Mid-Term Report
for the
State of Nevada

MASTER

GEOHERMAL COMMERCIALIZATION PLANNING PROJECT

1.0 Introduction

1.1 Purpose of the Project

The purpose of Nevada's participation in the Geothermal Commercialization Planning Project (GCPP) is to undertake those planning and outreach activities that are necessary to stimulate the development and utilization of geothermal resources within the State of Nevada.

1.2 Objectives

The objectives of the Nevada Department of Energy (NDOE) in this planning project are:

1. To collect and compile available information regarding the location and the quality of Nevada's geothermal resources.
2. To identify potential applications of Nevada's geothermal resources.
3. To evaluate the electric and non-electric potential of geothermal resources located in the state.
4. To distribute useful geothermal information to public and private organizations that will influence the course of geothermal development and to those persons who are interested in using geothermal energy.
5. To provide direct technical assistance to developers of Nevada's geothermal resources.
6. To serve as a clearinghouse for geothermal information including technical assistance, financial assistance, and general information.

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7. To identify and remove institutional barriers to geothermal development.

1.3 Technical Approach and Team Members

The goal of Nevada's GCPP is to meet the objectives outlined above. To meet these objectives the team members are:

1. Collecting and assessing information on Nevada's geothermal resources.
2. Collecting and analyzing information regarding geothermal exploration activities in Nevada.
3. Collecting and developing information regarding industrial, commercial, and residential geothermal applications.
4. Preparing Area Development Plans.
5. Collecting data to develop Site Specific Development Plans.
6. Preparing pamphlets and other documents on geothermal energy and its development for distribution to the citizens of Nevada.
7. Providing information and/or technical assistance to the developers of Nevada's geothermal resources.
8. Distributing information through meetings, person to person contacts, or other outreach activities.
9. Reviewing state statutes, regulations, and procedures to identify and eliminate barriers to geothermal development.
10. Reviewing state and local statutes, regulations, and procedures to identify opportunities to stimulate geothermal development.

5 spaces

Team members for the Nevada GCPP are:

Noel A. Clark

Kelly L. Jackson

Director

Deputy Director

Nevada Department of Energy

Nevada Department of Energy

→ Maggie Pugsley

Urban Planner

Nevada Department of Energy

In addition to the permanent professional staff, other agency staff and various consulting firms have been used as necessary.

1.4 Benefits of the GCPP to the State and the Department of Energy

→ The benefits associated with the GCPP include:

1. Facilitating the collection of baseline geothermal data that will enable the state and its political subdivisions to:
 - a. Identify opportunities to develop geothermal resources as an adjunct to state and regional planning.
 - b. Identify potential socio-economic and environmental impacts of geothermal development and to take appropriate steps to mitigate any negative impacts.
2. Providing the NDOE with the opportunity to identify methods by which the state can promote geothermal development by eliminating existing barriers or enacting needed incentives.
3. Providing interested parties with information and technical assistance regarding the development of geothermal resources.
4. Providing the NDOE with the ability to develop an inhouse professional staff with the capability to stimulate geothermal development.
5. Providing the framework to inform the general public about the electric and non-electric geothermal potential in Nevada.

6. Providing the opportunity to develop an informal communication network that enables the NDOE to direct interested parties to organizations capable of providing necessary information and/or technical assistance.
7. Developing the following project products:
 - a. Lincoln County Area Development Plan
 - b. Churchill, Douglas, Lyon, and Storey Counties Area Development Plan
 - c. White Pine County Area Development Plan
 - d. Elko County Area Development Plan
 - e. Mineral and Esmeralda Counties Area Development Plan
 - f. Humboldt and Pershing Counties Area Development Plan
 - g. Lander and Eureka Counties Area Development Plan
 - h. Clark County Area Development Plan
 - i. Nye County Area Development Plan
 - j. Geothermal Pamphlet--Geothermal Energy in Nevada-- Resource and Regulation
 - k. Institutional Handbook

2.0 Summary of State Project Tasks

Task 1: Area Development Plans

Nine Area Development Plans are currently under preparation. Two of these are in the final stages of completion; two are ready for final completion; and five have had all initial development work completed.

Task 2: Site Specific Development Plans

Requests for proposals have been prepared for distribution to various consultants to prepare two Site Specific Development Plans.

Task 3: Outreach

Several different types of outreach activities have occurred ranging from organizing a Nevada Chapter of the Geothermal Resource Council, to personal contact with about 30 private parties, to submitting a request for proposal to develop a geothermal display.

Task 4: Institutional Analysis and Update

NDOE staff has participated in four meetings of the Nevada Legislative Subcommittee to Study Geothermal Issues and has made several recommendations for modifying the legal framework of geothermal energy to encourage geothermal development in the state. The institutional handbook is in the final stages of completion.

Task 5: Impediment Analysis and Update

The NDOE has been involved with the Environmental Protection Agency, the Internal Revenue Service, and the State Division of Water in identifying and overcoming various problems.

3.0 Specific Task Descriptions

3.1 Area Development Plans

Nine Area Development plans are currently in various stages of the preparation stages. Background information including the physical characteristics of the various geothermal resource areas, land ownership and land use, population, transportation facilities, design information and economic base have been collected and developed into the first section of all nine plans. Information concerning the geothermal resource itself has been collected and developed into the second section of the Lincoln County; Douglas, Lyon, Churchill, and Storey Counties; White Pine; and Elko plans. Information concerning potential uses of the geothermal resources has been developed into a final section in the Lincoln County Area Development Plan. This information is currently being completed for the Douglas, Churchill, Lyon, and Storey area.

3.2 Site Specific Development Plans

Because of various conflicting factors the NDOE has been unable to initiate any Site Specific Development Plans. To overcome this, the department has written two different proposal requests: 1) to various local political

entities to identify specific areas where they feel geothermal planning is necessary and to initiate that planning; and 2) to various geothermal consulting firms to prepare two Site Specific Development Plans. The areas currently under consideration for the development of Site Specific Development Plans are: Ely, Hawthorne, Caliente, Winnemucca, Wells, and Gabbs.

Task 3: Outreach

The following outreach activities have occurred:

1. Personal or telephone contacts with about 30 parties interested in geothermal development. The range of requests ran from using geothermal fluids to heat a 30,000 square foot greenhouse in Douglas County to using a nearby hot springs to heat a small three building ranch in Lander County. Other inquiries include: using Shipley Hot Springs in Eureka County for prawn or fish farming; developing a hot spa/hotel/restaurant complex at Walley's Hot Springs in Douglas County; developing a district heating system in Hawthorne; and developing various industrial and/or agriculture applications at Wabuska Hot Springs.
2. Continued consultation with the Nevada Water Well-Drillers Association concerning a workshop on geothermal well drilling techniques.
3. Make additional suggestions for improvement of J.K. Lessor's slide/tape presentation about geothermal energy in Nevada.
4. Did preliminary organizing work establishing a Nevada Chapter of the Geothermal Resource Council. This chapter has held three monthly meetings. The topics covered included: "The Challenge of Developing Geothermal Resources for Direct Applications"; "Geothermal Energy--Institutional Analysis"; and "Geothermal Happenings in Nevada".

5. Request for Proposal has been circulated to develop a geothermal display.
6. Initial agenda preparation for the Economic Development and Local Government Workshop has occurred.

Task 4: Institutional Analysis and Update

1. NDOE staff is completing a rewrite and update of Nevada's Institutional Handbook. The final document should be completed after receipt of additional information from the Department of Conservation and Natural Resources.
2. NDOE staff appeared before the Nevada Legislative Commission to Study Geothermal Issues. Recommendations made to this group include:
 - a. Enact legislation that limits needed water appropriation to consumptive uses only.
 - b. Enact legislation that defines the geothermal resource and clearly delineates burden of proof vis a vis ground water system.
 - c. Consider enactment of legislation that will provide a safeguard to those who are engaged in non-consumptive geothermal uses (i.e., closed-loop space heating system).
 - d. Enact legislation that expands existing property tax allowance to commercial and industrial applications.
 - e. Enact legislation which exempts the cost of renewable resource systems from sales taxes.
 - f. Enact legislation which provides for a property tax credit for renewable resource systems (dependent upon approval of proposed constitutional amendment).
 - g. Enact legislation which requires Public Service Commission to allow utilities to include construction work in progress in rate base on an incremental basis for geothermal electric generation facilities.

- h. Enact legislation which allows public utilities to expense reasonable geothermal exploration and development costs.
- i. Enact legislation authorizing amortization of the cost of constructing and developing geothermal facilities whose useful life is shortened because of reservoir or technical problems. (Of course, such legislation must include requirements that utilities take adequate safeguards including reservoir insurance, adequate pre-construction exploration activities, etc).
- j. Enact legislation requiring utilities to justify non-use of geothermal for new electric generation projects.
- k. Enact legislation exempting or restricting Public Service Commission regulation of steam or hot water sales. Specifically the NDOE has suggested deregulation of sales of geothermal energy for use by public utilities to generate electricity and the development of a "operating permit" type of regulation for other direct applications.

As a result of presentations made by National Conference of State Legislators, NDOE, and other interested parties, it appears that the Interim Legislative Committee will recommend adoption of the following statutory or regulatory changes which:

1. Restrict appropriation of geothermal resources to these entities that can demonstrate a legal right to the land on which or under which the geothermal resource is located.
2. Recognize and protect non-diversionary users of groundwater in relationship to geothermal applications.

3. Require analysis of the feasibilities of utilizing geothermal or other alternative energy resources in new state facilities.
4. Exempts companies that sell geothermal energy to the public utilities for electric generation purposes from regulation.
5. Require public utilities to include an analysis of the feasibility of utilizing geothermal and other alternative energy resources in applications to build electric generation facilities.
6. Requires the Public Service Commission (PSC) to consider adoption of rules and regulations to support the area of alternative energy resources.
7. Restrict PSC regulation of direct thermal applications to issuance of an operating permit rather than a Certificate of Public Convenience and Necessity. The operating permit would be conditioned upon a showing:
 - a. That the resource is adequate for supply requirements of potential customers;
 - b. That the production and distribution systems are adequate for intended purposes; and
 - c. That the applicant is fit, willing, and able to provide service.

Task 5: Impediment Analysis and Update

The NDOE has been involved in a number of activities in this area. The agency has reviewed Environmental Protection Agency environmental regulations and Internal Revenue Service's temperature limitations for tax credits and has made appropriate comment to the decision makers in each agency. The NDOE has also addressed the problem of a backlog of applications for water use permits from the State Water Engineer's Office and will be having meeting with that agency to evaluate methods of overcoming this problem.

Task 6: Administrative Activities

1. Preparation of the 1979 Nevada Geothermal Commercialization Planning Annual Report
2. Development of the 1980 Geothermal Commercialization Grant Proposal
3. Development of the 1980 Object Budget
4. Development of the 1980 Grant Milestone Plan
5. Development of the 1980 Grant Cost Plan
6. Preparation of:
 - a. Cost Management Reports
 - b. Contract Management Summary Reports
 - c. Cost Variance Reports
7. Attendance at Salt Lake Planning Conference
8. Attendance at Carson City Planning Meeting