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REGIONAL HYDROTHERMAL PROGRAM

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Perhaps the most basic problem confronting those interested in the development of geothermal resources is how to increase the amount of energy being used and how to accomplish this more rapidly. We have no immediate solution--no easy prescription for this problem. However, there are a number of federal (principally DOE) programs which support the specific tasks designed to help meet the national energy goals by utilizing geothermal energy to the maximum extent appropriate.

Figure 1 depicts the DOE geothermal energy programs as being primarily related to technology, resource demonstrations or information. The road to putting energy on line can take several directions. The avenue which we are concerned with at this meeting is a commercialization activity which leads through the states to provide information and assistance to the public and private developer.

The state resource programs and the state commercialization programs compliment, interact, feed and drive each other with the resource assessment providing critical information to planning activities. As the potential sites are identified and coupled to potential users the next logical step is to establish specific resource data. The specific resource data in turn provides information for specific development plans. If additional planning documentation is necessary, a time phased development document is allowed for. The state then will be in a strong position to provide positive assistance and be involved in programs designed specifically to help developers within their states to put geothermal power on line. Of course, in the final analysis it is the developer who determines how, when and where the energy is being used, and these programs within the federal and state government must provide information and assistance to the developer in order for intelligent, well documented decisions to be made which are predicated upon the best possible information about the geothermal option. It is the DOE

funded state resource and commercialization programs which are addressing the method of developing the necessary information and providing this information in a format and time frame most beneficial to the developers.

The programs supported by DOE Geothermal which provide assistance to the states and information for the public or private developer are depicted in Figure 2. The programs as presently structured involves qualified support contractors providing assistance in the areas as shown here. I have listed the activities and the principal contractor for the programs as this commercialization program has evolved through the Idaho Office of DOE over the past several years. The support programs and contractors are designed to progress in the activities which address the uncertainty in general resource data through planning to specific resource data and planning then to the support of developers who will finally put power on line.

In defining the role of the states and the principle support contractors, I have stated the main tasks as I see these today (Figure 3). This is a very dynamic program and is much different than it was a year or two ago. It will continue to change rapidly as resource data and planning information are more advanced in the individual states. For those states within the Rocky Mountain area (which have been involved in the program for about a year) and for four support contractors (UURI, EG&G, NMEI and WEPL) the current principle responsibilities are shown. These tasks are received and new activities are initiated as needs are identified. In the case of UURI and EG&G these tasks represent only a fraction of their total involvement in the DOE geothermal program. Each of the states are in a different level of program and information development; thus the tasks shown are general in nature rather than specific.

UURI activities (Figure 4) involve the staff of the ESL which brings a body of experts to bear on the host of resource questions. The UURI staff is available to each state to assist in resource assessment and technical assistance of related problems.

EG&G (Figure 5) provides assistance on a variety of special programs ranging from analysis of industries energy needs to providing monitoring and assessment activities. EG&G conducts a research and development program which provides a basis for the latest technical information on

applications which is of interest to the state teams.

The NMEI contracts provide for economic information, modeling and maintenance of a data file which is in support of not only the state programs but useful to DOE in planning and forecasting (Figure 6). The NMEI group has been involved in model development for several years and is continuing to refine the models and expand the data file.

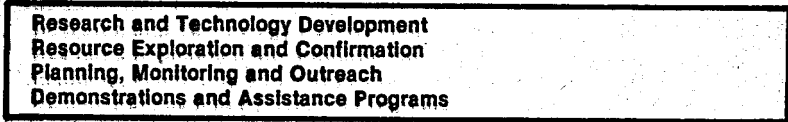
WEPL (Figure 7) is the point of day-to-day contact for the states and is providing support and coordination of the program, assisting, reviewing and evaluating the effectiveness of the programs. WEPL has the primary job of assuring the program is accomplishing the goals set forth by DOE. They provide assistance but the direction and ultimate responsibility remains with DOE.

Now a note on the considerations for DOE in 1980.

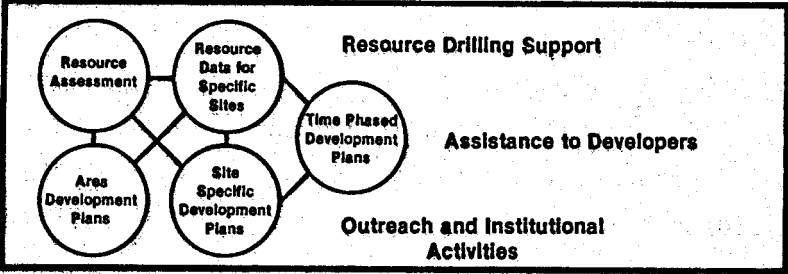
1. We currently plan to issue a PON solicitation in 1980 to conduct a program for industry demonstrations of direct applications.
2. The resource assessment and commercialization programs should be closely coupled and mutually supportive. We will concentrate on tying these programs together in the states, within the support contractors and within DOE.
3. We realize the need for inter-regional coordination of the commercialization efforts of the states and will strive to bring the states' activities, funding, and progress to reflect a unified effort within the various regions.
4. We will continue to review, consider and evaluate the state resource assessment and commercialization activities and the role of the support contractors and structure these programs in order to assist the public and private developers to bring geothermal power on line.

Geothermal Commercialization Activities

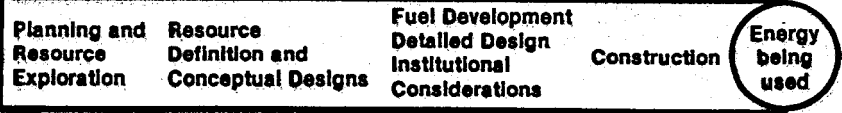
Federal



States



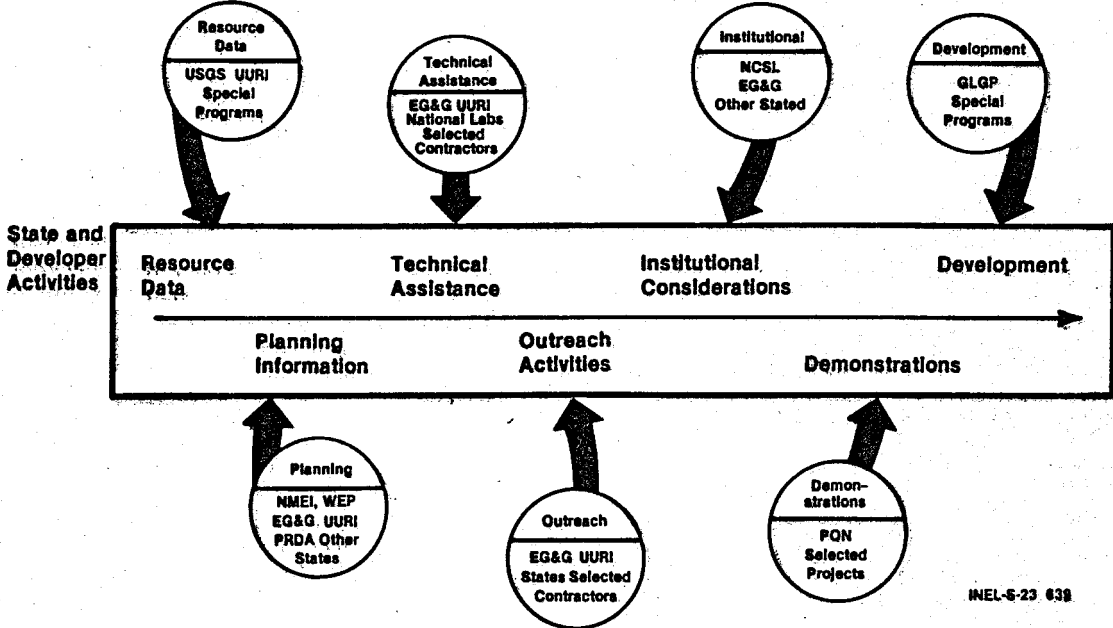
Private and Public Developers



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1

Federal Geothermal Assistance Programs



INEL-6-23 638

2

The Role of the States

- **Characterize state geothermal resources**
- **Develop plans for effective use of these resources**
- **Minimize the Institutional barriers in permitting and regulation**
- **Maximize the effectiveness of federal assistance programs**
- **Furnish information and assistance to developers**
- **Provide DOE feedback on state needs**

INEL-S-23 649

3

The Role of UURI

- **Assist the USGS and the states in resource definition including data compilation, map and report publication, site investigations and test drilling**
- **Develop and assemble earth science information and provide to the states, NMEI and DOE**
- **Conduct outreach, and technical assistance activities to help stimulate project development**

INEL-S-23 646

4

The Role of EG&G

- **Market penetration analysis for specific industries**
- **Outreach activities including user assistance, information and educational activities**
- **Technical and management support for PRDA and PON contracts**
- **Conduct national and regional planning activities**
- **Assist states in economic and barrier analysis studies**
- **Monitor and assess the impact of geothermal programs**

INEL-8-23 844

5

The Role of New Mexico Energy Institute

- **Establish regional data base of potential resource and population/user matches**
- **Provide state and regional market share and penetration projections**
- **Provide gross site-specific economic feasibility assessments for state teams**
- **Expand present market share and penetration analyses by including heat pump and cogeneration potential**
- **Provide support for special assignments**

INEL-8-23 841

6

The Role of Western Energy Planners, Ltd.

- Provide technical field coordination and management support to DOE
- Provide assistance as needed to assure high quality of technical work.
- Assist in work scope definition of an integrated program
- Review and synthesize program products
- Assist in program planning, analysis, and coordination

INEL-S-23 846

7

DOE Consideration for 1980

1. Provide a comprehensive stimulation program to assist developers in the use of geothermal energy
2. A fully coordinated resource and commercialization program within states.
3. Need for interregional steering committee and cooperation.
4. Periodic review meetings

INEL-S-23 850

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