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## **Niagara Falls Water Board Issues Discharge Incident Report to NYS Department of Environmental Conservation**

*AECOM provides official examination of operational details surrounding July 29th incident involving Lower Niagara River*

*Effort further analyzed root causes and possible short/medium/long-term responses to eliminate possibility of repeat occurrences*

**Niagara Falls, NY** – The Niagara Falls Water Board (NFWB) officially submitted a detailed report to the New York State Department of Environmental Conservation (DEC) today in response to the DEC’s request for documents and information regarding the discharge of dark water into the Niagara River gorge on July 29<sup>th</sup>, 2017. In its response, the NFWB honored its commitment to the DEC and the people of Niagara County and New York State in seeking to better determine the cause of the July 29<sup>th</sup> discharge, as well as proposing various possible short-term, medium-term and long-term actions to prevent a repeat discharge occurrence of similar nature.

“AECOM and our extended professional team has worked diligently over the last few weeks to assemble and review as much incident detail as possible, in order to ensure that we looked at every aspect of the July 29<sup>th</sup> discharge,” said Jim Perry, NFWB Director of Administrative Services.

Although the NFWB’s review of operations at its Water Resource Recovery Facility (WRRF) remains ongoing, the September 1<sup>st</sup>, 2017 report is based on the best information available to date and extended interviews with all appropriate NFWB personnel. The review of the plant will continue for the foreseeable future.

### **Key Findings:**

As was described by the NFWB in its 2015 Turbidity Report to the NYSDEC, the periodic discharge of turbid, colored water from the WRRF is caused primarily by systemic issues at the WRRF which arise out of the fact that technology being used at the WRRF is no longer the most appropriate treatment technology for the WRRF’s current waste stream, which has changed sufficiently in the 40 years since the WRRF became operational. This current technology causes difficulties in the management of sulfide generated at the plant, which can periodically result in the production of odors and wastewater which contrasts in color with the waters in the Niagara River gorge, despite the diligent efforts of the operators of the

WRRF. These difficulties are exacerbated by the fact that the effluent outfall for the WRRF discharges to the Niagara River gorge at the surface of the water in an eddy current adjacent to the Rainbow Bridge and the Maid of the Mist docks.

The NFWB has concluded that the release of dark water to the Niagara River gorge on July 29, 2017 occurred while it was dewatering a sedimentation basin (SB#5) in preparation for scheduled maintenance of the basin, as well as while implementing contracted upgrades and improvements to the basin itself. As it has done for many years, SB#5 contents were being pumped to the chlorine contact tank (CCT), where its flow was mixed with chlorinated effluent from the WRRF's carbon filters and discharged to the Lower Niagara River, as allowed under its permit with the NYSDEC.

The NFWB has determined that the darkened discharge of July 29<sup>th</sup>, 2017 occurred when the pump ran longer than intended because of a misunderstanding between employees on duty that day. Verbal instructions were given at the commencement of the dewatering operation on July 29<sup>th</sup> that the "primary" operator on duty should turn off the pump when the plant's effluent exiting the CCT became dark in color. The NFWB has concluded that, if these instructions had been successfully communicated and understood, the discharge of dark water from the CCT to the plant effluent would have been minimal. However, due to a misunderstanding, this procedure was not followed and the pump was allowed to continue pumping until a significant amount of settled material had been pumped to the Niagara River.

In order to prevent a re-occurrence of this incident from happening during dewatering operations, the NFWB will implement new procedures for emptying or dewatering any basin or tank in the future. In addition, to improve routine operations, the NFWB proposes that the WRRF's sludge removal capacity be improved and the location of the pump in SB#5 be raised/modified to reduce the possibility that sludge-containing water from SB#5 will be discharged to the CCT. Until these measures are completed, the NFWB has directed its filter backwash water in SB#5 to the head of the plant (rapid mix tank) for re-treatment before it is discharged. Once such recommended improvements occur, the NFWB believes that filter backwash can be re-directed back to SB#5 and discharged to the CCT as part of our routine operations.

The NFWB also believes that it should review its long-standing practice of discharging SB#5 effluent to the CCT along with possible measures to improve the facility's overall disinfection process (the latter of which were detailed in the NFWB's detailed Turbidity Study, submitted to the NYSDEC in 2015). In addition, the study included alternatives to improve routine operations to minimize the visual contrast of the outfall. The NFWB is committed to work with the NYSDEC to determine how best to implement these short and medium term options.

It is unknown at this time whether the above measures will completely eliminate the operational problems at the WRRF at all times of the year; however, it is believed that these measures warrant full exploration in the short to medium term. If such measures do not sufficiently minimize the production of sulfide under all operating conditions (especially during summer months), the NFWB believes the following two (2) recommendations from the Turbidity Study report should be given serious consideration:

1. Consider modifying or relocating the outfall in the Niagara River Gorge to increase dispersion of WRRF effluent to mitigate visible contrast issues. This will require the NFWB to seek and obtain a significant funding source (in the \$15M-\$20M range) that is beyond the means of the NFWB's ratepayers; and/or,
2. Consider changing the treatment technology used at the WRRF in the long term from a physical chemical treatment process to an aerobic biological treatment process, which is appropriate in light of the changes to waste stream characteristics since the WRRF became operational 40 years ago. Before this alternative can be implemented, the NFWB would need to conduct a detailed alternatives evaluation, perform pilot testing of the most feasible technologies, develop a more accurate cost estimate, and obtain significant State/Federal funding to implement this long-term permanent measure. As with the previous recommendation, this measure (estimated to be more than \$100M+) is beyond the means of the NFWB's ratepayers.

**Additional Considerations:**

The NFWB is committed to treating wastewater from the City of Niagara Falls in the most safe, appropriate and lawful manner possible, as well as to providing these services in the most cost effective and efficient manner possible for its ratepayers. The board will continue to make any and all improvements necessary to do so.

The NFWB believes that the objective of protecting the beauty of Niagara Falls and the tourism industry that serves the region's visitors each year is shared by many stakeholders at the Federal, State and local levels. The board looks forward to working closely together with the DEC, the community and local elected officials to keep Niagara Falls a true Wonder of the World.

The NFWB will continue to provide periodic public and ratepayer updates on this matter as information becomes available. Updates will be available on the NFWB's website at [www.NFWB.org](http://www.NFWB.org).

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