(d).
2. Operate and maintain the boiler in a manner to prevent visible emissions. Term 4.3.A.
3. Maintain an operating and maintenance plan to minimize NO_x emissions based on the recommendations of equipment vendors and other information including the source's operating and maintenance experience. Term 4.3.B.
4. Maintain a record of combined gas usage by the boilers based on meter readings and use this data to estimate fuel usage for each boiler. Term 4.3.C.

Emission Units (Unit IDs):

EU97-1: 1 Lochinvar, natural gas fired boiler rated at 1.118 MMBtu/hr.

EU302-1: 1 natural gas fired boiler rated at 1.7 MMBtu/hr.

EU302-3: 1 natural gas fired boiler rated at 1.44 MMBtu/hr.

EU35-1: 1 Lochinvar, natural gas fired space heating boiler rated at 1.5 MMBtu/hr.

EU35-2: 1 Lochinvar, natural gas fired space heating boiler rated at 1.5 MMBtu/hr.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Conduct an annual one-minute visual observation of the spray booth exhaust. Term 5.3.A.
2. Maintain a preventative maintenance plan for the spray booth system that describes the maintenance activity and time schedule for completing each activity. Term 5.3.B.
3. Perform maintenance activities within the timeframes established in the plan and shall maintain a log with records of the dates that maintenance was performed. Term 5.3.B.
4. Maintain a description and the volume of each coating used, the total weight and VOC content of each coating used on a monthly basis, a copy of MSDS/VOC data sheet for each coating used, records of monthly inspections of work practices, records of the quantity of materials used in the paint spray booth and the hours of operation of the booth. Term 5.3.C.

Emission Units (Unit IDs):

EU4-2: Paint booth #1 with electric drying oven.

EU4-3: Paint booth #2.

EU4-6: Curing oven.

EU5A-3: 1 paint spray booth equipped with a filter. Paint Booth #3.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Conduct an annual one-minute visual observation of the exhaust. Term 6.3.A.
2. Maintain a preventative maintenance plan for the plating shop that describes the maintenance activity designed to minimize air emissions and time schedule for completing each activity. Term 6.3.B.
3. Perform the described maintenance activities within the timeframes established in the plan and shall maintain a log with records of the dates that maintenance was performed. Term 6.3.B.
4. Submit for approval a demonstration of compliance with 40 CFR Part 63, Subpart N prior to engaging in chromium electroplating or chromium anodizing activities. Term 6.3.C.

Emission Units (Unit IDs):

EU5-2: Process Line A equipped with a scrubber. Tanks A-1, A-2, A-4, A-6, A-8, A-9, and A-11.

EU5-4: Process Line N equipped with a scrubber. Tanks N-1, N-3A, N-3B, N-5A, N-5B, N-5C, N-7, and N-8.

EU5-6: Process Lines B and E equipped with a scrubber. Tanks B-1A, B-1B, B-3, B-4A, B-4B, B-6, B-7, B-8, B-10, E-1, E-2, E-3, E-5, E-7, and E-8.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Conduct an annual one-minute visual observation of the scrubber exhaust. Term 7.3.A.
2. Maintain a preventative maintenance plan for the scrubber that describes the maintenance activity and time schedule for completing each activity. Term 7.3.B.
3. Perform maintenance activities within the timeframes established in the plan and shall maintain a log with records of the dates that maintenance was performed. Term 7.3.B.
4. Check MSDS and material usage to ensure that the total VOC emissions do not exceed 20 lbs per day. Term 7.3.C.
5. Ensure MSDS contain VOC data based on EPA Method 24 testing or equivalent. Term 7.3.C.
6. Maintain records of material usage. Term 7.3.D.

Emission Units (Unit IDs):

EU30-1: Chemical Vapor Deposition process followed by 3 gas reactor columns and scrubber.
EU30-2: Ion Implantation process equipped with a scrubber.
EU30-3: Dry chemistry process equipped with a scrubber.
EU30-4: Oxidation process equipped with a scrubber.
EU30-5: Blasting process equipped with a scrubber.
EU30-6: 2 thin film units equipped with a scrubber.
EU30-7: 4 wet chemistry processes equipped with a scrubber.
EU30-8: 4 photolithography processes equipped with a scrubber.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

None. The unit is not operational.

Emission Units (Unit IDs):

EU7-4: 1 Ultrasonic vapor degreaser with solvent capacity of 9.2 gals equipped with 2 cooling coils and a power sliding door.

Separate Report? __ Yes _X__ No Date _ N/A Attachment ID _____

Monitoring, Data, or Analysis (describe and cite):

1. Monitor a fuel drop to verify that the Stage 1 vapor balance system is used at least once for every 10 fuel deliveries that are received. Term 9.3.
2. Monitor a fuel drop for liquid spills and check the hose fittings and connections for leaks and proper operation, at least once for every 10 fuel deliveries during a delivery. Term 9.3.

Emission Units (Unit IDs):

EU27-2: 1 5,000 gals AST storing E85 (mixture of gasoline and ethanol) equipped with a Stage 1 vapor recovery system.
EU27-3: 2 5,000 gals ASTs each storing gasoline and each equipped with a Stage 1 vapor recovery system.

Separate Report? _X_ Yes ___ No Date _03/27/2019_ Attachment ID _____

Section C (Deviations Already "Promptly" Reported)
Summarize all deviations from permit terms already reported on form during the reporting period. Copy this page as many times as necessary to include all such deviations. Describe and cross-reference the permit terms and report the start and end dates and times of the deviations (mo/day/yr, hr:min). Use the 24-hour clock. Also specify the date when the written deviation report was submitted to the permitting authority (If written report required, but not submitted, leave the date field blank). Note that failure to submit a deviation report, or late submittal, is a deviation that must be reported in the Section D.

Permit Term for Which There was a Deviation: No deviations already promptly reported.

Emission Units (unit IDs):

Deviation Start _____/_____/_____ ____:____ End:_____/_____/_____ ____:____

Date Written Report Submitted ____/____/_____

Section D (Deviations Reported Semiannually)

This section is for deviations reported for the first time in this six-month monitoring report. Describe and cross-reference the permit terms and emission units that apply to the deviation. Copy this page as many times as necessary to include all such deviations. Report the beginning and ending times (mo/day/yr, hr:min) for each deviation. Use the 24-hour clock. Briefly explain (if known) the probable cause of each deviation. If any corrective actions or preventative measures have been taken to avoid these in the future, briefly describe the measures, including when they occurred.

Permit Term (for Which There is a Deviation): No deviations reported Semiannually.

Emission Units (unit IDs):

Deviation Start _____/_____/_____ ____:____ End:_____/_____/_____ ____:____

Probable Cause of Deviation:

Corrective Actions or Preventative Measures Taken: