

Geothermal Power Plant B-Roll

Scene-by-Scene Description

Get the facts behind the footage available on the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) B-Roll website at eere.energy.gov/news/b_roll.cfm.

Video Title: Geothermal Power Plants

Video Only/No Audio

Location: Raser Technologies Thermal 1, Milford, Utah

Shoot Date: April 16, 2011

Total Running Time: 6:33

Scene 1: 00:05: 10-MW modular geothermal power plant.

Scene 2: 01:45: Geothermal power plant timelapse footage.

Scene 3: 02:02: Components of the modular geothermal power plant system.

Scene 4: 02:54: Source well and pumps; feed and return piping.

Scene 5: 03:52: Electrical transformers.

Scene 6: 04:16: Substation.

Scene 7: 04:31: Evaporative cooling towers.

Scene 8: 05:27: Control room.

Learn More about Geothermal Power Plants

Geothermal electricity is electricity derived from geothermal energy, or the heat contained deep within the Earth. In a geothermal power plant, mile-or-more-deep wells are drilled into underground reservoirs to tap steam and very hot water that drive turbines that drive electricity generators.

Shown in this footage is a binary-cycle geothermal power plant, which extracts energy from moderate-temperature water (below 400°F). Hot geothermal fluid and a secondary (hence, "binary") fluid with a much lower boiling point than water pass through a heat exchanger. Heat from the geothermal fluid causes the secondary fluid to flash to vapor, which then drives the turbines. Because this is a closed-loop system, virtually nothing is emitted to the atmosphere.

DOE recognizes the strategic value of geothermal electricity and supports its development in several ways through its Geothermal Technologies Program. More information about geothermal technologies can be found at the EERE Geothermal Technologies Program website at eere.energy.gov/geothermal/.