AMENDED

APPLICATION FOR PERMIT
TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA

No. 38088

Date of filing in State Engineer's Office MAY 2 1979

Returned to applicant for correction.

Corrected application filed MAY 21 1979

Map filed JUN 6 1979

The applicant Thermal Power Company and Southland Royalty Company

601 Californai Street (Street and No. or P.O. Box No.), of San Francisco (City or Town),

California 94108 (State and Zip Code No.), hereby make application for permission to appropriate the public waters of the State of Nevada, as hereinafter stated. (If applicant is a corporation, give date and place of incorporation; if a copartnership or association, give names of members.) Thermal Power Company was incorporated in California, December 6, 1956. Southland Royalty Company was incorporated in Delaware, November 26, 1924

1. The source of the proposed appropriation is deep geothermal reservoir 5000-8000 feet (Name of stream, lake or other source.)

2. The amount of water applied for is five (5) second-feet (One second-foot equals 448.83 gals. per min.)

   (a) If stored in reservoir give number of acre-feet acre-feet

3. The water to be used for industrial applications (Irrigation, power, mining, manufacturing, domestic, or other use.)

4. If use is for:

   (a) Irrigation (state number of acres to be irrigated)

   (b) Stockwater (state number and kinds of animals to be watered)

   (c) Other use (describe fully under "No. 12. Remarks") industrial

   (d) Power:

      (1) Horsepower developed

      (2) Point of return of water to stream

5. The water is to be diverted from its source at the following point: NW¼ of NW¼ of Section 13, T23N R35E MDB&M or 11,712.93 feet S12°32 W from South quarter corner of Section 36 T24N R35E MDB&M. (Describe as being within a 40-acre subdivision of public survey, and by course and distance to a section corner. If on unsurveyed land, it should be stated.)

6. Place of use NW¼ of NW¼ of Section 13, T23N, R35E, MDB&M. (Describe by legal subdivision, if on unsurveyed land it should be so stated.)

7. Use will begin about 1 January (Day and Month) and end about 31 December (Day and Month), of each year.

8. Description of proposed works. (Under the provisions of NRS 535.010 you may be required to submit plans and specifications of your diversion or storage works.) The proposed works would be the completed geothermal well. Water would be diverted from the geothermal reservoir, through the cased wellbore to the wellhead for the initial beneficial use which is well flow testing to evaluate the geothermal reservoir. The wellbore will be cased to an estimated depth of 6300 feet (See attachment: Drilling & Completion Procedure)

(State manner in which water is to be diverted, whether by dam or other works, whether through pipes, ditches, flumes, or other conduits.)

9. Estimated cost of works One Million one hundred thousand dollars ($1,100,000.00)

10. Estimated time required to construct works Sixty to ninety days

11. Estimated time required to complete the application to beneficial use three (3) to six (6) months.

12. Remarks: For use other than irrigation or stock watering, state number and type of units to be served or annual consumptive use.

The industrial use of appropriated water, consequent to this application, would be the production of water or geothermal effluent from wellhead, then through surface pipeline, to electrical generating plant. Additional economic utilization of the geothermal energy may be effected subsequent to or separate from electrical generation.

Applicant Thermal Power Company
Southland Royalty Company
ATTACHMENT: Drilling and Completion Procedure

Compared LP/ha
Denied 11/12/80, Ruling 2613

Thermal Power Company
By s/ W.L. D'Olier
W.L. D'Olier, Vice President
601 California Street
San Francisco, California 94108

DENIAL OF STATE ENGINEER

This is to certify that I have examined the foregoing application, and do hereby ~~grant~~ deny the same, subject to the following limitations and conditions:

on the grounds that the applicant has failed to comply with the requirements of NRS 533.435 for submission of the fee necessary for the issuance of a permit.

The amount of water to be appropriated shall be limited to the amount which can be applied to beneficial use, and not to exceed ..... cubic feet per second

Actual construction work shall begin on or before .....

Proof of commencement of work shall be filed before .....

Work must be prosecuted with reasonable diligence and be completed on or before .....

Proof of completion of work shall be filed before .....

Application of water to beneficial use shall be made on or before .....

Proof of the application of water to beneficial use shall be filed on or before .....

Map in support of proof of beneficial use shall be filed on or before .....

Commencement of work filed .....
Completion of work filed .....
Proof of beneficial use filed .....
Cultural map filed .....
Certificate No. ..... Issued .....
Recorded ..... Bk ..... Page .....
..... County Recorder

IN TESTIMONY WHEREOF, I William J. Newman
State Engineer of Nevada, have hereunto set my hand and the seal of my office, this 12th day of November,
A.D. 1980

William J. Newman
State Engineer

218 (Rev.)

THERMAL POWER COMPANY

Proposed 8500-Foot Geothermal Exploratory Well: "Dixie Federal 12-13"

Drilling and Completion Procedure

(In Brief)

1. Drill 17½" hole and open to 26" hole to 120'+ with mud. Run 20" 94#, H-40 ST&C casing. Cement 0' to 120'.
2. Drill 17½" hole to 1300± with mud. Run 13-3/8" K-55 buttress casing. Cement 0' to 1300', install casing head and blowout preventers.
3. Drill 12¼" hole 6300'± or to the top of the reservoir using water as the circulating medium. Test, and if necessary, cement lost circulation zones during drilling. Run 9-5/8" N-80 and K-55 from the 13-3/8" with a minimum lap of 200'. Cement 1100' to 6300' with admix cement.
4. Drill 8½" hole from 6300' to 8500'±, or suitable production is encountered, with water. Test well through choke line.
5. If well has suitable production, run and cement 9-5/8" K-55 buttress casing from top of 9-5/8" liner to surface. Complete well with 13-3/8" x 9-5/8" expansion spool and master valve.
6. Lay down drill pipe, remove blowout preventers, and move off rotary rig.