



# **SOUTH COAST WATER DISTRICT**

*Providing Quality Water and Wastewater Services to the Coastal Communities*

## **LIFT STATION**

### **MONTHLY MAINTENANCE PROCEDURES**

- 1) Check that exhaust fan is running and make sure all safety guards are in place.
- 2) Run test air compressor:
  - Check oil level.
  - Check belts for cracks.
  - Manually drain air tank.
  - Make sure all safety guards are in place.
- 3) Push and release the lever to test the diesel day tank.
- 4) Push in the black TEST button to test the diesel alarm. Hold for 5 seconds, then release. Push the red RESET button to reset the alarm system.
- 5) Check condition of fire extinguishers.
- 6) Check condition and availability of personal safety equipment. Wear proper gloves and safety glasses when working on any equipment. Do not proceed if any piece of equipment is missing or in questionable condition. Wear hearing protection. Exposure to high decibel levels for a long period of time may cause hearing damage.
- 7) Follow SCWD's hazardous energy control program lockout/tagout procedure to isolate pump #1 from the system and set the HAND/OFF/AUTO switch to the OFF position.
- 8) Exercise the isolation valves on the large dry well pump, the small sump pump and the force main. One at a time, close each valve all the way to form a tight seal. Open the valve all the way again and back it off 1/4 turn.
- 9) Inspect the pump:
  - Close the suction valve by turning it clockwise all the way to form a tight seal. Close the discharge valve in the same way.
  - Loosen inspection plate on the elbow without removing it and drain off water.
  - Remove both inspection plates completely.
  - Inspect for rags and other debris inside the impeller and the pump volute. If debris is found, carefully try to dislodge it. Beware of sharp objects.
  - Check the impeller clearance to be sure that the impeller is not grinding against the housing at any point.

- If an object is too large to remove through the inspection plate opening, derag the pump by disconnecting the driveline from the pump. Raise the pump head to remove the object. After the object is removed, lower the pump head and reconnect the driveline.
  - After inspection and/or deragging are complete, replace the inspection plates.
- 10) Inspect the check valves for rags, debris or any other objects that would hinder smooth operation of the valve.
  - 11) Turn the suction valve slightly counterclockwise to open it and vent air from the pump through the bleeder valve. Open the discharge valve all the way and back it off 1/4 turn. After all the air is out of the pump, open the suction valve completely. Make sure both valves are open (back off 1/4 turn).
  - 12) One at a time, run test each pump by setting the HAND/OFF/AUTO switch to the OFF position. Then switch from the VFD setting to constant speed and let the pump run at full speed for 20 seconds. Observe the wet well level dropping to verify that the pump is working and return the VFD switch to the AUTO setting.
  - 13) If everything is okay, set the HAND/OFF/AUTO switch to the AUTO position.
  - 14) Reverse the lockout/tagout procedure to bring the pump back on line.

Isolate each pump in turn to inspect and derag each one.

- 15) After all of the pumps have been deragged, return the station to normal operation.