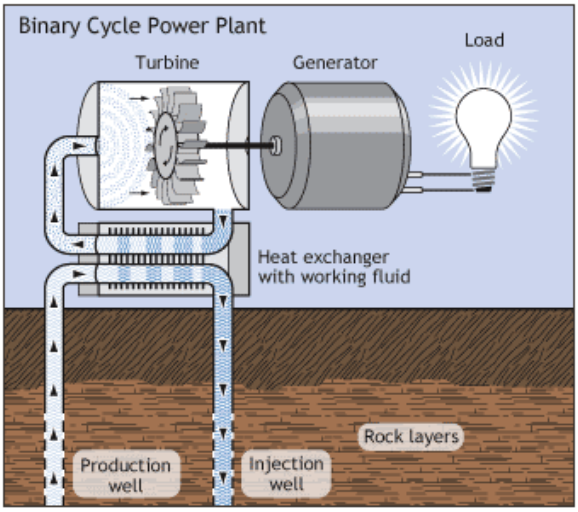
Well 17B-7 Fact Sheet

Lightning Dock Geothermal HI-01, LLC (LDG) is a binary cycle power plant located near Animas, Hidalgo County, New Mexico that uses two distinct, closed systems to convey fluids through the electrical energy generation process. In the first closed system, geothermal water is pumped to the ground surface via a production well, passes through a heat exchanger and is returned to the underground reservoir through an injection well to be reheated and recirculated. In the second closed system, a separate fluid (the "binary" working fluid with a low boiling point) is pumped at high pressure through the same heat exchanger and vaporizes, propelling a turbine that is connected to and turns a generator, producing electricity. This vaporized working fluid is sent through a condenser where it is returned to the liquid phase, and cycles back through the heat exchanger to repeat the process.



Source: US Department of Energy

The system does not produce waste or pollutants nor is the geothermal water treated before it is returned to the geothermal reservoir. LDG currently pumps geothermal water from the reservoir 24 hours a day at depths ranging from approximately 1,340 to 2,900 feet using existing permitted production wells.

The proposed permit is for a different type of production well that will produce heat from much deeper than the traditional geothermal wells currently in use at LDG. This well will be cased from surface level to a depth of more than 13,000 feet and will not extract any water from or impact the reservoir.

Production well 17B-7 will be located at an elevation of 4,200 feet above mean sea level and approximately 2,200 feet southwest of the power plant. The well will be drilled to a total depth of approximately 23,000 feet. The 30-inch conductor casing will be set to 100 feet, the 18 5/8-inch surface casing will be set to approximately 1,500 feet, the 13 3/8-inch intermediate casing will be set to approximately 6,500 feet, and the 9 5/8-inch production liner will be set to approximately 13,100 feet.