

Bay Area Clean Water Agencies Operations and Maintenance Infoshare Committee
Dewatering Technology User Panel
September 8, 2026

Meeting Notes:

1. Attendees

- | | |
|---------------------------------|--------------------------------|
| a. Yanming Zhang (Livermore) | l. Margaret Kelley (Livermore) |
| b. Daniel Buenrostro (SVCW) | m. Michael Jeffery (Livermore) |
| c. Raymond Wong (SVCW) | n. Ryan A. Smith (Sunnyvale) |
| d. Mike Finnigan (Yuba City) | o. Sang H. Park (FSS) |
| e. Ben Carver (FSSD) | p. Sean Rodriguez (SVCW) |
| f. Akli Belaidi (FSSD) | q. Sinzee Tran (DSRSD) |
| g. Alexandre Miot (SVCW) | r. Todd Millison (DSRSD) |
| h. Alina Constantinescu (BACWA) | s. Sarah Guzman (BV) |
| i. Anthony Smith (Livermore) | t. James Schiera (BV) |
| j. David Newgard (Yuba City) | u. Jesse Wallin (BV) |
| k. Lorien Fono (BACWA) | |

2. Background

- a. For this session, three different wastewater utilities presented their experience and lessons learned from the operation of their sludge dewatering equipment.
 - i. Silicon Valley Clean Water (SVCW) – Fournier Fan Press
 - ii. Yuba City – Huber Screw Press
 - iii. Fairfield- Suisun Sewer District – FKC Screw Press
- b. Attached to this document is a questionnaire that was used as the basis for discussion with each utility presenting at the meeting for reference.

3. Discussion Notes

- a. Silicon Valley Clean Water
 - i. Plant information:
 - 1. ~13-14 MGD average flow
 - 2. 2-stage biological treatment process, clarifiers, disinfection
 - 3. Fournier Fan Press dewatering equipment, bio-dryers, drying beds
 - a. Fan Presses have 4 treatment trains, 6 channels each train
 - b. Installed and operating for ~10 years, have been rebuilt once in that time
 - ii. Equipment Selection and Performance
 - 1. Previously SVCW had centrifuges but had issues with capacity and quality of solids, high energy use
 - 2. Fan press technology was chosen to replace centrifuges due to high degree of flexibility in treatment capacity and solids quality.
 - 3. Additional benefits of fan presses:
 - a. Manageable maintenance schedule and overall very reliable equipment
 - b. Enclosed to reduce moisture and odor in the facility

- c. Flexibility and redundancy due to multiple channel design. Each channel can be isolated.
- 4. Performance
 - a. Generally, the equipment has met the needs of the utility including performance guarantees from the vendor
 - b. ~17-25% solids content in dewatered material
 - c. ~93% solids capture rate
 - d. Polydyne cationic emulsion polymer used, ~25 lbs. per dry ton of material dewatered
- 5. Operations and Maintenance
 - a. Operations
 - i. Equipment is easy to start up and does not require regular attention in-person by operations staff once running (can be monitored through SCADA and checked once per shift)
 - ii. Consistent incoming TS for sludge feed and correct polymer dose are key parameters for optimizing dewatering
 - iii. Polymer is the primary source of operating cost
 - iv. Low solids capture rate has been the primary deficiency in operation
 - b. Maintenance
 - i. The units are deep cleaned once per week by operations staff (including polymer system) to optimize operations
 - 1. This PM takes about 1 hour per train to complete plus time for the polymer system
 - ii. Maintenance issues include clogging of the screens within the units, wear on the screen scraping mechanism that can lead to sharpening and ultimately puncture of the screens, and occasionally over-torquing of the equipment cover plate which can lead to binding of the internal shaft
 - c. Lessons learned/best practices
 - i. Regular deep cleaning optimizes system performance
 - ii. Have spares on hand to avoid potential lead times in ordering new parts
 - iii. Be aware of access to the dewatering area to ensure that pieces of the dewatering trains can be easily removed for maintenance. Mobile crane or other lifting assembly near units helpful for maintenance due to heavy parts (covers)
 - iv. Pilot equipment before going into detailed design to ensure that it works for your specific plant layout/sludge/etc.
- 6. Startup/Commissioning and Vendor Support
 - a. About 1 week with vendor on site for startup

- b. Polymer selection and tuning primary challenge of commissioning
 - c. Spare parts are readily available, but some parts (and service) are based out of Canada for this vendor leading to longer lead times and planning/budget required for vendor support on-site
 - d. Vendor will assist with rebuilds and repairs, SVCW suggested working with Vendor on first rebuild effort after having good experience
- b. Yuba City
 - i. Plant information:
 - 1. ~5.5 MGD average flow
 - 2. High purity oxygen activated sludge process
 - 3. Huber Q Model 800 Screw Press dewatering equipment (3 units), installed around 2017/18 and rebuilt 2023/24
 - ii. Equipment Selection and Performance
 - 1. Previous equipment were belt presses, but were worn down and outdated
 - 2. Performance
 - a. Generally, the equipment has not met the performance guarantees from the vendor in recent years, but this is likely due to changing sludge characteristics at the plant
 - b. ~16-19% solids content in dewatered material
 - c. Polydyne polymer used, polymer use is ~45 lbs. per dry ton of material dewatered (~100 gallons/day)
 - d. Inputs from large industrial users appear to be affecting the dewaterability of the plant's sludge and mitigation strategies are being investigated. Polymer usage is higher than typical as a result
 - 3. Operations and Maintenance
 - a. Operations
 - i. Operation of the equipment is generally very manageable.
 - ii. On startup, a 'plug' must be established at the back end of the screw to allow backpressure to build and effectively dewater material. Once this is established, operations are steady and SCADA monitoring is able to predict losing the plug with enough time to employ mitigation strategies
 - iii. Consistency in incoming liquid stream solids concentration and correct polymer dose are the key parameters for best performance
 - iv. Polymer is highest input to operating cost
 - b. Maintenance
 - i. Common maintenance activities include regular cleaning of the units (general cleaning and also

- struvite removal), a monthly light acid cleaning, replacement of wear parts and hoses
 - ii. Plant budgets ~8 hours per month per unit for cleaning
 - iii. Mobile spray racks within the unit failed in the past (broken shaft) leading to a long outage that include lead time for parts
 - 1. Vendor was responsive and collaborative during this outage and fix
 - iv. Moving sprayer assemblies have been regular maintenance item including flexible hoses that can get caught in moving parts and be damaged
 - c. Lessons learned/best practices
 - i. Operations staff recommend that a floc tank with viewing port and sampling access to be provided as part of design so Operators can see the quality of incoming material/polymer mix instead of taking sample (messy and time consuming)
 - ii. Have replacements for rotating parts which are more susceptible to breaking
 - 4. Startup/Commissioning and Vendor Support
 - a. About 1 week with vendor on site for startup
 - b. Performance guarantees were met during startup, but after process changes have had difficulty getting to 19% solids in dewatered material
 - c. Spare parts and service are available and vendor is responsive, provided assistance during rebuild of units
- c. Fairfield-Suisun
- i. Plant information:
 - 1. ~14 MGD average flow
 - 2. Activated sludge process, tertiary filters, UV treatment
 - 3. FKC Screw Press dewatering equipment and drying beds (installed around 2009)
 - ii. Equipment Selection and Performance
 - 1. Previous equipment was a plate and frame press that was not meeting capacity needs, difficult to operate, and had safety concerns
 - 2. Facility chose screw press over fan press after piloting, could not successfully dewater with fan press pilot (manufacturer of this fan press not noted, but was not Fournier)
 - 3. Performance
 - a. Generally, the equipment has met the performance guarantees from the vendor and currently the plant is operating below system capacity due to deal with adjacent resource recovery facility which improves performance
 - b. ~2% solids feed to dewatering equipment
 - c. ~15-17% solids content in dewatered material

- d. 95-98% solids capture rate
 - e. Polydyne polymer used, emulsion (WE-739)
 - f. Polymer usage is ~35-36 lb/dry ton due to frequent startup and shutdowns of the press. In winter majority of digestate solids are not dewatered but sent directly to Lystek, requiring frequent batch operations.
 - i. The cost of higher dose of polymer is negated by the overall lower volume of dewatering flow since portion of digestate is sent to resource recovery facility
4. Operations and Maintenance
- a. Operations
 - i. Operation of the equipment is generally very manageable and is similar to what was noted by Yuba City (after startup, consistent operator intervention is not required. The system can be monitored from SCADA for the most part throughout the day).
 - b. Maintenance
 - i. 1.5 hours per week spent per unit to do regular oil changes/top offs, greasing, verifying pressure plate settings
 - ii. Monthly cleaning of each unit, ~3 hours to steam clean for struvite control
 - c. Lessons learned/best practices
 - i. Encouraged utilities to pilot dewatering technologies before implementation
 - ii. Design of surrounding platforms/space is important for O&M. Consider access, exposure to heights, etc.
 - iii. Built-in steam cleaning system recommended, plant is currently doing manual steam clean which is manageable but not necessary if built-in system is specified.
5. Startup/Commissioning and Vendor Support
- a. 1 week with vendor on site for startup of units
 - b. Polymer system was largest challenge in commissioning
 - c. Vendor is somewhat local (based in WA) and parts/service are readily available

Bay Area Clean Water Agencies
Operations and Maintenance InfoShare Committee
Dewatering Technology User Panel Questionnaire
September 8, 2026
City of Lodi

1. Facility Background

1. Please briefly introduce your treatment plant.
 - Average flow: 4-5 MGD
 - Type of treatment process: Activated sludge, tertiary with UV disinfection. Primary sludge and secondary sludge (after DAFT) fed to digesters.
 - Dewatering equipment: Year installed, number of units: Volute Dewatering Press Model ES-353. Installed in 2025. One unit with three barrels.

2. Equipment Selection

2. What technology did you use previously, and why was it replaced? Prime Rotary Fan Press. Low solids content; poor solids capture.
3. What were the primary reasons for selecting this technology? Better quality biosolids.

3. Performance

4. What is your typical sludge feed concentration and cake solids content? Feed sludge: 1-2%, cake solids: 13-16%.
5. Has the equipment met the manufacturer's performance guarantees? Because the decision was given to the design engineer, we don't remember ever having that information.

4. Polymer Performance

6. What type of polymer do you use? Polydyne Clarifloc WE-2950 seems to work the best.
7. Approximately how much polymer do you consume? About a tote a week at or at about 35 gpm.

5. Operations

8. Is continuous operator attention required? Varies if changing polymer or sludge content
9. What operating conditions are most important for consistent performance? Water, ambient temperature, sludge concentrations
10. What are the major operating costs? Polymer

6. Maintenance

11. What have been the most common maintenance issues? Polymer blend unit plugging
12. How many hours are required each month? About 4 hours
13. What has been the longest unexpected outage and the cause? Two weeks caused by peripheral equipment (pumps).

9. Installation and Commissioning

14. How long did startup and commissioning take? One week.
15. What challenges occurred during startup? Weather conditions, sourcing parts

10. Vendor Support

16. Are spare parts and service readily available? Yes

11. Lessons Learned

17. What have been the biggest advantage and disappointment of this technology?
Advantage: Consistency in operations. Disadvantage: Some maintenance points are hard to access.
18. What do you wish you had known before purchasing? Honestly, I don't think there's a negative here.

12. Advice for Other Utilities

19. What advice would you give utilities evaluating dewatering technologies? Look at how frequently you are doing major maintenance and how the customer service is.
20. What key performance indicators should agencies focus on during pilot testing?
How fast a dewatering device can be stabilized and make consistent quality cake.