



TECHNICAL COMMITTEE MEETING MINUTES

Wednesday, June 21, 2023

4:30PM

Via VIDEO/TELECONFERENCE

Attendees:

Merritt Nesin	Chairman, Technical Committee
Ed Kelly	Committee Member
Steve Bagwin	Committee Member
William Brink, PE	Executive Director, WPCA
Ann Brown, P.E.	Supervising Engineer, WPCA
Robert Pudelka	Plant Supervisor, WPCA
Steve Pietrzyk	Collection System Supervisor, WPCA
Pete Scorziello	Synagro
Matthew Tabisz	Synagro

1. **Call to Order and Roll Call** – M. Nesin called the meeting to order at 4:30PM and announced the attendees as listed above.
2. **Approval of May 10, 2023 Meeting Minutes** - E. Kelly made a motion to approve the minutes of the May 10, 2023 Technical Committee Meeting; seconded by S. Bagwin. Motion carried 3-0-0.
3. **Public Comments** - None
4. **Review of Sludge Dryer Safety Measures and Changes Implemented to Prevent Recurrence of an Explosion Event** – Synagro presented the changes to the equipment and mode of operation to prevent another explosion. Equipment changes included Dust Hazard Analysis Upgrades and NFPA Code requirements. There is an extensive checklist to review before startup with a pre-start inspection to look for embers in the dryer drum after a hard shutdown. B. Brink asked what happens when the system loses power. Synagro responded that the computers have backup UPS and there is an automatic quenching system shut down. E. Kelly asked the age of the dryer before the explosion. Synagro answered 12 years. M. Nesin commented that the lessons learned from an incident like this should be applied to all operations. Synagro's PowerPoint presentation is attached and made part of these minutes.
5. **Discussion on Hazen's Proposal for a Primary Sludge Fermentation Feasibility Study, Phase 1** – W. Brink reviewed a proposal by Hazen to perform a study on primary sludge fermentation. The budget for the study is \$35,938. He explained that some of the treatment plant's primary sludge would be stored in a third gravity thickener that is not in use. Naturally occurring bacteria would act to decompose the primary sludge, creating readily biodegradable volatile fatty acids (VFA's) which would then be sent back to either the influent of the primary clarifiers or to the effluent from the primary clarifiers. The VFA's would improve nitrogen removal in the first anoxic zone of the aeration tanks, and potentially reduce the need for methanol addition to the second anoxic zone. This would enhance nitrogen removal and reduce methanol consumption, reducing operating costs. WPCA spent approximately \$135,000 on methanol last year. The study will require sampling which would give WPCA information about our primary sludge and help with decisions regarding the need for a digester. E. Kelly made a motion to proceed with the study, seconded by M. Nesin; motion carried 3-0-0.
6. **Discussion on Collection System** – S. Pietrzyk provided a summary of the Monthly Pump Station and Collection Systems Activities, which is attached and made part of these minutes.

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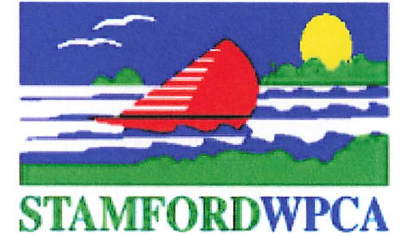
Via VIDEO/TELECONFERENCE

7. **Discussion on Plant Operations** – R. Pudelka reviewed the Monthly Operating Report and Equipment Update with the Committee, which is attached and made part of these minutes.
8. **Update on Engineering Studies and Designs** – A. Brown provided the committee with a Capital Projects Update including engineering studies and designs, which is attached and made part of these minutes.
9. **Update on Construction Projects** – A. Brown provided the committee with a Capital Projects Update including construction projects, which is attached and made part of these minutes.
10. **Old Business** - None
11. **New Business** – None

There being no further issues to discuss, E. Kelly made a motion to adjourn the meeting, seconded by S. Bagwin; motion carried 3-0-0. The meeting adjourned at 5:48pm.



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STAMFORD**
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SYNAGRO
YOUR PARTNER FOR A CLEANER, GREENER WORLD

Drying Facility Upgrades Review

Prepared for:
**Stamford Water Pollution
Control Authority**
Technical Committee

Presented by:
Synagro

June 21, 2023



PURPOSE AND TOPICS

PURPOSE

- Review dryer safety measures post-explosion
- Changes implemented to prevent recurrence of explosion event

TOPICS

1. Introductions
2. Operational Changes
3. System Upgrades

Synagro

Operations

- Peter Scorziello

Engineering

- Brian Cataldo

Commercial

- Matthew Tabisz



OPERATIONAL CHANGES

To minimize the likelihood for a recurrence of an explosion event, Synagro took the following steps prior to dryer restart:

- Review of all operating procedures and systems
 - Including hard shutdown procedures and prestart inspections after hard shutdown.
- Update of training materials for dryer operators
 - Annual training for all operators
 - Changes to the new employee safety training
- Facility upgrades to meet DHA standards
 - New hardware and software



OPERATIONAL CHANGES

To minimize the likelihood for a recurrence of an explosion event, Synagro took the following steps prior to dryer restart:

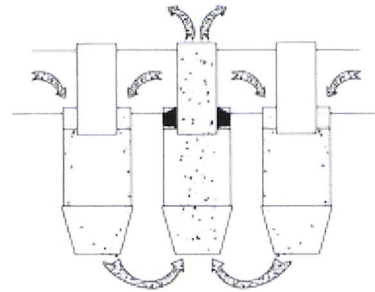
- Review of preventative maintenance schedules
- Evaluation of additional predictive maintenance
 - Vibration analysis, infrared testing, motor ground testing
- Update O&M manuals to include DHA upgrades
- Electrical Coordination Study
 - Verify interlocks operating properly
- Pre-Start-up Safety Review
 - Top to bottom evaluation of the facility



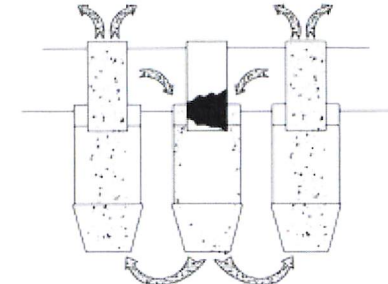
PLANT UPGRADES

The following upgrades were completed prior to dryer restart:

- Redesigned Poly-cyclone
 - Stops plugging from fibrous material
 - Reduces accumulation of ignitable material



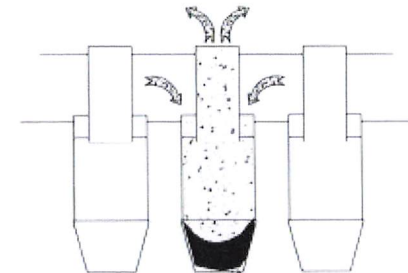
Plugged Inlet Vane



Plugged Outlet Tube

A rare type of pluggage that occurs is in the collection tube discharges or boots. It is usually caused by allowing the hoppers to overfill and the dust level to rise up into the collection tubes. This condition caused overloading of all the other tubes and serious wear problems in the plugged tubes.

Simply emptying the hoppers will not clear all the tubes, particularly if the dust is operating at a high moisture content, which will allow it to pack or bridge. It may be necessary to have the system shutdown and the tubes rodded out by hand.



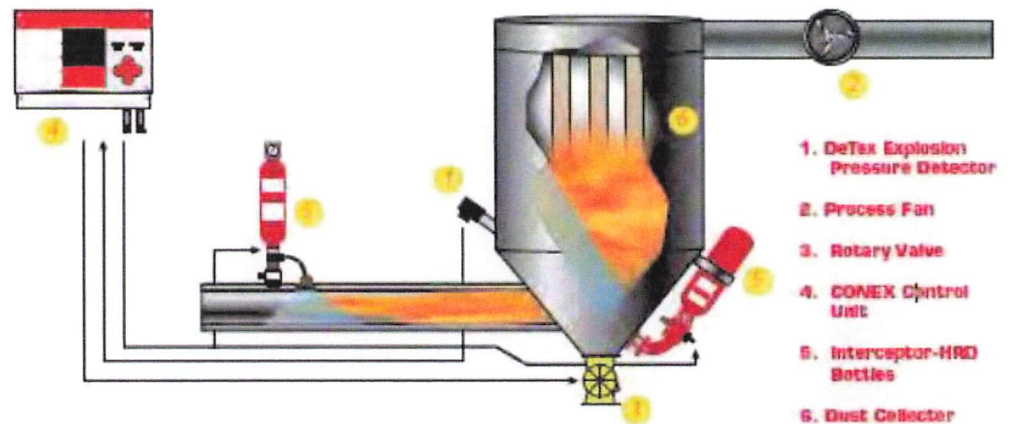
Plugged Discharge Boot



PLANT UPGRADES

The following upgrades were completed prior to dryer restart:

- ABIS- automated startup sequence
 - Removes source of oxygen
 - Prevents initial start up of Dryer Drum until O₂ level is below 10%
- HRD- High Rate Discharge Explosion Intercept System
 - Disrupt reaction between fuel and oxygen
 - Monitors for rapid pressure changes
 - Optically senses sparks, glowing and light
 - If triggered, fire extinguishers discharge into vessels
 - Immediately shuts down drying system



PLANT UPGRADES

The following upgrades were completed prior to dryer restart:

- HotSwitch- bearing temperature monitor
 - Removes ignition source
 - Monitors temperatures in bucket elevator bearings
 - If above 300°F, shuts down system
 - If triggered, shuts the system down.

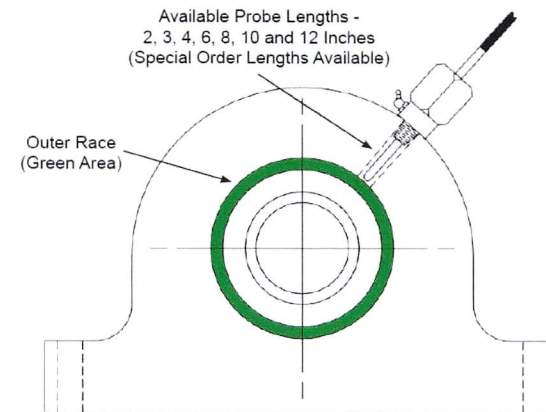


Figure B -
ADB Sensor Installation



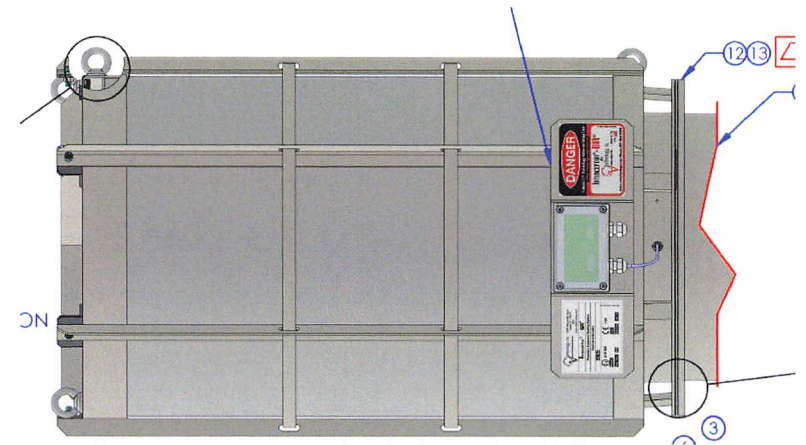
PLANT UPGRADES

The following upgrades were completed prior to dryer restart:

- TouchSwitch- bucket elevator belt alignment sensors
 - Removes ignition source
 - Ensures belts are not generating heat through rubbing along the side walls
 - If triggered, shuts the system down.
- Interceptor QR- High energy dissipation mufflers
 - Dissipates energy from an explosion
 - Reduces likelihood of personal injury
 - Limits damage to equipment
 - If triggered, shuts the system down.



U.S. Patent #6 731,219
Other Patents Pending



QUESTIONS, COMMENTS

Any questions or comments?



THANK YOU!

For additional information contact your solutions team:

PScorziello@Synagro.com

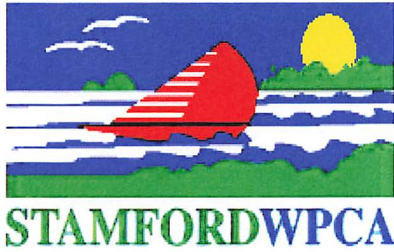
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June 2023 TECHNICAL COMMITTEE REPORT

Monthly Operating Report data:	May Results			
	This month (May)	Last month (April)	Historical May Monthly AVG	Permit Limit
Q (FLOW) DAILY AVG MGD	17.4	15.0	16.9	24 MGD DESIGN AVG
Q MAXIMUM DAILY AVG MGD	29.9	23.8	21.9	58 MGD MAX AVG
BOD INFLUENT AVG MG/L	212	303	198	
BOD INFLUENT AVG LBS/D	30,765	37,905		
BOD EFFLUENT AVG MG/L	2	2	4	
BOD EFFLUENT MAX MG/L	2	3		20 mg/L
BOD REMOVAL %	99	99.2	98.1	85%
TSS INFLUENT AVG MG/L	280	372	293	
TSS INFLUENT AVG LBS/D	40,632	46,537		
TSS EFFLUENT AVG MG/L	3	4	8	
TSS EFFLUENT MAX MG/L	5	6		20 MG/l
TSS REMOVAL %	98.5	98.9	96.8	85%
TOTAL N INFLUENT AVG MG/L	29.5	37	32.6	
TOTAL N INFLUENT AVG LBS/D	4281	4629	4513	
TOTAL N EFFLUENT AVG MG/L	2.14	2.58	2.96	
TOTAL N EFFLUENT AVG LBS/D	320	327	449	926 LBS/D
N REMOVAL %	92.7	93.0	90	
TOTAL P INFLUENT AVG MG/L	3.94	5.12	4.52	
TOTAL P EFFLUENT AVG MG/L	0.46	0.22	0.78	
P REMOVAL %	88.3	95.7	83.1	
UV EXCEEDANCES <30 mJ/cm2	0	0		

Plant Equipment Update

Barscreen #3	Back in Service
Blower #2	Back in Service
Main Generator	Back in Service
Primary Pump #2	Replaced pump with new
BFP#1	Roller Shaft broke, part on order
Secondary Clarifier #1	Drained & Inspected for repairs
RSPS Wetwell #2	Drained & Inspected for repairs

Monthly Activities (05/10/23 to 06/19/23)

Collection and Pump Station Division

Overview of Pump Station and Gravity Collection Systems:

1. Pump station inspections for 22-sanitary sewer and 4-stormwater stations (134)
2. Pump station call-out activities (55)
3. Manhole Inspections (408)
4. Gravity line service calls investigated (8)
5. Private lateral investigations and repairs in City ROW (3)
6. Sewer line repair (0)
7. Manhole repair(s) (5)
8. CCTV sanitary sewer lines (632 LF)
9. Sewer line cleaning (3.76 miles)

Pump Stations:

1. Performed monthly landscape maintenance activities at pump stations.
2. Exercised portable generators.
3. Performed electrical preventative maintenance inspections at various pump stations.
4. Crew completed the vacuum break installation on pump #3 at Cummings Pump Station

Collection System:

1. Crew jetted lines on the easement between Ledge Lane and Autumn Lane; Edice RD.; Myano Lane; Washington Blvd., Pulaski ST., Stillwater Ave., Atlantic ST.
2. Crew CCTV 8" sewer line on Myano Lane and 12" RCP on Haig Ave. Both these lines segments have sags in the line and will need to be advertised for capital improvement via digging and repairing activities. In the meantime, these line segments will continue to be monitored monthly and jetted at least once every three months, until the line segments are corrected.
3. Crew investigated 77 and 79 Cove Road and 82 Rippowam RD. private lateral conveyance issues.
4. Crew oversaw the private lateral repair completed by Burns Construction at 28 Taylor ST.

Training:

1. Training two (2) new mechanics in training (MITs) on pump station and collection system work related activities and use of the computer maintenance and management system (CMMS).

Miscellaneous:

1. Continue to work with CDMSmith on the GIS upgrade project.
2. Provided sanitary sewer plan sheet information to various civil engineers and/or contractors working on City development projects.
3. Worked with City's legal counsel in reviewing reimbursement claims against the City regarding damaged private laterals in City Row and/or property damages associated with private laterals damaged in the ROW and/or public sanitary sewer lines.

Overview of Regulatory Compliance:

1. Initial building permit reviews (11)
2. Re-review of building permit applications (44)
3. Sanitary sewer tie-in plan reviews (3)
4. Zoning permit application reviews (3)
5. Initial Food Service Establishment (FSEs) Inspections (39)
6. FSE Follow-up Inspections (5)
7. Notice of violations (NOVs) Issued (0)
8. CTDEEP General Permit plan reviews or applications (1)

Work performed by outside contractors:

1. Vitti Construction completed private lateral repair in City ROW; 77 and 79 Cove Road.
2. Vitti Construction raised two (2) manhole structures at 39 and 35 Marian ST.
3. Vitti Construction completed private lateral repair at 82 Rippowam RD. in City ROW.
4. Cavalier completed manhole repairs at William ST., Dora ST., and Dale ST. and Cove RD.
5. Pulaski Pump Station is officially decommissioned. Cavalier backfilled the wet well and valve chamber with processed stone and added a layer of topsoil.
6. Cook vacuumed grease from the wet well at Commerce pump station.

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**UPDATE OF CAPITAL PROJECTS
TECHNICAL COMMITTEE MEETING**

June 21, 2023

UPDATE ON ENGINEERING STUDIES AND DESIGNS:

1. Infiltration Inflow Study

A Notice to Proceed was given to the Contractor. We are awaiting a schedule to start work.

2. Sludge Management Plan

Hazen's scope of services for the Sludge Management Plan is complete. They will remain as consultants for sludge management as there are funds remaining in the contract. If sufficient funds are available, Hazen may continue with a digester study. They also submitted a proposal to implement a primary sludge fermentation study which will be discussed on the agenda.

3. Plant Water, Return Activated Sludge (RAS) and Waste Activated Sludge (WAS)

Gannett Fleming is working on the design for this project.

4. RFQ for Evaluation of the Alvord Lane, Commerce Rd, and Saddle Rock Pump Stations

Basis of Design Report for the pump station upgrades is underway. We expect to have a report by the end of the summer.

5. RFP for the Design and Supply of a Standby Generator at Clay Hill Pump Station and West Avenue Pump Station

WPCA added West Avenue Pump Station to this project. Technical specifications are almost complete for purchasing to advertise for bids.

6. Perna Lane, Phase I Collection Sewers

Tighe & Bond is working on the design of the sewer system and pump stations based on discussions with WPCA. They are completing plans to send to CTDOT for approval. Surveying of the pump station area has been done.

7. RFP for Architectural Services for New Building for Collection System Staff and SWPCF Existing Locker Room Renovations

The RFP for architectural services to design a small building for the collection system staff and the electricians has been cancelled. The city has informed WPCA that they plan on a full roof replacement for this building by the end of the year. They also received a grant to remediate the environmental issues inside the building. Once this is done, WPCA can move back into the building. This work should be done within a year.

8. Structural Evaluation of the Columns in the Sludge Dewatering Building

Preparing bid documents for the repair.

9. Bid for Repair of Storm Water Pumps #1 and 3 at Cummings Pump Station

The bid was awarded to New England Pump and Valve. We are waiting for signed contracts to begin work.



10. Bid for Painting of Final Clarifiers # 1, 2 and 4

Painting of Final Clarifiers No. 1, 2 and 4 has been advertised. There was a mandatory walkthrough on June 8th which ten firms attended. Bids are due June 29th.

UPDATE ON CONSTRUCTION PROJECTS:

1. Design-Build Standby Generator for the Greenwich Ave. Pump Station

Preparing the bid documents to purchase and install a generator for Greenwich Ave pump Station. The controls will be provided by the WPCA.

2. Electrical Preventive Maintenance / Arc Flash

We have been in contact with Siemens regarding the information still needed for the arc flash study. We will schedule a meeting with Siemens to go over the required additional information.

3. Sludge Degritting System Upgrade

CH Nickerson is beginning to mobilize on site. The surveyors are on site to verify utilities and take existing tank measurements.

Payment/Change Order Log as of 6/21/2023

Sludge Degritting System Upgrade (Contractor – CH Nickerson)

Original Value of the Contract =	\$ 8,908,350.00
Total Approved CO Amount =	\$ 0
Contract Sum to Date =	\$ 8,908,350.00