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VIA ELECTRONIC CORRESPONDENCE

July 29, 2016

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Environment and Natural Resources Division
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RE: DOJ No. 90-5-1-1-4022/1
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Attn: Compliance/Enforcement Section
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RE: Consent Decree (Case: No.: 1:12-cv-24400-FAM)
Reference DOJ Case No.: 90-5-1-1-4022
Section VI – Pump Station Operations and Preventative Maintenance Program (PSOPMP), Paragraph 19(f)
Response to EPA/FDEP Comments on PSOPMP Transmittal Letter

Dear Sir/Madam:

The Miami-Dade Water and Sewer Department (WASD) is in receipt of your request for additional information related to the April 2, 2015 submittal of the Pump Station Operations and Preventative Maintenance Program (PSOPMP) as required by Paragraph 19.(f) of the above referenced Consent Decree (CD). Following please find the restatement of EPA/FDEP comments and WASD's responses, clarification, and/or additional information to your questions and/or comments.

1. As with the Gravity Sewer System Operations and Maintenance Program, the PSOPMP outlines a "phased approach" of implementation, based upon approval of other CMOM Programs, as well as future funding of the capital and/or staffing needs to implement the PSOPMP. Miami-Dade shall provide an overall CMOM Programs implementation schedule by March 31, 2016, as well as a more detailed implementation schedule for the PSOPMP, including any updates as implementation progresses.

RESPONSE: The CMOM consolidated implementation schedule provided on March 31, 2016 includes a detailed implementation schedule for the PSOPMP. For your convenience, Attachment A provides a copy of the March 31, 2016 submittal. It is Miami-Dade's objective to re-baseline the schedule, as applicable, when the respective plans are approved. Additionally, along with the monthly CD program schedule submitted as handouts at the monthly EPA/FDEP/WASD CD Program Update Meeting, CMOM consolidated implementation schedule monthly updates will be provided.

2. The Key Performance Indicator (KPI) table (Table 04.1) includes an annual number of pump station related SSO events as nine (9). The goal should be zero. This KPI appears to include both equipment failure and natural causes (e.g., lightning, etc.). Natural causes outside the control of Miami-Dade should not be counted. Miami-Dade should define what is included in natural causes.

   RESPONSE: The goal was established as being a reasonably achievable goal and does include all PS-related SSO events, including those from natural causes. WASD is aware that regulatory agencies have a target of zero SSO events.

   The CD definition of an SSO event does not exempt discharges associated with natural causes from being classified as an SSO event; therefore, we did not propose an SSO-related KPI discounted by those SSO events that could occur under circumstances of natural causes. Miami-Dade defines natural causes outside the control of Miami-Dade as geological events (such as sinkholes), hydrological events (such as floods caused by extreme weather events, e.g. those that are less frequent than the 2-year design storm), and meteorological events (such as hurricanes, thunder storms, tornadoes, and/or wildfires). Excluding SSOs caused by such and/or similar natural causes, Miami-Dade agrees to a goal of zero pump station related SSOs.

3. The CD was drafted and approved based on Miami-Dade's existing Pump Station O&M program with needed improvements. It is not required to continue following the current program if a better arrangement can be developed. For example: currently, to replace a pump, Miami-Dade could have a number of crews work at a pump station: Electrical Crew, Mechanical Crew, Structural Crew and Vacuum Truck crew. Miami-Dade should consider having an only one crew with staffing that covers some or all of the 4 types of work (e.g. a crew could consist of a mechanic, one or two helpers, and an electrician). This three or four man crew can perform all needed repairs and maintenance at the pump station.

   RESPONSE: The Pump Station Division (PSD) and WASD will consider alternative crew compositions as part of the annual budget cycle and crew efficiency and productivity evaluation. It is the intent of the PSD to evaluate the re-organizing of work crews into mixed trade crew composition once augmented staffing levels, as provided in PSOPMP Table 09.2, allow for such a re-organization.

4. The PSOPMP outlines that Miami-Dade will have two schedulers for all 1,000 plus pump stations. This appears to be inadequate. In addition, dispatch of emergency crews needs to have access and working knowledge of the system. There are systems available to allow actual location of every vehicle working in the Water and Sewer Department (WASD) at any given time. Is something like that used by MDWASD?

RESPONSE: The two schedulers identified in PSOPMP Table 09.2 are additional schedulers to complement the currently budgeted two schedulers, for a total of four budgeted planner/schedulers (one per service area). WASD believes this to be adequate staffing for O&M activities. As PSOPMP progresses, PSD will re-evaluate the need for additional planner/schedulers, as part of the annual budget cycle, to address additional workload requirements that may arise. The dispatch of emergency crews is coordinated by the WASD Communications Center with PSD supervisors. Once PSD takes over the alarm monitoring function from the Communications Center (refer to response to Item 6), all parties involved in the dispatch of emergency crews will have access and working knowledge of the system. WASD does not currently use Automatic Vehicle Location (AVL) technology on its maintenance vehicles, but is currently exploring the use of AVL technology on its fleet.

5. The PSOPMP appears to generate huge amounts of data. The past program also generated huge amounts of data. The PSOPMP should include how to keep and use the data. Be specific.

   RESPONSE: Operational and maintenance data related to the PSOPMP is managed in the following systems:

   a. *Supervisory Control and Data Acquisition (SCADA). 3-minute SCADA data for pump station operations is captured into a sequel server database. Some of this data is aggregated hourly and placed into a historical Oracle database. SCADA data is used by PSD to report pump station run times to the Department of Regulatory and Economic Resources, Division of Environmental Resources Management (RER-DERM). Additionally, field supervisors monitor pump station run times from SCADA to determine corrective maintenance needs of pump stations.*

      The SCADA alarm data is used to dispatch emergency crews to pump station sites for corrective actions. The SCADA historical data is used to identify trends that indicate potential problems so that crews can be dispatched for corrective maintenance.

   b. *Elapsed Time Monitoring System (ETMS). ETMS is a system developed by WASD to record pump station equipment runtime data that is manually recorded by field personnel from the elapsed time clocks on a monthly basis and stored in Oracle.*

      ETMS data is used to verify SCADA run times being reported to RER-DERM for single speed stations. The equivalent run time for the remaining stations is computed from power usage. The ETMS data is used in conjunction with SCADA run times to monitor Nominal Average Pump Operating Time (NAPOT) conditions at pump stations. When NAPOT values exceed established threshold values, the pump station is referred to the Pump Station Improvement Program for evaluation of appropriate corrective action.

   c. *Enterprise Asset Management System (EAMS). EAMS is used to track preventative and corrective maintenance activities, spare parts, materials, equipment, and labor consumed in maintenance activities. As defined in the Information Management System Program (IMSP), the PSD EAMS configuration will be updated to provide a more robust solution that leverages enhanced EAMS software and mobile computing functionality.*

EAMS work orders are issued to dispatch crews. Completed work orders are used to assess costs and to ensure work has been completed. Once fully re-implemented as part of the EAMS business process review and functionality enhancements work currently underway, EAMS data will be used to schedule predictive maintenance, track and manage budgeting and resource allocations, improve asset repair versus replacement decisions by PSD managers, assist WASD managers in capital planning, and report grease hot spots to RER-DERM for enforcement of the Fats, Oils, and Grease (FOG) ordinance. Use of the full spectrum of EAMS capabilities is part of the CMOM Program's cycle of continuous improvement.

Also as discussed in the IMSP, a set of Management IMS tools will be developed to allow reporting of data from these systems (and others) through a single user interface.

6. Paragraph 19.(f).(i). of the CD requires that the PSOPMP include the identification of the means and modes of communication between Pump Stations, field crews, and supervising staff. If the WASD is not getting timely recordings of communications from the Police Department, the WASD should investigate other options of communications. In addition, because the communications center is in control over remotely operating Pump Stations via SCADA, but lacks the knowledge on when or how to do so without input from the WASD's Pump Station Division (PSD), Miami-Dade should outline when the PSD will take over control of SCADA remote operations.

   RESPONSE: While WASD must integrate and cooperate with other County departments including the Police Department, the Communications Center is part of the WASD operation. The Police Department issue is only related to encountered delay in retrieving recordings of previous radio communications, as may be needed from time to time, but does not hinder WASD operations.

   Furthermore, pump stations are currently not operated remotely via SCADA by the Communications Center. The Communications Center receives pump station SCADA alarms and coordinates response and dispatch with PSD supervisors. Finally, under PSOPMP implementation, the Fiscal Year 2017/2018 planned budget includes staff for PSD to take over the pump station alarm monitoring function from the Communications Center in order to better manage and to reduce the response time to SCADA alarms.

7. Paragraph 19.(f).(ii). of the CD requires that the PSOPMP include the technical specifications of each Pump Station within the WCTS. The PSOPMP outlines the Pump Stations by type (e.g. Master Pump Station; Booster Pump Station, etc.) but does not outline the technical specifications of each Pump Station, as that information is being updated in Miami-Dade's Enterprise Asset Management System (EAMS). Miami-Dade shall provide a schedule for updating the technical specifications of each Pump Station within the WCTS in the EAMS by March 31, 2016, including hiring of any staff to complete data entry into EAMS. In addition, the submittal makes it appear that paper copies will no longer be kept. What is the backup protocol for an all-electronic system?

   RESPONSE: The CMOM consolidated implementation schedule submitted on March 31, 2016 includes a schedule for performing an asset inventory and updating the technical specifications of each pump station within the WCTS in the EAMS. As part of the EAMS business process review and functionality enhancements work currently underway, strategies for outsourced and/or hired staff are being developed to assess and schedule the required data collection and data entry effort. Additionally, EAMS data is backed up nightly and stored on county servers.

8. Paragraph 19.(f).(iii) of the CD requires that the PSOPMP include a description of each Pump Station monitoring system which shall continuously monitor, report, and transmit information for each Pump Station. Only a brief overview of the current Pump Station monitoring system was provided, along with the recommendation that Miami-Dade develop and implement a SCADA Master Plan. Please provide a schedule for development and implementation of this SCADA Master Plan by March 31, 2016.

   RESPONSE: A detailed description of the SCADA monitoring system addressing the requirements of Paragraph 19.(f).(iii) was provided in Section 05.04 of the PSOPMP. The SCADA Master Plan schedule was not included as part of the CMOM consolidated implementation schedule submitted on March 31, 2016. The development of the SCADA Master Plan is scheduled to begin by November 1, 2016 and be completed by February 1, 2018. A schedule for implementation of the plan will be developed as part of the SCADA Master Plan.

9. Paragraph 19.(f).(iv). of the CD requires that the PSOPMP include written preventative operations and maintenance schedules and procedures. It appears this submittal did not include any written schedules or procedures. The submittal further breaks down the work into electrical, mechanical and structural, but does not note if these are 3 different crews or is there a qualified staff in each of the 3 areas on one crew?

   RESPONSE: The preventative maintenance schedules found in Section 07.02.1 of the PSOPMP, page 07-12 are programmed into EAMS and maintained by the planner/schedulers. The written preventative maintenance procedures can be found in Section 07.01.2 and Appendix C of the PSOPMP. As currently staffed, maintenance crews are composed by trade (i.e. three different crews for electrical, mechanical, and structural). Refer to response to Item 3 for more details.

10. Paragraph 19.(f).(iv).(B).(2) of the CD requires that Miami-Dade observe and document wet well conditions, including grease and/or debris accumulation. While this activity appears on the Appendix C checklist for mechanical routine maintenance (Appendix C, pg. C-24, Item 16) and the checklist for structural routine maintenance (Appendix C, pg. C-28, Item 12), it appears this information is not being used as the PSOPMP lists that additional staff is needed to inspect and clean wet wells (pg. 03-4 and Section 07.01.1, pg. 07-3). Please explain this discrepancy. Is Miami-Dade capturing this information on the mechanical routine maintenance and/or structural routine maintenance checklist(s) but just not following up with needed cleaning, or are the mechanics and/or structural employees not even recording the information on the checklist(s)?

    RESPONSE: Routine inspections performed by all trades include documenting grease and/or debris accumulation following the procedures provided in Appendix C of the PSOPMP. The additional staff required identified in PSOPMP Table 09.2 is intended to allow for dedicated wet well cleaning crews that are currently not available.

11. Paragraph 19.(f).(v). of the CD requires the PSOPMP include written emergency/reactive operations and maintenance procedures. No procedures were given except for when Miami-Dade implements the Overflow Prevention Plan (generally during hurricanes and/or widespread flooding events). Section 06.05 of the PSOPMP states that SOPs will be developed in the SORP. In addition, there was no evaluation for the need for additional emergency/reactive equipment (e.g. portable generators and/or portable bypass pumps) as required by Paragraph 19.(f).(v).(D). of the CD.

RESPONSE: Written emergency/reactive operations and maintenance procedures are provided in Sections 06.03 and 06.04 of the PSOPMP. It is WASD's intent not to duplicate detailed emergency/reactive operations and maintenance procedures established in SORP by repeating them in the PSOPMP, but to incorporate by reference in the PSPOMP. Detailed post-event analysis procedures are described in SORP Section 08.02. Additionally, based on historical pump station related SSO data in the quarterly reports, it was determined that the PSD is adequately equipped with emergency/reactive equipment to handle emergency situations and abnormal events. Requirements for emergency power and portable pumps will be included in the updated technical specifications to be stored within EAMS.

12. Paragraph 19.(f).(vi). of the CD requires that the PSOPMP include an inventory management system. This was described in very general terms in the submittal, but the CD requires a specific list of critical equipment and critical spare parts and where those critical resources are housed (including, if held by third parties). Please provide those lists and locations. In addition, the PSOPMP (Inventory Control System) also describes how, when the minimum allowable inventory threshold is reached, the system notifies the Stores Division of the WASD of the need to reorder. There should be a means to ensure prompt acquisition of a high priority to avoid delays. Finally, the PSOPMP outlines that when new pump stations are dedicated to Miami-Dade, the installed pumps and other equipment should be evaluated with respect to existing spare parts (e.g. if the installation includes equipment not previously covered in critical spare parts), Miami-Dade should consider whether they should require provision of the recommended spare parts as a condition of the construction and thus, require those spare parts as part of the acceptance of the pump station.

    RESPONSE: Appendix G of the PSOPMP provides the list of PSD "insurance items", which include critical spare parts, that are stored at the WASD Inventory Storerooms listed in Section 08.01 of the PSOPMP. Additionally, prompt acquisition of high priority items (defined as "insurance items" in the PSOPMP) is managed by WASD's Stores and Procurement Division via the use of County contracts with multiple manufacturers necessary to supply parts listed as "insurance items". The minimum stock thresholds set for "insurance items" are set in such a way to ensure there are no delays in availability of these parts. Finally, when new pump stations are dedicated to Miami-Dade maintenance contracts, spare parts lists, as well as operation manuals are required to be provided to WASD. Any "insurance items" identified in the spare parts lists for new pump stations that were not previously stocked are added to the system prior to acceptance of new pump stations.

13. Paragraph 19.(f).(viii). of the CD requires the PSOPMP include a staffing and funding plan sufficient to allow implementation of all the CD requirements of the PSOPMP. Miami-Dade outlined additional staff, equipment and training needs of almost $24 million. Was this amount proposed in the FY 2016-2017 budget and if not, what is the length of time Miami-Dade believes is necessary to implement the PSOPMP fully?

    RESPONSE: The cost figures outlined in Table 09.3 of the PSOPMP are the estimated incremental budgetary amounts required by WASD over the course of the 5-year PSOPMP implementation period provided with the CMOM consolidated implementation schedule submitted on March 31, 2016. PSOPMP budgetary needs are evaluated annually as part of WASD's annual budget cycle, which includes crew efficiency and productivity evaluation, and subject to revision as appropriate.

The above responses serve to clarify the intent of the PSOPMP submitted to EPA/FDEP on April 2nd, 2015 to fully comply with the requirements set forth in Paragraph 19(f) of the CD. Should you have any further questions regarding this matter, please call me at (786) 552-8571.

Sincerely,

Hardeep Anand, PE
Deputy Director

Attachments: Attachment A – CMOM Consolidated Implementation Schedule

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