

South Bay International Wastewater Treatment Plant

Update April 4, 2012 Spill

USIBWC Citizen's Forum
May 10, 2012





Background

- 1) New Programmable Logic Controller Installed March 22 at SBIWTP Headworks (controls Influent Pumping, Screening).
- 2) Original PLCs are outdated, at end of useful life, can no longer be repaired or obtained
- 3) Programming error caused PLC failure and shut down of influent pump station at 24:00 hours 4/4/12



PLC Failure Response

- 1) Headworks audible alarms are linked to PLC, so did not sound. SCADA indicated pumps were operational. Influent flow meter signal flatlined and effluent flow meter dropped to zero.
- 2) Two operators on duty believed flow signals were a SCADA problem, and that pumps were still operational.



Spill Background

- 1) Operators continued normal rounds until pump station flooding was observed at 2:45 hours on 4/4/12
- 2) Operations Supervisor was notified, and call outs were made, so that pumping of flow was resumed by 3:25 am.
- 3) PLC was reset by 0400 hrs, but pumps continued to be run in manual mode

Spill Details

- 1) Dry well filled with sewage, pump motors were partially submerged.
- 2) Motor damage resulted, causing some pumps to be inoperative and others suspect.
- 3) Spill resulted when dry well reached capacity and sewage flowed out through the collector pipe for Stewart's Drain diversion

SBIWTP Influent Dry Well Flooding



SBIWTP Influent Dry Well Flooding



Spill Details

- 1) Spill was not observed, but calculated based on flow at failure, flow at startup, and volume of dry well. First calculated at 2 MG, later revised to 1.5 MG
- 2) Veolia was instructed to file spill report per their contract and NPDES permit. OEM, County Health and City of SD, City of IB were notified via fax.

Spill Details

- 1) Mexico was advised that they may need to increase flow at Pump Station No. 1 at anytime should SBIWTP pump failures occur, and to shut down CILA Pump Station to reduce peak flows to system and avert potential electrical outage and spill from Pump Station 1.
- 2) Pumps were taken out of service two at a time so motors could be repaired.

Spill Details

- 1) CILA PS remained off until 5/2, when sufficient pump capacity was regained. Spill of 1.1 MG in Rio Alamar occurred on 4/24 due to broken line.
- 2) Pump Station 1 was awaiting a electrical transformer repair during April, and on 5/4 was shut down for 8 hours. SBIWTP took flow of 55 mgd for two hours.

SBIWTP Influent Dry Well



Veolia Actions

- 1) Audible alarm was installed apart from SCADA should PLC fail
- 2) Corrections to programming error was made on following day.
- 3) PLCs networked so that should any individual PCL fail, another will report the failure.
- 4) Motors repaired (two are still out)
- 5) Appropriate disciplinary action taken for 2 operators on duty

IBWC Actions

- 1) Investigative meeting held this week. Negative incentives will be assessed Veolia on several counts, based on performance matrix in contract
- 2) Implemented email notification process similar to Surf Report in lieu of fax notification
- 3) Increase frequency of meetings w/ Veolia and operational reports to include staffing issues

Further Actions

- 1) Provide for weekly river sample at DM Bridge during wet season through City monitoring contract
- 2) Veolia will be conducting reliability/integrity study of SCADA



Questions?

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