

EFFICIENT PLANNING AND IMPLEMENTATION LEAD TO CRITICAL MONTGOMERY COUNTY WATER INFRASTRUCTURE IMPROVEMENTS

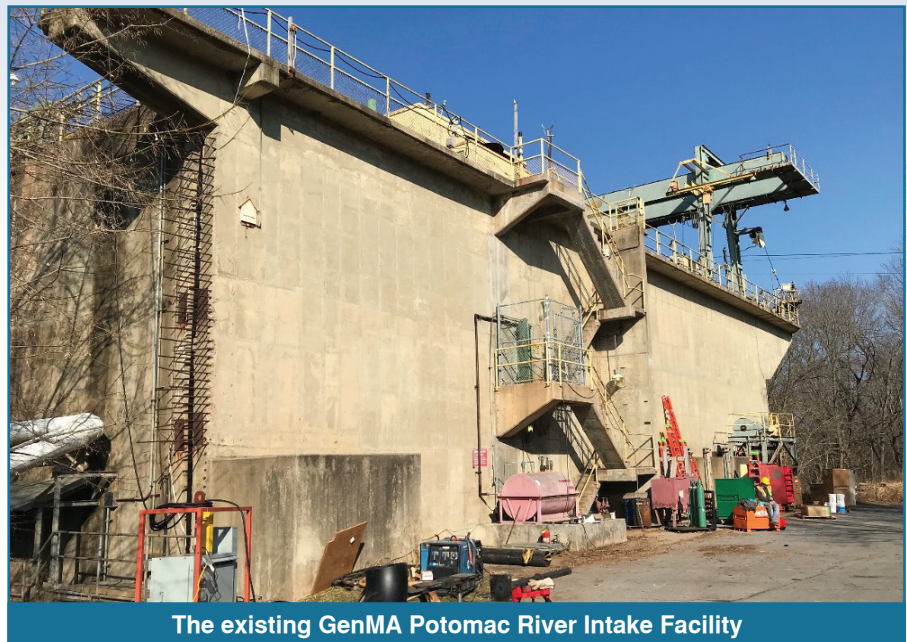


In May 19, 2020, the Authority received notification from GenOn Mid-Atlantic LLC (GenMA) that the coal

fired operation at the Dickerson Generating Station would be shut down on January 14, 2021. This action relieved GenMA of its obligation to provide the Montgomery County Resource Recovery Facility (RRF) with water, or access to water, from the Dickerson Generating Station's water discharge flume. Based on this notification, the Authority had a total of 241 days to access, install, test and activate a new water source for the RRF.

The Authority also had to communicate the impact of this newfound project to Montgomery County officials so that they could allocate funds for maintaining water supply to the RRF.

The RRF is the County's primary municipal solid waste management facility. It converts between 20,000,000 and 24,000,000 pounds of waste-to-energy each week. A dependable water supply is critical to the RRF operation and any lapse in RRF operations would have a detrimental impact on the residents of Montgomery County. As a result of this action, the



The existing GenMA Potomac River Intake Facility

County and the Authority had two options:

- 1) build a new river intake structure on the Potomac River; or
- 2) forge an agreement with GenMA to utilize the existing river intake structure.

Building a new river intake was estimated to cost between \$10 million and \$12 million and

would take 12-24 months to permit and construct. With the January 14 deadline looming, the County and the Authority determined that forging an agreement with GenMA was the most time and cost effective solution.

GenMA initially requested to terminate the existing land and water use agreement between GenMA and the Authority. After further review,

Continued on Page 2

3

Michael Teixeira Joins Authority Staff as Operations Inspector

4

Phillip S. Harris Joins Authority Board



Continued from Page 1

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terminating the agreement would have affected other operations, so the parties decided to amend the agreement. The Authority and the County began discussions and negotiations with GenMA that resulted in the Authority using a portion of the existing river intake structure and installing new water supply infrastructure to supply the RRF and GenMA's gas turbine operation. The Authority also assumed operation and maintenance of the intake structure.

The Authority retained ARM Group to provide and implement a design that would utilize the GenMA intake structure. ARM and their subcontractors McKim and Creed, and Bowen Engineering developed a plan to decommission and remove two 5,500 gallon-per-minute (GPM) GenMA owned water pumps; drain and disconnect an existing 78 inch water intake pipe that runs from the intake structure, under the C&O canal, to the coal facility; and install new pumps, valves and piping to enable connection to the existing RRF water connection.

ARM and its subcontractors removed two behemoth 5,500 GPM water pumps and replaced them with two 1,600 GPM energy efficient variable speed pumps to provide primary and backup river water intake. The 78 inch intake pipe was the conduit for a new 12 inch river water intake pipe, a 6 inch discharge pipe, and multiple conduits for electrical and communications wiring and controls. New piping had to exit the 78 inch intake pipe and make a 90 degree right turn to meet up with the existing RRF underground intake and discharge piping a few hundred feet away. Forty foot sections of 12 inch and 6 inch HDPE pipes were heat fused together to make a single pipe without couplings for each of the straight runs of piping.

Construction began on September 23, 2020 and went as smoothly as could be expected. Exceptional weather allowed construction to progress at a steady pace. As the January 14 deadline loomed, the construction team became more confident that the project would be



Pumps and piping installation complete

completed on time. During the last week of the project, several critical milestones were achieved. On January 12, electric power from the RRF was switched on and the new pumping system, seals and lines were tested. The permit to operate was received from MDE the next day. Lastly, on January 15, GenMA shut down their water supply system.

Sophisticated water supply infrastructure must be monitored and serviced, so the Authority conducted a search to secure a contractor to operate and maintain the new pumping system and other intake structure equipment. The search resulted in SCS Field Services being retained by the Authority to perform operations and maintenance. Maintaining the pumping system and intake structure brings challenges beyond system operation and maintenance, including icing conditions during cold weather, seasonal debris levels in the river, and operating and maintaining the traveling screen system that keeps fish and debris out of the river water intake.



New HDPE intake and discharge piping to RRF intake



Family at the C&O Canal



Continued from Page 2

The Dickerson Generating Station was built in 1958 and has supplied water to the Dickerson, MD section of the C&O Canal National Park since then. This is the only watered section of the C&O Canal within 70 miles. The C&O Canal provides a unique ecosystem habitat for a wide variety of wildlife and is an extremely popular family recreation area. Without water from the Dickerson Generating Station, this historic and environmental treasure would run dry. The Authority and the County agreed that the new pumping system would continue to supply water to the C&O Canal. As part of the project, the Authority's team of contractors designed an electronic valve system to regulate the flow of water to the canal. Installation of the valve and final connection to the canal will be completed this month.

The typical timeline for a project of this size and significance is six to 12 months. The January 14, 2021 hard deadline created complexities and difficulties well beyond the typical time constraints common on any construction project. Employees and contractors worked extended hours and over multiple holidays to ensure that the deadline was met. Even with two water flow interruptions for piping and electrical service switchovers, RRF operations were not impacted during the project. Thanks to the diligence and hard work of everyone involved, the entire project from system design to the new system providing water, was completed in less than four months.

The dedication, cooperation and teamwork demonstrated by the stakeholders made this project a success.

MICHAEL TEIXEIRA JOINS AUTHORITY STAFF AS OPERATIONS INSPECTOR



Michael Teixeira recently joined the Authority as an Operations Inspector for the Montgomery County

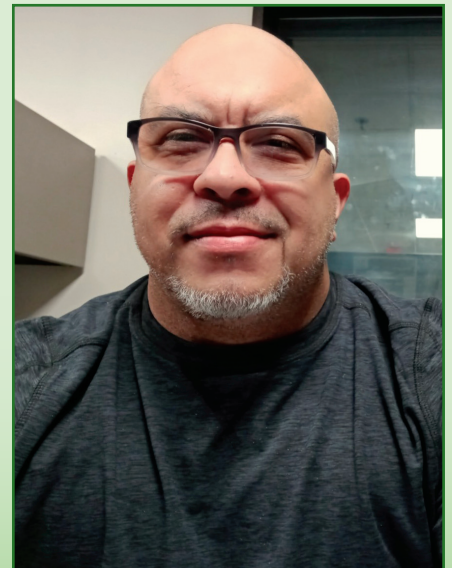
Transfer Station. His responsibilities at the facility include daily inspections to ensure that the Authority's contractor, Covanta, is adhering to the environmental permitting requirements, the requirements of the operating contract and required safety measures. Mr. Teixeira also helps with coordination of facility improvements undertaken by on-site contractors in order to ensure operations continue uninterrupted.

His professional background includes more than 20 years in service to the

Country, four years as a Marine and 17 years as a member of the US Coast Guard. He most recently has been studying General Engineering at Northern Virginia Community College.

As an infantryman in the United States Marines Mr. Teixeira spent time in Okinawa Japan, Bali Indonesia, Cairns Australia and Korea. His experience includes assignments in safety coordination, maintenance augmentation, welding fabrication, hazardous materials and building maintenance.

Mr. Teixeira resides in Dumfries, VA with his wife Keisha, who also is a 20-year Army veteran, his daughter and three sons. He enjoys fishing, playing sports and traveling with his family.



Michael Teixeira-
Operations Inspector

PHILLIP S. HARRIS JOINS AUTHORITY BOARD



Phillip Harris-
Authority Board

Phillip Harris has been appointed by Governor Hogan as Frederick County's representative on the Authority's Board. His appointment was made in December 2020. Mr. Harris is Division Director for the County's Division of Solid Waste and Recycling Management. He has been with Frederick County since 1998 serving in progressively responsible positions and was appointed to lead the division as director in 2004.

As the newest member of the Authority Board, Mr. Harris replaces Michael G. Marschner, who joined the Authority Board in 2004 and served as Board Treasurer from 2013 until his retirement in December.

In his current capacity, Mr. Harris manages a closed landfill and an active

subtitle D landfill (both with active gas extraction), a solid waste processing and transfer station and a yard waste composting program. He also is responsible for a variety of allied recycling programs, including the County's largest ongoing direct curbside service program, which services more than 80,000 single family homes. These activities are all conducted as part of Frederick County's Solid Waste Enterprise Fund.

Prior to working for Frederick County, Mr. Harris worked with State, Federal and private sector facilities and programs. His educational background is in business administration with a focus on accounting. The Authority staff will benefit from his vast experience and we look forward to working with him in his new capacity as an Authority Board Member.



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