**Paisley Plant Operations Overview 2016**

January and February plant shut down due to cooling tower fan breaker and VFD failure in MCC.

March 13 to March 19 plant normal operation. March 19, unplanned shutdown, high pressure spike.

March 19-20 plant shut down to investigate

March 21-30 plant normal operation. March 30, plant tripped

March 30-April 5 plant operation with only SVE2 production pump, injection well will not take full flow. Blew vaporizer gasket.

April 5-August 3 plant shut down to install injection pump and controls

August 3 plant normal operation

August 4 plant shut down, Generator breaker trip

August 5-August 27 plant normal operation, generation reduced by suspected fouled condenser. TAS plant shut down for service, blew vaporizer gasket.

August 31-Sept. 13 plant normal operation. Sept 14 cooling tower level indicator went out, plant shutdown

Sept 20-Oct 9 plant normal operation. Oct 9 level indicator failure, replaced.

Oct 9-Oct 13 plant normal operation. Oct 13, high winds tripped plant due to low water level in cooling basin. Restarted

Oct 14 Cooling tower fan breaker burned up, tripped plant. Run on 5 fans

Oct 15-Nov 3 High winds tripped plant, blew vaporizer gasket, plant shut down. Found bad control valve, replaced.

Nov 3-Nov 7 plant normal operation. Nov 7 plant tripped, kw breaker

Nov 8 plant tripped, 2 hr shut down

Nov 9 plant normal operation

Nov 10 plant tripped, electrician maintenance

Nov11-Nov12 plant normal operation

Nov13-Nov 22 planned shutdown clean condenser

Nov22-Nov 28 unplanned shut down, TAS programming to reverse fans not operable

Nov 29-Dec 1 plant restarted, SVE1 production well motor burned up, run with only SVE2 brine supply. Plant tripped level indicator failed, replaced

Dec1-Dec 3 plant normal operation. Plant tripped level indicator failed.

Dec3-Dec 20 unplanned shutdown.

Dec20-Dec22 restart plant. Normal operations. Dec 22 plant tripped due to frozen instruments at injection well; restarted after 4 hours.

Dec22-Dec25 Plant tripped, frozen instruments. High pressure liquid pump discharge valve actuator positioner shaft broke.

Dec25-Jan10 Replaced valve actuator shaft. Restart initiated but will not restart due to brine outlet flow meter malfunction.

The Surprise Valley Electric Paisley Geothermal power plant is a 3.1 MWe gross (2.4 MWe net) binary power plant constructed by Turbine Air Systems in Houston, Texas. The TAS power plant is a binary unit utilizing R134a as the working fluid. (See Figure 8.) The working fluid is cooled with water through six flow units on the cooling tower. Approximately 2134 meters of pipe is used for the geothermal gathering and injection system. A 1.6 kilometer 69 KV transmission line and a 10 MWe substation was designed and installed connecting the generation from the new geothermal plant with SVE’s 69 KV grid.

DiPippo, Ronald. "Geothermal electric power production in the United States: a survey and update for 1990–1994." *Proceedings of the World Geothermal Congress*. Vol. 1. 1995.