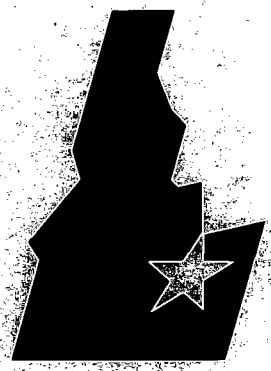


No. DE-PR07-87ID12662

**Program Research and
Development Announcement
(PRDA)**

*State Geothermal
Research and Development*

**Closing Date:
June 19, 1987**

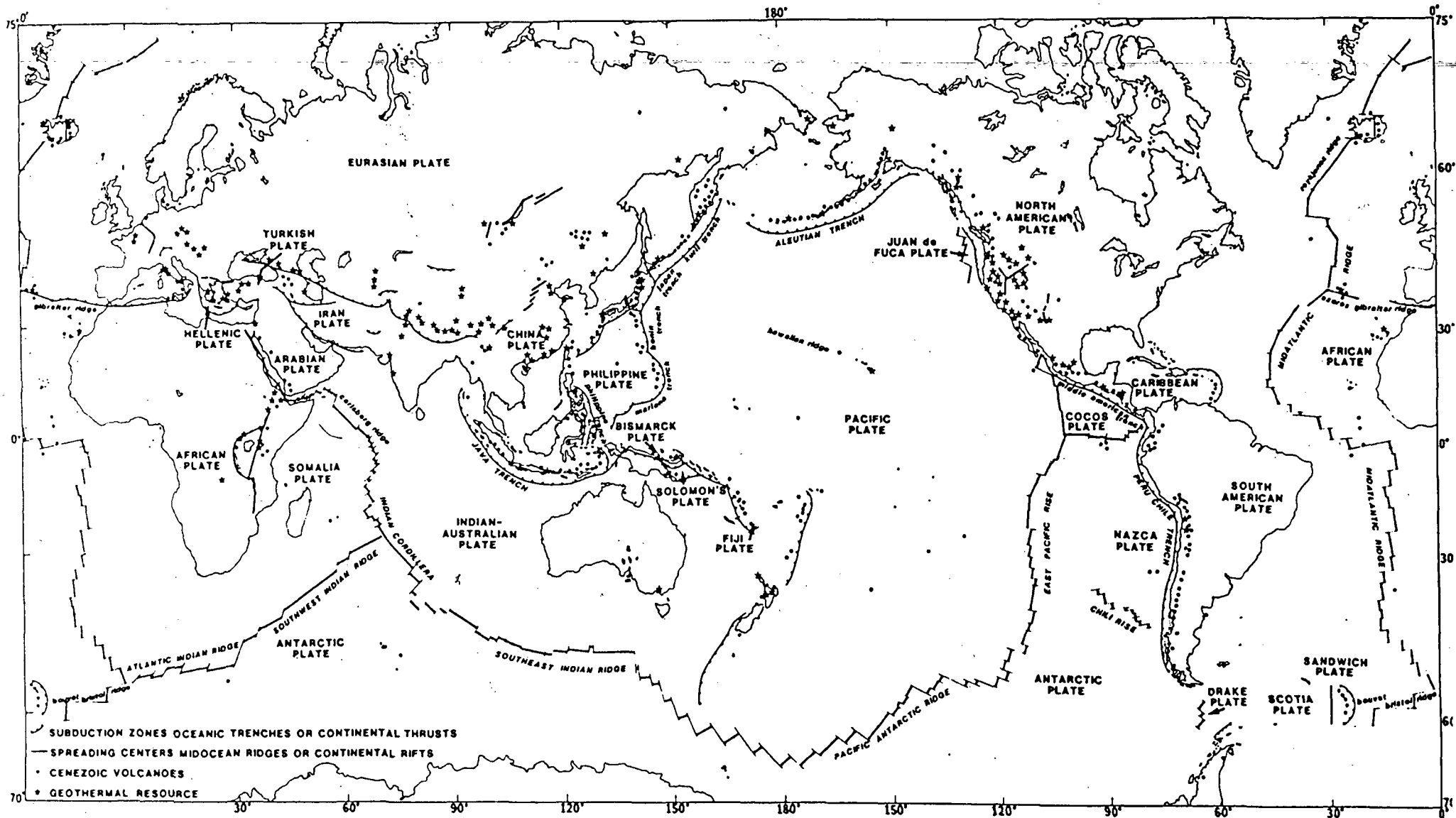


Idaho National Engineering Laboratory

U.S. Department of Energy • Idaho Operations Office



785 DOE Place
Idaho Falls, ID 83402



GEOHERMAL RESOURCES AND PLATE TECTONIC FEATURES

Figure 1.1.3

American Samoa

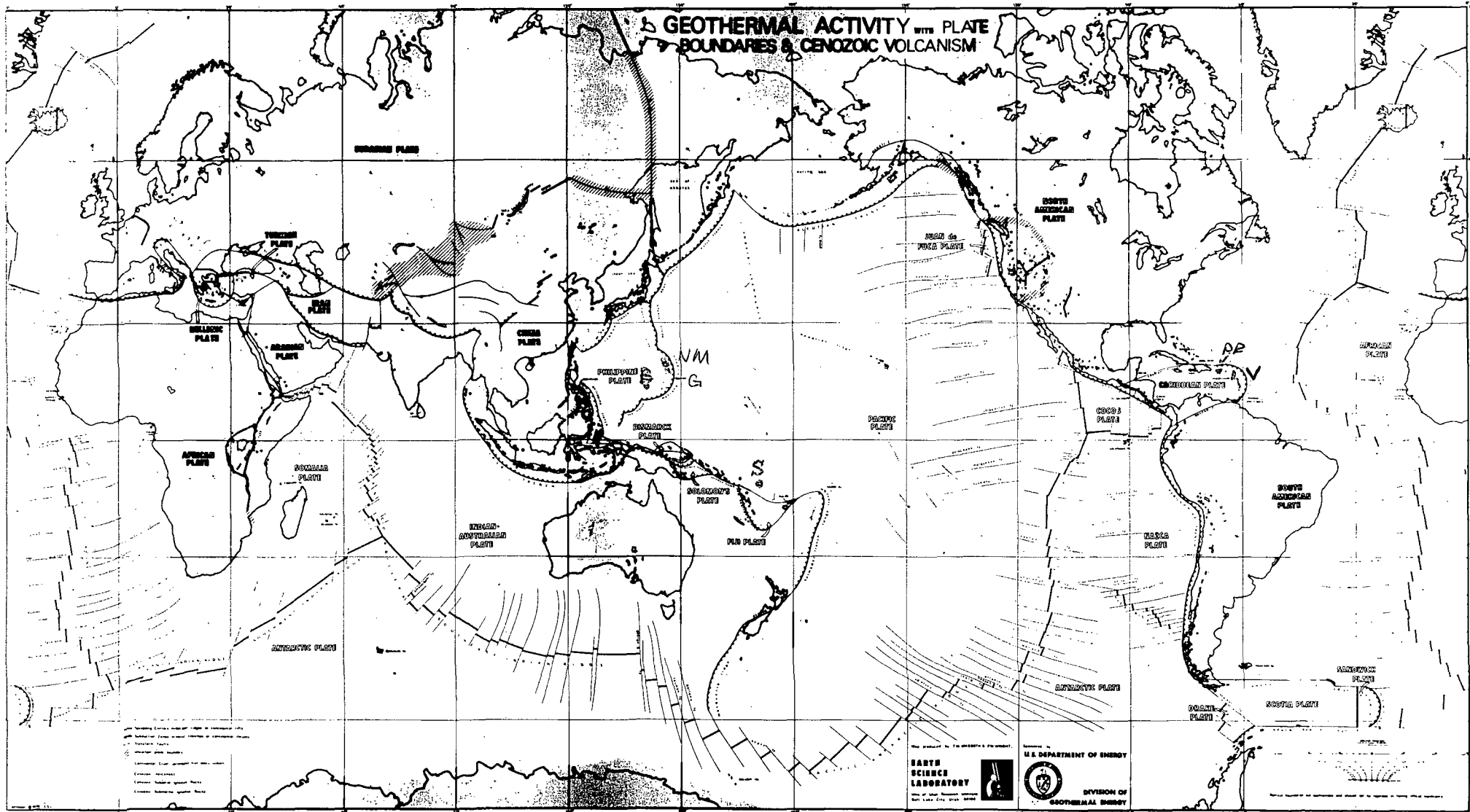
Guam

Northern Mariana Islands

Rep. Belau (Western Caroline Island)

Virgin Islands

Puerto Rico



AC Ross

Memorandum

DATE: April 22, 1987

RECEIVED

SUBJECT: Geothermal PRDA/Information on U.S. Territories

APR 23 1987

TO: Peggy A. Brookshier, Mechanical Engineer
Advanced Technology Division

ADVANCED TECHNOLOGIES
RESEARCH

On April 21, 1987, I contacted the Department of Interior, Office of Territorial Affairs, in Washington, D.C., and talked with Mary Hudson at FTS 343-6816. The main number to the Department of Interior, Office of Territorial Affairs, is FTS 343-6971.

Ms. Hudson indicated that as of last year there were eight (8) territories under U. S. Sovereignty. Since that time, the Federated States of Micronesia and the Marshall Islands have become "freely associated states" not under U. S. Sovereignty. As such, there are six (6) remaining territories or states (excluding the District of Columbia) which will have to be notified of the Geothermal PRDA. Those territories or states, including the names and addresses of their respective Governors, are as follows:

- 1. American Samoa: Hon. A. R. Lutali
Gov. of American Samoa
Pago Pago, American Samoa 96799
- 2. Guam: Hon. Joseph F. Ada
Gov. of Guam
Agana, Guam 96910
- 3. Northern Mariana Islands: Hon. Pedro Tenorio
Gov. of the Commonwealth of
the Northern Mariana Islands
Saipan, Mariana Islands 96950
- 4. Virgin Islands: Hon. Alexander A. Farrelly
Gov. of the Virgin Islands
St. Thomas, Virgin Islands 00801
- 5. Republic of Belau: Hon. Lazarus Salii
President, Republic of Belau
Koror, Belau
Western Caroline Island 96940
- 6. Puerto Rico: Hon. Rafael Hernandez-Colon
Gov. of Puerto Rico
La Fortaleza
P.O. Box 82
San Juan, Puerto Rico 00901

Peggy A. Brookshier

-2-

A person in Washington who oversees and deals with various grants to the territories should also be given a copy of the Geothermal PRDA. His name and address is as follows:

Dave Heggstad
Director of Budgets
Department of the Interior
OTIA Room 4328
18th and C Street N.W.
Washington, D.C. 20240

Finally, it is my understanding that although the PRDA uses the word "states", it does include United States Territories. It is also my understanding that we will clarify that fact in the questions and answers, and that although the closing date for submitting proposals will not be extended, a cover letter will be sent to the territories with the PRDA which will allude to the possibility of such an extension upon a reasonable request and reasonable grounds. Please let me know if you want OCC to work with you in drafting such a letter.

Should you have any questions or desire additional information, please feel free to call me at 6-0275.

Fred M. Adams
Fred M. Adams, Attorney
Office of Chief Counsel



Department of Energy

Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

April 1, 1987

Prospective Proposers:

SUBJECT: Program Research and Development Announcement (PRDA) for State Geothermal Research and Development - PRDA No. DE-PRO7-87ID12662

Schedule of Procurement Milestones

Proposals Due: June 19, 1987
Questions Submitted By: April 27, 1987
Anticipated Award Date: September 30, 1987

The U.S. Department of Energy (DOE), Idaho Operations Office, desires to receive and consider for support, proposals from state agencies who desire to cost-share on state-oriented research and development on those aspects of geothermal energy that are not being studied by private industry, but which have the potential for results that will be applicable by industry in the development of geothermal resources. This letter summarizes the salient elements of the PRDA. It should be noted, however, that in the event of any conflict between this cover letter and the PRDA, the PRDA will prevail.

To qualify for consideration under this PRDA the minimum requirements listed in Section II must be met. The supporting documentation is to be included as appendices to the Technical Proposal.

Proposals from Federal agencies and/or laboratories owned, operated, or under the cognizance of the Federal Government will not be considered for selection and should not be submitted.

Each proposal must be valid for at least 180 days after the closing date of this PRDA.

The total amount of DOE funding allotted for this program is approximately \$1.2 million. The DOE cost-share will not exceed \$200,000 per award, and the state or state-designated organization must cost-share a minimum of 10% of the gross amount proposed. It is anticipated that up to seven or more awards will be made depending on the amount of each award. The intended relationship will be one of assistance (grants) and will be governed by the DOE Financial Assistance Regulations (10 CFR 600).

Any information in your proposal considered proprietary should be clearly and specifically identified. Although proposals must be consistent with this PRDA, it is DOE policy to discourage "brochuremanship" and unnecessarily costly proposal preparation. This PRDA does not commit the Government to pay any costs incurred in the preparation or submission of any proposal or to provide support for any effort.

DOE, in evaluating proposals, reserves the right to use any assistance deemed advisable, in accordance with applicable regulations, including qualified personnel from other Federal and State agencies, universities, industry, and DOE-ID's principal management and operating contractor, EG&G Idaho, Inc. Proposers are therefore requested to state on the cover sheet of their Technical Proposal if they do not consent to an evaluation by such non-Government personnel. The proposers are further advised that DOE may be unable to give full consideration to a proposal submitted without such consent.

Questions regarding this PRDA must be submitted in writing by April 27, 1987, to the following address to assure receipt of response.

Proposals should be prepared in accordance with the instructions in Section III of this PRDA. The proposals should be submitted in two separate sections distinctly marked as Part I - Technical Proposal and Part II - Business Proposal. Eight (8) copies of the proposal should be addressed to:

Trudy A. Thorne
Contracts Management Division
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Idaho Falls, ID 83402

Proposals must be received at the above address no later than 4:00 p.m. local time, June 19, 1987. Late proposals, modifications or proposals, and withdrawals of proposals will be handled in accordance with the DOE Financial Assistance Rules, paragraph 600.13 which is printed in its entirety in Section VI of this solicitation.

To facilitate handling, please place the following identification on the outside of the package containing your proposal:

"Proposal For State Geothermal Research and Development, PRDA
No. DE-PRO7-86ID12662, To Be Opened By Addressee Only."

DOE reserves the right to accept for support all, none, or any number, or part of the proposals submitted. Proposals will not be returned. While DOE may decide to hold discussions with proposers to clarify or expand on the information contained in their proposals, DOE reserves the right, without qualification, to select a proposal for award based solely on the content of the proposal and relevant information obtained from others concerning the proposer's respective record of past performance. Therefore, your proposal should contain the most favorable terms to DOE which you wish to submit.

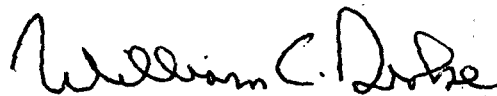
Prospective Proposers

-3-

April 1, 1987

Telephone inquiries requesting information concerning this PRDA shall be directed to Trudy A. Thorne on 208-526-9519.

Very truly yours,

A handwritten signature in cursive script that reads "William C. Drake".

William C. Drake
Contracting Officer

K2a-0849K

PRDA No. DE-PRO7-87ID12662

UNITED STATES DEPARTMENT OF ENERGY
IDAHO OPERATIONS OFFICE

PROGRAM RESEARCH AND DEVELOPMENT ANNOUNCEMENT

STATE GEOTHERMAL RESEARCH AND DEVELOPMENT

PRDA NO. DE-PRO7-87ID12662

PROPOSALS DUE: JUNE 19, 1987

State Geothermal Research and Development

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SECTION I

OBJECTIVE, BACKGROUND, AND SCOPE

SECTION IOBJECTIVE, BACKGROUND, AND SCOPE

A. OBJECTIVE

The objective of this PRDA is the selection and award of grants with state and/or state-designated organizations to cost-share in the resource assessment, resource development or technical assistance and related activities on those aspects of geothermal energy that are not being studied by private industry, but which have the potential for results that will be applicable by industry in development of geothermal resources.

B. BACKGROUND

The Geothermal Energy Research, Development, and Demonstration Act of 1974 presented certain Congressional findings. Among these were the facts that the Nation is suffering a critical shortage of environmentally acceptable forms of energy; the Nation's energy problems can be solved if a national commitment is made to dedicate the necessary financial resources, and enlist the cooperation of the private and public sectors, in developing geothermal resources and other nonconventional sources of energy; the conventional geothermal resources which are presently being used have limited total potential; but geothermal resources which are different from those presently being used, and which have extremely large energy content, are known to exist; some geothermal resources contain valuable by-products such as potable water and mineral compounds which should be processed and recovered as national resources; technologies are not presently available for the development of most of these geothermal resources, but technologies for the generation of electrical energy from geothermal resources are potentially economical and environmentally desirable, and the development of geothermal resources offers possibilities of process energy and other nonelectric applications; many of the known geothermal resources exist on the public lands; and that Federal financial assistance encourages the extensive exploration, research, and development in geothermal resources which will bring these technologies to the point of commercial application.

Toward this end, Congress has set aside funds to be used specifically to assist states with significant hydrothermal resources to continue programs relating to resource assessment, development or technical assistance and related activities.

C. SCOPE

The research and development sought is for state agencies to cost-share on those aspects of geothermal energy that are consistent with the intent of Congress and the Department of Energy as delineated in the objective and background paragraphs A. and B. above. Program policy is

to encourage geographic and resource diversity in this program. Those projects which provide the greatest potential to enhance the objectives of the Department of Energy are encouraged. The relevant geoscience research is included within resource assessment which may include geological, geochemical, geophysical, and hydrological investigations or studies of hydrothermal systems. Research on the selection, testing, and interpretation of new technologies designed to locate and characterize hidden geothermal reservoirs is encouraged as well as resource assessment efforts that would enhance the knowledge base of geothermal systems or regions and would provide important information that would not otherwise be available to encourage the development of geothermal resources. The suggested areas within resource development are test well drilling and hydrologic testing to determine production and reservoir parameters. However, proposals for construction and operation of an end user facility will not be funded. The suggested project areas within technical assistance are preparation of documents and/or the development of appropriate computer programs for new methods of project development, equipment and material development, and resource exploration and development. However, proposals for activities normally performed by industry consultants will not be considered; e.g., prefeasibility or feasibility studies on the resource and existing or planned installations for the purpose of developing geothermal systems. The data gathered by this research may be incorporated in existing geothermal libraries and may be made available to the public.

The proposer is to provide a concise but definitive scope of work for inclusion into any resulting grant. The individual key tasks are to be defined and listed in logical sequence. It is the responsibility of the proposer to include all items in the scope of work that are important to accomplish the stated purpose of the project. As a minimum, the following research details should be discussed:

1. How the proposed research will benefit others and how it will meet DOE's objectives.
2. Detail each proposed task, stating what will be accomplished, and when it will be accomplished.
3. The proposed research must be on or related to a significant hydrothermal resource base as defined by DOE research programs or by U.S. Geological Survey resource assessments such as Circular 790, or Circular 892, and their supporting documents. All areas for research must meet the minimum criteria for geothermal resources defined in U.S. Geological Survey Circular 892.

SECTION II
MINIMUM REQUIREMENTS

SECTION II

MINIMUM REQUIREMENTS

To qualify for consideration under this PRDA, the following elements must be documented and included as appendices to the Technical Proposal:

1. The proposer must be a state or designated by the state as being responsible for geothermal resources within the state.
2. The major area of the proposed research must be: a) resource assessment; b) resource development; or, c) technical assistance and related activities on hydrothermal systems. (The proposal should address only one major area.)
3. The proposed research must be on or related to hydrothermal resources, and the states and/or state-designated organizations from which the proposals are received must have a significant hydrothermal resource base as defined by DOE research programs or by U. S. Geological Survey Circular 790 or 892. If the resource is not owned by the proposer and the research involves the use of the resource, the proposer must show that it has right of access to the resource.
4. The proposed worksite must be in-state or have written approval from the appropriate executive in the other state(s) where the proposed work is to be done.

SECTION III
EVALUATION CRITERIA

SECTION IIIEVALUATION CRITERIA

Proposals will undergo a comprehensive technical and business evaluation in accordance with the criteria listed below. The information required in the Technical and Business Proposals as outlined in Section IV.B., Instructions for Preparation of Proposals, parallels the Evaluation Criteria. The information provided in the proposals forms the basis for evaluation. The criteria are listed in descending order of importance. The Technical Criteria are weighted approximately three times greater than the Business Criteria.

PART I - TECHNICAL PROPOSAL EVALUATION CRITERIA = 75% total

The technical evaluation seeks to determine the adequacy of the documentation provided by the proposer and the applicability of that information to the user community. The technical evaluation criteria will be numerically rated and weighted in the following manner: Criterion A is weighted two times greater than Criterion B. Subcriterion A.1. is weighted approximately one-half the total weight of Criterion A. Subcriterion A.2. is weighted about one and one-half times the weight of Subcriterion A.3. Subcriterion B.1 is weighted about one and one-half times the weight of Subcriterion B.2.

Criterion A: Statement of Work% Tech

- 33 1/3% 1. Usefulness of the proposed research on resource assessment, resource development, or technical assistance and related activities to industry and others in the development of geothermal resources.
- 20.0% 2. Technical quality of the proposed work, including consideration of the merit of the proposed approach and probability of achieving positive results.
- 13.3% 3. The significance of the hydrothermal resource base.

Criterion B: Qualifications and Capabilities

- 20.0% 1. Key personnel will be evaluated as to their capability, knowledge and understanding of the technology involved in the proposed work, as demonstrated by education, publication, and work experience.
- 13.3% 2. Proposing organization's and subcontractor's capabilities will be evaluated with regard to availability of the necessary facilities and support. Under this criteria, past technical performance will also be evaluated.

100% Tech

PART II - BUSINESS PROPOSAL EVALUATION CRITERIA = 25% total

Criterion C is weighted approximately four times as much as Criterion D.

Criterion C: Cost-Sharing - The degree of cost-sharing and the ability of the offeror to provide its cost-share commitment will be evaluated.
 80%

Criterion D: Project Financial Plan - The project financial plan will be evaluated to determine the realism and reasonableness of the proposed costs, manhours, duration of the total project and adequacy of cost breakdown by cost element and tasks.
 20%
100%
 Complete Form EIA-459C - Federal Assistance Budget Information Form.

PROGRAM POLICY AND PREFERENCE FACTORS

The Source Selection Official may make selections for negotiations and subsequent awards in a manner that will further the objectives of DOE, considering the following factors:

1. The DOE cost-share will not exceed \$200,000 per award, and the proposer must cost-share a minimum of 10% of the gross amount requested.
2. The potential benefit of the proposed project for the amount of DOE dollars spent.
3. The selection of projects which provide the greatest potential for data to enhance the goals of DOE.
4. Selections may be made to encourage geographic and resource diversity in the program.
5. Cost Considerations - The proposed cost is a function of the management approach, the technical approach, the manpower, the facilities, the organization, the uncertainties of the work, the proposer's competitive strategy and the economy. The panel will determine its own estimate of what it will probably cost the Government taking into account relevant data available. All other considerations being equal, total cost to the Government may be used in the final selection.
6. Selections may be made so as to effectively utilize available funding.

SECTION IV

INSTRUCTIONS, CONDITIONS, NOTICES TO PROPOSERS

SECTION IVINSTRUCTIONS, CONDITIONS, NOTICES TO PROPOSERSA. GENERAL CONDITIONS

The proposals will be evaluated in accordance with the applicable DOE Financial Assistance Rules: Title 10, Chapter II, Subchapter H, Part 600, and the criteria and considerations set forth in Section II of this PRDA. The DOE Order 4210 "Competitive, Negotiated Procurements Not Applicable to Source Evaluation Board Procedures" will be used for guidance. Information contained in the proposals shall be treated in accordance with the policies and procedures set forth in 600.18 of the DOE Financial Assistance Rules.

DOE, in evaluating proposals, reserves the right to use any assistance deemed advisable, in accordance with applicable regulations, including qualified personnel from other Federal and State agencies, universities, industry, and DOE-ID's principal management and operating contractor, EG&G Idaho, Inc. Proposers are therefore requested to state on the cover sheet of their Technical Proposal if they do not consent to an evaluation by such non-Government personnel. The proposers are further advised that DOE may be unable to give full consideration to a proposal submitted without such consent.

DOE reserves the right to support all, none, or any number, or part of the proposals submitted. All proposers will be notified in writing of the action taken on their proposals. Proposers should allow approximately 90 days after the closing date for this notification. The status of any proposal during the evaluation and selection process will not be discussed with proposers.

To qualify for consideration under this PRDA the minimum requirements listed in Section II must be met. The supporting documentation is to be included as appendices to the Technical Proposal.

B. INSTRUCTIONS FOR PREPARATION OF PROPOSALS

The proposals should be submitted in two sections distinctly marked as Part I - Technical Proposal and Part II - Business Proposal. Eight (8) copies of each part should be provided. In order to facilitate orderly and expeditious review of proposals, proposers are requested to follow the format given below. Material not essential to evaluation of the proposal is not desired.

1. PART I - TECHNICAL PROPOSAL

a. Cover Page for Part I

Section VI to this solicitation provides a general format and the specific information which should appear on the cover sheet to Part I.

Identify the original proposal copy (i.e., original signature) as "Original Copy No. 1," and consecutively number remaining copies (i.e., 2 through 8).

The signature, title, address, and phone number of an authorized representative of the proposing organization must appear on the cover pages of both parts of the proposal in order for the proposal to be considered under this PRDA.

b. Abstract

A concise abstract (limited to approximately one page) summarizing the proposed project is to be included at the beginning of the proposal.

c. Table of Contents

Part I is to include a table of contents, with page numbers, to facilitate locating the elements outlined in these guidelines. All pages should be numbered.

d. Technical Evaluation Criteria

Statement of Work

The proposer shall provide a detailed Statement of Work suitable for incorporation into a grant which should include as a minimum the following:

- o State whether the area of research is resource assessment, resource development, or technical assistance and related activities. Once the area of research is identified, state the objective of the research and the benefits of the research.
- o If the research area is either resource assessment or resource development, state the location and the name of the hydrothermal resource to be researched and the significance of the resource.

- o If the project area is technical assistance and related activities which is not related to one particular hydrothermal resource, list the hydrothermal resources in the state and describe how the proposed technical assistance will help in the understanding or developing of hydrothermal resources within the state. If the technical assistance and related activities is related to one particular hydrothermal resource, provide the information requested in the paragraph above.
- o List and describe in detail the key tasks necessary to accomplish the objective of the project.
- o Provide and describe in detail the schedule for completing the project. Discuss in detail if certain start or completion dates are critical to the project. For example, if the schedule is dependent upon when one can get to the field to do the research, discuss the earliest and the latest date that you can get to the field without having to wait for another field season.

NOTE: The deliverables and/or reports shall be prepared and submitted by the recipients to DOE in accordance with the DOE Uniform Reporting System for Federal Assistance Guidelines. Technical reports will include, at a minimum, quarterly progress reports and a final technical report. (A draft of the final technical report must be submitted for review and comment 90 days prior to final submittal of the report.)

Criterion A - Discussion of Statement of Work

1. The proposer should address the degree to which the proposed work will benefit industry and others in the development of geothermal resources.
2. The submittal should address the proposed tasks in detail, stating what will be accomplished, and when it will be accomplished. State any known or potential environmental and/or institutional problems. Discuss permits and approvals required by government agencies. State which permits and approvals have already been obtained. (The proposer will be responsible for obtaining all leases, easements, permits, and approvals required.) Include any other pertinent information which would aid DOE in understanding the research, particularly those factors which may make the project especially important in achieving DOE objectives.

3. The proposer should specifically indicate the location of the proposed research and provide a map with the location identified. The proposed research or project must be on or related to hydrothermal resources. The states from which proposals are received must have a significant hydrothermal resource base as defined by DOE research programs or by U.S. Geological Survey Circular 790 or 892.

Criterion B - Qualifications and Capabilities

1. Key personnel of the proposer and subcontractors (if any) who will be involved in the proposed effort should be listed and their functions and responsibilities described. The amount of time key project personnel will devote to the project should be stated. Capabilities of personnel who will be assigned to the project and how their capabilities will contribute to the success of the project should be described. The biographies of key personnel are requested. These should include education, pertinent publications, and work experience.

Consultant's capabilities (if applicable) should be described in the proposal. This should include a description of the functions, responsibilities, and qualifications of any consultant needed from outside the proposing organization. If need for a consultant has been identified but the specific consultant has not been selected, discuss the desired capabilities, how the consultant will be selected, and when the selection will be made.

2. The proposer should describe the resources and capabilities of the proposing organization including consultants and subcontractors and how they will contribute to the success of the project. Discuss any resources that will be required but have yet to be obtained and how the proposer plans to obtain the resources.

e. Appendices

To qualify for consideration under this PRDA, the following elements must be documented and included as appendices to the Technical Proposal:

1. The proposer must be a state or designated by the state as being responsible for geothermal resources within the state.

2. The major area of the proposed research is: a) resource assessment; b) resource development; or, c) technical assistance and related activities on hydrothermal systems. (The proposal should address only one major area.)
3. The proposed research must be on or related to hydrothermal resources, and the states and/or state-designated organizations from which the proposals are received must have a significant hydrothermal resource base as defined by DOE research programs or by U. S. Geological Survey Circular 790 or 892. If the resource is not owned by the proposer and the research involves the use of the resource, the proposer must show that it has right of access to the resource.
4. The proposed worksite must be in-state or have written approval from the appropriate executive in the other state(s) where the proposed work is to be done. In addition, the proposer will be responsible for obtaining all leases, easements, permits, and approvals required by government regulatory agencies for the performance of this project.

2. PART II - BUSINESS PROPOSALS

- a. Cover Sheet for Part II. Refer to Section VI, Attachment 3, for format. Note that the signature(s) of the responsible individual(s) should be on the cover page of both parts of the proposal. The person signing should have the authority to commit the proposer to all of the provisions of the proposal.
- b. Table of Contents for Part II. Part II should include a Table of Contents, with page numbers, to facilitate locating the elements outlined in these guidelines.
- c. Business Evaluation Criteria

Criterion C - Cost-Sharing

Provide a detailed description and estimated monetary value of all contributions to the project by the proposer, i.e., the proposed contribution of the participant (which must be at least 10% of the total project cost), and the proposed contribution of DOE. Note that "cost-sharing" is not limited to monetary investment. For the purpose of this solicitation, "cost-sharing" is defined as any beneficial service or item, such as manpower, equipment, consultants, and computer time. However, payment of actual costs in the

final grant will only include those costs which are allowable, incurred cost as defined in the applicable cost principles, and in ratios to be defined in negotiations.

Criterion D - Project Financial Plan

Cost data of the business proposal must be submitted on Federal Assistance Budget Information Form, Section VI, Attachment 4, with the support data noted in the instructions thereto. A detailed description of the cost elements should be attached. This description should be broken down in sufficient detail to permit evaluation of the unit costs of each element; for example, number of hours and base labor rate for each classification of labor, method of computation, and application bases of different overhead pools. The proposer may append as many supporting schedules for each element of cost as required to detail fully the total cost of the project (not just DOE's share). The proposer is not entitled to include a fee or profit in this cost pricing proposal.

Provide a budget summary by the key (major functional) tasks determined in the work breakdown structure; i.e., estimate the number of labor hours contributed by individual, and costs and duration of time in weeks for each task to permit evaluation of each activity. Allocate other costs (equipment, consultants, etc.) to each task so that the total estimated costs of this summary equal the total estimated costs listed above.

If the proposal is to be a team arrangement, a principal grantee should be designated with other members shown as subcontractors or consultants. Each subcontractor or consultant should submit a supplementary Federal Assistance Budget Information Form prepared in the same manner as the principal grantee.

Provide financial data on the proposer and the proposer's available financial resources. Annual financial statements (preferably with auditor's opinion on the balance sheet and income and expense statement) for the past three years should be attached for proposers and major proposed subcontractors and consulting firms. Discuss the source of funds for the proposer's proposed cost-share. Disclose sufficient information to show the proposer's proposed cost-share will not be funded by any Government contract or assistance instrument.

e. Program Policy and Preference Factors

The Program and Policy Factors may be used, if it is necessary, to assure that the objectives of DOE are met; and to provide equal opportunity for all states with significant hydrothermal resources.

f. Other Required Forms - The following forms are required before a PRDA can be executed.

- (1) The "Assurances" (see Section V) must be completed and signed by the proposer.
- (2) The "Federal Assistance Standard Form 424," Section VI, Attachment No. 5 of this PRDA, should be completed as applicable by the proposer.

These forms are for PRDA review only and will not be used in the evaluation. These forms should be submitted as part of Part II.

C. OTHER PERTINENT INFORMATION

1. False Statements

Proposals must set forth full, accurate, and complete information as required by this PRDA (including attachments). The penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

2. Treatment of Proprietary Information

Proposals submitted in response to this PRDA may contain trade secrets and/or privileged or confidential commercial or financial information which the proposer (or his subcontractor offeror) does not want used or disclosed for any purpose other than evaluation of the proposal. The use and disclosure of such data may be restricted provided the proposer marks the cover sheet of the proposal with the following legend, specifying the pages of the proposal which are to be restricted in accordance with the conditions of the legend:

"The data contained in page(s) ___ of this proposal have been submitted in confidence and contain trade secrets and/or privileged or confidential commercial or financial information, and such data shall be used or disclosed only

for furnished purposes, provided that if a contract is awarded to this proposer as a result of or in connection with the submission of this proposal the Government shall have the right to use or disclose the data herein to the extent provided in the contract. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the proposer."

Further, to protect such data, each page containing such data shall be specifically identified and marked, including each line or paragraph containing the data to be protected with a legend similar to the following:

"Use or disclosure of the data set forth in lines ___ above is subject to the restriction on the cover page of this proposal."

DOE will utilize its best efforts to treat the data so marked in accordance with the above legend. It should be noted, however, that data bearing the aforementioned legend may be subject to release under the provisions of the Freedom of Information Act, 5 U.S.C. 552, as amended. The Government assumes no liability for disclosure or use of unmarked data and may use or disclose such data for any purpose.

3. DOE Treatment of Proposal Information

Proposers are hereby notified that the DOE Evaluation Panel intends to make all proposals submitted, including any trade secrets and/or privileged, confidential and financial information contained therein, available to other qualified personnel from other Federal and State agencies, universities, industry, and DOE-ID's principal management and operating contractor, EG&G Idaho, Inc, as necessary, for the sole purpose of assisting the Panel in its evaluation of the proposals. These individuals will be required to protect the confidentiality of any specifically identified information obtained as a result of their participation in the evaluation.

4. Inventions

Any agreement resulting from proposals submitted under this PRDA will provide for the assignment to the Government of the entire right, title, or interest throughout the world in and to any inventions or discoveries conceived or first actually reduced to practice in the course of or under the agreement, except that the Contractor shall retain a revocable, non-exclusive, paid-up license in any such invention.

The proposer, however, has the right in accordance with applicable statutes and DOE regulations to request in advance or within 30 days after the effective date of the agreement, a waiver of all or any part of the rights of the United States in such inventions. To request such a waiver, the proposer should request a waiver application form from DOE after notification of award and prior to execution of an agreement. The decision as to whether such a waiver will be granted is a DOE administrative action, and should not be considered as a contractual action which must be accomplished prior to execution of an agreement.

A small business, institution of higher education or nonprofit scientific or educational organization is automatically entitled to a waiver of the Government title to inventions as set out in the clause "Patent Rights - Small Business Firms and Nonprofit Organizations." In order to qualify for this waiver the representation included in the Assurances must be executed by the proposer.

5. Rights in Technical Data

The Government shall obtain unlimited rights in the technical data contained in any proposal submitted in response to this PRDA which results in an award except those portions of the technical data which the proposer asserts and properly marks as proprietary data (see III.C.2.) or which are not directly related to or will not be utilized in the project and are deleted from the proposal with the concurrence of DOE. If the proposer believes that it is necessary to submit proprietary information as part of its work under any agreement resulting from this PRDA, he should specifically note the type of information in his proposal so that the Contracting Officer can determine whether such proprietary information should be submitted as part of the work under the agreement. In the absence of a specific request for proprietary information by the Contracting Officer, no such information or data shall be provided under the agreement.

6. Proposal Clarification

DOE reserves the right to require proposals to be clarified or supplemented to the extent considered necessary either through additional written submissions or oral presentations.

7. Amendments

If and when amendments to the PRDA are issued each one must be acknowledged in Part II - Business Proposal.

8. Proposer's Past Performance

DOE reserves the right to solicit from available sources relevant information concerning a proposer's past performance and may consider such information in its evaluation.

9. Government Right to Reject, Negotiate, or Award

DOE reserves the right to accept for support all, none, or any number, or part of the proposals submitted. Proposals will not be returned. While DOE may decide to hold discussions with proposers to clarify or expand on the information contained in their proposals, DOE reserves the right, without qualification, to select a proposal for award based solely on the content of the proposal and relevant information obtained from others concerning the proposer's respective record of past performance. Therefore, your proposal should contain the most favorable terms to DOE which you wish to submit.

10. Commitment of Public Funds

The Contracting Officer is the only individual who can legally commit the Government to the expenditure of public funds in connection with the proposed procurement. Any other commitment, either explicit or implied, is invalid.

11. Where to Send Proposal

Eight (8) copies of each proposal must be received at the following address on or before 4:00 p.m., local time, on June 19, 1987.

Trudy A. Thorne
Contracts Management Division
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

To facilitate handling, please mark on the outside of the envelope containing your proposal:

"Proposal For State Geothermal Research and Development, PRDA No. DE-PR07-86ID12662 - To Be Opened by Addressee Only"

12. Questions

Any questions regarding this PRDA must be submitted in writing by April 27, 1987, to the addressee above to assure receipt of response.

13. Elaborate Brochures

Elaborate brochures or other presentations beyond those sufficient to present a complete and effective proposal are neither necessary nor desired.

14. Handcarried Proposals

If the proposer elects to forward the proposal by means other than the U.S. Mail, he assumes the full responsibility of insuring that the proposal is received at the place, date, and time specified in Item 11. above.

15. Late Proposals, Modifications of Proposals, and Withdrawal of Proposals

Late proposals, modifications of proposals, and withdrawal of proposals will be handled in accordance with the DOE Financial Assistance Rules 600.13, which is included in Section VI.

16. Signed Originals

Copy No. 1 of the Business Proposal should contain the signed original of all documents requiring signature by the proposer. Use of reproductions of signed originals is authorized in all other copies of the proposal.

17. Disposition of Proposals

Proposals will not be returned (except for timely withdrawals).

18. Effective Period of Proposal

All proposals are required to remain in effect for at least 180 days from the date designated for receipt of proposals.

19. Type of Award Instrument

The work will be performed under a grant. No profit or fee shall be paid to the grantee.

20. Pre-award Costs

The Government is not liable for any costs incurred in the preparation of a proposal. Further, for a selected proposal no costs are reimbursable until after signing of the grant unless specifically authorized in writing by the Contracting Officer.

21. Availability of Funds

DOE will agree to participate in a project at a specific level to be negotiated; however, the actual amount to be obligated in each fiscal year will be subject to the availability of funds appropriated by Congress.

SECTION V
ASSURANCES

DOE F 1600.5
(5-85)

OMB NO. 1900-0400

U.S. Department of Energy

Assurance of Compliance

Nondiscrimination in Federally Assisted Programs

(Hereinafter called the "Applicant") HEREBY AGREES to comply with Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352), Section 18 of the Federal Energy Administration Act of 1974 (Pub. L. 93-275), Section 401 of the Energy Reorganization Act of 1974 (Pub. L. 93-438), Title IX of the Education Amendments of 1972, as amended, (Pub. L. 92-318, Pub. L. 93-568, and Pub. L. 94-482), Section 504 of the Rehabilitation Act of 1973 (Pub. L. 93-112), the Age Discrimination Act of 1975 (Pub. L. 94-135), Title VIII of the Civil Rights Act of 1968 (Pub. L. 90-284), the Department of Energy Organization Act of 1977 (Pub. L. 95-91), and the Energy Conservation and Production Act of 1976, as amended, (Pub. L. 94-385). In accordance with the above laws and regulations issued pursuant thereto, the Applicant agrees to assure that no person in the United States shall, on the ground of race, color, national origin, sex, age, or handicap, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity in which the Applicant receives Federal assistance from the Department of Energy.

Applicability and Period of Obligation

In the case of any service, financial aid, covered employment, equipment, property, or structure provided, leased, or improved with Federal assistance extended to the Applicant by the Department of Energy, this assurance obligates the Applicant for the period during which Federal assistance is extended. In the case of any transfer of such service, financial aid, equipment, property, or structure, this assurance obligates the transferee for the period during which Federal assistance is extended. If any personal property is so provided, this assurance obligates the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance obligates the Applicant for the period during which the Federal assistance is extended to the Applicant by the Department of Energy.

Employment Practices

Where a primary objective of the Federal assistance is to provide employment or where the Applicant's employment practices affect the delivery of services in programs or activities resulting from Federal assistance extended by the Department, the Applicant agrees not to discriminate on the ground of race, color, national origin, sex, age, or handicap, in its employment practices. Such employment practices may include, but are not limited to, recruitment, recruitment advertising, hiring, layoff or termination, promotion, demotion, transfer, rates of pay, training and participation in upward mobility programs, or other forms of compensation and use of facilities.

Subrecipient Assurance

The Applicant shall require any individual, organization, or other entity with whom it subcontracts, subgrants, or subleases for the purpose of providing any service, financial aid, equipment, property, or structure to comply with laws cited above. To this end, the subrecipient shall be required to sign a written assurance form, however, the obligation of both recipient and subrecipient to ensure compliance is not relieved by the collection or submission of written assurance forms.

Data Collection and Access to Records

The Applicant agrees to compile and maintain information pertaining to programs or activities developed as a result of the Applicant's receipt of Federal assistance from the Department of Energy. Such information shall include, but is not limited to, the following: (1) the manner in which services are or will be provided and related data necessary for determining whether

any persons are or will be denied such services on the basis of prohibited discrimination; (2) the population eligible to be served by race, color, national origin, sex, age and handicap; (3) data regarding covered employment including use or planned use of bilingual public contact employees serving beneficiaries of the program where necessary to permit effective participation by beneficiaries unable to speak or understand English; (4) the location of existing or proposed facilities connected with the program and related information adequate for determining whether the location has or will have the effect of unnecessarily denying access to any person on the basis of prohibited discrimination; (5) the present or proposed membership by race, color, national origin, sex, age and handicap, in any planning or advisory body which is an integral part of the program; and (6) any additional written data determined by the Department of Energy to be relevant to its obligation to assure compliance by recipients with laws cited in the first paragraph of this assurance.

The Applicant agrees to submit requested data to the Department of Energy regarding programs and activities developed by the Applicant from the use of Federal assistance funds extended by the Department of Energy. Facilities of the Applicant (including the physical plants, buildings, or other structures) and all records, books, accounts, and other sources of information pertinent to the Applicant's compliance with the civil rights laws shall be made available for inspection during normal business hours on request of an officer or employee of the Department of Energy specifically authorized to make such inspections. Instructions in this regard will be provided by the Director, Office of Equal Opportunity, U.S. Department of Energy.

This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts (excluding procurement contracts), property, discounts or other Federal assistance extended after the date hereto, to the Applicants by the Department of Energy, including installment payments on account after such date of application for Federal assistance which are approved before such date. The Applicant recognizes and agrees that such Federal assistance will be extended in reliance upon the representations and agreements made in this assurance and the the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, as well as the person whose signature appears below and who is authorized to sign this assurance on behalf of the Applicant.

(Date)

(Name of Applicant)

(Address)

(Authorized Official)

()

(Applicant's Telephone Number)

PRDA No. DE-PR07-87ID12662

SECTION VI
ATTACHMENTS

SECTION VI

ATTACHMENTS

Attachment No.

- 1 Late Proposal Rules (DOE-FAR 600.13)
- 2 Part I - Technical Proposal Cover Page
- 3 Part II - Business Proposal Cover Page
- 4 Federal Assistance Budget Information Form
- 5 Standard Form 424 - Federal Assistance Application
- 6 Mailing List
- 7 Sources of Referenced Documents

LATE PROPOSAL RULES

PROPOSAL DEADLINES

Regulations concerning proposal deadlines and late proposals are contained in 10 CFR Subchapter H - Assistance Regulations. Part 600, Section 600.13 is paraphrased below for proposers' edification:

(a) Each solicitation shall include a deadline date for submission of proposals. The established deadline shall also apply to any amendment to a proposal initiated by an applicant. A proposal or amendment shall be timely if it is:

(1) Received at the location specified in the solicitation on or before the established deadline date and time; or

(2) Received after the deadline date, and the proposal or amendment was sent by first class mail, was postmarked on or before the deadline date, and is received by DOE before technical evaluation of all acceptable proposals submitted in response to the solicitation begins. Proposers should obtain a legibly dated mailing receipt from the US Postal Service or use certified or registered mail to enable them to substantiate the date of mailing. Private metered postmarks shall not be acceptable proof of the date of mailing; and

(3) Complete (See 600.10(d) and 600.11(c)).

(b) DOE shall not consider and shall return any proposal that does not meet the requirements of paragraphs (a)(1) or (a)(2) and (a)(3) of this section.

(c) If necessary, DOE may extend an established proposal deadline by publishing a timely notice of the extension in the same manner as the solicitation was publicized. The extension of time shall apply to all proposers.

SAMPLE DOE PROPOSAL COVER PAGE

PART II - BUSINESS PROPOSAL

SUBMITTED TO THE

DEPARTMENT OF ENERGY
IDAHO OPERATIONS OFFICE

STATE GEOTHERMAL RESEARCH AND DEVELOPMENT

PRDA NO. DE-PR07-87ID12662

Copy No. _____ of 8
Date of Submission _____
Name of Proposer _____
Address of Proposer _____

Title of Proposal _____
Location of Work _____
Proposed Total Project Cost _____ DOE Funding Requested _____
Proposed Start Date _____ Proposed Project Duration _____
(in months)
Official Contact for Negotiations _____ Phone No. () _____
Permission for Outside Evaluation Yes ___ No ___
Effective Period of Proposal 180 days
AUTHORIZED OFFICIAL: Signature _____
Name Typed _____
Title _____
Date _____
Please Check Small Business ___ Disadvantaged Business ___ Other ___
Women-Owned ___ Nonprofit ___ Profit ___
University ___ State or Local Government ___

SECTION IV-REMARKS *(Please reference the proper item number from Sections I, II or III, if applicable)*

GENERAL INSTRUCTIONS

This is a multi-purpose standard form. First, it will be used by applicants as a required facesheet for pre-applications and applications submitted in accordance with Federal Management Circular 74-7. Second, it will be used by Federal agencies to report to Clearinghouses on major actions taken on applications reviewed by clearinghouses in accordance with OMB Circular A-95. Third, it will be used by Federal agencies to notify States of grants-in-aid awarded in accordance with Treasury Circular 1082. Fourth, it may be used, on an optional basis, as a notification of intent from applicants to clearinghouses, as an early initial notice that Federal assistance is to be applied for (clearinghouse procedures will govern).

APPLICANT PROCEDURES FOR SECTION I

Applicant will complete all items in Section I. If an item is not applicable, write "NA". If additional space is needed, insert an asterisk "*", and use the remarks section on the back of the form. An explanation follows for each item:

- | Item | Item |
|--|---|
| 1. Mark appropriate box. Pre-application and application guidance is in FMC 74-7 and Federal agency program instructions. Notification of intent guidance is in Circular A-95 and procedures from clearinghouse. Applicant will not use "Report of Federal Action" box. | D. Insurance. Self explanatory.
E. Other. Explain on remarks page. |
| 2a. Applicant's own control number, if desired. | 10. Governmental unit where significant and meaningful impact could be observed. List only largest unit or units affected, such as State, county, or city. If entire unit affected, list it rather than subunits. |
| 2b. Date Section I is prepared. | 11. Estimated number of persons directly benefiting from project. |
| 3a. Number assigned by State clearinghouse, or if delegated by State, by areawide clearinghouse. All requests to Federal agencies must contain this identifier if the program is covered by Circular A-95 and required by applicable State/areawide clearinghouse procedures. If in doubt, consult your clearinghouse. | 12. Use appropriate code letter. Definitions are:
A. New. A submittal for the first time for a new project.
B. Renewal. An extension for an additional funding/budget period for a project having no projected completion date, but for which Federal support must be renewed each year. |
| 3b. Date applicant notified of clearinghouse identifier. | C. Revision. A modification to project nature or scope which may result in funding change (increase or decrease). |
| 4a-4h. Legal name of applicant/recipient, name of primary organizational unit which will undertake the assistance activity, complete address of applicant, and name and telephone number of person who can provide further information about this request. | D. Continuation. An extension for an additional funding/budget period for a project the agency initially agreed to fund for a definite number of years. |
| 5. Employer identification number of applicant as assigned by Internal Revenue Service. | E. Augmentation. A requirement for additional funds for a project previously awarded funds in the same funding/budget period. Project nature and scope unchanged. |
| 6a. Use Catalog of Federal Domestic Assistance number assigned to program under which assistance is requested. If more than one program (e.g., joint-funding) write "multiple" and explain in remarks. If unknown, cite Public Law or U.S. Code. | 13. Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions will be included. If the action is a change in dollar amount of an existing grant (a revision or augmentation), indicate only the amount of the change. For decreases enclose the amount in parentheses. If both basic and supplemental amounts are included, breakout in remarks. For multiple program funding, use totals and show program breakouts in remarks. Item definitions: 13a, amount requested from Federal Government; 13b, amount applicant will contribute; 13c, amount from State, if applicant is not a State; 13d, amount from local government, if applicant is not a local government; 13e, amount from any other sources, explain in remarks. |
| 6b. Program title from Federal Catalog. Abbreviate if necessary. | 14a. Self explanatory. |
| 7. Brief title and appropriate description of project. For notification of intent, continue in remarks section if necessary to convey proper description. | 14b. The district(s) where most of actual work will be accomplished. If city-wide or State-wide, covering several districts, write "city-wide" or "State-wide." |
| 8. Mostly self-explanatory. "City" includes town, township or other municipality. | 15. Complete only for revisions (item 12c), or augmentations (item 12e). |
| 9. Check the type(s) of assistance requested. The definitions of the terms are:
A. Basic Grant. An original request for Federal funds. This would not include any contribution provided under a supplemental grant.
B. Supplemental Grant. A request to increase a basic grant in certain cases where the eligible applicant cannot supply the required matching share of the basic Federal program (e.g., grants awarded by the Appalachian Regional Commission to provide the applicant a matching share).
C. Loan. Self explanatory. | |

- Item**
- 16. Approximate date project expected to begin (usually associated with estimated date of availability of funding).
 - 17. Estimated number of months to complete project after Federal funds are available.
 - 18. Estimated date preapplication/application will be submitted to Federal agency if this project requires clearinghouse review. If review not required, this date would usually be same as date in Item 2b.

- Item**
- 19. Existing Federal identification number if this is not a new request and directly relates to a previous Federal action. Otherwise write "NA".
 - 20. Indicate Federal agency to which this request is addressed. Street address not required, but do use ZIP.
 - 21. Check appropriate box as to whether Section IV of form contains remarks and/or additional remarks are attached.

APPLICANT PROCEDURES FOR SECTION II

Applicants will always complete Items 23a, 23b, and 23c. If clearinghouse review is required, Item 22b must be fully completed. An explanation follows for each item:

- Item**
- 22b. List clearinghouses to which submitted and show in appropriate blocks the status of their responses. For more than three clearinghouses, continue in remarks section. All written comments submitted by or through clearinghouses must be attached.
 - 23a. Name and title of authorized representative of legal applicant.

- Item**
- 23b. Self explanatory.
 - 23c. Self explanatory.
 - Note: Applicant completes only Sections I and II. Section III is completed by Federal agencies.

FEDERAL AGENCY PROCEDURES FOR SECTION III

If applicant-supplied information in Sections I and II needs no updating or adjustment to fit the final Federal action, the Federal agency will complete Section III only. An explanation for each item follows:

- Item**
- 24. Executive department or independent agency having program administration responsibility.
 - 25. Self explanatory.
 - 26. Primary organizational unit below department level having direct program management responsibility.
 - 27. Office directly monitoring the program.
 - 28. Use to identify non-award actions where Federal grant identifier in item 30 is not applicable or will not suffice.
 - 29. Complete address of administering office shown in item 26.
 - 30. Use to identify award actions where different from Federal application identifier in item 28.
 - 31. Self explanatory. Use remarks section to amplify where appropriate.
 - 32. Amount to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions will be included. If the action is a change in dollar amount of an existing grant (a revision or augmentation), indicate only the amount of change. For decreases, enclose the amount in parentheses. If both basic and supplemental amounts are included, breakout in remarks. For multiple program funding, use totals and show program breakouts in remarks. Item definitions: 32a, amount awarded by Federal Government; 32b, amount applicant will contribute; 32c, amount from State, if applicant is not a State; 32d, amount from local government if applicant is not a local government; 32e, amount from any other sources, explain in remarks.
 - 33. Date action was taken on this request.
 - 34. Date funds will become available.

- Item**
- 35. Name and telephone no. of agency person who can provide more information regarding this assistance.
 - 36. Date after which funds will no longer be available.
 - 37. Check appropriate box as to whether Section IV of form contains Federal remarks and/or attachment of additional remarks.
 - 38. For use with A-95 action notices only. Name and telephone of person who can assure that appropriate A-95 action has been taken—If same as person shown in item 35, write "same". If not applicable, write "NA".

Federal Agency Procedures—special considerations

- A. *Treasury Circular 1082 compliance.* Federal agency will assure proper completion of Sections I and III. If Section I is being completed by Federal agency, all applicable items must be filled in. Addresses of State Information Reception Agencies (SCIRA's) are provided by Treasury Department to each agency. This form replaces SF 240, which will no longer be used.
- B. *OMB Circular A-95 compliance.* Federal agency will assure proper completion of Sections I, II, and III. This form is required for notifying all reviewing clearinghouses of major actions on all programs reviewed under A-95. Addresses of State and areawide clearinghouses are provided by OMB to each agency. Substantive differences between applicant's request and/or clearinghouse recommendations, and the project as finally awarded will be explained in A-95 notifications to clearinghouses.
- C. *Special note.* In most, but not all States, the A-95 State clearinghouse and the (TC 1082) SCIRA are the same office. In such cases, the A-95 award notice to the State clearinghouse will fulfill the TC 1082 award notice requirement to the State SCIRA. Duplicate notification should be avoided.

FEDERAL ASSISTANCE BUDGET INFORMATION FORM

FORM EIA 459C
110 B0

FORM APPROVED
OMB No. 1900-0127

1. Program/Project Identification No.		2. Program/Project Title	
3. Name and Address			4. Program/Project Start Date
			5. Completion Date

SECTION A - BUDGET SUMMARY

Grant Program Function of Activity (a)	Federal Catalog No. (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non Federal (d)	Federal (e)	Non Federal (f)	Total (g)
1		\$	\$	\$	\$	\$
2						
3						
4						
5. TOTALS		\$	\$	\$	\$	\$

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	Grant Program Function of Activity				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	\$	\$	\$	\$	\$
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges					
j. Indirect Charges					
k. TOTALS	\$	\$	\$	\$	\$
7. Program Income	\$	\$	\$	\$	\$

STATE GEOTHERMAL RESEARCH AND DEVELOPMENT

MAILING LIST
(as of March 25, 1987)

1. State of Alaska
Division of Geological & Geophysical Surveys
400 Willoughby Bldg.
Juneau, AK 99801
ATTN: Dr. Roman Motyka
2. State of Alaska
Alaska Power Authority
P.O. Box 190869
Anchorage, AK 99519-0869
ATTN: David Denig-Chakroff
3. Arizona State University
Office of Research Development
and Administration
Tempe, Arizona 85287
ATTN: Elizabeth McHugh
4. Arkansas Geological Commission
Vardelle Parham Geology Center
3815 West Roosevelt Road
Little Rock, AR 72204
ATTN: Norman F. Williams
State Geologist and Director
5. Arkansas Tech University
Arkansas Mining & Mineral Resources
Research Institute
Russellville, AR 72801-2222
ATTN: Henry Barwood
6. Bechtel National, Inc.
P.O. Box 3965
San Francisco, CA 94119
ATTN: Janet L. Owen
7. Boise State University
Department of Geology & Geophysics
1910 University Drive
Boise, ID 83725
ATTN: Charles Waag

8. Bureau of Geology and Mineral Technology
Geological Survey Branch
845 N. Park Avenue
Tucson, AZ 85719
ATTN: Larry D. Fellows
State Geologist and Assistant Director
9. Colorado Geological Survey
1313 Sherman St., Room 715
Denver, CO 80203
ATTN: John W. Rold
Director and State Geologist
10. State of Colorado
Colorado Geological Survey
715 State Centennial Building
1313 Sherman Street
Denver, CO 80203
ATTN: Mark Davis
11. Consad Research Corporation
121 North Highland Avenue
Pittsburgh, PA 15206
ATTN: Wilbur A. Steger
12. Department of Commerce and Regulation
Energy Office
217-1/2 West Missouri
Pierre, SD 57501
ATTN: Steve Wegman
13. Department of Conservation
Division of Mines and Geology
1416 Ninth Street, Room 1341
Sacramento, CA 95814
ATTN: James F. Davis
State Geologist
14. Department of Energy
625 Marion Street, N.E.
Salem, OR 97310
ATTN: Alex Sifford
15. Department of Environmental
Quality Engineering
Division of Waterways
1-11 Winter Street
Boston, MA 02108
ATTN: Joseph A. Sinnott
State Geologist

16. Department of Natural Resources
and Conservation
Energy Division
32 South Ewing
Helena, MT 59620
ATTN: Jeff Birkby
17. Department of Natural Resources and
Community Development
Division of Land Resources
P.O. Box 27687
Raleigh, NC 27611
ATTN: Stephen G. Conrad
Director and State Geologist
18. Division of Geological
and Geophysical Surveys
P.O. Box 7028
Anchorage, AK 99510
ATTN: Pedro Denton
State Geologist and Director
19. Division of Water and Land Development
Department of Land and Natural Resources
P.O. Box 373
Honolulu, HI 96809
ATTN: Manabu Tagomori
Manager-Chief Engineer
20. Eng, Inc.
1430 Mass Ave., Harvard Square
Cambridge, MA 02138
ATTN: Aron Weis
21. Environmental Research Center - UNLV
Division of Earth Sciences
255 Bell St., Suite 200
Reno, NV 89503
ATTN: Mr. Dennis Trexler
22. Geoexplorers International, Inc.
5701 East Evans Avenue
Denver, CO 80222
ATTN: Dr. Jan Krason
23. Georgia Geologic Survey Branch of the
Environmental Protection Division of
the Department of Natural Resources
19 Martin Luther King, Jr. Dr., S.W.
Atlanta, GA 30334
ATTN: William H. McLemore
State Geologist

24. Governor
Pouch A
Juneau, AK 99811
25. Governor
Executive Dept.
State Capitol
Montgomery, AL 36130
26. Governor
250 State Capitol
Little Rock, AR 72201
27. Governor
1700 W. Washington
West Wing, 9th Fl.
Phoenix, AZ 85007
28. Governor
State Capitol
Sacramento, CA 95814
29. Governor
136 State Capitol Bldg.
Denver, CO 80203
30. Governor
200 State Capitol
Hartford, CT 06106
31. Governor
Legislative Hall
Dover, DE 19901
32. Governor
The Capitol
Tallahassee, FL 32301
33. Governor
203 State Capitol
Atlanta, GA 30334
34. Governor
State Capitol
Honolulu, HI 96813
35. Governor
State Capitol
Des Moines, IA 50319
36. Governor
Office of the Governor
Statehouse
Boise, ID 83720

37. Governor
207 State House
Springfield, IL 62706
38. Governor
206 State House
Indianapolis, IN 46204
39. Governor
2nd Fl., State Capitol
Topeka, KS 66612
40. Governor
State Capitol
Frankfort, KY 40601
41. Governor
P.O. Box 94004
Baton Rouge, LA 70804-7015
42. Governor
Rm. 360, State House
Boston, MA 02133
43. Governor
State House
Annapolis, MD 21404
44. Governor
Executive Dept.
State House Station #1
Augusta, ME 04333
45. Governor
Executive Office
State Capitol
Lansing, MI 48909
46. Governor
130 State Capitol
St. Paul, MN 55155
47. Governor
Rm. 216, State Capitol
P.O. Box 720
Jefferson City, MO 65102
48. Governor
New Capitol
Jackson, MS 39201
49. Governor
State Capitol
Helena, MT 59620

50. Governor
State Capitol
Raleigh, NC 27611
51. Governor
1st Fl., State Capitol
Bismarck, ND 58505
52. Governor
2nd Fl., State Capitol
P.O. Box 94848
Lincoln, NE 68509-4848
53. Governor
State House
Concord, NH 03301
54. Governor
State House
Trenton, NJ 08625
55. Governor
418 State Capitol
Santa Fe, NM 87503
56. Governor
State Capitol
Carson City, NV 89710
57. Governor
Executive Chamber
State Capitol
Albany, NY 12224
58. Governor
State House
Columbus, OH 43215
59. Governor
212 State Capitol
Oklahoma City, OK 73105
60. Governor
254 State Capitol
Salem, OR 97310
61. Governor
225 Main Capitol
Harrisburg, PA 17120
62. Governor
222 State House
Providence, RI 02903

63. Governor
State House
P.O. Box 11450
Columbia, SC 29211
64. Governor
2nd Fl., State Capitol
Pierre, SD 57501
65. Governor
State Capitol
Nashville, TN 37219
66. Governor
Box 12428, Capitol Station
Austin, TX 78711
67. Governor
210 State Capitol
Salt Lake City, UT 84114
68. Governor
State Capitol
Richmond, VA 23219
69. Governor
Executive Off.
109 State St.
Montpelier, VT 05602
70. Governor
Legislative Bldg.
Olympia, WA 98504
71. Governor
115 E. State Capitol
P.O. Box 7863
Madison, WI 53702
72. Governor
State Capitol
Charleston, WV 25305
73. Governor
State Capitol
Cheyenne, WY 82002
74. Harding Lawson Associates
P. O. Box 578
Novato, CA 94948
ATTN: Karyl Hendrick

75. Hawaii State of
Department of Planning and
Economic Development
P.O. Box 2359
Honolulu, HI 96804
ATTN: Takeshi Yoshihara
76. Idaho Department of Water Resources
1041 Blue Lakes Blvd. North
Twin Falls, ID 83301
ATTN: Ms. Leah V. Street
77. Institute of Gas Technology
3424 South State Street
Chicago, IL 60616
ATTN: Judi Cronin
78. Jacobs Engineering Group, Inc.
1511 K Street, Suite 1100
Washington, D.C. 20005
ATTN: Elaine Strass
79. Kent State University
Research and Sponsored Programs
Lowry Hall
Kent, Ohio 44242
ATTN: Shirley Perry
80. Laboratory of Isotope Geochemistry
Department of Geosciences
University of Arizona
Tucson, AZ 85721
ATTN: Dr. Paul E. Damon
81. Louisiana State University
Louisiana Geological Survey
P.O. Box G, University Station
Baton Rouge, LA 70893-4107
ATTN: Virginia Van Sickle
82. Masson Grimm Burgum & Turnbow, Ltd.
106 North Carolina Avenue, S.E.
Washington, DC 20003
ATTN: Thomas Burgum
83. Montana College of Mineral Science
and Technology
Department of Physics and
Geophysical Engineering
West Park Street
Butte, MT 59701
ATTN: Dr. William R. Sill

84. Montana College of Mineral
Science and Technology
Department of Physics and
Geophysical Engineering
West Park Street
Butte, MT 59701
ATTN: Dr. Charles J. Wideman
85. Montana College of Mineral Science and Technology
Engineering Hall
Butte, MT 59701
ATTN: Dean of Research and Graduate Studies
86. State of Nevada
Office of Community Development
Capitol Complex
Carson City, NV 89710
ATTN: James P. Hawke
87. State of Nevada
Office of Community Services
Capitol Complex
Carson City, NV 89710
ATTN: Curtis Framel
88. New Mexico Bureau of Mines
& Mineral Resources
Campus Station
Socorro, NM 87801
ATTN: Frank E. Kottowski
Director
89. New Mexico Energy Institute
Box 3-PSL
Las Cruces, NM 88003
ATTN: Dr. Rudy Schoenmachers
90. New Mexico Research and
Development Institute
Pinion Building, Suite 358
1220 South St. Francis Drive
Santa Fe, NM 87501
ATTN: Dr. Larry Icerman
91. State of New Mexico
Energy and Minerals Department
525 Camino de los Marquez
Santa Fe, NM 87501
ATTN: Charles P. Wood

92. New York State Energy Research and
Development Authority
Two Rockefeller Plaza
Albany, NY 12223
ATTN: Steven F. Lewis
Director of Administration and Contracts
93. New York State Geological Survey
State Museum
3136 Cultural Education Center
Empire State Plaza
Albany, NY 12230
ATTN: Robert H. Fakundiny
94. North Dakota Geological Survey
University Station
Grand Forks, ND 58202
ATTN: Sidney B. Anderson
Acting State Geologist
95. Office of Management and Budget
State Capitol
Bismarck, ND 58505
ATTN: Michael Mahlum
96. Oregon Department of Geology and
Mineral Industries
1005 State Office Building
Portland, OR 97201
ATTN: Dr. George R. Priest
97. State of Oregon
Department of Geology
and Mineral Industries
910 State Office Building
1400 S.W. 5th Avenue
Portland, OR 97201-5528
ATTN: George Priest
98. E. H. Pechan & Associates, Inc.
5537 Hempstead Way
Springfield, VA 22151
ATTN: Lynanne Roth
99. Pennsylvania State University
Department of Geosciences
406 Deike Building
University Park, PA 16802
ATTN: Kevin P. Furlong
(814) 863-0567

100. Purdue Research Foundation
Division of Sponsored Programs
Hovde Hall
West Lafayette, IN 47907
ATTN: Suzie M. Jero
101. Railroad Commission of Texas
Capitol Station - P.O. Drawer 12967
Austin, TX 78711-2967
ATTN: Lynda Nesenholtz
102. Resource Management International, Inc.
1010 Hurley Way, Suite 500
Sacramento, CA 95825
ATTN: Ronald Nichols
103. Rosebud Sioux Tribe
Rosebud Indian Reservation
P.O. Box 430
Rosebud, SD 57570
ATTN: Eugene F. LeRoy, Sr.
104. Science Applications International Corporation
1200 Prospect Street
P.O. box 2351
LaJolla, CA 92038
ATTN: Joy Van Laningham
105. Southern Illinois University
Coal Research Center
315 W. Grand Avenue
Carbondale, IL 62901
ATTN: Harold Foster
106. South Dakota Geological Survey
Department of Water and
Natural Resources
Science Center USD
Vermillion, SD 57069
ATTN: Merlin J. Tipton
State Geologist
107. Southern Methodist University
Department of Geological Sciences
Dallas, TX 75275
ATTN: Dr. David D. Blackwell
108. The Earth Technology Corporation
2801 Youngfield, Suite 390
Golden, CO 80401
ATTN: Debbie Neev

109. University of Alaska
Geophysical Institute
Fairbanks, AK 99775-0800
ATTN: Dr. Eugene Wescott
110. University of Alaska
Geophysical Institute
Fairbanks, AK 99775-0800
ATTN: Dr. Donald Turner
111. University of Alaska
Geophysical Institute
C. T. Elvey Building
Fairbanks, AK 99701
ATTN: Dr. Eugene M. Wescott
112. University of California
Office of Research Development
Administration
Santa Barbara, CA 93106
ATTN: Susan Clark
113. University of Cincinnati
University Dean's Office
309 Braunstein
Cincinnati, OH 45221-0627
ATTN: Mary Lou Cutler
114. University of Florida
Department of Geology
1112 Turlington Hall
Gainesville, FL 32611
ATTN: Douglas Smith
115. University of Hawaii at Manoa
Hawaii Natural Energy Institute
Homes Hall 240-A
2540 Dole Street
Honolulu, HI 96822
ATTN: Harry J. Olson
116. University of Hawaii at Manoa
Hawaii Natural Energy Institute
Holmes Hall 246
2540 Dole Street
Honolulu, HI 96822
ATTN: Dr. Donald Thomas
117. University of Houston
Center of Applied Technology
15534 Weldon Drive
Houston, TX 77032
ATTN: Dr. Kathy Greenwood

118. University of Idaho
Idaho Geological Survey
Moscow, ID 83843
ATTN: Maynard M. Miller
Director and State Geologist
119. University of Idaho
Office of University Research
Moscow, ID 83843
ATTN: Nancy Weller
120. University of Kansas
Kansas Geological Survey
1930 Constant Avenue
Campus West
Lawrence, KS 66046
ATTN: Director and State Geologist
121. University of Nebraska
Institute of Agriculture and
Natural Resources
Lincoln, NE 68588-0517
ATTN: Vincent H. Dreeszen, Director
Conservation and Survey Division
122. University of Nebraska-Lincoln
Mechanical Engineering Department
255 Walter Scott Engineering Center
Lincoln, NE 68588-0525
ATTN: Dr. Peter E. Jenkins
123. University of Nevada
Nevada Bureau of Mines and Geology
Reno, NV 89557-0088
ATTN: John Schilling
Director/State Geologist
124. University of Nevada, Las Vegas
Division of Earth Sciences
255 Bell Street, Suite 200
Reno, Nevada 89503
ATTN: Susan Wehrkamp
125. University of New York
NY State Education Department
Room 121 EB
Albany, NY 12234
ATTN: Clesson Bush

126. University of North Dakota
Mining and Mineral Resources
Research Institute
Box 8103, University Station
Grand Forks, ND 58202
ATTN: Dr. William Gosnold
127. University of Oklahoma
Oklahoma Geological Survey
Norman, OK 73019
ATTN: Charles J. Mankin
Director
128. University of Texas at Austin
Bureau of Economic Geology
Austin, TX 78713
ATTN: W. L. Fisher
Director and State Geologist
129. University of Wyoming
Department of Geology and Geophysics
P.O. Box 3006
Laramie, WY 82071
ATTN: Dr. Henry P. Heasler
130. Utah Geological and Mineral Survey
606 Black Hawk Way
Salt Lake City, UT 84108
ATTN: Dr. Raymond L. Kearns, Jr.
131. Utah Geological and Mineral Survey
606 Black Hawk Way
Salt Lake City, UT 84108
ATTN: Dr. Donald Mabey
132. Utah State University
Research Information Office
Logan, UT 84322-1450
ATTN: Sydney Peterson
133. Virginia Division of Mineral Resources
P.O. Box 3667
Charlottesville, VA 22903
ATTN: Robert C. Milici
State Geologist
134. Washington State Department of
Natural Resources
Division of Geology and Earth Resources
Olympia, WA 98504
ATTN: Mr. J. Eric Schuster
Assistant State Geologist

135. Washington State Department of
Natural Resources
Division of Geology and Earth Resources
Olympia, WA 98504
ATTN: Mr. Michael A. Korosec
136. Washington State Energy Office
400 E. Union, 1st Floor ER-11
Olympia, WA 98504-2411
ATTN: Stuart Simpson
137. Washington State Energy Office
400 E. Union, First Floor ER-11
Olympia, WA 98504
ATTN: Dr. Gordon Bloomquist
138. West Virginia Geological and
Economic Survey
Mont Chateau Research Center
P.O. Box 879
Morgantown, WV 26507-0879
ATTN: Robert B. Erwin
Director and State Geologist
139. State of Wyoming
Economic Development
and Stabilization Board
Herschler Building
Cheyenne, WY 82002
ATTN: John Goodier
140. New Mexico State University
P.O. Box 3805
Las Cruces, NM 88003-3805
ATTN: John T. Patton
141. Battelle Pacific Northwest Lab
P.O. Box 999
Richland, WA 99352
ATTN: Eleanor C. Corley
142. Pinnacle Geotechnical Services Ltd.
310 S.W. 4th Avenue
Portland, OR 97204
ATTN: Gerald O. Thompson
143. Babcock & Wilcox
3315 Old Forest Road
P.O. Box 10935
Lynchburg, VA 24505-0935
ATTN: Charles J. Mayer
144. Tennessee Technological University
P.O. Box 5032
Cookeville, TN 38505
ATTN: George Tsatsaronis

SOURCES OF REFERENCED DOCUMENTS

Copies of the referenced documents may be obtained from the following sources:

- a. Copies of the Federal Acquisition Regulations (Code of Federal Regulations, Title 41, Chapter 1), the DOE Acquisition Regulations (Code of Federal Regulations, Title 41, Chapter 9), the DOE Financial Assistance Rules, and the Source Evaluation Board Handbook may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at a nominal cost.
- b. The OMB Circulars may be obtained from:

Office of Management and Budget
Office of Administration
Publications Unit
Room G-236
New Executive Office Building
Washington, D.C. 20503
Telephone: 202-396-7332

- c. The U. S. Geological Survey Circulars may be obtained from:

U. S. Geological Survey
Branch of Distribution
604 South Pickett Street
Alexandria, VA 22304

U.S. Department of Energy

Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

Attn: T. Thorne



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DOE-350

PRIORITY

Howard Ross
University of Utah Research Inst.
Earth Science Laboratory
391 Chipeta Way, Suite C
Salt Lake City, UT 84108-1295

M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: Completed Criteria Evaluation Forms for Revised
Proposals to State Cooperative Program PRDA

DATE: November 18, 1987

Transmitted herewith are the completed Criteria Evaluation Forms for the revised proposals and/or clarifying statements submitted in response to PRDA No. DE-PR07-87ID12662. These Criteria Evaluation Forms include comments and evaluations by Dr. Duncan Foley and myself, and may include other opinions expressed at the pannel review meeting of November 9, 1987 when we feel that the Technical Review Committee is in agreement with these thoughts.

The revised technical criteria scores, as I have tabulated them, are reported on the attached summary sheet for your review when final scores are assigned to the individual pages. Please call me if you note any discrepancies. Relevant comments on Criteria C - Cost Sharing; Criteria D - Project Financial Plan; and Proposed Cost are included for your consideration but no scores are listed. If the revised proposals and/or Clarifying Statements have not significantly changed the considerations of Criteria A - Statement of Work, or Criteria B - Qualification and Capabilities, the comment "SAME" is submitted rather than a complete restatement of Strengths and Weaknesses. Please call me if you have any question regarding these forms. I share your desire to expedite the completion of the solicitation evaluation and awards.

Please note that Duncan Foley has disqualified himself from the evaluation of Proposal No.13, Idaho-Department of Water Resources, and that I have disqualified myself from the evaluation of Proposal No.7, Hawaii-Department of Economic Development. Although there was no obvious conflict of interest with the organizations themselves, our previous and ongoing work with individuals or firms named in these proposals has led us to withdraw from these evaluations.

The Technical Review Committee would like to comment on the scoring-ranking procedure. The assignment of one of five required numerical scores (0,2,5,8,10) and the combining of technical and business scores provided an effective and equitable method for determining the competitive range of the proposals submitted. However, some committee members felt strongly that the five numerical values did not provide for an adequate separation of the technical merit of the competitive proposals (i.e. too many ranked 5 in all or most categories). When the cost-sharing and financial plan scores were weighted and then numerically added to the technical scores some of the better technical proposals may have fallen below the range of available funding. It appears that the variability in these business factors was great enough to have a substantial swing effect over the technical factors. As a result, the combining of cost-sharing and financial scores with the technical scores could result in somewhat higher net scores for substantially poorer technical proposals. Perhaps the technical and business scores should be considered separately once the competitive range has been determined.

Please call me if you require additional comment or clarification of any of these comments.

Howard Ross

TECHNICAL CRITERIA EVALUATION SUMMARY
 TECHNICAL REVIEW COMMITTEE - CONSENSUS SCORES
 Revised or Clarified Proposals - Nov.9,1987

Proposal Number	Proposer	A1 Useful.	A2 Tech. Qal.	A3 Resour.	B1 Person.	B2 Org
1	Washington DNR	8	5	5	5	8
3	Univ. Wyoming	8	10	8	10	10
4	AK-GI & DGGS	5	5	5	5	8
6	U. NV-LV	5	5	8	5	5
7-I	HI-DBED	8	5	8	8	8
7-II	HI-DBED	5	5	8	8	8
8-0.1	NMRDI	5	5	5	5	5
8-0.2	NMRDI	5	5	5	5	5
8-0.3	NMRDI	2	5	5	5	5
11	Washington SEO	8	8	8	8	8
12	NV- DRI	8	8	8	8	8
13	Idaho DWR	8	5	8	5	8
14	ND MRRRI	8	10	8	8	10
17	Utah UGMS	8	8	5	5	5
23-0.A	CEC (Wilbur)	2	5	5	5	5
23-0.B	CEC (Wilbur)	0	5	5	5	5



STATE OF UTAH
NATURAL RESOURCES
Utah Geological & Mineral Survey

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Genevieve Atwood, State Geologist

606 Black Hawk Way · Salt Lake City, UT 84108-1280 · 801-581-6831

March 7, 1988

Trudy A. Thorne
R & D Contracts Branch
Contracts Management Division
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Idaho Falls, ID 83402

RE: Proposed Grant No. DE-FG07-88ID12756

Dear Ms. Thorne:

Enclosed is both new and revised information pertaining to the above referenced proposed geothermal R & D grant. The following items are included:

- revised statement of work
- revised task-by-task budget summaries
- new descriptions for tasks 6, 7, and 8
- revised Federal Assistance application (SF 424)
- revised Federal Assistance Budget Information Form (EIA 4590)

The revisions, as I indicated over the phone, are due primarily to the acquiring of new deep drilling data in the Newcastle (Utah) geothermal area from Union Geothermal of Santa Rosa, California. This new information has caused us to re-think a portion of the proposed project, and has resulted in replacing our old Task 6 with new tasks 6 through 8 (enclosures). Old tasks 7 and 8 have now become tasks 9 and 10 respectively.

In addition, revisions to the budget have also come about as a result of costs already incurred on Task 4. As I also indicated over the phone, due to a commitment on our part last summer, it was necessary to conduct field studies associated with Task 4 in November of 1987. You will see that all of the cost elements on Task 4 (actual incurred costs) have been listed as part of the UGMS-funded contribution. This in turn dictated that cost elements in other tasks be rearranged somewhat. Overall, the total proposed project costs are shown to have increased a small amount over the previously submitted budget, but DOE's contribution to the project has been slightly reduced.

The proposed changes to the program have been presented to Dr. Howard Ross of the University of Utah Research Institute/Earth Science Laboratory. Dr. Ross has indicated that he could support the modifications on technical grounds.

If you have any questions to the overall project or concerning any of the enclosures, please call me at 801/581-6831.

Sincerely,



Robert E. Blackett
Geologist

Enc.

cc. Dr. Howard Ross
UURI/ESL

Mr. Ken Taylor
U.S. Department of Energy
Idaho Operations Office

STATEMENT OF WORK

1.0 Introduction

The goal of this grant is to support cost-shared geothermal resource assessment at the Newcastle geothermal area in Iron County, Utah. Thermal water was discovered in the Newcastle area in 1975 during test pumping of an irrigation well. Since then limited studies have been conducted in the area but a systematic evaluation of the resource has not been completed. Newcastle may be just one of a large number of hydrothermal systems within the Basin and Range province that are "blind systems" which have no noticeable surface expression. The objectives of this resource assessment study are to complete a detailed evaluation of the Newcastle geothermal resource area using an integrated program of geological, geophysical, and geochemical studies, and to contribute to the development of an exploration methodology for the discovery and evaluation of other Basin and Range blind hydrothermal systems.

2.0 Scope

A multi-disciplinary study of the Newcastle geothermal area will be completed with the broad objective of constructing a refined, conceptual geologic model of the resource. These studies will include: the mapping of Quaternary structure and stratigraphy; geologic mapping of bedrock in adjacent hills; acquisition and analysis of detailed gravity and magnetic data; a geochemical study including a soil mercury survey and water analyses; acquisition of geologic and temperature data from an existing well; and thermal gradient mapping within a number of shallow test holes. The various data will be interpreted and integrated to develop a conceptual; geological model for the Newcastle system. The applicability of the various methods for the evaluation of other blind geothermal resources will be evaluated. All tasks will be completed in a 14 month period.

3.0 Applicable Documents

The research described herein is abstracted from a proposal titled "Geothermal Resource Assessment at Newcastle, Iron County, Utah," dated June 19, 1987 as revised on October 21, 1987 and March 7, 1988. This proposal was submitted by the Utah Geological and Mineral Survey in response to DOE/ID Program Research and Development - PRDA No. DE-PRO7-87ID12662.

4.0 Technical Tasks

The following tasks will be accomplished under this grant.

- 4.1 Complete a comprehensive examination and compilation of all available background data for the Newcastle resource area. These data will be obtained from State regulatory agencies and published sources, and from private companies that have performed exploration in the area (to the extent that such data may be released).
- 4.2 Study Quaternary deposits in the study area to determine stratigraphic and structural controls to the hydrothermal system. Map Quaternary fault scarps and surficial deposits using air-photo interpretation and field studies.
- 4.3 Compile existing bedrock geologic data and supplement with additional field work to verify structural relationships in complex fault intersections zones. Prepare a geologic map at a scale of 1:24,000 suitable for the interpretation and integration of other project data.
- 4.4 Acquire ground based gravity data to supplement existing gravity data. Obtain ground magnetic data to supplement aeromagnetic data for the area, which will be acquired from a private source. Determine station locations and elevations and complete data reduction.
- 4.5 Complete a soil mercury geochemical survey across the area of the Newcastle thermal anomaly. The survey will include approximately 200 soil samples taken on a grid of the order of approximately 1,000 by 1,000 feet covering an area of about eight square miles. Collect water samples from available wells and analyze the samples for total dissolved solids (TDS), SO_4 , Cl, F, pH, and alkalinity. Prepare tri-linear plots and determine reservoir equilibration temperature by geothermometry. Obtain samples for oxygen and hydrogen isotope determinations and perform these analyses.
- 4.6 Develop a lithologic log and generalized temperature profile using well data obtained from Union Geothermal Corporation. The profile and log will be constructed to a depth of at least 1,000 ft.
- 4.7 Perform temperature monitoring of multiple, shallow temperature gradient test holes. Program will consist of drilling (using light, portable equipment) some 20 to 40 shallow (less than 50 ft) test holes and completing the holes for temperature gradient profiling. Monitoring will be performed over an approximate six-month period following completion of test hole drilling. Computer-aided modeling of thermal gradient data will be performed using other geological and geophysical data to help generate a

conceptual geo-hydrologic model of the hydrothermal system at Newcastle.

4.8 Obtain additional close-spaced gravity data points as needed to supplement studies performed as part of the technical task described in paragraph 4.4. Combine all the data in reduced format to be used within the context of presenting a conceptual model.

4.9 Compile and evaluate all data sets. Complete an integrated interpretation of all data to arrive at a refined conceptual model of the hydrothermal system. Evaluate the utility of the techniques used as a methodology for the exploration of other blind Basin and Range hydrothermal systems.

5.0 Reports, Data, and Other Deliverables

5.1 Management Records

Reports will be due as indicated on the Federal Assistance Reporting Checklist and the Report Distribution List.

5.2 Final Report

A detailed final technical report will be prepared which will describe all new geological, geochemical and geophysical data. Data reduction methods and computer algorithms used will be described in the text and significant new data will be included as data tables, maps, and illustrations. A geologic map of the Newcastle area will accompany the text. A draft final report will be submitted to DOE/ID for review and comment not less than 45 days prior to the scheduled delivery of the final report. —

6.0 Special Considerations

The Utah Geological and Mineral Survey will contribute personnel time, and equipment, supplies and purchases valued at \$4,233 as a cost share for this research. University of Utah faculty and students will perform the gravity and magnetic field studies, Task 4.4, at no cost to this project.

Task 6: Lithologic and Temperature Log of Union Geothermal Well

As part of the overall project, officials from Union Geothermal -- a subsidiary of Union Oil of California (UNOCAL) have kindly agreed to release information pertaining to a 3,000 ft deep geothermal exploration well that was completed at Newcastle in 1983. The information consists of a standard suite of down-hole electric logs, cuttings and, most importantly, a temperature profile of the well. The UGMS will obtain this information and have full use for the Newcastle study, although, as agreed, publishing of well data will be subject to review and consent of the responsible parties at Union.

To the extent permitted, the UGMS will construct a lithologic log from down-hole data and prepare a generalized temperature-gradient plot of the well. This information will be incorporated into the follow-on conceptual modeling phase of the project.

Task 7: Temperature Gradient Profiling

A shallow temperature-gradient monitoring activity is proposed. The proposed activity will involve establishing a grid of shallow (generally less than 50 feet deep) test holes, inserting water-filled PVC pipe in each hole, and monitoring the temperature profile over a period of several months. Follow-on computer aided modeling using other project generated data will be done to construct a conceptual geo-hydrologic model.


The purpose of the activity will be to help determine the geometry of the discharge zone of the hydrothermal system. It is important to understand whether the discharge zone of the system is distributed in a linear fashion, say, parallel to the range front fault; distributed as a point source as in the case of a vertical upward moving fluid column; or as some intermediate stage between these two end members. Previous thermal gradient studies at Newcastle indicate that such a shallow, temperature gradient monitoring program will yield sufficient information to accurately map the upper surface of the system.

This work will be done under the direction and supervision of Dr. David S. Chapman (University of Utah) and Dr. Craig B. Forster (Utah State University).

Task 8: Additional Gravity Data Acquisition and Modeling

To supplement the work performed in Task 4 (paragraph 4.4), additional gravity data will be obtained. Gravity readings will be taken at close-spaced stations within and around the thermal area using a La Coste and Romberg model G gravimeter. As in the earlier task, gravity observations will be tied to the regional gravity base station in Enterprise (Utah). Data obtained in this task will be used in conjunction with the other gravity and magnetic data to approximate the configuration of basin fill deposits.

The work will be performed under the direction and supervision of Dr. Charles M. Schlinger (University of Utah).

FEDERAL ASSISTANCE		2. APPLICANT'S APPLICATION	a. NUMBER	3. STATE APPLICATION IDENTIFIER	e. NUMBER UT870616-010
1. TYPE OF ACTION <input type="checkbox"/> PREAPPLICATION <input checked="" type="checkbox"/> APPLICATION <small>(Mark appropriate box)</small> <input type="checkbox"/> NOTIFICATION OF INTENT (Opt) <input type="checkbox"/> REPORT OF FEDERAL ACTION		b. DATE Year month day 19	b. DATE Year month day 19	b. DATE ASSIGNED 19	
4. LEGAL APPLICANT/RECIPIENT a. Applicant Name : Dept. Natural Resources - Utah b. Organization Unit : Utah Geological and Mineral Survey c. Street/P.O. Box : 606 Black Hawk Way d. City : Salt Lake City e. County : Salt Lake f. State : Utah g. ZIP Code: 84108 h. Contact Person (Name & telephone No.) : Genevieve Atwood : 801-581-6831				5. FEDERAL EMPLOYER IDENTIFICATION NO. 87-6000545W 6. PRO. GRAM (From Federal Catalog) a. NUMBER b. TITLE	
7. TITLE AND DESCRIPTION OF APPLICANT'S PROJECT Geothermal Resources Assessment at Newcastle Iron County, Utah				8. TYPE OF APPLICANT/RECIPIENT A-State B-Interstate C-Substate D-District E-County F-City G-School District H-Community Action Agency I-Higher Educational Institution J-Indian Tribe K-Other (Specify): Enter appropriate letter <input type="checkbox"/>	
10. AREA OF PROJECT IMPACT (Names of cities, counties, States, etc.)			11. ESTIMATED NUMBER OF PERSONS BENEFITING	9. TYPE OF ASSISTANCE A-Basic Grant B-Supplemental Grant C-Loan D-Insurance E-Other Enter appropriate letter(s) <input type="checkbox"/>	
13. PROPOSED FUNDING		14. CONGRESSIONAL DISTRICTS OF:		12. TYPE OF APPLICATION A-New B-Renewal C-Revision D-Continuation E-Augmentation Enter appropriate letter <input type="checkbox"/>	
a. FEDERAL	\$ 62,974 .00	a. APPLICANT	b. PROJECT	15. TYPE OF CHANGE (For 12c or 12e) A-Increase Dollars B-Decrease Dollars C-Increase Duration D-Decrease Duration E-Cancellation F-Other (Specify): Enter appropriate letter(s) <input type="checkbox"/>	
b. APPLICANT	.00	16. PROJECT START DATE Year month day 19 88-5-1		17. PROJECT DURATION 14 Months	
c. STATE	16,905 .00	18. ESTIMATED DATE TO BE SUBMITTED TO FEDERAL AGENCY Year month day 19 89-7-1		19. EXISTING FEDERAL IDENTIFICATION NUMBER	
d. LOCAL	.00	20. FEDERAL AGENCY TO RECEIVE REQUEST (Name, City, State, ZIP code) U.S. Department of Energy, 785 DOE Place, Idaho Falls, Idaho			
e. OTHER	.00	21. REMARKS ADDED <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
f. TOTAL	\$ 79,879 .00	22. THE APPLICANT CERTIFIES THAT a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved. b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached: (1) <input type="checkbox"/> No response <input type="checkbox"/> Response attached (2) <input type="checkbox"/> (3) <input type="checkbox"/>			
23. CERTIFYING REPRESENTATIVE a. TYPED NAME AND TITLE Genevieve Atwood, Director		b. SIGNATURE 		c. DATE SIGNED Year month day 19 88-3-7	
24. AGENCY NAME				25. APPLICATION RECEIVED Year month day 19	
26. ORGANIZATIONAL UNIT			27. ADMINISTRATIVE OFFICE		28. FEDERAL APPLICATION IDENTIFICATION
29. ADDRESS					
31. ACTION TAKEN <input type="checkbox"/> a. AWARDED <input type="checkbox"/> b. REJECTED <input type="checkbox"/> c. RETURNED FOR AMENDMENT <input type="checkbox"/> d. DEFERRED <input type="checkbox"/> e. WITHDRAWN		32. FUNDING a. FEDERAL \$.00 b. APPLICANT .00 c. STATE .00 d. LOCAL .00 e. OTHER .00 f. TOTAL \$.00		33. ACTION DATE Year month day 19	
35. CONTACT FOR ADDITIONAL INFORMATION (Name and telephone number)				34. STARTING DATE Year month day 19	
36. ENDING DATE Year month day 19				37. REMARKS ADDED <input type="checkbox"/> Yes <input type="checkbox"/> No	
38. FEDERAL AGENCY A-95 ACTION		a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.		b. FEDERAL AGENCY A-95 OFFICIAL (Name and telephone no.)	

SECTION I - APPLICANT/RECIPIENT DATA

SECTION II - CERTIFICATION

SECTION III - FEDERAL AGENCY ACTION

FEDERAL ASSISTANCE BUDGET INFORMATION FORM

FORM EIA-650C
100 01

FORM APPROVED
OMB No. 1980 0177

1. Program Project Identification No. DE-PRO7-87ID12662	2. Program Project Title Geothermal Resource Assessment at Newcastle, Utah
3. Name and Address Utah Geological and Mineral Survey 606 Black Hawk Way, Salt Lake City, Utah 84108	4. Program Project Start Date 5-1-88
	5. Completion Date 7-1-89

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity	Federal Catalog No.	Estimated Unobligated Funds		No. of Revised Budget		
		Federal (\$)	Non-Federal (\$)	Federal (%)	Non-Federal (%)	Total (%)
1		\$ 62,974	\$ 16,905			\$ 79,879
2						
3						
4						
5. TOTALS		\$	\$	\$	\$	\$

SECTION B - BUDGET CATEGORIES

Direct Cost Categories	Grant Program Function or Activity				Total (\$)
	(1)	(2)	(3)	(4)	
a. Personnel	\$ 24,552	\$	\$	\$	\$ 24,552
b. Fringe Benefits	7,097				7,097
c. Travel	12,398				12,398
d. Equipment	1,098				1,098
e. Supplies	2,229				2,229
f. Contractual	22,500				22,500
g. Construction					
h. Other Testing/Analy	3,988				3,988
i. Total Direct Charges	73,862				73,862
j. Indirect Charges	6,017				6,017
k. TOTALS	\$ 79,879	\$	\$	\$	\$ 79,879
l. Program Income	\$ -0-	\$	\$	\$	\$ -0-

M E M O R A N D U M

DATE: November 24, 1987

TO: Peggy Brookshier, DOE/ID
Marshall Reed, DOE/DGT

FROM: Howard P. Ross

RE: SCP PRDA Proposals (Brief Narrative Summaries)

Proposal No. 1 Washington-Department of Natural Resources

The Washington-Department of Natural Resources (WDNR) seeks to refine time-space-volume relationships for Cascade volcanism and to relate improved models to the geothermal potential of the Cascades Range. These topics are addressed through an integrated effort of thermal gradient drilling, new geologic mapping, new K/Ar-age dating, thermal gradient studies and geochemistry. The proposal is considered to have a high degree of usefulness and good probability of success in a large area of moderate-to-high resource potential. The methodology is sound and appropriate and will be performed by competent, experienced personnel. WDNR has an established track record in the conduct, interpretation and reporting of geothermal studies.

Proposal No. 3 University of Wyoming

The University of Wyoming has proposed to develop and test improved three-dimensional computational schemes for solving the combined heat conduction and forced convection equations for the purpose of determining subsurface temperatures. Temperature data from existing wells will then be used to determine geothermal ground water parameters and a model will be developed for either the Cody or Thermopolis hydrothermal system in the Bighorn Basin, Wyoming. The work proposed is original and will extend the state-of-the-art in numerical modeling of these types of resources. The computational schemes will have general applicability to a substantial resource base throughout the Rocky Mountains and new observational data will be obtained for one hydrothermal system. The work is very useful and has a high probability of success. A highly qualified research team has been assembled at the University of Wyoming, and the members of

this team have previously completed high quality resource assessment projects for the Department of Energy. This significant work will be completed in a 12 month period at a relatively modest cost to DOE and a favorable cost share.

Proposal No. 4 University of Alaska Geophysical Institute and
Alaska-Division of Geological and Geophysical Surveys

The U.AK-GI and Alaska-DGGS jointly propose a geological and geochemical study of Geyser Bight, the hottest (180-264°C) and most extensive area of thermal springs in Alaska. Although this is a major geothermal resource, Geyser Bight is located on a remote uninhabited Aleutian island and the net usefulness of the study, and resource potential, have been correspondingly downgraded. Geological and geochemical data on the resource may contribute to our knowledge of volcanic island arc systems in general. A related task will result in the preparation and publication of a four-color, geotechnically-oriented geothermal resource map of the Aleutian Islands and the Alaska Peninsula region and an accompanying descriptive circular. These products will document in new detail the present state of knowledge of geothermal resources for the area, and be a starting point for exploration, resource assessment and development efforts in the future. The work would be completed by competent, experienced geoscientists of these institutions. The total cost to DOE of Task 1 (Geyser Bight) appears excessive and should be reduced. The U.AK-GI cost share is less favorable than for several other proposals.

Proposal No. 6 University of Nevada, Las Vegas - Division of
Earth Sciences

The proposed UNLV study would integrate fluid geochemistry, stable light isotope data, glacial ice data and archaeological information to study the genesis of geothermal fluids in the Great Basin. Nevada has numerous high and moderate temperature resources, several of which are under development, and the new data and interpretation would be useful in better understanding these important resources. The most useful part of the study would be the detailed sampling, chemical analyses and study of geothermal fluids from the hot springs and geothermal developments. The UNLV personnel are competent and experienced geoscientists who can complete the proposed study with good technical quality. This work should be funded in accordance with proposal rankings, and as the availability of funding permits.

Proposal No. 7 (Phases I and II) Hawaii Department of Business
and Economic Development

This Hawaii Department of Business and Economic Development study seeks to investigate methods of controlling silica deposition from geothermal fluids of the Hawaii East Rift Zone. The study addresses a major problem inherent to this high temperature resource area and has a good probability of success

in solving the silica deposition problem and possibly producing high quality silical as a economic byproduct. A Phase II investigation which evaluates the effects of reinjection on an injection well is not essential to the silica study, may duplicate the work of industry and if funded would decrease the cost effectiveness of the overall study. The research team is well qualified to complete the silica deposition study.

Proposal No. 7 (Phase I and II plus East Rift Optimization Study) Hawaii Department of Business and Economic Development

This Hawaii Department of Business and Economic Development proposal has three major tasks: 1) A study to investigate methods of controlling silica deposition from geothermal fluids of the Hawaii East Rift Zone; 2) an evaluation of the effect of injecting spent geothermal fluids on the reinjection well; and 3) financial support for a study to determine optimum vacuum pressure for geothermal power plants in the Hawaiian East Rift. The silica deposition study addresses a major problem, and the possibility of recovering high quality silica as a byproduct. The fluid reinjection study and vacuum pressure optimization study may duplicate the work of industry, are less likely to reach specific conclusions, and greatly reduce the overall cost effectiveness of the proposal. An expert research team is proposed to conduct all aspects of the proposed work.

Proposal No. 8 (Options 1, 2, and 3) New Mexico Research and Development Institute

The New Mexico Research and Development Institute (NMRDI) has proposed three options for a study titled "Evaluation of Time-Integrated Radon Soil-Gas Surveys in the Southern Rio Grande Rift. The three options differ in the survey areas, total area to be surveyed, the total number of radon field measurements to be completed, and the corresponding total cost to DOE. Any option would result in an interesting evaluation of the radon gas technique as a geothermal exploration method in the soils and caliche covered areas of the Southern Rio Grande Rift. The proposals show a good understanding of the radon gas method and an appropriate selection of field test areas for the completion of the study. The study would be completed by competent geoscientists and managed by NMRDI, which has an established record of reporting and project management with DOE geothermal projects.

Option 1 includes an evaluation of soil-depth profiles and caliche effects, and surveys in the Tortugas Mountain, Radium Springs and Pichacho areas, plus interpretation and reporting at the lowest net cost to DOE. This proposal would provide an adequate test of the method and its applicability to the southern Rio Grand Rift.

Option 2 would include an evaluation of soil-depth profiles and caliche effects and surveys in the Tortugas Mountain, Radium Springs and Rincon areas, plus interpretation and reporting at a modest increase (\$4,000) in cost to DOE above the Option 1 proposal. The perceived higher resource potential and commercialization possibilities of the Rincon area, as compared to the Picacho area, would readily justify the small added cost to DOE as compared to Option 1. Option 2 is therefore the most highly regarded option for funding by DOE on cost-effectiveness considerations.

Option 3 includes an evaluation of soil-depth profiles and caliche effects, somewhat reduced survey efforts in both the Rincon and Picacho survey areas, and surveys at Tortugas Mountains and Radium Springs, plus interpretation and reporting. Although this option permits a more complete evaluation of the technique the total cost to DOE is substantially higher and the net cost-effectiveness is judged to be reduced as compared to Options 1 and 2.

The Technical Review Committee finds the proposed studies to be useful projects offering minor innovations to geothermal resource assessment in areas of moderate resource potential. DOE funding for NMRDI Option 2 is recommended consistent with final evaluation scores and the availability of funds.

Proposal No. 11 Washington State Energy Office

The Washington State Energy Office has proposed the development and field testing of the geothermal optimization computer program GEODIM. GEODIM is a partially completed program designed by the University of Lund, Sweden which supports the design and optimization of wells, pipes, pumps and heat transfer systems. Completion and documentation of the program and its field testing at geothermal operating systems in Yakima and Walla (WA), Boise (ID) and Klamath Falls (OR) are considered highly relevant projects which could result in higher efficiency and improved resource utilization for many direct heating systems. The proposed work will produce a quality, readily usable computer program. The proposing organization has an outstanding record of performance on DOE geothermal projects and has assembled a talented group of professionals to compete this project at only modest cost to DOE.

Proposal No. 12 Desert Research Institute, University of Nevada

The Desert Research Institute (DRI), UNLV has proposed detailed hydrologic monitoring followed by a quantitative evaluation and numerical simulation of the Moana Geothermal System. Uncoordinated development of this moderate-temperature resource is rapidly expanding and the long term productivity of the Moana system may be threatened. The proposed work includes the appropriate data gathering and interpretation which will provide baseline data and understanding, and a quantitative model

of the Moana system. Thus three state regulatory agencies and several developers will have the information and guidance necessary for the effective long term utilization of the resource. The proposer offers a high quality study which addresses an important problem for a heavily used resource. A highly qualified team is available at DRI to participate in this study.

Proposal No. 13 Idaho-Department of Water Resources

The Idaho Department of Water Resources (ID-DWR) has proposed: continued monitoring of the Banbury-Twin Falls resource and extended resource assessment activities; a geochemical study of Wood River geothermal systems; and continued monitoring and evaluation of the Boise geothermal system. The Technical Review Committee finds the proposed work very useful as it addresses development problems in two substantial resource areas and appropriate resource assessment studies. It is especially important to continue detailed monitoring of the Boise resource and to evaluate the need for a reservoir test and quantitative model, but this work must be completed at the state-of-the-art and totally free from conflicts of interest. The staff proposed for the other studies is competent to complete the work but is poorly supported by the DWR. The ID-DWR cost share is judged to be minimal and somewhat artificial.

Proposal No. 14 North Dakota Mining and Mineral Resources Research Institute

The North Dakota MMRRI brings together the North Dakota and South Dakota Geological surveys and excellent UND staff to propose a comprehensive assessment of the significant but relatively untapped resources in these two states. New drilling and heat flow measurements will supplement the existing drill holes and data base. The data will be quantitatively interpreted in terms of distinct stratigraphic and hydrologic units and promising geothermal aquifers will be identified. A specific task calls for dissemination of the results of the study at meetings with state agencies and presentations at professional meetings. The Principal Investigator has made major contributions to geothermal resource assessment and leads an excellent team in this two-state cooperate resource assessment. The study is regarded as highly useful, very practical and of excellent quality with a high probability of success. The study should not be compromised by reduced funding.

Proposal No. 17 Utah Geological and Mineral Survey

The Utah Geological and Mineral Survey (UGMS) has proposed an integrated, multi-method study of the Newcastle geothermal system which could have broad applicability to the discovery and evaluation of other blind Basin and Range geothermal systems. The study includes an appropriate mix of Quaternary and bedrock geologic mapping, gravity and magnetic studies, soil-mercury

investigations, fluid geochemistry and thermal gradient drilling. A substantial amount of geophysical work will be completed by students of the University of Utah at little or no cost to the project. The proposed study would be completed by a qualified team and would contribute to the exploration methodology for Basin and Range blind hydrothermal systems.

Proposal No. 23 Option A (Geochemical Study) California Energy Commission

California Energy Commission (CEC) in conjunction with the Pacific Gas and Electric Company (PG&E) have proposed a two-fold research project which includes a limited resource assessment of an area near Wilbur Hot Springs and a technical study to determine optimum power cycles for well head binary cycle generation systems as related to resources in northern California. The geologic reconnaissance and geochemical surveys may add to the knowledge of the Wilbur Hot Springs resource, but are directed toward a nearby area of unknown resource potential. It is unclear that the present owners of Wilbur Hot Springs will cooperate with the proposed studies. The geothermal power cycle study and technology characterization for Northern California resource areas would provide some useful information but is not considered a high priority study. The proposal does not indicate specific experience with the radon exploration method or nearby wells which may be available to the study. The proposal should be funded in accord with the competitive ranking if adequate funds are available.

Proposal No. 32 Option B (Drilling Program) California Energy Commission

California Energy Commission (CEC) in conjunction with the Pacific Gas and Electric Company (PG&G) have proposed a two-fold research project which includes a limited resource assessment of an area near Wilbur Hot Springs and a technical study to determine optimum power cycles for wellhead binary cycle generation systems as related to this area and other resources in northern California. The resource assessment would include drilling of a small-diameter exploratory well for temperature, water chemistry and flow test observations. Although provision is made for geologic reconnaissance to aid in drill hole citing, the main criteria seems to be availability of land controlled by a major financial institution. Few geologic data are presented to support a drill cite selection and the \$100,000 drilling budget is not itemized or supported in detailed breakdowns. The power cycle study and technology characterization for Northern California resource areas would provide some useful information but is not considered a high priority study. The total project usefulness, in terms of cost to DOE, is considered low and the resource potential is moderate at best. The proposal is not recommended for funding by DOE.

TECHNICAL CRITERIA EVALUATION SUMMARY
 TECHNICAL REVIEW COMMITTEE - CONSENSUS SCORES
 Revised or Clarified Proposals - Nov. 9, 1987

Proposal Number	Proposer	A1 Useful.	A2 Tech. Qal.	A3 Resour.	B1 Person.	B2 Org
1	Washington DNR	8	5	5	5	8
3	Univ. Wyoming	8	10	8	10	10
4	AK-GI & DGGG	5	5	5	5	8
6	U. NV-LV	5	5	8	5	5
7-I	HI-DBED	8	5	8	8	8
7-II	HI-DBED	5	5	8	8	8
8-0.1	NMRDI	5	5	5	5	5
8-0.2	NMRDI	5	5	5	5	5
8-0.3	NMRDI	2	5	5	5	5
11	Washington SEO	8	8	8	8	8
12	NV- DRI	8	8	8	8	8
13	Idaho DWR	8	5	8	5	8
14	ND MMRI	8	10	8	8	10
17	Utah UGMS	8	8	5	5	5
23-0.A	CEC (Wilbur)	2	5	5	5	5
23-0.B	CEC (Wilbur)	2	5	5	5	5

M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: Completed Criteria Evaluation Forms for Revised
Proposals to State Cooperative Program PRDA

DATE: November 16, 1987

Transmitted herewith are the completed Criteria Evaluation Forms for the revised proposals and/or clarifying statements submitted in response to PRDA No. DE-PR07-87ID12662. These Criteria Evaluation Forms include comments and evaluations by Dr. Duncan Foley and myself, and may include other opinions expressed at the pannel review meeting of November 9, 1987 when we feel that the Technical Review Committee is in agreement with these thoughts.

The revised technical criteria scores, as I have tabulated them, are reported on the attached summary sheet for your review when final scores are assigned to the individual pages. Please call me if you note any discrepancies. Relevant comments on Criteria C - Cost Sharing; Criteria D - Project Financial Plan; and Proposed Cost are included for your consideration but no scores are listed. If the revised proposals and/or Clarifying Statements have not significantly changed the considerations of Criteria A - Statement of Work, or Criteria B - Qualification and Capabilities, the comment "SAME" is submitted rather than a complete restatement of Strengths and Weaknesses. Please call me if you have any question regarding these forms. I share your desire to expedite the completion of the solicitation evaluation and awards.

The Technical Review Committee would like to comment on the scoring-ranking procedure. The assignment of one of five required numerical scores (0,2,5,8,10) and the combining of technical and business scores provided an effective and equitable method for determining the competitive range of the proposals submitted. Some committee members felt strongly that the five numerical values did not provide for an adequate separation of the technical merit of the competitive proposals (i.e. too many ranked 5 in all or most categories). When the cost-sharing and

financial plan scores were weighted and then numerically added to the technical scores some of the better technical proposals may have fallen below the range of available funding. It appears that the variability in these business factors was great enough to have a substantial swing effect over the technical factors. As a result, the combining of cost-sharing and financial scores with the technical scores could result in somewhat higher net scores for substantially poorer technical proposals. Perhaps the technical and business scores should be considered separately once the competitive range has been determined.

PRDA - Proposal Summary Evaluation Sheet

H.P. Ross - June-July 1987

Criteria Ranking

Proposal	Organization	DOE #	Range	A ₁ Usefulness	A ₂ Tech Qual	A ₃ Resource	B ₁ Qualif.	B ₂ Organiz	C Cost Share
1	1 Wash - DNR	200	C	5	5	5	8	8	5
	2 ARIZ - SEC	82.4	L	0	0	2	2	2	5
	3 U.WY - DGG	45.6	H	8	10	8	10	10	8
	4 U-AK + ADGGS	200	C-	2	5	2	2	2	2
	5 SUNY - Buff	62	C-	5	5	2	5	5	8
	6 UNLV	197	C-	5	5	8	2	2	2
	7 HI - DPED	199	C-	WITH DREW - Pass C.O.I.					
	8 NMRDI - radon	200	C-	5	5	2	5	5	8
	9 NMRDI - Talrosa	200	L	2	2	2	5	2	5
10	10 CO-GS + CSM	200	C-	5	5	2	5	8	2
	11 WA - SEO	52.6	C	5	8	5	8	5	5
	12 DRI - UNV	173	C-	8	8	5	5	8	5
	13 ID - DWB	197	C-	8	5	8	5	5	2
	14 UND - MMRI	195	H	8	10	8	10	10	5
	15 OR - DOE	37	L	2	0	2	2	2	2
	16 LSU - DPE	200	L	0	2	2	5	5	5
	17 UGMS -	84.7	C-	5	5	5	5	5	5
	18 CA - SLC	200	C-	5	8	10	8	5	2
	19 CA - EC - Bruc	61	L	0	2	2	5	5	8
21	20 A - MMRI	12.8	L	2	2	2	2	5	1
	21 American Samoa	175	L	0	2	2	0	0	0
	22 OR - DGGAMI	200	C-	5	2	5	2	2	2
23	23 CA - EC - Wilbur	81.7	C-	5	5	5	5	5	5
	24								
	25								
	26								
	27								
	28								
	29								
	30								
	31								

H = highest
 C = Competitive
 L = Losers