



Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

In reply refer to: PRT

6L01407

OFFICE OF THE ADMINISTRATOR

SEP 7 1978

COPIES. SCHULTZ
LUNIS SEP 15 1978
KNUTH
SIMPSON
RAMSTHALER
GERTSCH
MIKE WRIGHT -
UURI
STAN WARD -
UURI

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625, UPD
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

The enclosed answers to your questionnaire are in response to an August 14, 1978, request by Mr. Clayton Nichols of the DOE-Idaho Operations Office. The questionnaire is associated with the Regional Hydrothermal Commercialization Plan--Rocky Mountain Basin and Range Region of July 14, 1978, by the DOE-IF and your company.

We have a few comments about the Plan. These comments are related to our marketing area which includes primarily Oregon, Washington, Idaho, and western Montana. Small portions of California, Nevada, Utah, and Wyoming are also in our service area.

BPA is firmly committed to the development of alternative and renewable resources, including geothermal. We are ready to assist in these developments to the extent that we can. Under our present authorization, this is limited primarily to assisting in the marketing of the electrical energy, transmission, and, subject to operating limitations, providing service such as storage and loadshaping. We are participating with the Idaho Falls DOE office in the Raft River Geothermal Project and have offered our assistance in the marketing of the energy, transmission over the Federal System, design, equipment loans, etc. If the regional power purchase legislation now before Congress passes, BPA could have increased authority and involvement in the project.

Your Plan is a necessary survey of geothermal generation potential, but some of the contents might be a detriment to other alternative or renewable resources being investigated in the Pacific Northwest, including wind, solar, biomass, and cogeneration. The overly optimistic statements in your Plan as to costs and potential installations may lead the layman to believe that geothermal is the primary alternative. The following comments relate to the Introduction portion of the Plan:

Letter to Mr. Joe Hanny, Subject: Questionnaire Regarding Actual or Potential Initiatives Designed to Speed Commercialization of Hydrothermal Energy

1. The creation of the Rocky Mountain Basin Range Region is not consistent with the regional structure established for the Federal Geothermal Energy Program. Region 3 of the Federal Geothermal Energy Program is consistent with the BPA marketing area. This difference in regions is confusing, especially since DOE is involved in both programs.
2. Under the paragraph on high-grade reservoirs, the sentence, "These systems can provide cost-competitive electrical power under current economic and technical conditions" is suspect. This sentence should probably be qualified since we know of no proof for this statement. On the contrary, most reports we have reviewed have speculative costs.
3. Under the paragraph on medium-to-high grade reservoirs, the sentence, ". . . may be expected to be found that could provide cost competitive electrical power with improved technology and rising fossil fuel costs" needs reexamination. This sentence also appears to be too positive considering the speculative nature of reservoir prospecting.
4. Table I shows 1000 MW of implied high-grade resources in Idaho. The method of presentation in the table implies that the values are firm, whereas we believe they are based on estimates.

We appreciate the opportunity to review this document. When a similar report evaluating the area including Oregon and Washington is available, we would appreciate receiving a copy for review.

Sincerely,

Ray Tolson
ACTING Administrator

Enclosure:
Questionnaire

cc:
Jack Salisbury, DOE - Washington, D.C.
Clayton Nichols, DOE - Idaho Falls, Idaho

QUÉSTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Large enough to determine magnitude and duration of each potential reservoir.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

 Terrible idea Undesirable X Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

 Terrible idea Undesirable X Desirable Great idea

Comments:

7. Loan guaranty program.

 Terrible idea Undesirable X Desirable Great idea

Comments:

8. Reservoir insurance.

 Terrible idea Undesirable X Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

 Terrible idea Undesirable X Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

 Terrible idea Undesirable X Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

for Ray Folmer
Sterling Munro, Administrator
Bonneville Power Administration
Portland, Oregon



Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

August 14, 1978

Dear

The Division of Geothermal Energy recently mailed a copy of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan to you for your information and use. The same document was distributed at the annual Geothermal Resources Council meeting held during July at Hilo, Hawaii. The questionnaire attached to this letter was used at Hilo to obtain input for continued participative planning of the DOE effort within the region. The responses to the questions were interesting and helpful. After reviewing these responses, we felt that a larger sample would provide additional information to develop an expanded basis for continued support or rejection of various components of the DOE-planned effort. The questionnaire relates to DOE involvement in accelerating the use of hydrothermal energy within the region. The questions are selected primarily from material contained in Section VI of the commercialization plan.

We would appreciate receiving your response to the thirteen questions on the attachment, and any other comments you may wish to make. If possible, we would like to receive your response by September 5, 1978. Please return questionnaires to Joe Hanny, EG&G Idaho, Inc., P.O. Box 1625, UPD, Idaho Falls, Idaho 83401.

Thank you very much for your cooperation and interest.

Sincerely,

Clayton Nichols
Assistant Director for
Geothermal Energy

Attachment:
As stated

OR

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *I question a "something for everyone" policy. The above parties have different goals.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *(If desirable, what size program would you recommend?) As large as necessary as long as there are no tax incentive nor depletion allowances (more than one way to skin a cat).*

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *The more information available concerning success and failure the more the state of the art will be perfected.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: *(If desirable, how many and what kind of additional demonstration plants would you recommend?) Only as many as necessary to convince private money lending institutions that such a plant would be a fine investment.*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) *Being in exploration I shall place exploration technology and advanced conversion equipment first closely followed by the others*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: *Better utilization of smaller reservoirs and could possibly be less expensive than a 50 MWe plant.*

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Should make the banking interests feel more secure in their investments until such time as geothermal energy is accepted by the banking industry as viable.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *Will only further bad geology and reservoir assessment and engineering.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *Without a depletion allowance and tax investment credits geothermal energy will be greatly hampered in development.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *Would tend to avoid the old "apples and oranges" situation.*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *It would give the "little fellow" the technical expertise formerly available to only the big companies and should greatly spur use of low to moderate Temp. geothermal energy*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *The average person is not aware of the geothermal energy potential to heat and cool home and industry is presently not interested in this area because of the economics associated with it.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) *"One picture is worth a thousand words." In Arizona 3 or 4 would be most beneficial*

Name *W. Richard Helms*

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

Information has to get out so that others can benefit from it

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *This is needed. Users will probably not develop a resource if they don't have help*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

As many as you (DOE) can afford

Name (optional) *Richard H. Perry, Colo Geol. Survey*

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

RECEIVED
 J. A. HANNY
 AUG 25 1978

Action	Info	File

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 ___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

___ Terrible idea Undesirable Desirable ___ Great idea

Comments: (If desirable, what size program would you recommend?)
 I WOULD LIKE TO SEE DOE CONFIRM RESERVOIRS IN FEDERAL LANDS WITH SUBSEQUENT LEASING OF "KNOWN" RESOURCE.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

___ Terrible idea Undesirable Desirable ___ Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
 I WOULD LIKE TO SEE SMALLER, PORTABLE PACKAGE PLANTS WHICH COULD BE USED AS DEMONSTRATIONS AND MOVED SO PRIVATELY OPERATED, PERMANENT FACILITIES COULD BE INSTALLED.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

- 1) EXPLORATION TECHNOLOGY 3) RESERVOIR STIMULATION
2) BETTER DRILLING & COMPLETION 4) ADVANCED CONVERSION

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: SMALLER INSTALLATIONS CAN BE PUT ON LINE FASTER
THE RESERVOIR DOES NOT HAVE TO HAVE SUCH A LARGE MINIMUM
CAPACITY.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: EXTEND RANGE OF PROGRAM TO INCLUDE LOW COST
DIRECT USE PROJECTS. MAKE FUNDS FOR DIRECT USE EASIER
TO GET.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: CHARGE FOR IT!

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: SHOULD BE BETTER THAN EQUIVALENT.

A GEOTHERMAL INSTALLATION REQUIRES MUCH MORE WORK
TO GET ON LINE.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: RESOURCE OPINION MORE IMPORTANT FOR DIRECT USE THAN ELECTRICAL PRODUCTION.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: NEEDS TO HAVE GREATLY INCREASED FUNDING WITH A REQUIREMENT FOR SITE RANKING THROUGH THE PLANNING PROGRAM.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

A FEW IN EACH STATE WITH EMPHASIS ON GREATER ENERGY USES SUCH AS: HEATING DISTRICT, GREENHOUSES, MUNICIPAL BUILDING SPACE HEAT CONVERSION AND COMMERCIAL PROCESSING WHERE FEASIBLE.

Name

Keith E. Brown

RECEIVED
J. A. HANNY

AUG 28 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea !!!

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5 more hot-water, hydrothermal plants

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

- 1. Reservoir stimulation techniques
- 2. Better drilling and completion technology
- 3. Advanced conversion equipment

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state ~~state~~ inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

at least 2 per state. So far, New Mexico doesn't have any demonstrations for direct heat apps.

Name Dennis G. Fedor

**THE UNIVERSITY OF WYOMING**

UNIVERSITY STATION, BOX 3355

LARAMIE, WYOMING 82071

August 16, 1978

RECEIVED
AUG 21 1978
GEOTHERMAL ENERGY
BRANCH

Mr. Clayton Nichols
Assistant Director for Geothermal Energy
DOE, Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

Dear Clay:

Enclosed is the questionnaire you sent with your 14 August letter.

Our Consortium (now officially named the Consortium of Universities for Research on Energy, CURE) now consists of eight universities: Colorado State, Montana State, Utah State, South Dakota Tech, and the universities of Idaho, Nebraska-Lincoln, North Dakota, and Wyoming. We remain interested in a contract for the O. R. Geothermal program in the ID, MT, WY, ND, SD region with the understanding that we would subcontract directly with each state for the work in that state. Or we would be interested in a contract to coordinate the five-state effort; DOE contracting with each state for the work in that state.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "E. Meyer".

E. Gerald Meyer
Vice President for Research

Chairman, CURE

Enclosure

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *Idea great, but chances of realizing the goal are not great.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Don't know enough about costs to give a figure

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *There should be a contractor to do this*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Suggest one demonstration using low temp geothermal

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

*Exploration
Stimulation
Conversion
Drilling*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

Should include local govt's who wish to undertake a municipal development

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *Don't know enough about this to comment*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

Of course, the question is which fossil fuel & which taxes!

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

Important to gain user acceptance

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

This is the starting point

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

One maybe two

Name

E. Gerald Meyer

AUG 17 1978

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea ⁺⁵

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs. ⁺⁵

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs. ⁺⁵

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea ⁻¹⁰

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Don't particularly like demonstrations run by or controlled by Fed. Gov.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea +5

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea +5

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea +5

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea +10

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea +5

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea +5

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea +5

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea -5

Comments: (If desirable, how many per state?)

Name G. MARTIN BOOTH, III

RECEIVED

J. A. HANNY

SEP 11 1978

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

___ Terrible idea ___ Undesirable ___ x Desirable ___ Great idea

Comments:

A little small talk to explore possibilities can do no harm.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

___ Terrible idea ___ Undesirable ___ x Desirable ___ Great idea

Comments: (If desirable, what size program would you recommend?)

\$500,000.00/year in Arizona

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

___ Terrible idea ___ Undesirable ___ x Desirable ___ Great idea

Comments:

All federal/state money should result in information to all interested parties.

4. 50 MWe demonstration plant at the Valles Caldera.

___ Terrible idea ___ Undesirable ___ ___ Desirable ___ Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Lack information on particulars to judge.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

Continue to support Los Alamos.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

Better than spending money on bigger systems until more knowledge is available.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

Either issue grants or let people stand on their own.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

Only after reservoir is proven.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

Tax treatment should be on finished goods, i.e. on plant output or revenue

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

Utility should not be backing developer risks of development of reservoir. Once developer has a product, arms-length negotiations should take place.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

This is area where private companies should compete. Government agencies can develop methods but not enter into user loans and guarantees.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

Results should be made public.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Depends upon method--one per method/state should be sufficient.

Name

Ernest Garfield / gr

Ernest Garfield, Chairman
ARIZONA STATE CORPORATION COMMISSION

State

RECEIVED		
J. A. HANNY		
AUG 21 1978		
Action	Info	

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 ___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

as many and as varied as can be afforded

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

Desirable

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

Desirable

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

Desirable

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

Desirable

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

0 Terrible idea Undesirable Desirable X Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable X Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable Desirable X Great idea

Comments: (If desirable, how many per state?)

304

Name Lynn Buckley
Energy Facilities Siting
Capital Hill Complex
Cheyenne, WY 82002

AUG 21 1978

QUESTIONNAIRE

Action	Info

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera. ?

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program. [?]

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance. [?]

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels. [?]

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Bullhe



Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

RECEIVED

AUG 16 1978

MDHES
Environmental Sciences Div.

August 14, 1978

Benjamin Wake, Director
Montana Dept. of Health & Environment
Room 224, Cogswell Building
Helena, MT 59601

Dear Mr. Wake:

The Division of Geothermal Energy recently mailed a copy of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan to you for your information and use. The same document was distributed at the annual Geothermal Resources Council meeting held during July at Hilo, Hawaii. The questionnaire attached to this letter was used at Hilo to obtain input for continued participative planning of the DOE effort within the region. The responses to the questions were interesting and helpful. After reviewing these responses, we felt that a larger sample would provide additional information to develop an expanded basis for continued support or rejection of various components of the DOE-planned effort. The questionnaire relates to DOE involvement in accelerating the use of hydrothermal energy within the region. The questions are selected primarily from material contained in Section VI of the commercialization plan.

We would appreciate receiving your response to the thirteen questions on the attachment, and any other comments you may wish to make. If possible, we would like to receive your response by September 5, 1978. Please return questionnaires to Joe Hanny, EG&G Idaho, Inc., P.O. Box 1625, UPD, Idaho Falls, Idaho 83401.

Thank you very much for your cooperation and interest.

Sincerely,

Clayton Nichols
Assistant Director for
Geothermal Energy

Attachment:
As stated

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Additional plants would be necessary as geo-thermal conditions vary.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

- 1. Exploration technology
- 2. Advanced completion equipment.
- 3. Reservoir stimulation
- 4. Drilling

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

1 or 2 (see question 4)

Name Dennis R Dalley
Acting Deputy Director of Health
Environmental Health Services Branch
Utah State Division of Health
Box 2500
Salt Lake City, Utah 84110

RECEIVED
J. A. HANNY
AUG 21 1978

AUG 22 1978

QUESTIONNAIRE

Action	In	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *Primarily educational*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

1-3 test areas per state

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *necessary to justify the program*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better ⁽²⁾drilling and completion technology, ⁽²⁾reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

Necessary

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

necessary

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Only to acquire data for evaluation of new areas or users

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Best done at state level

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Not after guidelines have been established by present or planned demonstration project

Name

J. P. [Signature]

AUG 22 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: Experience has shown that North Dakota's most effective environmental programs are those in which industry, local municipalities, and regulatory agencies serve key roles in both the planning, initiation and development stages.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
A plan using the pilot project approach which seemed to be the most efficacious.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

In most instances, Government sponsored programs are well ahead of developing technology. It would appear wise to aid the development of technology as much as possible during the initial stages of the program.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

However, difficult to make practicable.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

Certainly.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

States should be prioritized prior to inventory.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

More demonstrations in higher prioritized states.

Name

William J. Delmore

William J. Delmore, Director
Legal Services

AUG 22 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments: (If desirable, how many per state?)

Name John Hatch, Chief Engineer
Water Rights Division, ONRD
Joe Foss Building
Pierre, South Dakota 57501

RECEIVED
J. A. HANNY

AUG 25 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Not familiar with facility or its purpose

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

*Exploration technology
Reservoir stimulation techniques.
Drilling + completion technology*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *Very important to development of low temperature resources, may be single most important factor, with 11. ranking close second.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Look at resources available, and potential for stimulating use

J. Wallace Gwynn

Name *Peter J. Murphy*

RECEIVED
J. A. HANNY

AUG 25 1978

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

As large as possible and examining as many different reservoirs as possible.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

Work should be as complete as possible incorporating all geologic, geophysical and engineering factors as possible.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

This should be done for low- to moderate-temperature sources also.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

Demonstration should be visible to a large sector of the public.
Each state should have a demonstration.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

This program is an ongoing program to update and keep inventories current as more exploration and drilling is accomplished.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Number per state depends on visibility. A very visible demonstration should satisfy the need. If they are not highly visible then it may take several.

Name

Dennis J. Tuxler

Nevada Bureau of Mines and Geology
University of Nevada

RECEIVED

J. A. HANNY

AUG 28 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *It outlines the only realistic planning process that can be followed to achieve the desired results.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?) - *Carefully managed to drill in only reasonable areas - dollar amounts unknown due to the knowledge of drilling costs.*

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *one to begin with, evaluate closely, plan future demonstrations as study warrants*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment. ¹ ₂ ₃

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Close management!*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

if funding and guidance available

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

depends on track record, if warranted, yes.

Name

Dean D. Montel

AUG 17 1978

RECEIVED
J. A. HAINY

AUG 28 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *Too often plans result in guidelines result in laws. At this point I see no reason to stifle the development of geothermal resources.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
If implemented the program should be on a percentage basis and not on project size.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *This must be done. People are not going to risk capital unless they have some idea as to the amount of risk involved.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *I would keep these demonstration plants very low in number. For the most part, private enterprise can do a better job than governmental agencies in developing business. A few examples by government to show the private sector the desirability in an*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

#2 should suffice.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *I see no reason to involve innocent Joe Blow in geothermal development*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *same as #7.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *If a person or organization is willing to take risks, he should be rewarded for risk taking either through depletion allowance or free of regulated prices.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *This would add impetus to exploration and development of resources.*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *In most cases this is already accomplished.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

11 should suffice.

Name

Robert H. [Signature]

RECEIVED

J. A. HANNY

AUG 28 1978

Action	Info	File

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

None after the first.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

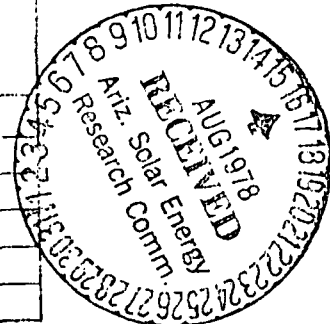
George A. Sullivan



Department of Energy
 Idaho Operations Office
 550 Second Street
 Idaho Falls, Idaho 83401

RECEIVED
 J. A. HANNY
 AUG 30 1978

Action	Info	File



August 14, 1978

Frank Mancini
 Associate Director, Energy Programs
 Room 502 Capital Tower
 1700 W. Washington
 Phoenix, AZ 85007

Dear Mr. Mancini:

The Division of Geothermal Energy recently mailed a copy of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan to you for your information and use. The same document was distributed at the annual Geothermal Resources Council meeting held during July at Hilo, Hawaii. The questionnaire attached to this letter was used at Hilo to obtain input for continued participative planning of the DOE effort within the region. The responses to the questions were interesting and helpful. After reviewing these responses, we felt that a larger sample would provide additional information to develop an expanded basis for continued support or rejection of various components of the DOE-planned effort. The questionnaire relates to DOE involvement in accelerating the use of hydrothermal energy within the region. The questions are selected primarily from material contained in Section VI of the commercialization plan.

We would appreciate receiving your response to the thirteen questions on the attachment, and any other comments you may wish to make. If possible, we would like to receive your response by September 5, 1978. Please return questionnaires to Joe Hanny, EG&G Idaho, Inc., P.O. Box 1625, UPD, Idaho Falls, Idaho 83401.

Thank you very much for your cooperation and interest.

Sincerely,

Clayton Nichols

Clayton Nichols
 Assistant Director for
 Geothermal Energy

Attachment:
 As stated

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

As large a program for exploratory drilling as Congress will allow.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

May have problems with reluctance of industry to allow certain data to be published.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

The City of Safford Az. is in serious need of electrical power for future use. This would be an ideal location for a demonstration plant.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

1.) Exploration tech. and Advanced Conversion equip.; (2.) Drilling and Completion technology; (3.) Reservoir Stimulation techniques.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *Desirable if the inventory considers of exploratory drilling.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Information too sparse to make quantitative judgment.

Name

Frank A. Marini

AUG 30 1978

QUESTIONNAIRE

Action	Info	File

o

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
Industry is capable of drilling all the holes required if there is a market potential for incentive.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *Obviously, the more that is generally known the better.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
If resource and market will support 50 MWe plant let industry build it. If not don't waste the money.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

I don't think this type of government support is generally cost effective.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: What are the chances that these would be practical. Power generation is more and more in large units to be economically competitive.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: Can be used as incentive for industry to do the job

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Is this common in oil & gas industry? If so then it might be used in geothermal development.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Comparable

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: Negotiations for what? Federal leases?

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

 Terrible idea Undesirable Desirable Great idea

Comments: *Resource potential yes. Equipment?*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) *One or two*

Name

D. T. McMillan

I think federal program should evaluate resource potential on public land, including drill holes in advance of leasing if desirable for stimulating leasing interest. Guarantees or insurance to ease the burden of financing for power developments might be an acceptable stimulus. If geothermal power is to be useful it has to stand on its economic merits in competition with nuclear and coal power - as at Geysers - not be a federally supported industry. If geothermal power is not competitive with other sources of generation who counts it?

RECEIVED

AUG 21 1978

GEOTHERMAL ENERGY BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments: You will probably never get complete agreement, but the variety of viewpoints represented should help prevent impossible state regulations duplication of certain programs, etc.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments: (If desirable, what size program would you recommend?)

Only in "wildcat areas" The program should be used to stimulate deep holes in geologic settings previously untested.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

___ Terrible idea ___ Undesirable Desirable ___ Great idea

Comments: It would inappropriate not to publish the results of government supported research

4. 50 MWe demonstration plant at the Valles Caldera. ?

___ Terrible idea ___ Undesirable ___ Desirable ___ Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Don't know enough to truly evaluate this. I would prefer reservoir insurance up to the capital cost of the plant.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: Particularly useful for community & rural coop systems if applicable to 150°C water.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: Such a program would require exceedingly complex rules to "prevent mismanagement", etc. I believe that this is too much of an intrusion into the private sector and would be an administrative disaster area for the responsible government agency.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: This is probably the best aspect of the high temperature program, in terms of getting power on line.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: While our knowledge of depletion rates is still pretty primitive, this type of tax treatment is needed to promote development of the resource.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: Puts government personnel in competition w/ consultants, and, subject to lawsuits. Work in this area should be restricted to evaluation of the technical data for reservoir insurance purposes.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Guidance is fine, but some policy should be developed for private sector and local governments as to how much assistance can be provided.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Will probably yield as much long term value (in terms of reduced fossil fuel consumption) as the high temperature program.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

#/state limit is not sensible; prefer limit (say 2) per type of application + make sure that the demonstrations are in different geologic, + geographic areas.

Name

JOHN SONDEREGGER

MONTANA BUREAU OF MINES & GEOLOGY

RECEIVED

AUG 21 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *But probably not practical, because whenever economics are apt to change in an area, there will be those who will take advantage of the situation.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Any size to get something started.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Can't comment

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

all equally valuable

6. Support for development of wellhead (5-10MWe) generators. *Can't comment*

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance. *Don't know what this is*

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: But thus far no one involved in these inventories seems willing to do any work to obtain basic data. All investigators want to do "library research".

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name DAN MILLER - STATE GEOLOGIST OF WYOMING

Clayton - We are receiving 4-6 inquiries/year from individuals on DOE grants who simply want to inventory published data. This isn't accomplishing anything.

What we need are longer term commitments to actually do some work digging up basic data.

*Wood
Nichols*

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. .50 MWe demonstration plant at the Valles Caldera. *20*

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *Tax treatment that is even more favorable than that given fossil fuels*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable Desirable ✓ Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments: (If desirable, how many per state?)

Name- Feed Seale, Director
 Utah Energy Office

RECEIVED
J. A. HANCOCK 7/18/78
AUG 6 1978 1978

QUESTIONNAIRE

Listed below are some of the actual or potential-DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

CAN'T COMMENT ON THIS ONE

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

0 Terrible idea Undesirable ✓ Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable Desirable ✓ Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable ✓ Desirable Great idea

Comments: (If desirable, how many per state?) 5

Name *Richard D. Shaw EPA-III*



OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

1645 WEST JEFFERSON, SUITE 420

PHOENIX, ARIZONA 85007

PHONE: (602) 271-5161

RECEIVED

AUG 25 1978

GEOTHERMAL ENERGY
BRANCH.

August 23, 1978

Mr. Clayton Nichols
Assistant Director for
Geothermal Energy
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

Dear Mr. Nichols:

Attached is the completed questionnaire which you have requested.

If we can be of any further service, please advise.

Very truly yours,

A handwritten signature in cursive script, appearing to read "W. E. Allen".

W. E. Allen
Director
Enforcement Section

WEA/vb

Enc.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: An industry-government partnership is undesirable.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Enough plants to utilize the full potential of the field - or to meet market demand.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) If governmental restrictions are minimized, and proper incentives are offered, industry will develop better and more efficient D&C technologies.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: Only if following a government loan, the borrower still has complete control of his operation - the same as a loan from any financial institution

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

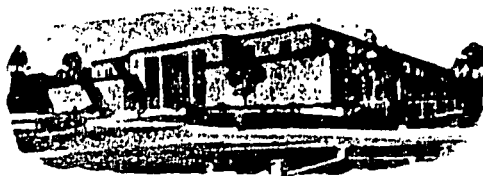
Comments:

RECEIVED

AUG 25 1978

GEOTHERMAL ENERGY
BRANCH

State of New Mexico



Commissioner of Public Lands

PHIL R. LUCERO
COMMISSIONER

August 21, 1978

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Mr. Clayton Nichols
Assistant Director for
Geothermal Energy
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

Dear Mr. Nichols:

Per your letter of August 14, 1978, the following personal comments and answers are submitted for what they are worth and do not necessarily represent the present, past, or future thinking of the office of the Commissioner of Public Lands.

The questionnaire indicates that money has been taxed from the citizens for the government to use to subsidize energy. In this connection, it is noted that both state and federal governments have been taxing the various industries and using the money to give to universities and other such groups to make studies, demonstration plants, etc. It is submitted that this approach is entirely wrong.

From some of the research programs I have observed, money is simply being wasted and the energy problem is not being solved. The proper procedure is to harness greed and let it do the work. In this connection, all of the price controls on energy should be removed such as price controls on both new and old oil and gas, letting energy seek its level in the market place. The only control that should be kept should be an excess profits tax, which would have an impact on the oil and gas industry, wherein write-offs could be given for further development by industry in the hydrocarbon area with increased write-offs in development of other forms of energy such as geothermal. Further,

Mr. Clayton Nichols
August 21, 1978
Page (2)

write-offs could be made for successful operations or in the alternative, some tax exemptions from those profits given. Once the hydrocarbons reach their price level in the market place it will be economical to develop the other forms such as geothermal.

At the current time, industry is unable to develop other forms of energy due in considerable part to regulations and controls relating to price and environment at all levels of government. These delays and controls add considerable expense to other forms of energy making them even less competitive with the regulated oil and gas.

In short, the price control and tax and dole out system is wrong and is not working. It will not work until controls are abolished and private industry is permitted to risk its own money and time and correspondingly reap the rewards when it is successful. Since Congress and the Administration persist in following this present system, the answers to the questions are submitted as a consolation.

Very truly yours,



WILLIAM O. JORDAN
General Counsel

WOJ:crk
Encl.

QUESTIONNAIRE

0

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

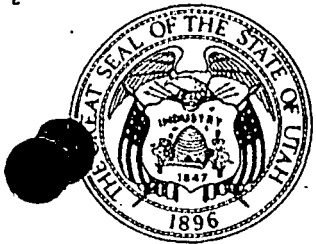
Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name William J. ...



DIVISION OF STATE LANDS
DEPARTMENT OF NATURAL RESOURCES
Room 411 Empire Building
231 East Fourth South
Salt Lake City, Utah 84111
(801) 533-5381

Scott M. Matheson
Governor

Gordon E. Harmston
Executive Director
Dept. of Natural Resources

William K. Dinehart
Director

August 24, 1978

RECEIVED

AUG 28 1978

GEOTHERMAL ENERGY
BRANCH

Mr. Clayton Nichols
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, ID
83401

Dear Mr. Nichols:

Enclosed please find the completed questionnaire dealing with the Rocky Mountain Basin and Range Regional hydrothermal energy development plan.

I trust this will be sufficient for your needs.

Yours very truly,

DONALD G. PRINCE
ASSISTANT DIRECTOR

DGP/vb1

Enclosure

BOARD MEMBERS

Showalter, Chairman
Eastern Areas

Dr. Walter D. Talbot
ex-officio

Kenneth A. Middleton
Southwestern

Warren C. Haycock
Northern

Arden B. Gundersen
Forestry & Fire

Paul S. Rattle
Southeastern

Margaret Bird
Central

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

The drilling should be left to private industry.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

~~Terrible idea Undesirable Desirable Great idea~~

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name Donald G. Prince
 Ass't. Director
 State of Utah
 Division of State Lands

RECEIVED

AUG 28 1978

GEOHERMAL ENERGY
BRANCH

QUESTIONNAIRE

RECEIVED

AUG 16 1978

WATER RESOURCES
STATE ENGINEER
COLO.

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name


C. J. KUIPER

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) as necessary for site specific data approximately 6

Name (optional) DAN D. CARDA,

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

#3

COMPLETED

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

~ 10

Name (optional) Stanley M. Howard

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

#2

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
It would seem to me it would have to be a fractional percentage to encourage industry - in some areas almost 100% federal as in North Dakota.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *This would be an invaluable educational tool.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
This is invaluable educational demonstration.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

facts of technology in this area are very slim.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *certainly financing is a great need in this valuable energy source that is so uncertain.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *certainly in the early stages tax incentives would be helpful to the developers.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

0 Terrible idea Undesirable X Desirable Great idea

Comments: *the encouragement of this direct heat application would relieve other energy requirements*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable X Desirable Great idea

Comments: *this also in a state like North Dakota is absolutely necessary to drill deeply and extensively to encourage Commercial Hydrothermal investigation*

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable X Desirable Great idea

Comments: (If desirable, how many per state?)

essential to this program.

Name John Conrad

8/21/78

North Dakota Energy Management and Conservation Office
1533 North 12th Street
Bismarck, ND 58501
Phone: 701/224-2250

STATE

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: case studies can be helpful so that errors can be avoided

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

DOE would be able to address this question better than this agency

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

reservoir stimulation technique

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

-depends on potential and size of reservoirs

Name South Dakota Dept of Env. Protection



STATE OF IDAHO

RECEIVED		
J. HANNY		
AUG 23 1978		
	Info	File

DEPARTMENT OF LANDS

STATEHOUSE, BOISE, IDAHO 83720

GORDON C. TROMBLEY
DIRECTOR

August 22, 1978

STATE BOARD OF LAND COMMISSIONERS

JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
WAYNE L. KIDWELL
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
ROY TRUBY
SUPT OF PUBLIC INSTRUCTION

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625, UPD
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

RE: Hydrothermal Energy Questionnaire

The referenced questionnaire sent to our Director by Mr. Clayton Nichols of the Idaho Operations Office of the Department of Energy has been directed to my attention for response. The topic concerns an evaluation of some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the basin and range region.

The Idaho Department of Lands serves as the administrative agency for the State Board of Land Commissioners. The responsibility of the Department as relates to geothermal resources is directed towards managing the geothermal resource leasing program on State mineral lands. The intent is to provide for the availability of State lands for geothermal resource potential, in consideration of minimum environmental standards established in the rules and regulations, and to insure the State receiving a fair market value for the rights for exclusive exploration and development of this resource. Following issuance of a lease, the Department has a minimal level of involvement in the management of any geothermal development thereon. Regulatory matters for geothermal resource energy development in Idaho are handled by the State Department of Water Resources.

We have reviewed thirteen initiatives placed on the questionnaire. In consideration of the Department's interest in geothermal resources, we believe we are not adequately informed to respond per your request. While we do have an interest in the success of this potential energy source, we believe those directly involved with the development and regulation are best suited to answer the inquiries.

Thank you for this opportunity to participate.

Sincerely yours,

ARTHUR D. ZIEROLD, Chief
Bureau of Minerals

ADZ:sjb

Division of State Lands
State Land Office
State Land Use Planning Agency
(702) 885-4363



RECEIVED

AUG 23 1978

Address Reply to:
Division of State Lands
201 S. Fall Street
Capitol Complex
Carson City, Nevada 89710

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
GEO THERMAL ENERGY
BRANCH

Division of State Lands

August 18, 1978

RECEIVED
J. A. HANNY

AUG 29 1978

Action	Info	File

Clayton Nichols
Assistant Director for Geothermal Energy
550 Second Street
Idaho Falls, Idaho 83401

Dear Mr. Nichols:

Upon examining your questionnaire (enclosed), it became apparent that our office has very little expertise relevant to the specific subject matter. For this reason, we are returning the questionnaire incomplete. I assume that you have been in contact with Nevada's Department of Energy. If not, it would be valuable for you to contact Mr. Noel Clark, Nevada Department of Energy, 1050 East William, Suite 405, Carson City, Nevada 89710.

I am sorry that we could not be of more assistance to you in this matter. If we can help you in the future, do not hesitate to contact us.

Very truly yours,

Fred Welden

Fred Welden
State Land Use Planner

FW/lc
enclosure

RECEIVED
J. A. HANLEY
AUG 28 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *No way to compete equitably otherwise*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) _____

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

J. A. [unclear]
AUG 25 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *As obviously necessary as Motherhood.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
The stated goal of at least 400 wells, 2000 holes through 1984 is ambitious, but appropriate. The size of the program must be at least \$22 million/year for DOE in order to achieve this goal.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *Obvious necessity to follow above.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
What the program should attempt to do is to demonstrate new technology, not old. The need is to build and operate a commercial-size binary plant. (Even) The Mexicans have already demonstrated that a finished steam plant can be properly built and operated.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (if desirable, prioritize.) *A prioritizing of the broad categories included is from top to bottom--reservoir stimulation techniques, exploration technology, advanced conversion equipment, improved drilling and completion technology.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: *The market should also reach down to the 1 MWe level. This development can be of real significance to get early power-on-line.*

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *It is pathetically organized and administered. No Washington direction is demonstrated, and DOE(SAN) is frustrated by indecision, buck-passing at headquarters. Last week our second application was sent on to Washington with a recommendation for approval by DOE(SAN), a full 314 days after having first submitted the application.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *Great idea, if obtainable.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *And an absolute necessity if hydrothermal commercialization can have any hope of success. Number One priority of anything and everything!*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *Industry and utilities can handle it themselves, and government is less experienced and knowledgeable.*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

0 Terrible idea Undesirable X Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea X Undesirable Desirable Great idea

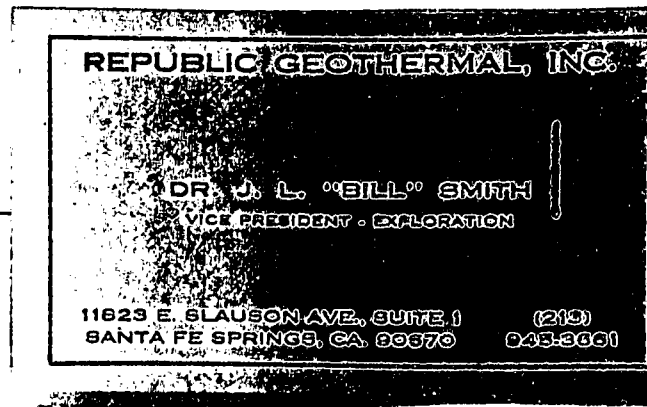
Comments: *Low priority relative to other means of getting power-on-line, and how much further do you want to go than what you have just published?*

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable X Desirable Great idea

Comments: (If desirable, how many per state?) *Maybe a half-dozen per state.*

Name _____



8/17/78

AUG 21 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *Communism*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

a) Every reservoir should be studied
b) results disseminated

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

Not by Gov

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Not new technology.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

Universities cannot do this research

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: ~~☹~~ Another blood sucker

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

This one change will get geothermal off the dime.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

This is a marketplace, economic decision which should be exo-government.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *If non-university, good*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

proportional to number of congressmen

Name David Butler.

To solve power-generation problems:
change tax treatment

To solve direct-use problems: get
scientists and engineers out of problem —
they are too expensive. You must buy your
geothermal heater at the local department
or hardware store if it is going to sell.

RECEIVED
J. A. HALL
AUG 30 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment ^{#3} ^{#5} ^{#4} ^{#1} ^{#2}

Terrible idea Undesirable Desirable Great idea
 Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.
 Terrible idea Undesirable Desirable Great idea
 Comments:

7. Loan guaranty program.
 Terrible idea Undesirable Desirable Great idea
 Comments:

8. Reservoir insurance. To insure against what?
 Terrible idea Undesirable Desirable Great idea
 Comments:

9. Tax treatment equivalent to fossil fuels.
 Terrible idea Undesirable Desirable Great idea
 Comments: Should have 35% depletion allowance.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.
 Terrible idea Undesirable Desirable Great idea
 Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Depletion allowance of 35% should take care of this.

Name

W. A. Glass
W. A. Glass, President
Big Chief Drilling Company



Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

RECEIVED

AUG 14 1978

GEOHERMAL ENERGY
BRANCH

August 14, 1978

Leo Ray
Fish Breeders of Idaho
Route B, Box 198
Buhl, ID 83316

Dear Mr. Ray:

The Division of Geothermal Energy recently mailed a copy of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan to you for your information and use. The same document was distributed at the annual Geothermal Resources Council meeting held during July at Hilo, Hawaii. The questionnaire attached to this letter was used at Hilo to obtain input for continued participative planning of the DOE effort within the region. The responses to the questions were interesting and helpful. After reviewing these responses, we felt that a larger sample would provide additional information to develop an expanded basis for continued support or rejection of various components of the DOE-planned effort. The questionnaire relates to DOE involvement in accelerating the use of hydrothermal energy within the region. The questions are selected primarily from material contained in Section VI of the commercialization plan.

We would appreciate receiving your response to the thirteen questions on the attachment, and any other comments you may wish to make. If possible, we would like to receive your response by September 5, 1978. Please return questionnaires to Joe Hanny, EG&G Idaho, Inc., P.O. Box 1625, UPD, Idaho Falls, Idaho 83401.

Thank you very much for your cooperation and interest.

Sincerely,

Clayton Nichols
Assistant Director for
Geothermal Energy

Attachment:
As stated

RECEIVED

AUG 21 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

WORK WITH SMALL BUSINESSES

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: SBA & existing Agencies could do this Educate them rather than build a new government agency.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: go to the small business they will take the risk on their own.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *This is needed to get small business started*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Leo E. Ray

J. R. SIMPLOT COMPANY / ONE CAPITAL CENTER / 999 MAIN STREET / SUITE 1300
P.O. BOX 27 / BOISE, IDAHO 83707 / (208) 336-2110 / TELEX 368432

GENERAL OFFICE

0

July 13, 1978

J. A. Hanney
EG&G IDAHO, INC.
P. O. Box 1625
Idaho Falls, ID 83401

RE: Draft Regional Hydrothermal Development Plan

Dear Mr. Hanney:

I have reviewed the draft of the above referenced plan and have no suggestions or recommendations to make. I think it is an excellent start.

Sincerely,



MELVIN D. ALSAGER
Director, Environmental
and Energy Affairs

MDA/ac

RECEIVED .		
J. A. HANNY		
JUL 18 1978		
Action	Info	File

RECEIVED

²⁵
AUG 24 1978

GEOHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

RESEARCH

ATLANTA

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

Sufficient data should already be available on proper drilling technology

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

Do not appear to be economically feasible

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations. ?

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

*2-4 per state
no more space heating demonstrations needed*

Name

Melvin Oberayer

RECEIVED
 J. A. HANNY
 SEP 11 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Regional to establish resource, remove element of risk not provide oil industry w/ wells.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

1. ADVANCED CONVERSION
2. EXPLOR. TECH
3. RESERVOIR STIM

4. BETTER DRILLING

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: NO REAL ADVANTAGE TO A VIABLE COMPANY.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

MORE DESIRABLE BY APPLICATION OR INDUSTRY,
PERHAPS 2-3 PER REGION PER INDUSTRY,

Name

John Austin

AT&T
Furmo

RECEIVED

AUG 30 1978

QUESTIONNAIRE

GEOHERMAL ENERGY
BRANCH

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: If collective means joint meetings like that at SLG, then the idea is not good. If it means your staff will contact separately and discuss concerns with all in area who might get involved in geothermal, then the idea is great. Joint meetings and large committee meetings are a waste of everyone's time.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?) Should be the major part of your program, but should include all types of wells and all types of developers — not just the majors drilling the 1500 to 2500 m holes

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) You ought to "push" the technology on the next ones. Either dual purpose, low temp. steam, or binary

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

1. Drilling & Completion Technology
2. Reservoir Stimulation

3. Adv. Conversion Equip.
4. Explor. Technology

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: If support means providing them on a temporary lease basis at a tolerable price for the lease

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: Something different is needed. The GLGP primarily helps the bankers, and is used (generally) only in desperation by developers. The red tape is intolerable.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: No comment, yet.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: or even more favorable treatment if you are trying to stimulate alternative energies.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: None of the government's business, in general. (Unless I am misinterpreting)

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *There are engineering firms quite capable of providing professional service of this type. There should be no govt. interloper now that the industry has matured.*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *Low Key data compilation should continue.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

The program should be modified to protect the small developers against undue risk, rather than funding in grand style just a few projects. — As to number — if you redesign it, then no limit would be appropriate.

Name

Jay F. Runze

Cray - I filled out a copy of this at Hilo but maybe it didn't get into the mill. I've tried to duplicate my answers below.

Don

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: Most important of all phases to accomplish, along with #3 below.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
sounds like a good idea, but only if industry buys it. I don't know industry's feelings well enough to answer.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: Most important of all phases to accomplish (along with #1 above), if industry-coupled program is a successful sell to industry.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
I'm more in favor of Gov't testing components & concepts rather than complete systems. Industry should do latter.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: I've always been inclined toward this size of unit, ever since I developed the Dod geothermal program back in 1972 when 5 MW was our focus (I no one else's). I still think

7. Loan guaranty program

many small units, for local use individually or

Terrible idea Undesirable Desirable Great idea

Comments: Sounds like a great idea when established, but it is desirable only if used. May need re-evaluation. as units within one field, is a good approach since it may have earlier pay-off than going for largest.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Sounds like a great idea, but again, this ~~will~~ will be desirable part of program only if it works, i.e. if reservoir developer - utility buys it.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Answer based on industry's construction appears that this would be ~~dangerous~~ to getting geothermal on-line quickly.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: I think any idea to try to resolve the utility's lack of confidence in reservoirs is worth pursuing at this time, this is, as I understand it, a major roadblock to commercialization.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

Should definitely be some part of the program, on a continuing basis, but I would visualize it as requiring a relatively (to electrical) low level of effort. And that does not mean a

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

low priority!

Name Don Krick, USGS/Reston

Jack — I still feel your approach should be based on a broad spectrum of ideas & projects rather than one few selected out, i.e., the shotgun approach rather than the rifle. I think it is still too early to try to ~~predict~~ predict which ideas will be most successful. I think you should place your emphasis on those, but ^{begin to} do a little work on developing any idea that comes along. I think you should have on your staff someone who can develop ^{and most of his time} new ideas or following up on new ideas suggested by others, for a few months get until the ideas start getting on

RECEIVED
J. A. HANNY

AUG 23 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Binary

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

4 Terrible idea 3 Undesirable 1 Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

?

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

?

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

L. J. Patrick Maffeo

RECEIVED

25
AUG 24 1978

GEOHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

\$3,000,000 per yr

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Don Mabej

SEP 8 1978

QUESTIONNAIRE

Author	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Samuel S. Arentz, III

Samuel S. Arentz, III
Steam Corporation of America
1720 Beneficial Life Tower
Salt Lake City, UT 84111

AUG 21 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Subsidizing an unprofitable venture is of no help to anybody.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *Has promise - awards success,
Needs some creative attention*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

equivalent or better

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

*let the two decide which is best
for them*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *Not sure*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications. *BS*

Terrible idea Undesirable Desirable Great idea

Comments: *We already know where a great number of hot springs are - many of them undrilled.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name _____

*formerly with
Thermal Power Co
S.F.*

*K. R. Davis
191 Sycamore Ave
Mill Valley, CA 94941*

I believe geothermal future maybe more in direct heat applications. I also believe in the free enterprise system. DOE should show how a profit might be made, or create conditions for profit - then get out, stay out

RECEIVED		
J. A. HANNY		
AUG 22 1978		
Action	File	File

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

GEO THERMAL RESERVOIRS ARE SO INDIVIDUAL AND UNIQUE THAT IT IS NOT POSSIBLE TO GIVE A MAXIMUM FIGURE. SUGGEST A MINIMUM OF TWO PER GEOLOGIC PROVINCE EG. RIO GRANDE, BASIN AND RANGE, CASCADES, SACTON SEA, CALDERA, ETC. ETC

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

*HIGH SALINITY RESERVOIR
 TRIPLE FLASH SYSTEM IN RESERVOIR OF 200°C-220°C
 WHICH AT PRESENT HAS MARGINAL TO SUBECONOMIC POTENTIAL.*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

1. ADVANCED CONVERSION
2. RESERVOIR STIMULATION
3. DRILLING AND COMPLETION
4. EXPLORATION - NOTE THIS IS COVERED PARTIALLY IN 2 and 3 OVERLEAF.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

- COULD HAVE TREMENDOUS POTENTIAL AS:-
1. PRODUCE SMALL RESERVOIRS
 2. MAXIMISE PRODUCTION ON EDGE OF LARGE RESERVOIRS
 3. DEMONSTRATION FACILITY FOR RESERVOIR CONFIRMATION AND INITIAL CASH FLOW
 7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: ONE OF THE GREAT OBSTACLES TO THE BUYER OF ELECTRICITY IS THE RISK ASSOCIATED WITH THE SIZE AND LIFE OF THE RESERVOIR

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: AS FOR 7 ABOVE

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

WILL SPEED COMMERCIALIZATION

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

DEVELOPER REQUIRES MORE EQUITABLE RETURN; CONTRACT SHOULD BE NEGOTIATED TO INSURE THAT UTILITY MAXIMISES POWER PLANT DESIGN FOR ELECTRICITY GENERATION.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

NUMBER PER STATE NOT IMPORTANT; VARIETY OF USAGE AND ECONOMIC ANALYSIS THERE OF SHOULD BE EMPHASISED.

Name J. R. WALL.

RECEIVED
J. A. HANNY

AUG 25 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *Possibly premature*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *Dual Flash, Single Flash &*

Binary at 340°, 375° or 400°F 10-50 MW

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

Drilling & completion - lost circulation solutions esp.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *will serve to offset reservoir risk & also lower debt costs*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *See above - In absence of loan guaranty.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *absolutely necessary for accelerated development - also ↑ average allotments!*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

Need production data - even that from other countries very helpful.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Will evolve - power generation
costs in biggest market

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name Donald C. Bon
Earth Power Prod. Co.

U.S. DEPARTMENT OF ENERGY
ROCKY MOUNTAIN BASIN & RANGE
AUG 28 1976

QUESTIONNAIRE

Section	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

 0 Terrible idea X Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea X Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea X Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) _____

I am associated with a: (Check one)

 ✓ Developer

 Utility

 Financial Institution

 State Government

 Federal Government

 Other

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *I am in favor of input data from interested parties, but feel meetings with too many groups results in too diverse opinions to be of much value in developing a universal plan.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Exploratory programs in at least 4-6 areas similar to the Battle Mt. RFP in Nevada would be ideal. Eventually lack of good "prospects" will limit the program to a great degree.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *I believe it's a good program since most oil & gas Co's do not intend to develop high staffs of people in geothermal - keeping up with other operators and technology through this program is very good.*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *any type of plant that can utilize lower range fluids for electricity generation (Binary systems) Even smaller in the range of 10-20 MWe. How many of us tend to think only in terms of the 50 MWe.*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) *Exploration technology
Reservoir stimulation techniques
Drilling & completion
Advanced Conversion Equip.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: *I believe it's an excellent thought but am not sure of feasibility. Would probably end up almost as costly as a small generating plant.*

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Am sorry to be so non-committal, but I can see some projects by small Cos where it would help get a project going. On the other hand I believe very little scrutiny should be made of any application with only limited chance of success.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *In case of environmental problems which shut down a potential geothermal resource area that has been proven, a return of capital investment to Cos would be a good thing. It should be restricted only to many aspect & not related to projected profits etc.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *This is an extremely important step and will be absolutely necessary in the future - if geothermal is to stay alive - (i.e.) private industry. It is a must.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *This is a difficult question; to answer about to a dimension of interest. Utility controlled by state utility commissions, transmission Cos & etc, would tend to influence the utility rather than developer.*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Believe the applicant should be very closely screened. Particularly the results of the project over a long range.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Believe the Federal agencies are more equipped to evaluate these type resources. Another step would be to ask for industry participation.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) Any project which has merit and energy potential deserves some support. Again, the funding agency should be the judge.

Name Walter A. S. [unclear]

RECEIVED
J. A. HANNY

AUG 5 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

50/50 Cost sharing

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better ^② drilling and completion technology, ^③ reservoir stimulation techniques, ^① exploration technology and advanced conversion equipment.

^① Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program. - *for electrical generation facilities*

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *I need a definition of "reservoir insurance" to be able to respond.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *I don't believe. DOE could be helpful in this area.*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: I understand this has already been done.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Earl A. Hoff

Phillips Petroleum Company

8/31/78

Union Geothermal Division

Union Oil Company of California

Union Oil Center, Box 7600, Los Angeles, California 90051

Telephone (213) 486-6260

RECEIVED

AUG 30 1978

GEOHERMAL ENERGY
BRANCH

UNION 76

Carel Otte
President

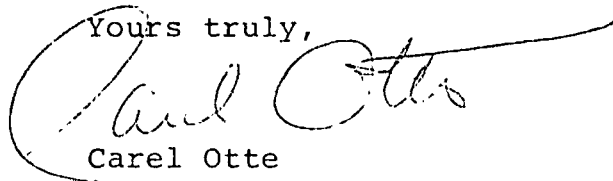
August 25, 1978

Mr. Clayton Nichols
Assistant Director for
Geothermal Energy
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

Dear Mr. Nichols:

Pursuant to your letter of August 14, I have the pleasure of returning the questionnaire. I hope it is of some use to you.

Yours truly,



Carel Otte

CO/jh
encl.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

One additional plant in a different geologic setting and different temperature and power grade would be desirable.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Paul Otte

Union Oil Company of Calif.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?) Reservoir confirmation is much more costly and difficult than in typical oil or gas reservoir testing. Some method of providing or helping producers get information is a priority need.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) Binary system should be demonstrated.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.) Industry should handle a large share except in specific areas where market is small.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: It scares me but is ~~isn't~~ method of developing incentives

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: I feel this will be difficult to administer. On individual cases, this may get conservative utilities into act.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Develop information and make information available

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Direct heat applications are local. Availability and methods of utilization should be publicized locally.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) Bill Thomas

I am associated with a: (Check one)

- Developer
 Utility
 Financial Institution
 State Government
 Federal Government
 Other

Energy Analysts Inc
 1215 Westheimer Dr.
 Norman, Ok. 73069

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *Need to drill - explore & locate resource before planning.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

*Three to five -
Helen*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

*Series of reservoir insurance +
reduces debt costs for*

8. Reservoir insurance.

ultimate reduction of ↓ elec. costs

Terrible idea Undesirable Desirable Great idea

Comments:

Not needed

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

absolutely necessary / Cool uranium

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

why not

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: usually a lower part of overall project costs.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Too localized & susceptible to regional area politics

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

The market will appear in local areas very

Name (optional) R. C. T. Ben really

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

Earth Power
Education - Environmental
- academic

absolutely essential for categorical summarization of responses.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Way demo, plants we need to just start build plants like we

Name (optional) David J. Albee

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

would build coal plants

#2

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

at least 5 new holes/state per year

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Not adequate as structured*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

at least 2/state per year

Name (optional) _____

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

Developers - D. BARTH

(7/10)

Received by
Kalyanas

Following 9/5

- 1. DTS
- 2. DTS
- 3. DTS
- 4. US
- 5. DTS
- 6. GREY HD
- 7. TERRIBLE -10
- 8. GREY HD
- 9. GREY HD
- 10. UNO. -5

11. DTS

~~12. DTS~~ 02

~~13. DTS~~ 00



RECEIVED

SEP 11 1978

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

GEOHERMAL ENERGY
BRANCH

OFFICE OF THE ADMINISTRATOR

In reply refer to: PRT

SEP 7 1978

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625, UPD
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

The enclosed answers to your questionnaire are in response to an August 14, 1978, request by Mr. Clayton Nichols of the DOE-Idaho Operations Office. The questionnaire is associated with the Regional Hydrothermal Commercialization Plan--Rocky Mountain Basin and Range Region of July 14, 1978, by the DOE-IF and your company.

We have a few comments about the Plan. These comments are related to our marketing area which includes primarily Oregon, Washington, Idaho, and western Montana. Small portions of California, Nevada, Utah, and Wyoming are also in our service area.

BPA is firmly committed to the development of alternative and renewable resources, including geothermal. We are ready to assist in these developments to the extent that we can. Under our present authorization, this is limited primarily to assisting in the marketing of the electrical energy, transmission, and, subject to operating limitations, providing service such as storage and loadshaping. We are participating with the Idaho Falls DOE office in the Raft River Geothermal Project and have offered our assistance in the marketing of the energy, transmission over the Federal System, design, equipment loans, etc. If the regional power purchase legislation now before Congress passes, BPA could have increased authority and involvement in the project.

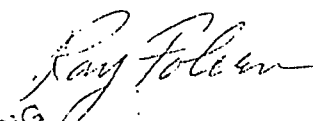
Your Plan is a necessary survey of geothermal generation potential, but some of the contents might be a detriment to other alternative or renewable resources being investigated in the Pacific Northwest, including wind, solar, biomass, and cogeneration. The overly optimistic statements in your Plan as to costs and potential installations may lead the layman to believe that geothermal is the primary alternative. The following comments relate to the Introduction portion of the Plan:

Letter to Mr. Joe Hanny, Subject: Questionnaire Regarding Actual or Potential Initiatives Designed to Speed Commercialization of Hydrothermal Energy

1. The creation of the Rocky Mountain Basin Range Region is not consistent with the regional structure established for the Federal Geothermal Energy Program. Region 3 of the Federal Geothermal Energy Program is consistent with the BPA marketing area. This difference in regions is confusing, especially since DOE is involved in both programs.
2. Under the paragraph on high-grade reservoirs, the sentence, "These systems can provide cost-competitive electrical power under current economic and technical conditions" is suspect. This sentence should probably be qualified since we know of no proof for this statement. On the contrary, most reports we have reviewed have speculative costs.
3. Under the paragraph on medium-to-high grade reservoirs, the sentence, ". . . may be expected to be found that could provide cost competitive electrical power with improved technology and rising fossil fuel costs" needs reexamination. This sentence also appears to be too positive considering the speculative nature of reservoir prospecting.
4. Table I shows 1000 MW of implied high-grade resources in Idaho. The method of presentation in the table implies that the values are firm, whereas we believe they are based on estimates.

We appreciate the opportunity to review this document. When a similar report evaluating the area including Oregon and Washington is available, we would appreciate receiving a copy for review.

Sincerely,


ACTING Administrator

Enclosure:
Questionnaire

cc:
Jack Salisbury, DOE - Washington, D.C.
✓ Clayton Nichols, DOE - Idaho Falls, Idaho

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Large enough to determine magnitude and duration of each potential reservoir.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

Ray Folmer
for Sterling Munro, Administrator
Bonneville Power Administration
Portland, Oregon

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: LOCALIZED NATURE OF RESOURCES

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

THIS DOES NOTHING TO FURTHER KNOWLEDGE
SINCE IT USES CONVENTIONAL EQUIPMENT

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

DOESN'T DISPLACE CAPACITY OF
COAL, OIL, OR NUCLEAR

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

UTILITIES CAN'T USE IT.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

BUT TOO LATE

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

NEEDS MORE TAX INCENTIVE

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name

VAL A FINLAYSON



NORTH DAKOTA

STATE WATER COMMISSION

**900 east boulevard
701-224-2760**

bismarck 58505

north dakota

J. A. FAHY

September 5, 1978

SEP 11 1978

Mr. Joe Hanny
EG&G Idaho, Inc.
P. O. Box 1625
UPD
Idaho Falls, Idaho 83401

Person	Info	125

Dear Mr. Hanny:

We are returning the questionnaire related to the Hydrothermal Commercialization Plan. Members of my staff working with Dave Larson reviewed the Plan and answered portions of the questionnaire which they felt appropriate with the information available.

The entire undertaking sounds extremely interesting and should provide great potential in some areas of the Nation.

We sincerely hope that your planning will produce the desired results.

Sincerely yours,

Vern Fahy
State Engineer

VF:s1

Encl.

GOVERNOR ARTHUR LINK
Chairman

ALVIN A. KRAMER
Minor

ARTHUR J. LAKE
Devils Lake

MEMBER JUSTICE OFFICER MEMBER
Comm. of Agriculture

RICHARD P. GALLAGHER
Vice Chairman-Mandan

GORDON K. GRAY
Valley City

ARLENE WILHELM
Dickinson

VERNON FAHY
Secretary & State Engineer

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

... confirmation of hydrothermal reservoirs

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

in terms of type + extent of resources available

Name DAVE LARSON

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: It is always a good policy to have the combination of industry state, local and Federal agencies aware of any development or exploration being done in the state or in any region. Primarily, because manytimes Federally sponsored projects do not make local agencies aware of what they are doing. Federal Projects should be subject to the same requirements as Industry.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

At this time, it is very difficult for any electric utility, as a part of industry, to want or desire to go into their own exploration or share in exploration for any new reservoirs because the electric utilities is a conservative and do not deal in 'risk money' and stay primarily with conventional fuels.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) The 50 MWe demonstration plant at Valles Caldera for the Rocky Mountain Basin and Rage Region may be a good idea. However, I think that the projected plan for the Valles Caldera should be changed to a binary demonstration plant instead of a straight flash-steam demonstration plant.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: I don't believe that the Federal Government should waste time in being involved in a wellhead generator or generator design. Primarily, there are plants that exist in oil industries and other research groups to develop (5-10 MWe generators) that would fit on the wellhead for a short period to test the capabilities of the well.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: The Loan Guaranty program hasn't worked very well. In fact, I don't see any stimulation by the Federal Government through the Loan Guaranty Program into the Geothermal.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: I think that insurance on reservoirs could be a vital point. However, as far as electric utilities are concerned, when we know more about the reservoir, later on, the insurance may not be necessary.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: The tax treatment of fossil fuels is not the way to treat geothermal resources because they are a unique resource and cannot be viewed in the same light as fossil fuels.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name James R (Jim) Turner

ARIZONA



PUBLIC SERVICE COMPANY

P. O. BOX 21666 · PHOENIX, ARIZONA-85026

August 24, 1978

RECEIVED
J. A. HANNY

AUG 6 1978

Action	Info	File

Mr. Joe Hanny
EG&G Idaho Inc.
P. O. Box 1625, UPD
Idaho Falls, ID 83401

Dear Mr. Hanny:

Attached is the completed geothermal questionnaire
required by Clayton Nichols. If you have any
questions on my comments, let me know.

Very truly yours,

Harold Bell cc

Harold Bell
Research Programs

cc

attachment

cc: M. L. Brown

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: Dialogue should always be encouraged. However, input from local, state or federal entities may have little impact on utility industry decisions or projects.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
This would be a little value to utilities. It may be more desirable for resource companies. We do need to find new reservoirs before we worry about confirming them.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: Comparative data on various types of reservoirs will be useful.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Flash steam technology has been shown commercial at Cerro Prieto and in New Zealand. A commercial demonstration (50MW) is really needed on the binary cycle.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

These problem areas need support for solving. Highest to lowest priority: Advanced conversion, drilling and completion, reservoir stimulation, exploration technology.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

Connecting wells with electric wire rather than steam lines may make sense with some reservoirs.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

Will make utility industry financing easier to obtain.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

The resource companies will determine resource potential as a normal course of business.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

Equal justice under law should be fundamental.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

It would appear to have minimal utility interest.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

It will have very little impact on utilities.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

It will have little impact on utilities.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

It will have very little impact on utilities.

Name Harold Bell, Arizona Public Service Company

RECEIVED

AUG 21 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *ESSENTIAL*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

VERY LITTLE COMMERCIAL CAPACITY WILL DATA AVAILABLE — WE ARE HOPING THAT THE ASSESSMENT PRDA WILL BEGIN TO CHANGE THAT.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

IF THERE WAS REALLY A NEED FOR A DEMO-PLANT, THEN SURBLY THE NEED FOR A BINARY PLANT DEMO WOULD ^{HAVE} YIELDED MEANINGFUL RESULTS.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) ~~XXXXXX~~

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: VERY UN-DESIRABLE TO ALLOW OR ENCOURAGE THE DEVELOPERS TO GET TOO MUCH DOWN HOLE INVESTMENT BEFORE AGREEMENTS WITH UTILITIES ARE REACHED — SMALL UNITS MAY PROVIDE A MEANS FOR GENERATING REVENUE DURING LONG TERM ~~PER~~ FLOWTEST AND CERTAINLY DURING FIELD EXPANSION

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: AN ABSOLUTE MUST TO ACHIEVE EARLY COMMERCIAL DEVELOPMENT BY MODERATE SIZED UTILITIES, PERHAPS LIMITED TO COVER CAPITAL EXPOSURE ON FIRST UNIT PER FIELD FOR THE FIRST 10-15 YEARS. — IMPORTANT (300 MW-1985???)

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: ALL FRONT-END BENEFITS MUST BE STRUCTURED SUCH THAT THEY WILL BE PASSED ON TO THE END-USER.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable ? Desirable Great idea

Comments: *A FAIR AMOUNT OF INFO AVAILABLE NOW - INVENTORIES DON'T TEND TO PROVIDE GOOD PRACTICAL DATA THAT IS REQUIRED FOR DEVELOPMENT.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

AT LEAST ENOUGH TO ENABLE PRACTICAL EXPOSURE FROM MAJOR POPULATION CENTERS.

Name

*R. J. Richards - SIERRA PACIFIC POWER CO.
Box 10100
RENO, NEV. 89510*

NEVADA POWER COMPANY

FOURTH STREET AND STEWART AVENUE

P.O. BOX 230 • LAS VEGAS, NEVADA • 89151

August 22, 1978

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625, UPD
Idaho Falls, Idaho 83401

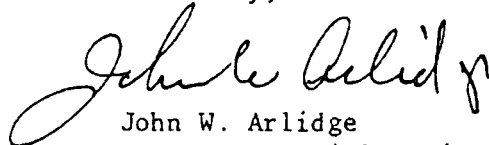
Re: Rocky Mountain Basin and Range Regional
Hydrothermal Commercialization Plan

Dear Mr. Hanny:

We are returning a completed questionnaire concerning the above Department of Energy effort.

Should you need additional information, do not hesitate to contact our office.

Sincerely,



John W. Arlidge
Manager, Special Projects

/jb

Enclosure

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: Institutional problems have been the major impediment to development, not planning.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Question is unclear. What is "Industry-coupled"?

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

50 MWe demonstration plants are needed to demonstrate technology for use of high salinity or "low-temperature" fluids so that utilities will be willing to fully develop the geothermal potential in the Southwest. We understand
(cont'd next page)

that the 50 MW Valles Caldera plant will operate on good quality geothermal fluids and will not demonstrate any technology not already commercially available. Under such circumstances, it is hard to call the Valles Caldera plant a demonstration project.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

- 1) Reservoir mechanics
- 2) Conversion equipment

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Can be used until reservoir mechanics are developed to point where reservoir life prediction is at an acceptable level of risk.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

Question unclear. "User assistance".

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

Question unclear.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name _____

John W. Arlidge

SEP 8 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?) *A program commensurate with the number of potential locations considered to have a high probability of confirmation as usable reservoirs.*

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *MANDATORY*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Probably Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *What is the projected cost? Can the plant be built and operated in an environmentally acceptable way? This cannot be determined until an impact statement has been prepared which considers both normal operations and potential accidents.*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Possibly Desirable Great idea

Comments: (If desirable, prioritize.) *What are the specific needs? What is the projected expenditure? It is foolish to ask the public to define research priorities.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: *for lower temperature reservoirs?*

7. Loan guaranty program.

Terrible idea Undesirable Possibly Desirable Great idea

Comments: *What is the expected cost of such guarantees?*
~~not sure~~

8. Reservoir insurance.

Terrible idea Undesirable Possibly Desirable Great idea

Comments: *What is the expected cost of such insurance?*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *This is not under DOE control*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *Uncertain*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

 Terrible idea Undesirable X Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

 Terrible idea Undesirable X Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

 Terrible idea Undesirable Probably Desirable Great idea

Comments: (If desirable, how many per state?) *What is the projected cost per demonstration? The number should be commensurate with the potential utilization in the state as defined by the common location of identified resources and direct heat requirements.*

Name

Anne Villeque
 Regional Vice President
 America Association of University Women
 1425 E. 16th Street
 Idaho Falls Idaho 83401

AUG 22 1978

QUESTIONNAIRE

Action	Date	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *need for alternative energy sources.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

if data is shared in a timely fashion

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

- 1. Equip
- 2. Exp
- 3. Drill & Compl.
- 4. Res. Stimul

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance. ²

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great id

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

number not as important as application

Name

RE Inley

GEOTHERMAL ENERGY CORPORATION

39 BROADWAY
NEW YORK, N. Y. 10008

RECEIVED

SEP 11 1978

GEOTHERMAL ENERGY
BRANCH

0

September 7, 1978

Mr. Clayton Nichols
Assistant Director for Geothermal Energy
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

Dear Clay:

I appreciate this opportunity to express my opinions with regard to this questionnaire to you directly. I have tried to be both frank and constructive but sometimes it is difficult to sound satisfied with one-location industry when so many more sites should be on their way to development. It's a big subject and I should be pleased to help you further in any way I can as regards the commercialization process.

Very truly yours,



Paul Rodzianko
President

PR:md
enc.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: I believe strongly that the economics of geothermal energy can be demonstrated and supported by adequate tax incentives and financing programs alone. In that case, active management participation on the part of government would not be a necessity and private sector industry would be able to advance rapidly towards the implementation of this energy resource.
e. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?) I believe that there is an adequate capital base to drill new reservoirs. The problem of raising funds for drilling new reservoirs would not be a problem if the road to cash flow ie.; from the wellhead to the busbar were better charted. In addition, tax incentives were fully implemented, the whole

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: I'm in favor of a very wide dissemination of information whenever it is obtained but this answer is not meant to conflict with my answer in #2 above.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

see attached sheet

process would become economically viable and development dollars would follow.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) I believe that there are a number of cooperative research and development efforts to which the Federal government can contribute to most strongly, until the industry can develop a strong and broad-based R&D program of its own.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: We're in the forefront of attempting this kind of developments and needless to say I am favorably prejudiced in my answer here. I do have some strong ideas as to how government can be best useful in supporting this kind of development i.e., in providing backup provisions or actively cooperating with private sector wellhead generator vendors.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: I feel, unfortunately, this program has been underutilized by industry.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Basically, the loan guaranty program provides all "reservoir insurance" that geothermal should need. I'm against introducing another layer of overhead and another conflicting program which is what happened in the area of loan guaranty vs. the demonstration plant.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: And only fair.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

see attached

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: I feel that the route to commercialization which this question in essence addresses can be mapped out just as effectively by private sector as well as by the Federal government. I think the reason for this and other questions of this type in various federal questionnaires are basically because the geothermal industry has not helped itself as strongly as it could in developing and implementing commercialization plans and strategies.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: I think we are getting ahead of ourselves with inventorying if we haven't figured out how we are going to use the resource. The inventory will follow if the incentives are there to develop these kind of resources - and not at taxpayer's expense.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) One can lead a horse to water but one can't make it drink. My answer is basically as in #12 above.

Name Paul Rodzianko
Paul Rodzianko

#4 Comments: Action on Valles Caldera demonstration plant has already slowed other possible projects within the Public Service of New Mexico service area by virtue of their concentration on this project alone. I think also there will be very little carry-over to other reservoirs and there may well end up being an actual delay on the overall geothermal industry waiting for a "wait and see" result of the Valles Caldera project. I would recommend strongly no further demonstration plants. I'm quite saddened by the fact that although the initial resource was discovered over a decade ago it takes this kind of massive government support to get the project started. The industry has lacked an emphasis on commercialization by bootstrapping from internal sources and this is part of the problem.

#10 Comments: I think it is a great idea - on the other hand this kind of activity is already taking place between a variety of reservoir developers and utility companies so I think the role for the Federal government should be limited here to that of an honest broker or intermediary.

Sent to - Clayton Nichols
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

RECEIVED

AUG 21 1978

GEOHERMAL ENERGY
BRANCH

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: Central planned economic ventures cannot work as effectively as the individual initiative system. The four entities listed are in reality many hundreds of entities when each of the industry components are considered and each of the govt agencies are recognized.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

The size of program should encourage exploration in all geographic areas. At this time the program is parochial. The help in rate of development should encompass all geothermal areas.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: To effectively increase the growth rate in geothermal the publically sponsored data should be disseminated widely and freely. The more minds exposed to the data the more reasonable ideas can be generated.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

A demo plant using energy produced from a different type reservoir i.e. thick porous sands, temp below 400°F would provide utilities a broad data base to increase their confidence in using geoth.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) *The following order is the priority as I see it. (1) Drilling and completion techniques, (2) Advanced conversion equipment, (3) Exploration technology, (4) Reservoir stimulation*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: *Sufficient types of well head or 5 to 10mw generators are now being used or are under construction around the world. This would be a most redundant program - Take a trip around the world and study the ones in action.* Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *The loan guaranty affects a very limited segment of the industry - See # 8.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *This is the one item that is the most difficult to accomplish in negotiating the development of a geothermal project is to assure.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *To compete with existing fuels hydrothermal geothermal systems should have the same tax treatment. The increased use of geothermal would increase the number of tax paying resource development projects.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *Obvious*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: Usually site specific requirements receive more than local knowledge -

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Inventories are well known, assembled, listed, reviewed etc - additional studies are not helpful to developers -

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) This depends upon the state, their industry, and the location of the geothermal accumulation. California could use 4 or 5, Nevada 2 or 3, Oregon 2 or 3, and others -

Name

Bob Gueder

RECEIVED

AUG 28 1978

GEOHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

would recommend a program of drilling to benefit public organizations, e.g. Govt. buildings, universities, schools, etc. these will demonstrate the feasibility to private developers.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

until industry picks up and carries the idea forward.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name Lokesh Chaturvedi, NMSU, Box 3CE,
Las Cruces, N.M. 88003

Tel. (505) - 646 - 3233

RECEIVED

AUG 28 1978

GEO THERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Risks are high for exploration drilling. Program would be difficult to administer with DOE support.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: Because of the competitive nature of most leases, industry will be reluctant to share data acquired.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Small scale demonstrations (5-10 MWe) of advanced technologies, either total flow or lower temperature binary cycle.

GIVILS:

5/11/72

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Tax treatment superior to fossil fuels needed to accelerate investment in geothermal instead of fossil fuels.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

One per state

Name

Jack D. Maddy

Western Interstate Energy Board / WINB

2500 Stapleton Plaza, 3333 Quebec, Denver, CO 80207 • 303/837-5851 FTS 327-5851 AUG 5 1978

August 30, 1978

Action	Info	File

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625, UPD
Idaho Falls, ID 83401

Dear Mr. Hanny:

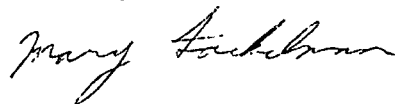
Enclosed is your questionnaire regarding actual and potential initiatives by the Department of Energy to accelerate the commercialization of hydrothermal energy in the Rocky Mountain Basin and Range Region. We have completed this questionnaire as you requested.

In considering the various DOE initiatives, I contacted several states in the basin and range region, including Arizona, Utah, Nevada, and New Mexico to elicit their response to the general thrust of the questionnaire. As you can tell from my answers, we feel the states are most interested in the development of geothermal energy and are anxious to participate in this developmental effort.

We have also received a copy of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan which I have examined. It is a most informative document and I think will be very useful to us. I am glad to hear that this plan will be periodically updated so that it will retain its usefulness.

We appreciate the opportunity to participate in your activities to promote geothermal energy and look forward to a continuing interchange.

Sincerely,



Mary Fackelman

MF/skb

Enclosure

REC'D
AUG 1 1978
WINB

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: Funding should be based on a minimum amount to be shared equally among states with any geothermal resources, and then a larger amount over and above that base to be distributed among states with larger resources. Planning should be done with the full participation and concurrence of the states.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
Large enough to stimulate industry interest in and commitment to an on-going drilling program, which would continue without further federal support.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) Both electrical generation and direct-heat application demonstrations should be built in various states to the degree necessary to stimulate private exploitation of this resource.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

All appear to be equally important.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Any severance tax program should base energy resources on a common denominator such as BTU content, so that each resource would be equally taxed, dependent on the amount of energy it produces.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: Participants could include state energy extension services or other state outreach programs concerned with the dissemination of energy information.

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name Mary Fackelman
Western Interstate Energy Board/WINB

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: Design the program for small-scale, direct use geothermal development.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Questionable. Examine other approaches carefully before deciding on this method of reducing risk. Utility regulations authorizing Research + Development expenditures and rate base changes may be modified to reduce utility company risk.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Do not be simplistic in comparing tax treatments. Also, apply this principle to direct use situation (e.g., does expensing of fuel costs bias business decisions in favor of low capital, high fuel cost systems?).

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: What kind of support? Financial support may not be important, while educational efforts could be productive.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) *The number may be less important than the selection of good projects, diversity and ample funding to advertise (publications, workshops, tours, etc.).*

Name Doag Sacarto
 NCSE
 Denver CO

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: Suggest one-stop Permitting Procedure instead of committee approach.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
small drilling program - Power Expensive - not

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 30 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) demo plants only in "novel" reservoir areas,

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: — get permitting / environmental problems solved ..

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: — need more analysis here — before retroactive

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *D must be good - then throw doors open.*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) P.B. Chandler

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other *#1*

KOGGR → PRANK 10
1668: Maria Varela
Mission N. de J. y C.
92025

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Need to use existing reservoir

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Consider smaller plants (5MW)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

*conversion equipment - and methods
of comparison of different types*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) ROGER SPRANK (B)

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other WACHENER, MFG.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera. ?

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) Rebecca Spradley

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other Machinery Manufact.

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: SOMETIMES, THAT LONG VOICE IN THE WILDERNESS IS RIGHT!

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

SLIM HOLES

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: I BELIEVE THAT THE THERMAL CHARACTERISTICS HAVE TO BE SUSTAIN A FACILITY FOR AT LEAST 30 YEARS, WITH T & P & FLOW DRAWDOWN. THEREFORE BUILD HYBRIDS.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) RAMON GRIJALVA

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other CONSULTANT

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: This is not new but it is vital

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Only long enough to get activity underway

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: Anything will help

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

The demonstration should have been made on a moderate temperature reservoir

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.) Only for drilling, reservoir stimulation and advanced conversion equipment

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment: These are low in cost and can be afforded by the utility or operator.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: very cumbersome but this may be the only way for small companies

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Only for the first one or two plants

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Super - vital - without this we will never get gasification underway

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: This could help if it came to pass

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: In the initial stages only

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: To costly to be undertaken by government also not practical for governmental agencies to do

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Only on projects that have great potential

Name (optional) _____

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: If DOE is not presented as the "experts" in the field. It should be a true cooperative effort.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Drilling should concentrate in areas where there is no indication that private industry may go ahead & drill. DOE should concentrate on the higher risk areas.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Additional demonstrations desirable if they're demonstrating new technology which could significantly affect the feasibility prospects. Demonstrations should occur on a timely process.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

Concentrate on those areas which are most restrictive to development at this time.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

I don't see how it can be done reasonably without a lot more knowledge about individual reservoirs than is known now.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

If they're applicable to that region or are not duplication of projects already underway.

Name (optional) _____

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Initial investigation of new resources only.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Demos of different technologies may be useful.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

1 Stimulation
2 D&C Tech
3 Conversion
4. Exploration

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: -

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: To compete and supplant fossil fuels, GT deserves similar tax treatment.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Sufficient to promote non-subsidized direct heat projects

Name (optional)

Jim Butz

LAM Division

Denver Research Institute

I am associated with a:

(Check one)

P.O. Box 10127

Developer

Denver, CO 80208

Utility

Financial Institution

State Government

Federal Government

Other *Non-profit Research Institute*

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

you must take greater pains in your pre-proposal conference to explain audits of proposals, cost-share, etc.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

I SAID IT REQUIRED?

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

Difficult for me to prioritize - all are needed.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Good start on incentives.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *No good data base for me.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

ditto

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) _____

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

Rolph E. Williams (303) 753-2891
Denver Research Inst.
Univ. of Denver, Denver, CO 80202

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Would depend on lease positions, Difficult to see cost sharing well which would immeasurably benefit one few company(s) only unless immediate well acreage is surrendered for future

3. Publication of data acquired under the Industry-Coupled Program and the bidding generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *Could be of value to only a few (see above)*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

Only if it demonstrates something unproven on an international scale

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.) *Need to consider unsolicited proposals in this area.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment: *Prefer 1Mw units that can be modulated*

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *After acceptance of short form application, then a separate department of DCE should help finance and prepare full blown application for small businesses.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *Depletion is truly not applicable so that some form of multiple % of cost of initial efforts should be developed*
→ end-user including utilities

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: *see O on utility*

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *Best that assistance be based on supporting private industry guidance and the quality of work per \$*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) *Merit rather than politics*

Name (optional) Albert T. Holmes R

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: *Need to include consultants involved in Energy R/D including Geothermal*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)
Like Nuclear Energy - Fed. Govt. Needs to take a lead Role in development And Tax Incentives

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *Govt Funded work - including PATENTS - should belong to the people -*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
Every concept Needs to be demonstrated - including all regulatory (OSHA, EPA) and permit granting Agencies and their impact on such projects.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.) *Govt should support R&D that will lead to jobs in the private sector.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment: *Same as 5*

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *Same as 5*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: *Depletion allowances should be eliminated in all areas.*

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: *All taxes are eventually paid by people. Companies/Corporations, Govt employees are basically pipelines from private individuals or enterprise to the Govt budgets.*

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: *Same as 5*

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *Same as 5*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?) *Same as 5 - and 4*

Name (optional) _____

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government
- Other Consultant*

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Probably wouldn't need if adequate tax incentives were provided.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

*Probably need two more
- Low temp, low salinity
- High temp, high salinity*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment: O.K., but 50MWe demo plants are needed to convince utilities. 5-10MWe units are useful for isolated communities and during initial field development.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: Probably not needed if proper tax incentives are provided

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: Most needed

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: Generalized studies may be possible - I'd like to try

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: *Greatly needed*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) *J. W. Haukin*

I am associated with a: (Check one)

- Developer
- Utility
- Financial Institution
- State Government
- Federal Government

*Bechtel National, Inc.
P.O. Box 3965
San Francisco, CA 94119*

Other *Engineering - Construction*

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Desirable if no. 3 can be made a reality

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

The cost of the plant should be borne by industry

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) _____

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

COASTAL STATES ENERGY COMPANY

1354 East 3300 South
Suite 303
Salt Lake City, Utah 84106

AUG 23 1978

Action	Info	File
	(801) 486-1913	

August 18, 1978

Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

Due to the fact that our company is not now actively pursuing geothermal energy sources, I do not feel qualified in answering your questionnaire.

The intentions of the Department of Energy are greatly appreciated however.

Sincerely yours,

Carol Linda Cox

Carol Linda Cox
Coastal States Energy Co.

Enclosure

AUG 21 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

\$ 3 million to \$ 5 million per yr.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

*1 or 2 others
lower temp, higher potential*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

All necessary

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

Don't know

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications..

Terrible idea Undesirable Desirable Great idea

Comments: *States should take the lead and not depend too much on DOE assistance.*

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Depends on state but perhaps one or two

Name

Marion Goldstein
LBL

RECEIVED

J. A. HANNY

AUG 28 1978

QUESTIONNAIRE

Action	Info	File

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

At least 5 sites encompassing ^{different} resource types

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

2 more: one in Basin & Range fault zone - type resource; one in sedimentary basin-type (e.g. Carson Sink)
(Bradys, Beowawe, Lovelock)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

3
4

1

2

4 Terrible idea Undesirable X Desirable Great idea

Comments: (If desirable, prioritize.) But this is a national necessity, not just regional.

6. Support for development of wellhead (5-10MWe) generators.

 Terrible idea ? Undesirable ? Desirable Great idea

Comments: Determine if these are cost-effective in comparison to central stations

7. Loan guaranty program.

 Terrible idea Undesirable X Desirable Great idea

Comments: But appears to have limited acceptance

8. Reservoir insurance. - need more explanation to properly answer

 Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

 Terrible idea Undesirable X Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

 Terrible idea Undesirable X Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: If this means support & encourage direct utilization of moderate to low temperature resources, I think it's a great idea.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Depends on population, population distribution, and distribution and nature of the resource.

Name Harold Wollenberg

suggest these concepts be emphasized

RECEIVED

SEP 11 1978

GEOTHERMAL ENERGY
BRANCH

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

#?

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) SHOULD BE SUPPORTED MORE BY INDUSTRY THAN FEDERAL FUNDS (IF SUPPORT MEANS DOLLARS)

?

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

?

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

?

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

?

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: IN ORDER FOR
THIS ACTIVITY TO REALLY BECOME SUCCESSFUL
IT WILL HAVE TO COME FROM THE "GRASS ROOTS"
IE COMMUNITIES, INDUSTRY, ETC.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

1-2 JUST TO SHOW IT WORKS AND TO
DOCUMENT RESULTS - PROBLEMS, SOLUTIONS, ETC
COST

Name

Jonathan Berg

Sorry for delay - I
was on vacation during
August

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

West Technical Service Center, 511 NW Broadway, Rm. 510, Portland, OR 97209

September 1, 1978

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1625
UPD Building
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

We have completed a few items on the questionnaire transmitted with your letter of August 14, 1978, and these relate to our support for initiatives that may lead to useable supplies of energy from geothermal sources.

In June we commented on the rough draft of the Rocky Mountain Basin and Range Regional Hydrothermal Commercialization Plan and have no further comment at this time.

D. R. Robertson, Acting
Kenneth L Williams
Director

Attachment

cc:

S. H. Fuchs, Head, Conservation Technology Staff, WTSC
Frank Reckendorf, Environmental Resource Specialist, WTSC



FEDERAL

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments: If commercialization is to occur it must be in concert with industry and other Government agencies.

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

Twenty wells per year at \$1 million per well on 50/50 shared basis, or \$10 million per year DOE contribution. Need to establish balance between drilling and other confirmation techniques - if there are any.

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: Early release of raw data more important during confirmatory reservoir work.

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)
If desirable if the source to support such a demo. plant exists. Lets wait to see what the first one does.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)
We'll never realize the resource potential until we know how to look for it, drill for it, product it and convert it.

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments: No Comment.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: No. Comment.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: May be only way to get significant utility company involvement.

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: No Comment.

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments: No. Comment.

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: No Comment.

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: No Comment.

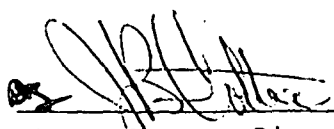
13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

No Comment.

Name


J. B. Cotter, Dir., Engrg. & Energy Appl. Div.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

POST OFFICE BOX 1306
ALBUQUERQUE, NEW MEXICO 87103

August 31, 1978

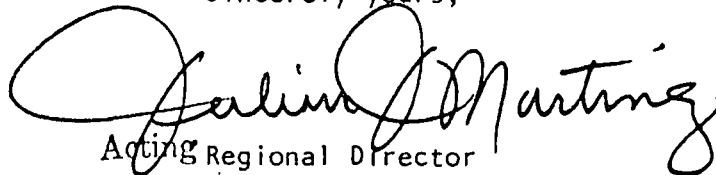
Mr. Joe Hanny
EG&G Idaho, Inc.
P. O. Box 1625, UPD
Idaho Falls, Idaho 83401

Dear Mr. Hanny:

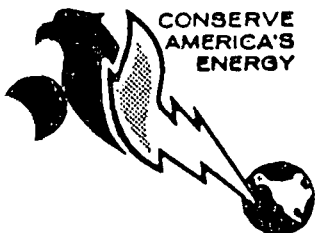
Your questionnaire relative to DOE involvement in accelerating the use of hydrothermal energy within the Rocky Mountain Basin and Range Region is enclosed. We do not have a complete knowledge of all existing and proposed hydrothermal activity within the region and, therefore, may not have adequately answered some of the questions. However, we hope that our response will be of some help to you.

Thank you for the opportunity to comment.

Sincerely yours,


Acting Regional Director

Enclosure



Save Energy and You Serve America!

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

*DIFFICULT TO ESTIMATE - TOO MANY VARIABLES
SUCH AS SIZE OF EXPLORATION ACTIVITY, DRILLING COSTS, ETC.
PERHAPS 15-20 HOLES PER EXPLORATION*

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *WOULD BE EXTREMELY USEFUL*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

AT LEAST TWO; HOME HEATING AND GREENHOUSE
APPLICATION

Name ARTHUR M. KINSKY



United States Department of the Interior

BUREAU OF RECLAMATION
LOWER COLORADO REGIONAL OFFICE

P.O. BOX 427
BOULDER CITY, NEVADA 89005

IN REPLY
REFER TO: LC-724
120.3

AUG 23 1978

Mr. Joe Hanny
EG&G Idaho, Inc.
P.O. Box 1978
UPD
Idaho Falls, Idaho 83401

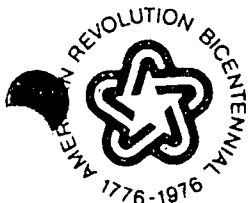
Dear Mr. Hanny:

In response to a letter dated August 14, 1978, from Dr. Clayton Nichols to Mr. Dean Johanson of my staff, we are enclosing a completed questionnaire regarding the Department of Energy's initiatives to speed geothermal development.

Sincerely,

Robert A. McCullough
Regional Planning Officer

Enclosure



QUESTIONNAIRE

0

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments: *State agencies must cooperate more fully in issuance of permits for small, experimental geothermal development projects.*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?) *-- if current technology will enable the plant to operate, and if it appears that type of plant can be utilized elsewhere.*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, prioritize.) *To the extent that they are not duplication of previous effort.*

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comments:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: *An excellent idea if the loan is properly supported by proper evaluation of the resource and planned utilization.*

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name _____

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

*Desirability only if environmental concerns are not
overruled by combined pressure*

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

only if 3 (below) is assured

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

*combined coal - geothermal small power plants (6) below 250/250
Rapt R. (150°C) .01
on low temp. only - district heating 1.00*

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

① expln. tech. ② stimulation ③ completion

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

only if environmentally and economically sound,
i.e. H₂S abatement required but may not be possible
on small scale

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

required to establish gathering risk away
from the gas

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

But probably portable versions of 6 would
substitute - idea?

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

put

RECEIVED		
J. A. HANNY		
AUG 28 1978		
	Info	

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments:

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Name (optional) PAUL RODZIANKO

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

QUESTIONNAIRE

NOT COUNTED
HAS SUBMITTED A
MORE RECENT
SHEET

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)

Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

*and it would be better if ALL ASPECTS
OF Exploration were used and TESTED AGAINST
drilling findings*

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: *if coupled with complete exploration
techniques as described above*

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

3 10
 Terrible idea Undesirable X Desirable Great idea

Comment: (If desirable, prioritize.)

I. E

6. Support for development of wellhead (5-10MWe) generators.

 Terrible idea X Undesirable Desirable Great idea

Comment:

7. Loan guaranty program.

 Terrible idea Undesirable X Desirable Great idea

Comments:

8. Reservoir insurance.

 Terrible idea X Undesirable Desirable Great idea

Comments:

9. Tax treatment equivalent to fossil fuels.

 Terrible idea Undesirable Desirable X Great idea

Comments:

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

 Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments: IF used to help individuals;
companies can use guaranteed loans

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments:

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

Should be by percentage of viable
resource areas

Name (optional) DENNIS T. TREXLER

I am associated with a: (Check one)

Developer

Utility

Financial Institution

State Government

Federal Government

Other

OR

NOT COUNTED
HAS SUBMITTED A MORE
RELEUT SHEET

QUESTIONNAIRE

Listed below are some of the actual or potential DOE initiatives designed to speed the commercialization of hydrothermal energy within the Rocky Mountain Basin & Range Region. We would value your opinion of the desirability of these initiatives so that we can make sure that our program is truly responsive to the Region's needs.

Initiatives

1. Collective planning with industry, state, local and other Federal entities, attempting to develop a regional commercialization plan that has the active support of all those involved.

(Check one)
 Terrible idea Undesirable Desirable Great idea

Comments:

2. Industry-coupled, cost-shared drilling to confirm new reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, what size program would you recommend?)

3. Publication of data acquired under the Industry-Coupled Program and the generation of case studies of different types of reservoirs.

Terrible idea Undesirable Desirable Great idea

Comments:

4. 50 MWe demonstration plant at the Valles Caldera.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many and what kind of additional demonstration plants would you recommend?)

THIS IS DESIRABLE IF VALLES CALDERA IS REPRESENTATIVE OF AVAILABLE, ECONOMICALLY FEASIBLE RESERVOIRS.

5. Support of R&D to develop better drilling and completion technology, reservoir stimulation techniques, exploration technology and advanced conversion equipment.

Terrible idea Undesirable Desirable Great idea

Comment: (If desirable, prioritize.)

6. Support for development of wellhead (5-10MWe) generators.

Terrible idea Undesirable Desirable Great idea

Comment: SMALLER INSTALLATIONS ARE MUCH MORE EASILY INSTITUTED. LESS CAPITAL, LESS INSTITUTIONAL PROBLEMS AND LESSONED ENVIRONMENTAL CONCERNS ARE IMPORTANT FACTORS.

7. Loan guaranty program.

Terrible idea Undesirable Desirable Great idea

Comments: MAKE SMALLER LOANS AVAILABLE. SPEED UP THE APPROVAL PROCESS DRASTICALLY.

8. Reservoir insurance.

Terrible idea Undesirable Desirable Great idea

Comments: TRY SOME. MUST EVALUATE RESERVOIR FOR RISK

9. Tax treatment equivalent to fossil fuels.

Terrible idea Undesirable Desirable Great idea

Comments: MAY HAVE TO BE MORE FAVORABLE

10. Support of combined developer-utility analysis of reservoir development economics to provide common ground for negotiations.

Terrible idea Undesirable Desirable Great idea

Comments:

11. User assistance for direct heat applications to provide initial guidance on resource potential and surface equipment needs.

Terrible idea Undesirable Desirable Great idea

Comments:

12. State-coupled program for a state-by-state inventory of low-and moderate-temperature resources for direct heat applications.

Terrible idea Undesirable Desirable Great idea

Comments: IF STATE COUPLED PROGRAM IS RESPONSIBLE TO PLANNING & POLICY OF INDIVIDUAL STATES,

13. Further support of direct heat applications demonstrations in the region.

Terrible idea Undesirable Desirable Great idea

Comments: (If desirable, how many per state?)

MINIMUM, BUT BASE NUMBER ON POTENTIAL RESOURCES & UTILIZATION OF EACH STATE

Name (optional) KEITH E. BROWN

I am associated with a: (Check one)
 Developer
 Utility
 Financial Institution
 State Government
 Federal Government
 Other INDEPENDENT CONTRACTOR ENGAGED IN OR
DNRC - EAD
32 S Ewing
HEZONA, MT
59633
406-449-3782