USER-COUPLED CONFIRMATION DRILLING PROGRAM

IMPLEMENTATION PLAN

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I. INTRODUCTION

The User-Coupled Confirmation Drilling Program (UCCDP) is a new six-year program to provide Federal cost-sharing for exploration, drilling, and testing to confirm hydrothermal reservoirs for direct heat applications. It is an important element in the effort of the Division of Geothermal Energy (DGE) of the U.S. Department of Energy (DOE) to lead the nation toward a year-2000 goal of 1 Quad of geothermal energy for direct heat.

The specific objective of this program is to stimulate the development of hydrothermal resources by initially sharing the risks and costs of reservoir confirmation. By overcoming such barriers to resource development, this program will foster the development of a geothermal industry which will be able to continue with the rapid development of hydrothermal resources after the Federal program phases out. The program will consist of a series of Solicitations for Cooperative Agreement Proposals (SCAP), which will lead to a number of geothermal resource confirmation and utilization projects in which DOE will cost-share in exploration, production well siting and drilling, flow testing, reservoir engineering, and, if necessary, the drilling of an injection well for the spent geothermal fluids. The details of the program are contained in Solicitation for Cooperative Agreement Proposal (SCAP) No. DE-SC07-80ID12139.

The UCCDP Implementation Plan presented here outlines the overall management plan of the program. It details the evaluation procedure for proposals received in FY-80 in response to the SCAP. It further outlines the monitoring of projects selected from these proposals and funded in FY-81. The costs associated with the evaluation of the proposals are estimated, and the structure and function of the Change Control Board are outlined.

II. OBJECTIVES

The primary purpose of the User-Coupled Confirmation Drilling Program (UCCDP) Implementation Plan is to provide the framework for a management plan, the evaluation of proposals, and the monitoring of the selected projects. The specific objectives are to:

1) Establish the management structure with the Department of Energy's Division of Geothermal Energy (DOE-DGE), the Department of Energy's Idaho Operations Office (DOE-ID), the Department of Energy's Nevada Operations Office (DOE-NV), the University of Utah Research Institute's Earth Science Laboratory (UURI-ESL), and EG&G Idaho, Inc.

2) Outline the duties and responsibilities of each organization.

3) Define the process for proposal evaluation for the first evaluation, which is planned to start in late September 1980, and take up to 4 weeks to complete.

4) Determine the cost and schedule necessary to support the evaluation function.

5) Establish format and procedures to be used in the evaluation process.

6) Establish the charter, membership, organization and budget management of the Change Control Board for the program.

III. ASSUMPTIONS

Various assumptions have been made in specifying the mechanics of implementing the User-Coupled Confirmation Drilling Program. These are:

- DOE-DGE has the responsibility for developing geothermal energy resources in the United States. Further, DOE-DGE has the overall fiscal and programmatic control of DOE's geothermal development efforts.

- The Idaho Operations Office (DOE-ID) of the U.S. Department of Energy has lead responsibility for implementing the User-Coupled Confirmation Drilling Program.

- DOE-ID will be supported by the Nevada Operations Office (DOE-NV), by EG&G Idaho, Inc., by the Earth Science Laboratory of the University of Utah Research Institute (UURI), and by a drilling consultant yet to be selected.

- DOE regional offices and geothermal state planning and resource teams will be used in an advisory capacity to applicants and to the source selection panel and its support contractors.

- No more than 50 proposals are expected to be submitted as a result of the first solicitation. Manpower projections for proposal evaluation are based on this number. The evaluation of a much larger number of proposals (i.e., 75 proposals) can only be made if additional funding and manpower are made available.

- Proposals will be received by September 15, 1980, and will be reviewed in one group at Idaho Falls, Idaho.

- Proposals will be evaluated and ranked by total score for evaluation by the Source Evaluation Panel. It is anticipated that approximately 10 proposals costing up to $7.5 million will be selected for contract negotiations and awards. The remaining proposals may be considered as alternates.

- The proposals will be evaluated by a Technical Advisory Committee (TAC) and a Business Advisory Committee (BAC). These two committees are comprised of a total of seven subcommittees, which are defined by specific disciplines. The seven disciplines are (1) institutional, (2) resource, (3) utilization, (4) reservoir, (5) drilling, (6) management, and (7) business. Each subcommittee will read, evaluate and formalize comments on four proposals per day. Subcommittee chairmen will meet to produce a committee consensus evaluation score on each proposal.

- Each evaluation group will complete their functions within the scheduled time. If not, there will be a day-by-day slip in the schedule.

- Proposal reviews will be completed within 1 month after the closing date.

- Proposals will be selected for negotiation within 2 months after the closing date.

- All contracts will be negotiated and monitored by the Idaho Operations Office.

IV. MANAGEMENT PLAN

This section of the plan includes a description of the organizations involved in the management of the program, the responsibilities of these organizations, a flow diagram and description of the various steps in the plan, and a schedule for the major milestones.

Organizations and Their Responsibilities

Overall direction for the User-Coupled Confirmation Drilling Program rests with the Division of Geothermal Energy at DOE's Headquarters in Washington. The Idaho Operations Office of DOE has lead responsibility for implementing the program. This office receives technical support from the DOE Nevada Operations Office, from EG&G Idaho, Inc., from the Earth Science Laboratory of the University of Utah Research Institute, and from a drilling consultant (yet to be selected). DOE regional offices, and the geothermal state planning and resource teams will be used in marketing the UCCDP, and in an advisory capacity to proposers and to the Source Evaluation Panel (SEP) and its technical support contractors. Participants in this program will be selected by the Selection Official from applicants who submit under the SCAP. Program participants may be profit or non-profit organizations restricted only by the requirement that they not be Federal agencies or laboratories owned, operated or under the cognizance of the Federal government. The SEP will be supported by a Technical Advisory Committee (TAC) and a Business Advisory Committee (BAC), which are responsible for the evaluations of the submitted proposals. The SEP will be made up solely of employees of DOE-ID. The TAC and BAC subcommittees will be composed of experts in specific disciplines chosen from DOE, UURI, and EG&G Idaho (see Section V).

Operations Flow Diagram and Description

Figure IV-1 is an operations flow diagram depicting 48 steps in the process of selecting proposals and implementing them to project completion. The first 24 steps depict the proposal evaluation phase and the last 24 steps depict the program monitoring phase. These are described in further

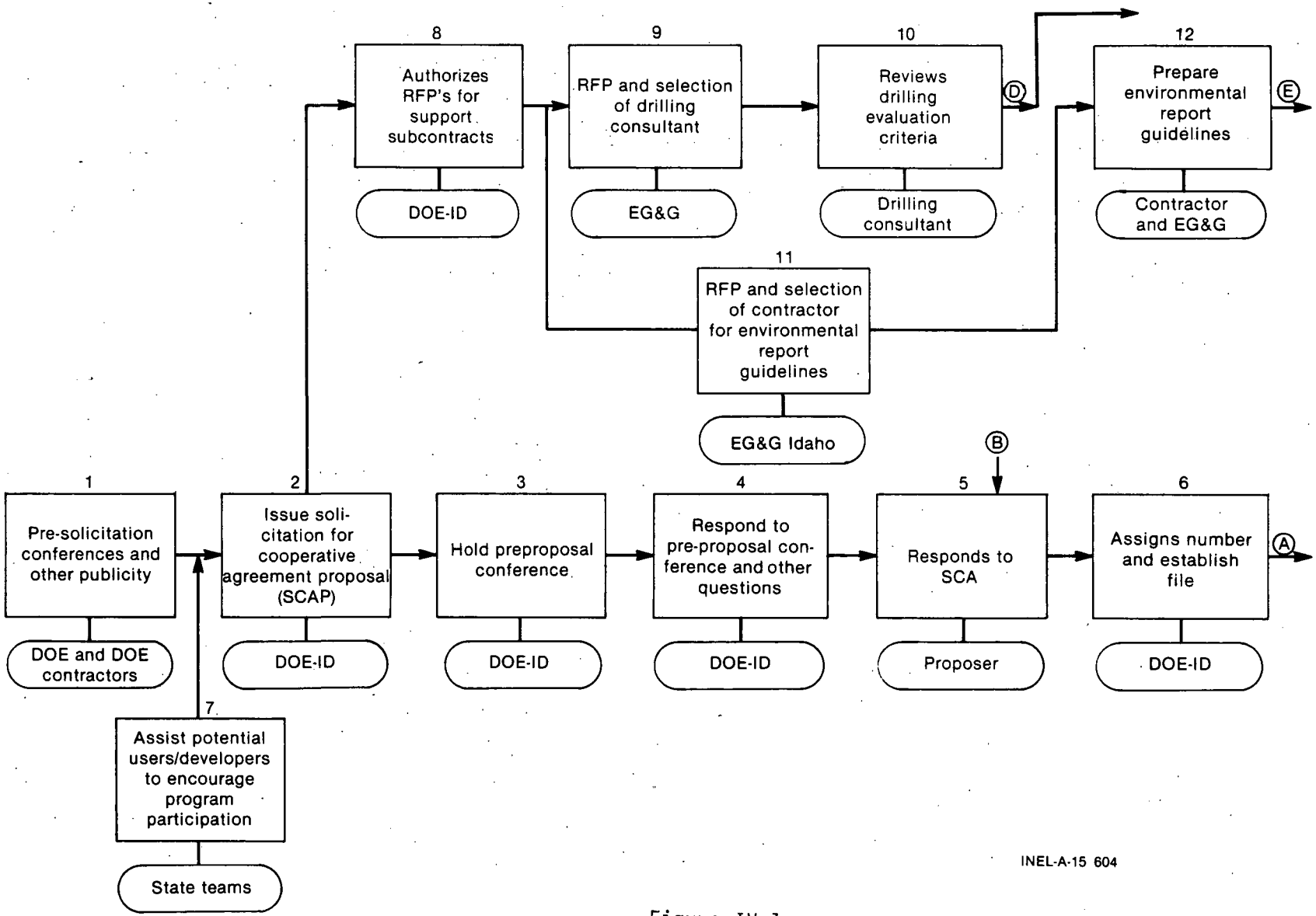
1
Pre-solicitation conferences and other publicity
DOE and DOE contractors
2
Issue solicitation for cooperative agreement proposal (SCAP)
DOE-ID
3
Hold preproposal conference
DOE-ID
4
Respond to pre-proposal conference and other questions
DOE-ID
5
Responds to SCA
Proposer
6
Assigns number and establish file
DOE-ID
A
B
7
Assist potential users/developers to encourage program participation
State teams
8
Authorizes RFP's for support subcontracts
DOE-ID
9
RFP and selection of drilling consultant
EG&G
10
Reviews drilling evaluation criteria
Drilling consultant
D
11
RFP and selection of contractor for environmental report guidelines
EG&G Idaho
12
Prepare environmental report guidelines
Contractor and EG&G
E
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Figure IV-1

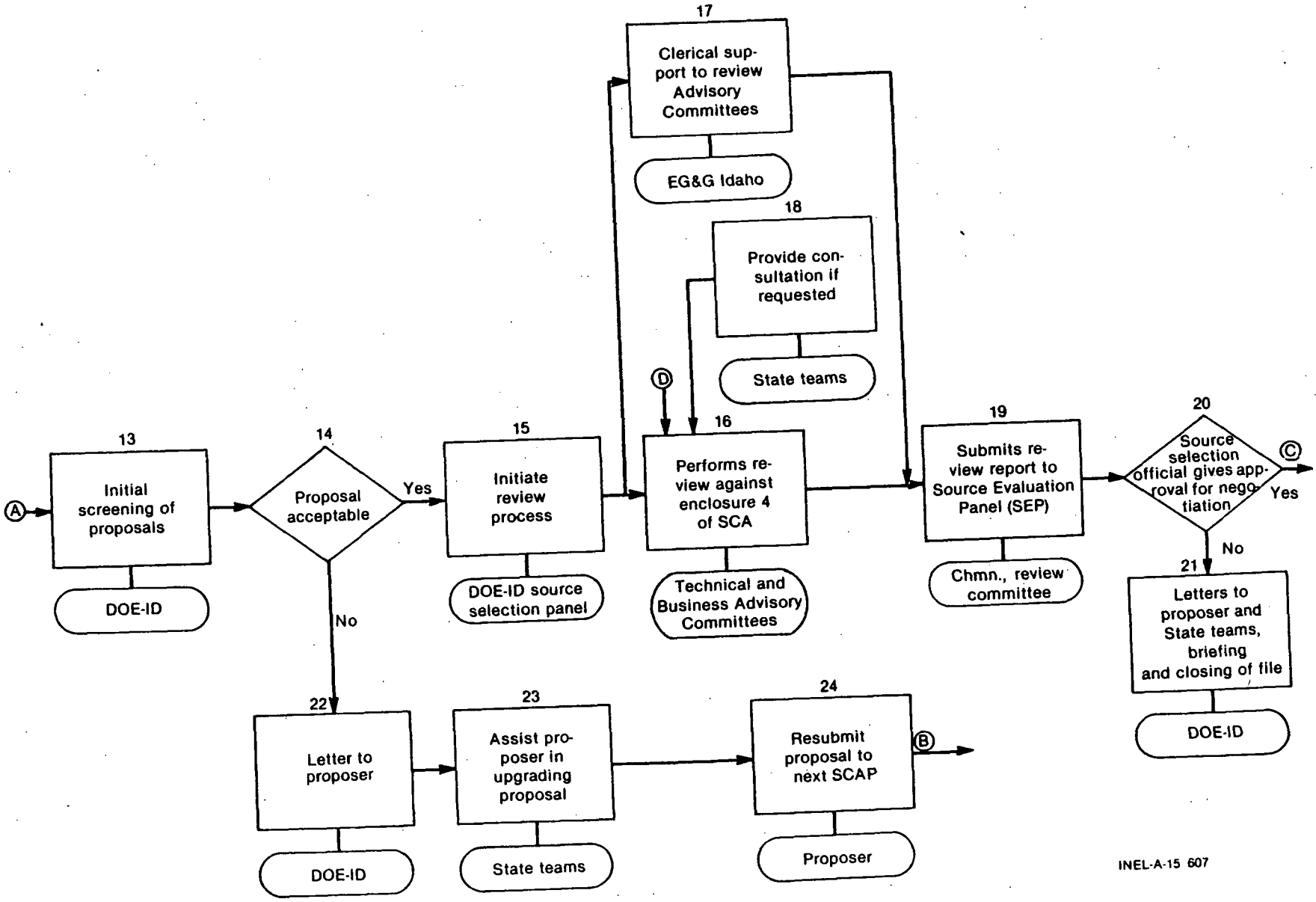
17
Clerical support to review Advisory Committees
EG&G Idaho
18
Provide consultation if requested
State teams
D
13
Initial screening of proposals
DOE-ID
A
14
Proposal acceptable
Yes
No
15
Initiate review process
DOE-ID source selection panel
16
Performs review against enclosure 4 of SCA
Technical and Business Advisory Committees
19
Submits review report to Source Evaluation Panel (SEP)
Chmn., review committee
20
Source selection official gives approval for negotiation
Yes
C
No
21
Letters to proposer and State teams, briefing and closing of file
DOE-ID
22
Letter to proposer
DOE-ID
23
Assist proposer in upgrading proposal
State teams
24
Resubmit proposal to next SCAP
B
Proposer
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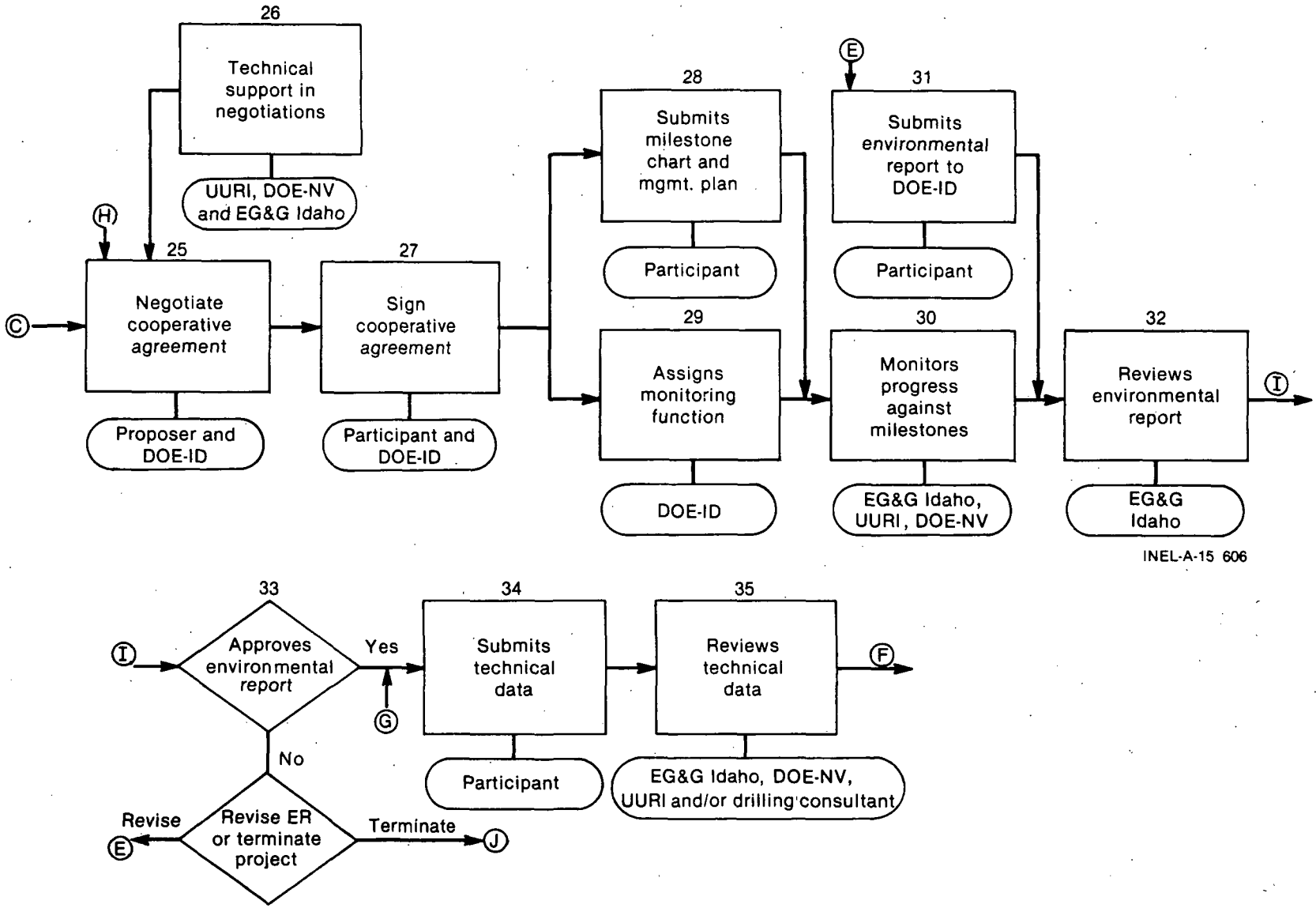
Figure IV-1


26
Technical support in negotiations
UURI, DOE-NV and EG&G Idaho
H
25
Negotiate cooperative agreement
C
Proposer and DOE-ID
27
Sign cooperative agreement
Participant and DOE-ID
28
Submits milestone chart and mgmt. plan
Participant
29
Assigns monitoring function
DOE-ID
E
31
Submits environmental report to DOE-ID
Participant
30
Monitors progress against milestones
EG&G Idaho, UURI, DOE-NV
32
Reviews environmental report
I
EG&G Idaho
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33
Approves environmental report
I
Yes
No
G
34
Submits technical data
Participant
35
Reviews technical data
F
EG&G Idaho, DOE-NV, UURI and/or drilling consultant
Revise
Revise ER or terminate project
E
Terminate
J

Figure IV-1

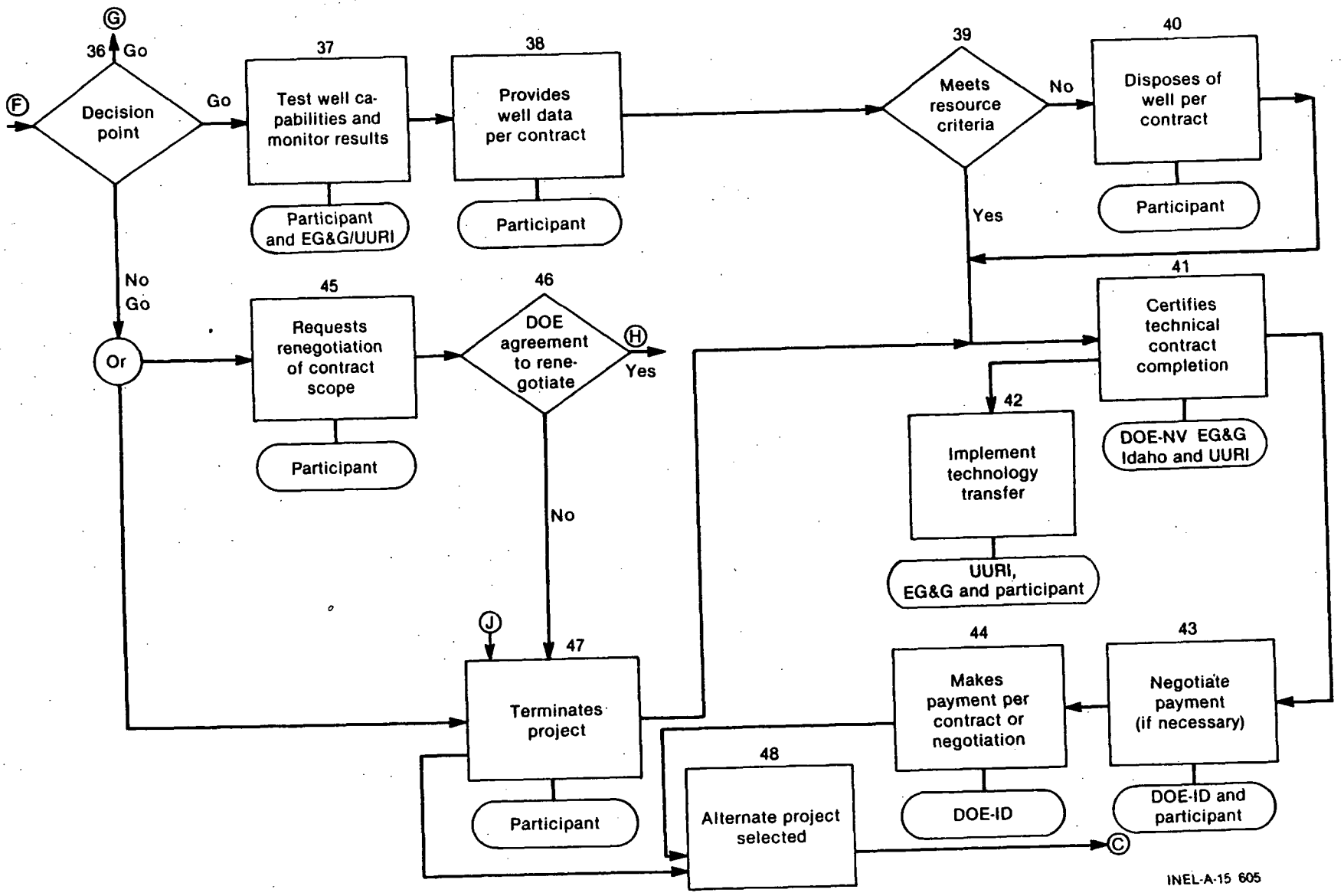
G
36
Go
F
Decision point
Go
37
Test well capabilities and monitor results
Participant and EG&G/UURI
38
Provides well data per contract
Participant
39
Meets resource criteria
No
40
Disposes of well per contract
Participant
Yes
No
Go
Or
45
Requests renegotiation of contract scope
Participant
46
DOE agreement to renegotiate
H
Yes
No
41
Certifies technical contract completion
DOE-NV EG&G Idaho and UURI
42
Implement technology transfer
UURI, EG&G and participant
J
47
Terminates project
Participant
44
Makes payment per contract or negotiation
DOE-ID
43
Negotiate payment (if necessary)
DOE-ID and participant
48
Alternate project selected
C
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Figure IV-1

detail in Sections V and VI, respectively. A brief description of each numbered step in the process is given in succeeding paragraphs. In each instance, on the flow diagram, the bubble below the step identifies the entity with prime responsibility for the particular action.

[Steps 1 through 7 deal with the issuance of the SCAP, the pre-proposal conference, the response to questions, the receipt and logging-in of proposals and the role of the state planning and resource teams in encouraging responses to the SCAP.]

1) DOE-ID has publicized this program through a series of announcements to interested parties through a comprehensive mailing list. Pre-solicitation conferences to explain the program were held in late April and early May in the Washington, D.C., Denver, and San Francisco areas.

2) The program was initiated by a DOE-ID Solicitation for Cooperative Agreement Proposal (SCAP) that was issued in June 1980. The Cooperative Agreement (CA) concept is used in order to allow cost-sharing between participants and DOE. The SCAP requires the proposals to detail, among other things, (a) the geologic evidence that a resource exists at the site of interest, (b) the direct heat use to be made of geothermal fluids if discovered and confirmed, (c) an adequate exploration, drilling, flow testing and data analysis program, and (d) an acceptable cost-share plan based on degree of success of the project.

3) DOE-ID held a pre-proposal conference in Denver, Colorado on July 1, 1980. EG&G Idaho, Inc. and UURI participated in the conference to answer specific questions.

4) DOE-ID, solicited questions at the pre-proposal conference in writing and answered these and other written questions with written responses, which have been sent to all parties receiving the SCAP.

5) From the issue date of the SCAP, a 3-month period will be available for proposers to prepare and submit their proposals in accordance with the requirements of the SCAP.

6) DOE-ID will receive the proposals, assign them a number, and establish a file for future reference. In this step and in succeeding steps of the proposal evaluation process (Nos. 13-20), DOE-ID will be guided by the requirements of Procurement Regulations Handbook[1].

7) The geothermal state planning and resource teams may assist potential users/developers to encourage participation in this program. The state teams may not participate in the actual writing of proposals under this program unless they are submitting proposals on behalf of the state or local government agencies.

Steps 8) through 12) deal with additional work to be done prior to awarding Cooperative Agreements under this solicitation. Specifically, support subcontracts are to be let for the services of a drilling consultant and for the preparation of an environmental instruction booklet for this program.

8) DOE-ID is to authorize the requests for proposals for the drilling and environmental instruction booklet subcontracts.

9) The issuance of the RFP and the selection of a drilling consultant will be the responsibility of EG&G. The function of the drilling consultant will be to assist DOE-ID and its technical support contractors as an advisor in the monitoring of the drilling phase of the selected projects.

10) As a first step, the drilling consultant will review the drilling evaluation criteria and worksheets which are found in the Appendices.

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[1] U.S. Department of Energy, Director, Procurement and Contracts Management Directorate, "Procurement Regulations, Handbook, Source Evaluation Board", DOE/PR-0027, 1979.

11) As a part of this program, DOE will require participants of the selected projects to prepare individual environmental reports. To simplify the preparation and review of these reports, DOE will make available an environmental instruction booklet which addresses the potential environmental concerns from a programmatic standpoint. EG&G Idaho, issued a request for proposal to select a subcontractor to prepare this environmental instruction booklet. Under the terms of the RFP, the format and content of this report should conform to the Council on Environmental Quality's National Environmental Policy Act (November 29, 1978). The anticipated period of performance to prepare the report is from June 1 to October 1, 1980. Other details on the report are given below.

12) The successful bidder for this subcontract will prepare the environmental instruction booklet under direction from EG&G. Specifically, personnel from EG&G's geothermal program will provide program direction and technical support in the preparation of the report. EG&G will provide a format for the report, available reference materials, and contacts within DOE and other agencies and groups which may provide assistance in the report preparation. EG&G program managers anticipate working closely with the subcontractor to ensure that the report addresses all aspects satisfactorily. The instruction booklet is to include the following:

a) a brief description of the program,
b) a detailed analysis of the energy alternatives,
c) a description of typical methods for developing a geothermal resource,
d) a brief discussion of typical applications,
e) a very general description of the affected environment,
f) an analysis of typical potential environmental consequences,
g) a summary description of the general regulations and controls.

[Steps 13) through 24) outline the initial screening of submitted proposals, the procedure for handling proposals that do not qualify for review, the review and evaluation of qualified proposals, and the selection of proposals for the negotiation of a Cooperative Agreement.]

13) DOE-ID will perform an initial screening of the proposals in accordance with the qualification criteria in Attachment II of the SCAP. The worksheet shown in Appendix A will be used to perform this initial screening.

14) Based on the initial screening against the qualification criteria, a decision will be made whether the proposal is acceptable for further evaluation. If it is acceptable, the evaluation process will continue as described in Steps 15-20. If it is unacceptable, the proposal may be resubmitted under the next solicitation as described in Steps 22-24.

15) The Source Evaluation Panel (SEP) will initiate the review process for all acceptable proposals, as detailed in the Procurement Regulations Handbook[1]. (The SEP is patterned after the Source Evaluation Board defined in the DOE Handbook. Since each project in the UCCDP will involve less than $5 million, a formal Source Evaluation Board is not required. The SEP is appointed by the Manager of the DOE-ID Operations Office, who will also serve as the Source Selection Official (SSO) described in the Handbook. The members of the SEP are drawn from the technical and administrative personnel of DOE-ID.)

16) The SEP will be assisted in the technical evaluations of proposals by a Technical Advisory Committee (TAC) whose members are selected from DOE, UURI, and EG&G Idaho personnel. As required by the Handbook, the Chairman of the TAC will be the DOE-ID technical staff member of the SEP. The six subcommittees of the TAC will evaluate the proposals against the general evaluation criteria included in Enclosure 4 of the SCAP. These criteria are described in greater detail later in this section. Worksheets to be used by the evaluators are included in the Appendices. A simultaneous evaluation of the business and cost aspects of the proposals will be conducted by a Business Advisory Committee (BAC), which is composed of DOE-ID and EG&G staff members. The Chairperson of the BAC will be selected from DOE-ID Contracts Management Division. Worksheets for the business and cost evaluation are also found in the Appendices.

17) It is anticipated that the review of proposals will be conducted in Idaho Falls. EG&G Idaho will provide clerical support to the review teams such as typing services and record-keeping on the review of various parts of the proposal.

18) The geothermal state planning and resource teams will provide consultation to the advisory committees, if requested. It is expected that these teams could provide useful advice on the quality of the resource, on the expected benefits of the total project to the area, on potential environmental and institutional impacts, and on public acceptance.

19) The chairmen of the Technical and Business Advisory Committees will prepare, with the assistance of committee members, reports of the technical and business evaluation. These reports are to be submitted to the Source Evaluation Panel. These reports will in turn form the basis of SEP's report to the Source Selection Official, as outlined in Chapter 5 of the Procurement Handbook.

20) As required by the Procurement Handbook, the SEP chairperson will make a presentation to the Source Selection Official (SSO). The SSO will make the final selection of successful proposers for negotiation of Cooperative Agreements. This group of proposals selected for negotiation, may include some proposals that are considered alternates. If negotiations fail with a selected proposer, an alternate will be selected for negotiation.

21) Letters will be sent to those proposers whose proposals definitely will not undergo further evaluation. While the file on unsuccessful proposals will be closed at this time, these proposers may correct weaknesses in their proposals and resubmit them under a subsequent SCAP.

22) To proposers who, under the preliminary qualification criteria (Step 14), are judged to have submitted unacceptable proposals, DOE-ID will send a letter advising why the proposal was unacceptable.

23) The state geothermal planning and resource teams may contact unsuccessful proposers to assist in upgrading the proposal for submission under a future SCAP. This help needs to be in general terms to point out deficiencies. The state teams should not be involved in the actual writing of a revised proposal. The state teams may be able to provide a list of local consultants who could assist in areas of deficiency to strengthen both the written proposal and the capabilities of the proposing team.

24) The proposer who has upgraded his proposal may resubmit it under the next SCAP.

Steps 25) through 30) outline the negotiation process for a co-operative agreement and the initialization of the project and set up of the Monitoring Team.

25) After approval by the Source Selection Official, DOE-ID and the proposer of an acceptable submittal will negotiate a Cooperative Agreement. Negotiations are expected to cover such topics as the statement of work, the details of the variable cost-share plan, the detailed cost estimates, the up-to-date schedule and milestones, the success criteria determining the variable cost-share formula, and the reporting requirements.

26) During the negotiation process, DOE-NV, UURI, and EG&G will provide technical support to DOE-ID. Such support is expected to involve most or all of the negotiable items, as well as detailed improvements in the proposer's management plan.

27) After the negotiations are completed, DOE-ID and the successful proposer, henceforth called participant, sign the Cooperative Agreement (CA).

28) As one of the first steps after signing of the Cooperative Agreement, the participant must submit a detailed milestone chart and a management plan. These documents will serve as the basis for project progress monitoring by DOE-ID and its support contractors (Step 30).

29) A monitor team will be composed of the DOE-ID UCCDP Manager, the EG&G UCCDP Manager, the drilling consultant, the UURI UCCDP Manager, and the EG&G testing representative. The DOE-ID UCCDP Manager will assign the role of Monitor Team Secretary to the EG&G UCCDP Manager, who is named in the cooperative agreement. The Monitor Team Secretary is the prime contact for all formal communications between the participant Project Manager and DOE. The Monitor Team Secretary will also be the principal coordinator of the Monitor Team in establishing Monitor Team meetings, establishing informal lines of communication between monitor team members and participant contractors, (i.e., UURI communication with participant exploration subcontractor) and maintaining the work flow, program reporting and program coordination. However, the Monitor Team Secretary cannot make any decisions without communicating with Monitor Team members. The Monitor Team may make recommendations to the DOE-ID Project Manager. Any changes in the CA must come through the DOE-ID Contracts Office and are specified by the DOE-ID Project Manager based on recommendations either from the Monitor Team or from the Change Control Board, as discussed in Section VIII. DOE-NV will act as a drilling consultant to the DOE-ID Project Manager for wells deeper than 2500 feet. The Monitor Team Secretary shall keep DOE-NV current on all data relevant to such wells. The overall project organization is illustrated in Figure IV-2. All informal communications between the Participant Project Manager, the Participant Project members, the Monitor Team members and the Monitor Team Secretary are to be recorded on the Memo of Conversation form shown in Figure IV-3. The Monitor Team Secretary is to receive a file copy of all such communications.

30) The Monitor Team Secretary monitors the progress of the participant against the milestones which the participant has submitted as part of Step 28. A prime vehicle for this monitoring will be the monthly progress letters required from the participant. However, the Monitor Team Secretary will be free to contact the participant for additional information and to assign witnesses to certain key operations such as drilling or well testing. The Monitor Team members will submit summary progress letters each month to DOE-ID listing the status of each resource confirmation project under their cognizance. The Monitor Team Secretary and DOE-ID are to receive copies of these progress letters for the project file.

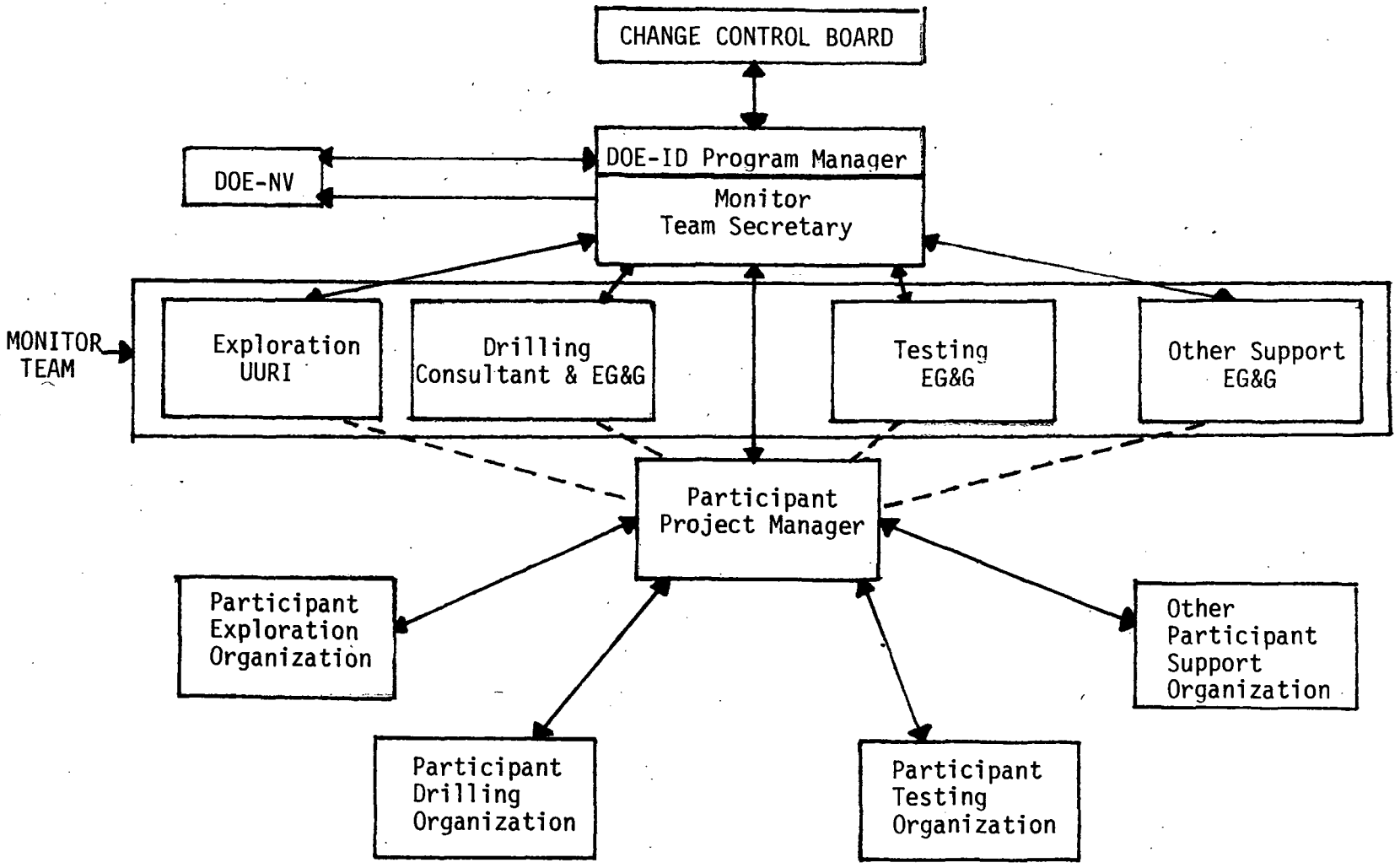


Figure IV-2. Project Organization

USER-COUPLED CONFIRMATION
DRILLING PROGRAM

Figure IV-3

MEMO OF CONVERSATION

PROJECT _____

PERSON CALLING: _____ DATE _____

REPRESENTING: _____ TIME _____

PERSON CALLED: _____ PHONE NUMBER _____

REPRESENTING: _____

CITY: _____

SUBJECT: _____

DISTRIBUTION
Monitor Team Secretary
DOE-ID
UURI

SIGNATURE _____

(CONTINUE ON REVERSE SIDE)

Steps 31) to 33) deal with the submittal, review, and approval of a specific environmental report for each resource confirmation project. These steps must be completed before the participant can start field work on a specific project.

31) The participant, by the terms of the cooperative agreement, is required to submit an environmental assessment for his project within sixty days of the signing of the CA. For this document, he will have as input the generic environmental report described under Step 12. He also will have the benefit of a preliminary determination during the proposal evaluation process that the environmental issues can be satisfactorily handled. The participant will be encouraged to communicate with EG&G Idaho environmental personnel during the course of this document preparation so that a document satisfactory to all parties can be generated with a minimum of effort.

32) EG&G Idaho will perform a preliminary review of the environmental report and recommend necessary changes before the report is submitted to DOE-ID for environmental approval.

33) DOE-ID must approve the participant's environmental report. If the document is approved, and an environmental assessment determined not necessary, the participant will be free to start field work or to carry out other steps specified in the scope of work. If the environmental report is not approved, it is returned to the participant with recommendations on how to correct the deficiency (see Figure IV-4). Because of the preliminary environmental review during the proposal evaluation period, it is not expected that any projects will need to be terminated at this point.

34) through 36) These three steps include the submittal of technical data (Step 34), the review of technical data (Step 35) and a decision whether or not to continue with the project (Step 36) (see Figure IV-1). As shown in Figures IV-5 and IV-6, a number of such decision points could exist during the course of a project. The participant will be expected to submit technical data and a technical progress report to DOE-ID following each of the phases (milestones) listed below, as applicable:

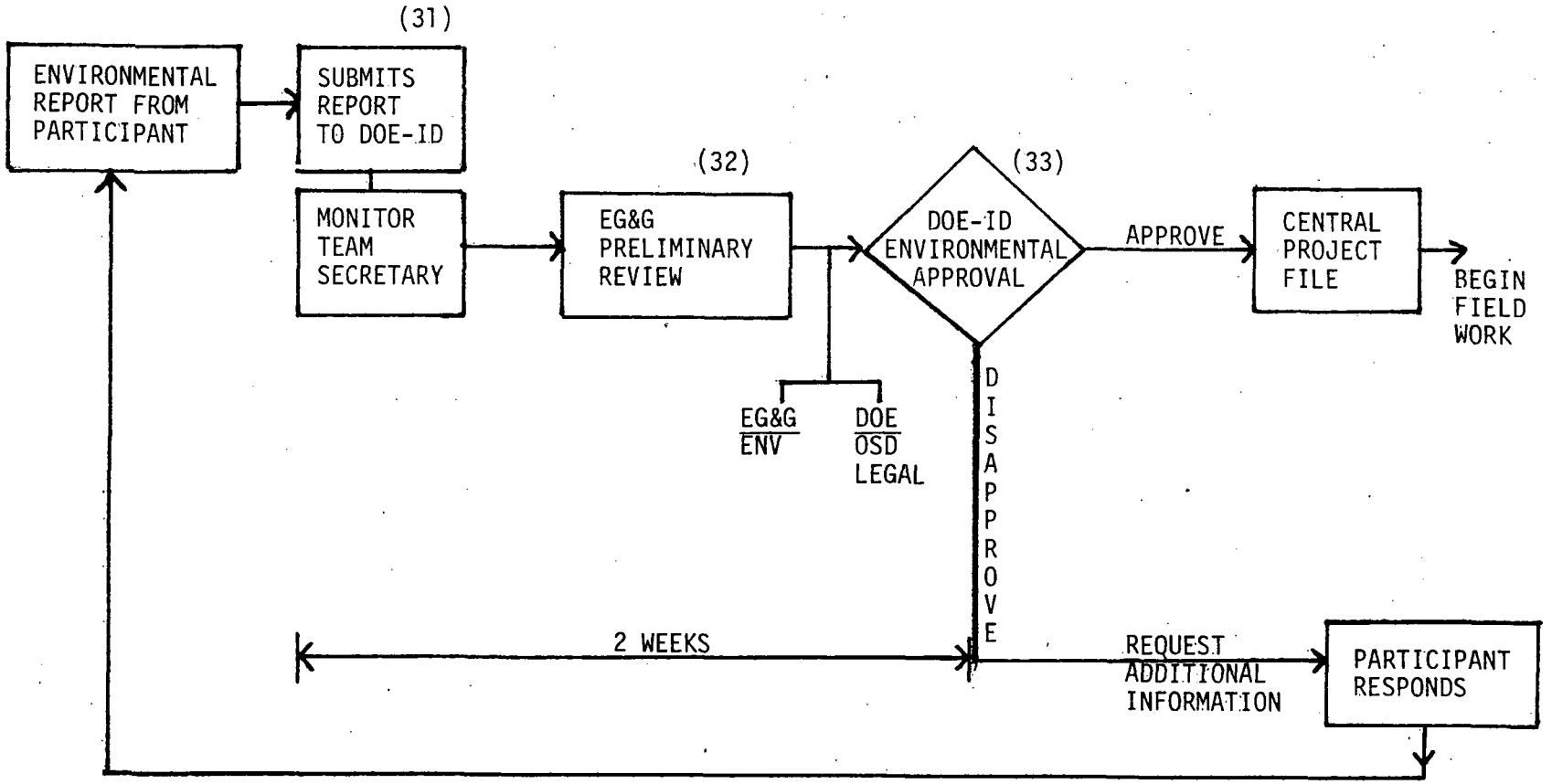


Figure IV-4. Environmental Report Submission and Review

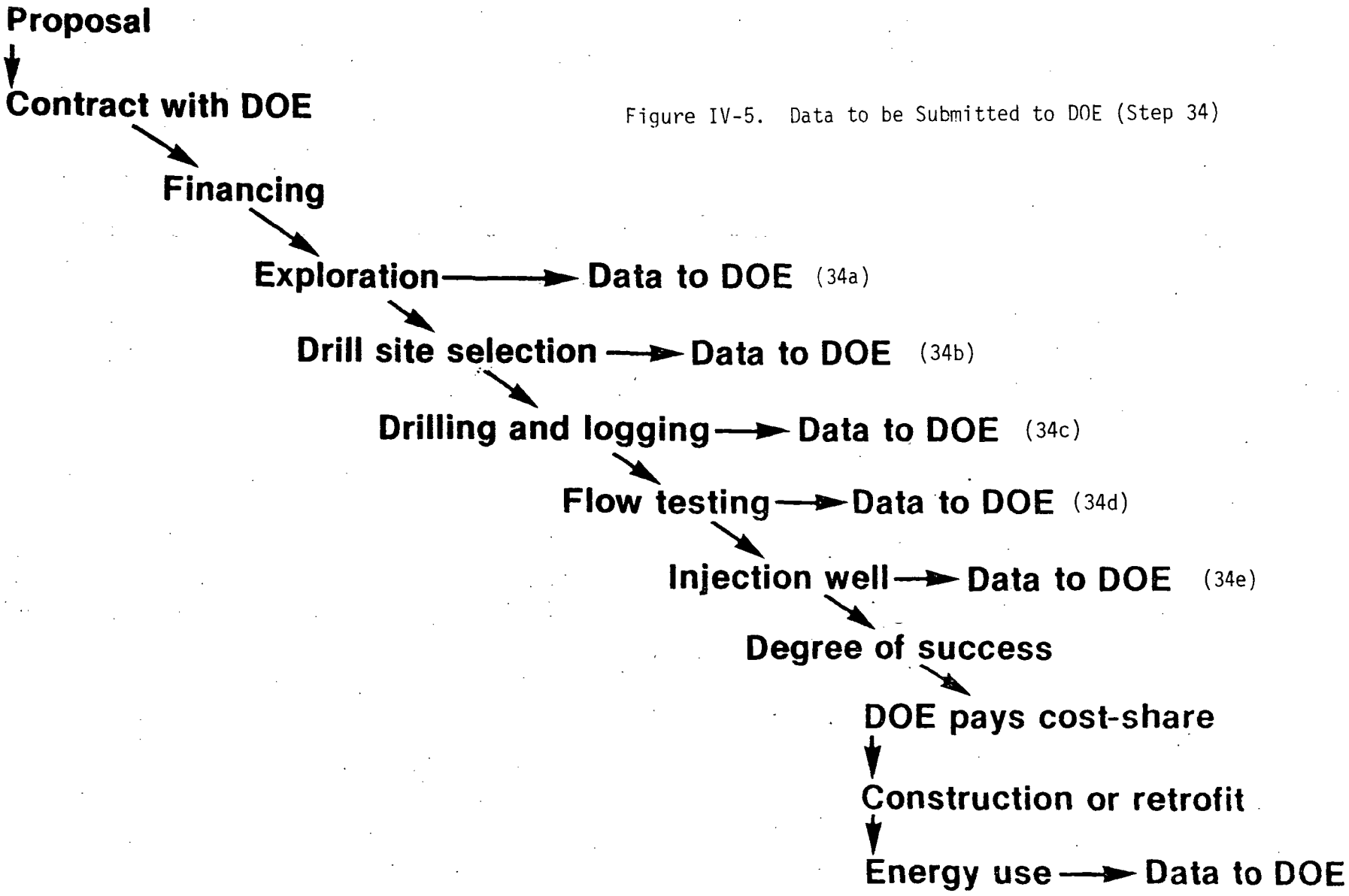


Figure IV-5. Data to be Submitted to DOE (Step 34)

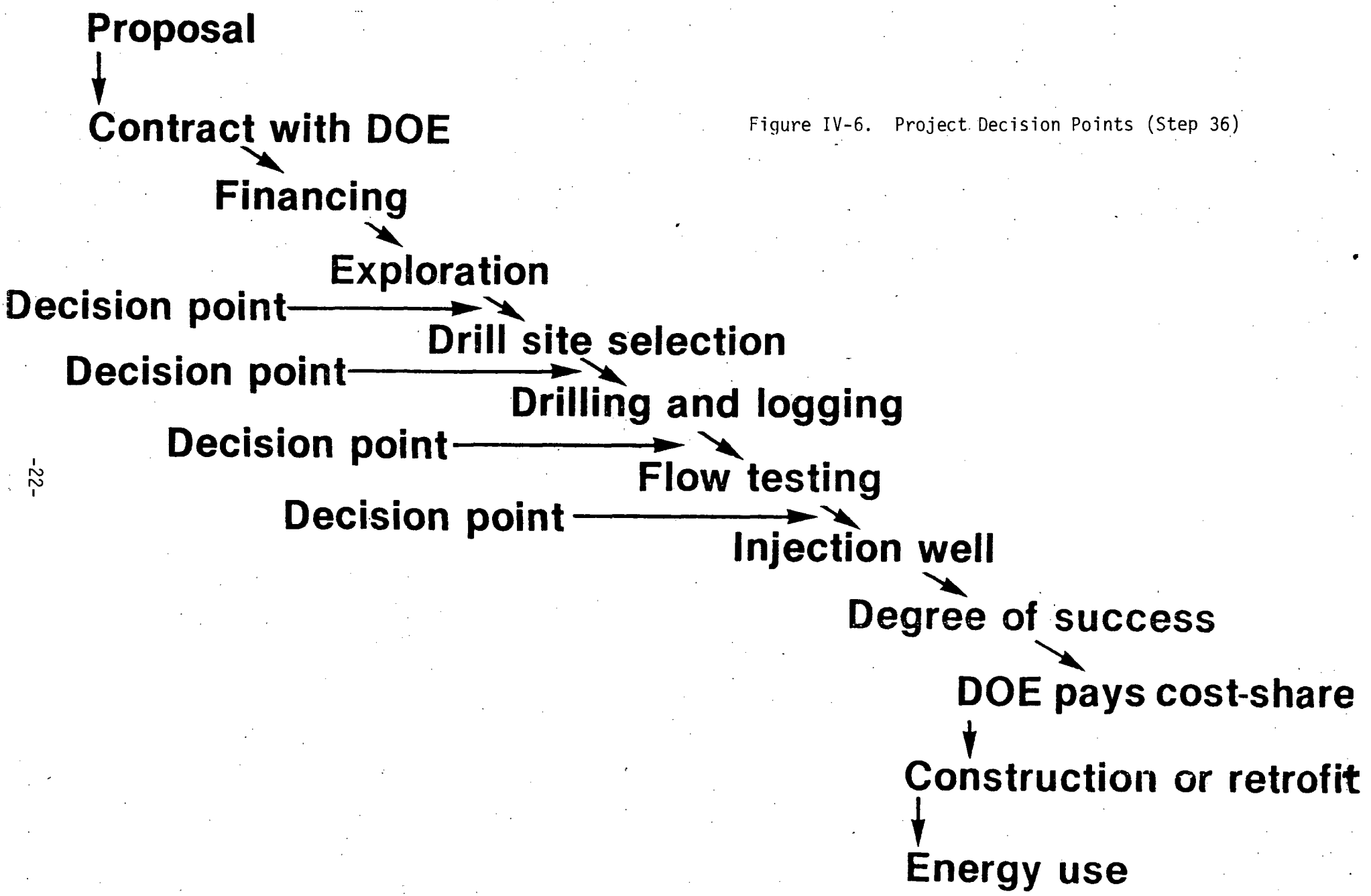


Figure IV-6. Project Decision Points (Step 36)

a) exploration
b) drill site selection
c) drilling and logging
d) flow testing
e) drilling of an injection well (if necessary).

The data from each of these phases will be reviewed by the Monitor Team members and a written recommendation will be made by the Monitor Team to DOE-ID whether to continue with the project. If the decision is to continue, then the cycle of submitting other appropriate technical data, and reviewing it, will be repeated. If the project continues to fulfill the requirements of the Cooperative Agreement and the management plan, the test well eventually will be ready for formal testing as described in Step 37. If at any of the decision points (Step 36) DOE-ID determines that the project is no longer meeting the requirements of the CA, it will so notify the participant. At that point, he may choose to initiate the sequence described by Steps 45 through 47 or to proceed directly to Step 48.

37) The purpose of this step is to make a formal determination of the capabilities of the well. The testing will be done by the participant, but EG&G Idaho and/or UURI will witness all tests and monitor the results. The purpose of this testing is to determine the degree of success of the well in relation to the requirements written into the CA and to the cost-sharing to be borne by each party.

38) The participant will formally submit the well data and a technical progress report to DOE-ID per terms of the CA. DOE-ID will request the technical support contractors to review the data for consistency with their own observations and for comparison against the resource criteria spelled out in the CA. The Monitor Team Committee will provide a recommendation to DOE-ID as to whether the well does meet the resource criteria.

39) DOE-ID through negotiation with the participant, will make the formal determination whether the well does meet the resource criteria totally, partially, or not at all.

The sequence for bringing the CA to technical completion is described in Steps 40 through 48, depending upon the resource criteria determination.

40) If the well is found to be totally unsuccessful and no other use can be made of the well, the participant will be expected to dispose of the well in accordance with state and federal requirements and within the terms of the CA.

41) DOE-NV, EG&G Idaho, and UURI will certify to DOE-ID that the technical portions of the CA have indeed been completed. One of two conditions must be fulfilled in order for such a certification to be issued:

a) The total scope of work specified in the CA, including completion of the well, must have been carried out and the well must meet or exceed the resource criteria established in the CA.

b) The participant has fulfilled the terms of the CA in regard to the final disposition of the well (Step 40), after it has been determined that the well is totally unsuccessful and no alternate use has been found for the well.

42) An important aspect of the User-Coupled Confirmation Drilling Program is to transfer the technology to the geothermal industry. UURI and EG&G Idaho may prepare summary reports on the various projects and/or may prepare case histories on the individual projects. Data will be made available to other DOE programs in order to provide the widest possible dissemination of the experience gained through the UCCDP. The project participants and the technical support contractors will be encouraged to use traditional methods of technology transfer including papers in trade journals and presentations at meetings of the Geothermal Resources Council or at other technical meetings.

43) In most cases, the terms of the CA should be sufficiently specific that the cost-share formula between DOE and the participant is clearly delineated for the degree of success of the well. In those instances where the end result of the well testing was not anticipated in the initial CA, further negotiation may be necessary to arrive at an equitable payment at this point.

44) The final step in the project is for DOE-ID to make any remaining payment over the 20% of incurred costs to the participant based on the terms of the CA or the results of the negotiations in Step 43.

45) In the event that DOE-ID has made a decision not to continue the project at one of the several decision points, the next decision is up to the participant. If he determines that further investment on his part is no longer feasible, he can choose to terminate the project per Step 47 and to negotiate with DOE-ID for payment. On the other hand, he may request renegotiation of the CA scope with DOE-ID.

46) DOE then has the option of accepting the participant's request as a basis for renegotiation of the CA. If DOE determines this to be in the best interests of the government, the CA will revert to Step 25 for renegotiation; and applicable steps from there to Step 36 will be implemented. If DOE determines that it is not in the best interests of the government to renegotiate the CA, it will so notify the participant.

47) The participant will be required to terminate the project in accordance with the terms of the cooperative agreement. As a minimum that will include restoring the site. The other terms of the contract termination will depend upon the state of the project when it is terminated.

48) After a project is terminated, either as the result of a "no go" at a decision point (36) or after payment of a successful project (44), an alternate project may be selected if monies allow. This decision will depend upon the schedule of the alternate project, the monetary figure of such activities, and the portion of the project that can be funded during that fiscal year.

Schedule

The major milestones and their schedule in relation to the award date are given below. Numbers refer back to the operational flow diagram in previous section.

1	Presolicitation Conference		4/28 - 5/2/80
2	Issue SCAP		6/13/80
3	Preproposal Conference		7/1/80
6	Proposal Due Date		9/15/80
9	Selection of Drilling Consultant		8/15/80
12	Complete Generic Environmental Report		10/1/80
19	Proposal Evaluations Complete		10/15/80
20	Approval to Negotiate		10/31/80
27	Awards		11/15/80 - 1/1/81
28	Submit Management Plan	As Defined In Each Specific CA	+ 30 days*
29	Submit Environmental Report		+ 60 days*
33	Approve Environmental Report		+ 90 days*
34-36	Exploration Phase		
34-36	Drilling Phase		
37-42	Testing and Completion Phase		

*Maximum times.

V. PROPOSAL EVALUATION PHASE

Since the User-Coupled Confirmation Drilling Program will involve major assistance, the evaluation and selection processes for submitted proposals are patterned after those described in the Procurement Regulations Handbook. Because the individual projects of the UCCDP will involve less than $5 million, a formal Source Evaluation Board (SEB) is not required. A Source Evaluation Panel (SEP) is to be used and will be patterned after the SEB. The Procurement Regulations Handbook provides a detailed description of the SEB process, which will not be repeated in this document. The section will be restricted to 1) defining the responsibilities of DOE and its contractors in the evaluation process, and 2) how the evaluation process will be accomplished.

Responsibilities

Advisory committees may be set up to assist in the evaluation process and prime management or operating contractor personnel may be used as advisors or committee members when their services are necessary and available. In this case, this involves staff members of DOE-ID, DOE-NV, EG&G Idaho, and UURI. When serving as advisors or advisory committee members, these individuals are required to comply with DOE conflict of interest regulations and non-disclosure information requirements. Advisors and committee members are used only in discrete areas where they have special expertise and are not given access to overall SEP activities. Specific functions of these personnel include the following:

1) They will assist in the preparation and the review of the solicitation document (SCAP). The major contributions are in the area of a detailed scope of work and the corresponding evaluation criteria.

2) The EG&G and UURI personnel will assist the DOE-ID technical staff in preparation of materials for the pre-solicitation conference, and in presenting technical information at those conferences.

3) UURI and EG&G Idaho personnel may participate in the preproposal conference. They will be available to answer the questions at the conference orally. Finally, they will assist DOE-ID to prepare the official written answers to these and other questions received during the preproposal period.

4) While the actual evaluation process will be under DOE-ID direction, DOE-NV, EG&G Idaho, and UURI will play a major role in that process. EG&G Idaho will provide clerical services for the technical review team. DOE-ID, DOE-NV, EG&G Idaho and UURI are expected to provide essentially all the personnel for the Technical Advisory Committee (TAC). DOE-ID and EG&G will provide all the personnel for the Business Advisory Committee (BAC). Specific responsibilities for the review of various portions of the document are shown in Table V-1. The personnel requirements for each subcommittee are shown in Figure V-2. Also shown are Evaluation Criteria that each subcommittee will be involved in.

5) The SEP must prepare a formal report which in part can be based on the report of its Technical Advisory and Business Advisory Committees. The SEP report is described in detail in Chapter 5 of the Procurement Handbook. The advisory committee members are expected to have input in the following sections of the SEP report. (E-4 and E-5 refer to those portions of the SEP report outlined in the Handbook.)

E-4 Description of Technical Aspects of the Proposal. Brief description of the technical aspects of each proposal will be prepared by the Technical Advisory Committee members.

E-5 Initial Ranking of Proposals. Technical committee members can describe the approach used in arriving at the initial technical ratings and rankings of the various proposals, including the major strengths and weaknesses identified at this stage of the process.

TABLE V-1

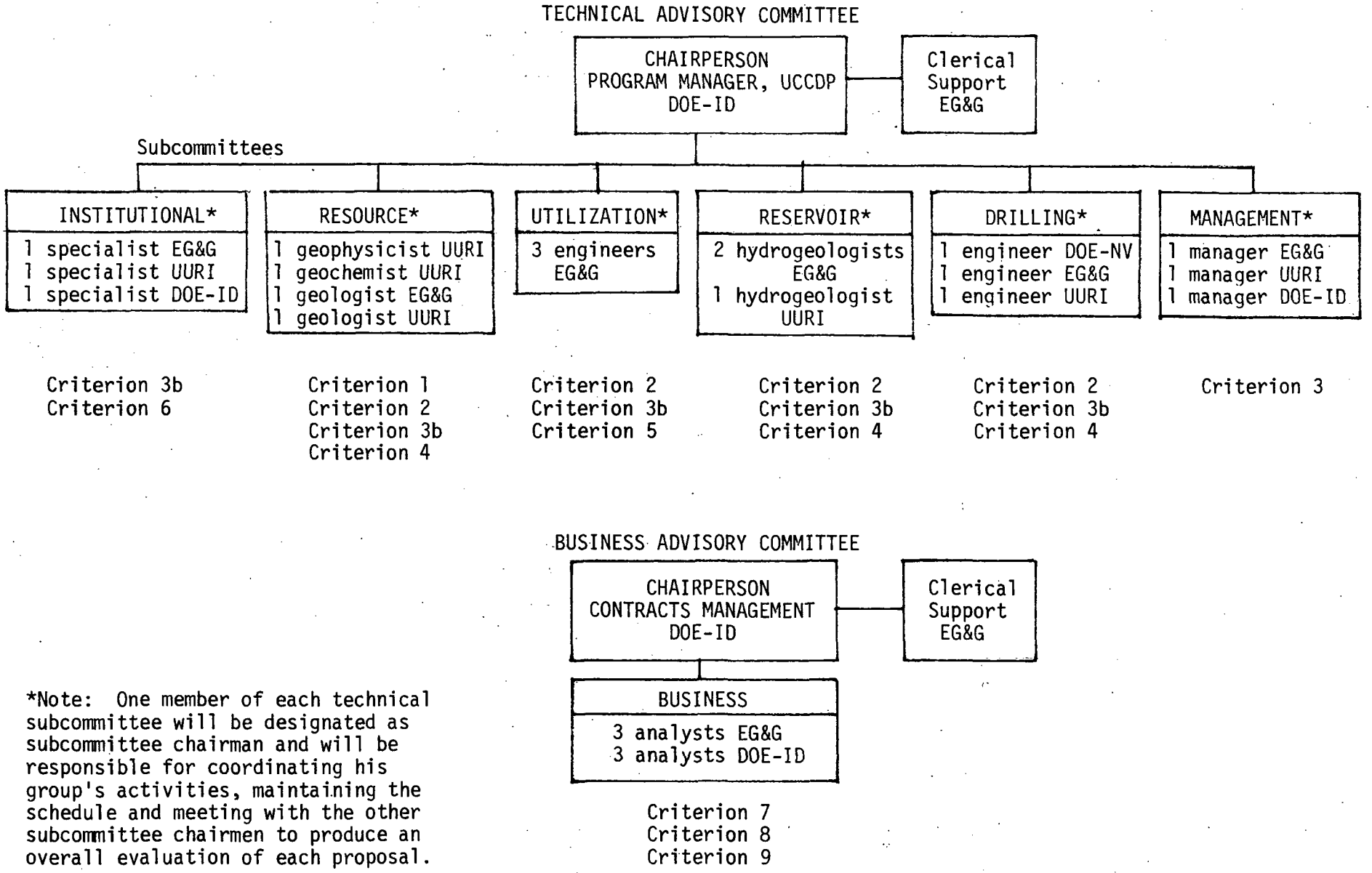
Personnel to be involved in the evaluation of proposals for each criterion.

A. Technical Proposal Evaluation Criteria

1.	Resource Potential	DOE-ID/UURI/EG&G
2.	Technical & Economic Feasibility	DOE-ID/DOE-NV/UURI/EG&G
3.	Project Management	DOE-ID/DOE-NV/UURI/EG&G
4.	Technical Planning	DOE-ID/DOE-NV/UURI/EG&G
5.	Variable Cost-Share Plan	DOE-ID/EG&G
6.	Institutional Considerations	DOE-ID/UURI/EG&G

B. Business Proposal Evaluation Criteria

7.	Project Cost-Budget Summary	DOE-ID & EG&G
8.	Project Financial Plan	
9.	Organization Information	



*Note: One member of each technical subcommittee will be designated as subcommittee chairman and will be responsible for coordinating his group's activities, maintaining the schedule and meeting with the other subcommittee chairmen to produce an overall evaluation of each proposal.

Figure V-2. Advisory Committee Structures

Since the evaluations by the Advisory Committees will require full-time participation by staff members, time availabilities should be considered in the selection of personnel to serve on these committees. The evaluation of proposals received under the first solicitation will begin September 17, 1980. It is anticipated that twenty-eight technical and business personnel and a secretary will be required over a three and one-half week period. The breakdown of personnel types by subject area, criteria evaluation and affiliation was shown in Figure V-2. The costs associated with the evaluation process for these personnel are estimated at the end of this section.

Evaluation Process

Preliminary Review

Prior to making comprehensive technical and business evaluations of the proposals submitted under a SCAP, a preliminary review will be performed by DOE-ID to determine whether the proposal has met the seven qualification criteria listed in the SCAP.

The worksheet shown in Appendix A should be used for this review. If it is decided that any of the seven qualification criteria have not been satisfied, the proposal should be forwarded to the Chairman of the SEP for a confirming decision by the SEP. Such a proposal will receive no further evaluation by the SEP or its advisory committees.

Comprehensive Evaluation

Proposals which pass the preliminary review will be submitted to a comprehensive evaluation by the Technical and Business Advisory Committees. The technical proposals will be evaluated by the TAC on the basis of the six technical criteria and the business proposal will be evaluated by the BAC on the basis of the three business criteria listed in the SCAP. Detailed evaluation worksheets have been prepared for members of each of the six TAC subcommittees and the BAC, and are shown in Appendix B. The worksheets for each subcommittee list each of the criteria to be considered by that subcommittee (see Figure V-2).

One hour will be given for each technical subcommittee and business committee member to read those portions of a proposal that pertain to his discipline (subcommittee) and to complete the appropriate evaluation worksheet. Scores between 0 through 10 will be assigned using the guidelines in Figure V-3. After the individual evaluators have completed their evaluations, each technical subcommittee and the business committee will meet to develop a consensus evaluation and score for each proposal on a separate worksheet also shown in Appendix B.

The six chairmen of the technical subcommittees will then meet to combine the consensus subcommittee scores into a TAC consensus evaluation for each of the six technical criteria. To aid in this scoring, criterion summary sheets have been developed and are shown in Appendix C. These overall scores are then summarized on the Comprehensive Technical Summary Sheet at the end of Appendix C.

The business committee will perform similar evaluations on the summary worksheet also found in Appendix C. While the subcommittee chairmen are agreeing on the overall score, the subcommittees will formalize comments on various aspects of the proposal. These comments will assist DOE-ID personnel in the negotiation of any resulting co-operative agreements, and on the debriefing of unsuccessful proposers.

To allow the efficient use of personnel time, while also attempting to maintain a realistic sense of schedule, the schedule in Figure V-4 and V-5 are suggested for the TAC and BAC, respectively. These schedules allow for the evaluation of four proposals per day. The varied nature of daily activities should prove to maintain a high level of interest and productivity on the individual's part. It also will allow easy monitoring of efforts and early detection of when the schedule is not being maintained.

In addition to the Comprehensive Summaries, a Preference Factor Worksheet (Appendix D) will be prepared by the BAC and TAC. This part of the evaluation will allow other aspects to enter into the overall consideration.

Figure V-3. Suggested Guidelines for Scoring Proposals

The guidelines below are offered as an aid to standardize individual scorings. Each subcommittee may need to revise them for their particular task. When evaluating the proposed project under the criteria, it is useful to think in terms of probability of success and relate this probability to the numbers listed below. It is important to look at project probability of success, i.e. resource certainty, project organization, end-use suitability, etc. and to downplay brochuremanship.

10. Clearly Outstanding. Data or analyses show the project is certain to succeed. Project well organized and end use is ideal for expected resource.

9. Excellent. Data are very promising. Analyses are excellent. Project is very likely to succeed. Exploration, engineering, etc. need some minor improvements. End-use well suited for expected resource.

8. Very Good. Resource data and analyses indicate the project has promise. Additional data and analyses required. End-use not ideal, but promising.

7. Good. Data and analyses indicate reasonable chance of resource. Resource must be identified further by additional exploration. End-use of resource promising of substantial energy savings, but temperature match less than ideal.

6. Satisfactory. There is supporting data for a resource. Application seems reasonable. Project has slightly better than an even chance of success.

5. Average. Data and technical analyses show that project has about a 50-50 chance of success. Data in support of a particular criterion neither add to nor detract from the overall project probability of success.

4. Fair. Data show a reasonable chance of a resource, but much additional data called for. End-use match with resource less than satisfactory, but can save fossil fuels.

3. Subadequate. Resource existence uncertain in the area and some data are given, but much additional data are needed before drilling. Proposal outlines some tasks required, but is incomplete. Project has only about 30% chance of success.

2. Inadequate. Resource has only slight chance of being present. End-use match unsatisfactory. Project organization very incomplete.

1. Poor. Data provide only minimal evidence of a resource. Proposal fails to address criteria in any satisfactory fashion. Project has only a slight chance of success.

0. Unsatisfactory. No discussion or data presented on this as part of the project. Data provide no evidence of a resource or that the project has any chance of success.

8:00	Read proposal No. 1 and evaluate individually (1 hr)
8:30	" "
9:00	Subcommittee consensus evaluation on No. 1 (1/2 hr)
9:30	Read proposal No. 2 and evaluate individually (1 hr)
10:00	" "
10:30	Subcommittee consensus evaluation on No. 2 (1/2 hr)
11:00	Subcommittee Chairmen Team meet for overall evaluation of
11:30	No. 1 and No. 2. Subcommittees formalize comments. (1 hr)
12:00	Lunch (1 hr)
12:30	" "
1:00	Read proposal No. 3 and evaluate individually (1 hr)
1:30	" "
2:00	Subcommittee consensus evaluation on No. 3 (1/2 hr)
2:30	Read proposal No. 4 and evaluate individually (1 hr)
3:00	" "
3:30	Subcommittee consensus evaluation on No. 4 (1/2 hr)
4:00	Subcommittee Chairmen Team meet for overall evaluation of
4:30	No. 3 and No. 4. Subcommittees formalize comments. (1 hr)
5:00	Adjourn for day

Figure V-4. Proposal Evaluation Schedule for Technical Advisory Committee (for planning purposes only).

8:00	Read proposal No. 1 and evaluate individually (1 hr)
8:30	" "
9:00	BAC consensus evaluation and formalization of comments
9:30	(1 hr)
10:00	Read proposal No. 2 and evaluate individually (1 hr)
10:30	" "
11:00	BAC consensus evaluation and formalization of comments
11:30	(1 hr)
12:00	Lunch (1 hr)
12:30	" "
1:00	Read proposal No. 3 and evaluate individually (1 hr)
1:30	" "
2:00	BAC consensus evaluation and formalization of comments
2:30	(1 hr)
3:00	Read proposal No. 4 and evaluate individually (1 hr)
3:30	" "
4:00	BAC consensus evaluation and formalization of comments
4:30	(1 hr)
5:00	Adjourn for day

Figure V-5. Proposal Evaluation Schedule for Business Advisory Committee (for planning purposes only)

Results of the evaluations will be summarized on the Program Policy Factors Summary Sheet (also Appendix D) for comparison of proposals. After all the proposals have been evaluated, they will be ranked using the ranking sheet (Appendix D) for use by the SEP in its final selection.

Costs of Evaluation

The costs projected in this section are based on a schedule of evaluation beginning September 17, 1980, and being completed in three and one-half weeks. It assumes that about 50 proposals will be received. A variation from this number can shorten or lengthen the time required for evaluation. They are for planning purposes only.

Labor Costs

This estimate assumes 29 personnel for evaluating approximately 50 proposals total, 4 proposals per day. In addition, one-week of finalizing reports and data as assumed for approximately 11 personnel (subcommittee and committee chairmen). The costs are for UURI and EG&G personnel only and also include travel for one DOE-NV evaluator.

Activity	Organization	Rate ($/hr)	Time (hr)	Total Cost ($)
Resource Subcommittee				
1 chairman	UURI	39	144	$5620
2 geoscientists	UURI	39	208	8120
1 geologist	EG&G	39	144	5620
Reservoir Subcommittee				
1 chairman	EG&G	39	144	5620
1 hydrogeologist	EG&G	39	104	4060
1 hydrogeologist	UURI	39	104	4060
Drilling Subcommittee				
1 engineer (co-chairman)	DOE-NV	--	--	--
1 engineer (co-chairman)	EG&G	39	144	5620
1 engineer	UURI	39	104	4060
Utilization Subcommittee				
1 engineer (chairman)	EG&G	39	144	5620
2 engineers	EG&G	39	208	8120
Institutional Subcommittee				
1 specialist (co-chairman)	EG&G	39	144	5620
1 specialist (co-chairman)	UURI	39	144	5620
1 specialist	DOE-ID	--	--	--

Activity	Organization	Rate ($/hr)	Time (hr)	Total Cost ($)
Management Subcommittee				
1 manager (chairman)	EG&G	39	144	5620
1 manager	UURI	39	104	4060
1 manager	DOE-ID	--	--	--
Business Committee				
2 co-chairmen	DOE/EG&G	39	144	5620
2 analysts	DOE	--	--	--
2 analysts	EG&G	39	208	8120
Others				
2 chairpersons	DOE-ID	--	--	--
1 program coordinator	EG&G	39	144	5620
1 secretarial/clerical	EG&G	20	144	2880
			Subtotal	$99,680

Travel and Other Costs

Assumes reviews performed in Idaho Falls, with travel back-and-forth weekly by UURI personnel.

Travel and Per Diem - DOE-NV		
Travel - UURI		$3,900
Per Diem - UURI		4,850
	Subtotal	$8,750
	Grand Total	$108,430

VI. PROGRAM MONITORING PHASE

The program monitoring phase will be performed under the overall administrative direction of DOE-ID but specific technical monitoring will be conducted by EG&G Idaho and UURI with assistance by the drilling consultant.

Detailed Responsibilities

The function of the technical support contractors (EG&G Idaho and UURI) during the program monitoring phase involves two specific responsibilities:

1) monitoring the progress of the project against the previously established milestones in the participant's program management plan; and

2) review and analysis of technical data from various phases of the project in order to provide DOE-ID with independent analyses of these data.

Program monitoring is expected to be a cooperative effort between DOE-ID, DOE-NV, UURI, EG&G Idaho, and the drilling consultant. As defined in an earlier section, the Monitor Team will include the DOE-ID Project Manager, the EG&G Project Manager, the drilling consultant, the Project Manager from UURI, and the reservoir testing representative from EG&G. The Monitor Team Secretary will be from EG&G.

Formal and informal communications between Monitor Team members and their counterparts working for the participant should be noted on the Memo of Conversation (Figure IV-3) and copies sent to the participant contact, DOE-ID, the Monitor Team Secretary, and other Monitor Team members who might be interested. Monitor Team members are not authorized to make verbal changes in work scope or budget. Any major changes in work scope, schedule or budget must be approved by the Chairman of the Change Control Board (CCB), through formal procedures as outlined in

Section VIII (see Figure IV-2). (Any scope or funding changes in the CA must be performed by the DOE Contracts Office.) All formal communications will be routed from Monitor Team members to the Monitor Team Secretary; similarly, the participant's contractors must route formal communications through their Project Manager to the Monitor Team Secretary. Records of all formal and informal communications will be kept in the Central Project Files.

The drilling consultant will act as a technical backup on issues that cannot be handled by the technical support contractors. He will not be involved in the preparation of the solicitations or in the evaluation of proposals.

Project Files

As proposals are submitted to DOE-ID and the review and evaluation process initiated, a project file will be established. This file will initially contain the original proposal, any correspondence with the applicant, and the evaluation worksheets. For proposals that are not selected for negotiation of a Cooperative Agreement, or are unsuccessfully negotiated, the file will contain the final disposition correspondence for that proposal. Such files will be closed, preserved as described in Chapter VII, Section 705 of the Procurements Regulation Handbook, and transferred to the DOE-ID Procurement Office.

For proposals that result in a Cooperative Agreement, the Central Project File will contain the following:

1) a copy of the original proposal
2) the evaluation sheets
3) negotiations information and correspondence
4) the Cooperative Agreement, all modifications and all CCB actions
5) the work schedule and milestones chart
6) the environmental report

7) all formal correspondence with the participant
8) memos of correspondence for all informal communications with the participant and/or his project team
9) notes on any conferences with the participant
10) progress reports
11) invoices
12) any data on resource assessment, e.g., exploration surveys, etc.
13) the well drilling plan
14) all technical data developed in the project, e.g., drilling reports, geophysical logs, raw flow test data
15) news releases and publically issued information on the project
16) all other information pertinent to the project.

The Central Project File will be maintained in duplicate, one by the DOE-ID Program Manager and one by the Monitor Team Secretary.

In addition to the Central Project Files, technical data files will be established at DOE-NV (for projects with wells deeper than 2500 feet) and at UURI. These files may contain the environmental report, all exploration surveys, all drilling reports, geophysical logs, all raw test data, progress reports, correspondence and any other data or information that these two offices require. Copies of monthly reports will also be sent to the DOE-ID Contracts Office.

VII. DATA TO BE DEVELOPED

During the latter quarter of FY-80, the following items will be developed to facilitate management of the UCCDP.

1) An environmental instruction booklet will be prepared by a subcontractor to EG&G, under the direction and guidance of EG&G. Environmental guidance documents will be developed to facilitate preparation of the participants' environmental reports.

2) Data sheets in the technical support areas will be prepared to standardize the reporting and data gathering process.

3) A filing system will be developed for the Central Project Files, which were noted in the previous section.

4) A computerized information management system will be developed to allow information from each project to be accessed in any of a number of fashions for summary reports, project comparisons, quarterly reports, etc.

5) A quarterly brochure format will be developed for the public release of information on UCCDP projects.

VIII. CHANGE CONTROL BOARD

A Change Control Board (CCB) for the User-Coupled Confirmation Drilling Program will be established to formalize the decision making process for the UCCDP.

The board will be responsible for making decisions that affect the technical management of all UCCDP projects. General areas of concern include modifications to the project scope, funding limits and the schedule.

Membership

The Change Control Board shall consist of the following members:

Chairman	-	Assistant Director for Geothermal Energy	DOE-ID
Member	-	Chief, Resource Definition Branch	DOE-ID
Member	-	Contracts Administrator for project in question	DOE-ID
Member	-	Project Manager, Resource Definition Branch	DOE-ID
Member	-	Manager, Hydrothermal Energy Commercialization Division	EG&G
Member	-	Associate Director, Earth Science Laboratory	UURI
Advisors	-	As requested by the CCB	DOE-ID/DOE-NV EG&G/UURI
Secretary	-		DOE-ID

The Chairman, or a designated alternate, shall be present at all CCB meetings. Other board members must designate an alternate if they cannot attend. Consultants and subcommittees may be designated by the board.

Change Control Board Authority

The Change Control Board (CCB) has the authority to request the Contracts Manager to modify the scope, funding limits and schedule of UCCDP projects managed by DOE-ID. A decision by the CCB is solely the responsibility of the Chairman, since he is the only voting member of

the Board. All other members act in an advisory capacity. Decisions resulting from CCB action will be enacted through the DOE contracts administrator in accordance with the applicable Cooperative Agreement modification regulations.

The CCB has authority over the project monitoring team which is responsible for the normal project monitoring and decision making process.

CCB action will be required if changes in the following project parameters are required:

a) Project Scope - modification to the statement of work regardless of cost or schedule impact.

b) Project Schedule - modification to project schedule or milestones greater than 30 days.

c) Project Cost - any modification to project cost. The final determination of the project cost-share will be made through CCB action.

CCB actions shall be reported on the CCB Action Form shown in Figure VIII-1, which requires the signatures of the CCB Chairman (Assistant Director for Geothermal Energy), the DOE-ID Project Manager, the UURI Project Manager and the Monitor Team Secretary.

Change Control Board Budget Management

A management reserve of 5% of the funded moneys will be maintained to handle increases in work scope or unforeseen overruns. If any task should be cancelled or significantly reduced in scope, the value of the deleted portion will be directed into the management reserve.

The entire project budget including the identified management reserve will be established in the baseline program plan. Funds may be transferred between project budgets as CCB approval is obtained.

for UCCDP

Title _____ CCB No. _____

Cooperative Agreement No. _____

Description of Problem _____

Statement of Proposed Change _____

Condition if Change Not Made _____

Estimated Schedule Impact of Proposed Change _____

Estimated Cost Impact _____ Allocated from MR _____ (w/FY Identification)

_____ Returned to MR _____ (w/FY Identification)

Basis for Cost Estimate

Baseline Revision Required

Cost	Yes	No
Schedule	Yes	No
Statement of Work	Yes	No

UURI Project Manager

Signature Date

Monitor Team Secretary

Signature Date

DOE Project Manager

Signature Date

DOE Certification (Assistant Director)

☐ Approve ☐ Disapprove ☐ Defer

Signature Date

COMMENTS _____

Meetings

Change Control Board meetings will be held at the time and place to be announced to project participants by the Change Control Board secretary at least four working days prior to the scheduled meeting. Minutes shall be issued three working days after each board meeting. The certification of a change by the chairman represents authority for the UCCDP contractor to proceed with the work.

Change Control Secretary's Responsibilities

The Change Control Secretary shall:

1. Schedule board meetings, prepare the agenda, and assure that a change request package is available for each item placed on the agenda.

2. Prepare the following for the board:

   a) Agenda
   b) Status of previous action
   c) Status of management reserve account.

3. Publish minutes of each Change Control Board meeting and distribute these minutes.

4. Prepare the CCB Action Form, obtain all necessary signatures, and distribute copies to all CCB and Monitor Team members and to files.

APPENDIX A

PRELIMINARY REVIEW WORKSHEET

Attached is a suggested worksheet to be used by DOE-ID personnel in performing a preliminary review of submitted proposals to determine if they meet all seven qualification criteria listed in the SCAP. Any proposal that does not meet all seven qualification criteria is not to undergo the comprehensive evaluation.

QUALIFICATION CRITERIA

Proposer: _____ Identification No.: _____

To qualify for consideration under this SCAP, the proposer must meet certain qualification criteria. Prior to the detailed evaluation, each proposal will undergo a preliminary review to assure the following qualification criteria are satisfied:

		Yes	No
1.	The proposal contains a variable cost-share plan.	☐	☐
2.	The proposer is not a Federal agency and/or laboratory owned, operated, or under the cognizance of the Federal Government.	☐	☐
3.	The proposal includes a statement of intent from the potential user to develop the reservoir or cause the development of the utilization system (end-use).	☐	☐
4.	The DOE cost-share does not exceed $3.6 million for a project that proposes one production well and one injection well. For a one well proposal, DOE's cost-share does not exceed $2.0 million under any circumstances.	☐	☐
5.	The proposal site is within the 50 states of the United States.	☐	☐
6.	The project provides for flow testing of at least one new or existing well for the purpose of resource confirmation.	☐	☐
7.	The proposal is valid for at least 200 days after the closing date of this SCAP.	☐	☐

Discussion (if any):

If any of the above 7 criteria have "no" for the answer, the proposal should be forwarded immediately to the Chairman of the Source Evaluation Board. No further evaluation will be performed unless a legal interpretation suggests the criterion (criteria) have been met.

_____ _____

Signature of Evaluator Date

APPENDIX B

Subcommittee Evaluation and Consensus Worksheets

Attached are suggested worksheets to be given to members of each of the six technical subcommittees and the business committee. These worksheets are intended to serve as a guidance during the review of the proposals. They are not meant to restrict or limit the scope of the review, but rather to provide examples of the kinds of questions reviewers might ask themselves in the deliberative (evaluation) process. Each individual will read the portions of each proposal that are pertinent to his subcommittee (discipline), and evaluate the proposal using the worksheet as a guide. When scoring from 0 to 10, the guidelines of Figure V-3 are suggested to ensure uniformity of score meanings.

INSTITUTIONAL SUBCOMMITTEE WORKSHEET

Proposal _____ Identification No. _____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 3b. Project Management - The project management will be evaluated to determine the adequacy of the following:

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

---

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

Discussion:

CRITERION 3b TOTAL SCORE _____ (0-10)

Criterion 6: Institutional Considerations - The institutional considerations will be evaluated according to their potential impact on the success of the project and the likelihood of satisfactory solution of the following items:

a. Right of access, leases, and/or ownership and right to the use of water/geothermal/mineral resources.

b. Known and potential environmental issues.

c. Relevant legal, social, or institutional problems.

d. Potential safety problems and practices.

---

a) Does proposal address:

	Yes	No
1. Right of access		
a. land (lease, ownership)		
b. water/geothermal/mineral		
2. Description of drill site (size, location)		
3. Have they listed the permits to drill & test?		

Discussion:

Criterion 6a Score _____

b) Does proposal address:

1. Understanding of potential environmental issues (e.g., protection of surface and groundwater quality). List major issues addressed.

Discussion: Score_____

2. Description of well design (casing and cement).

Discussion: Score_____

3. Discussion of fluid disposal:
   a. during drilling
   b. during testing

Discussion: Score_____

4. Well control ability (BOPE)
   a. safety around rig
   b. handling of hot geothermal fluid

	Yes	No

Discussion: Criterion 6b Score _____

c) Does proposal address relevant legal, social, or institutional problems?

Discussion: Criterion 6c Score _____

d) Do they discuss environmental control measures (including chemical analyses) they will take during drilling and testing, and are they adequate?

Discussion: Criterion 6d Score _____

CRITERION 6 TOTAL SCORE _____ (0-10)

_____ Signature of Evaluator

_____ Date

INSTITUTIONAL SUBCOMMITTEE CONSENSUS SCORESHEET

Proposal _____ Identification No. _____

From individual scoresheets:

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus*
Criterion 6				
a.				
b.				
c.				
d.				
Criterion 6 Total Score				

Discussion:

	Eval 1	Eval 2	Eval 3	**
Criterion 3b				

Discussion:

Evaluators: _____ Date: _____

_____

_____

*This group of numbers should be entered on the Comprehensive Technical Summary in the appropriate blank.

**This number should be entered on the Criterion 3 Summary Sheet.

RESOURCE SUBCOMMITTEE WORKSHEET

Proposal_____ Identification No:_____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 1: Resource Potential - The resource potential will be evaluated considering the following factors:

a. The likelihood of the existence of a resource.

b. The size and use potential of the resource.

c. The correlation between the resource and the intended end use.

---

a.1 Are there hydrothermal manifestations such as thermal springs or thermal spring deposits, hydrothermal alteration or thermal wells at or near the proposed site?

Evaluate the extent to which the described hydrothermal manifestations support the concept of occurrence of a hydrothermal reservoir at the proposed site.

Discussion: Score_____

a.2 Is a hydrothermal exploration target developed from the available data and described in the proposal?

Evaluate the extent to which the proposed hydrothermal target is supported by the geologic description and by the data submitted. Consider:

a) contribution of regional geologic setting.

b) contribution of subsurface information from prior drilling.

c) contribution of other geological, geochemical or geophysical data that bear on the potential resource.

d) any negative information that bears on the resource and the extent to which this negative information is successfully rationalized.

Discussion: Score_____

b. Is the possible ultimate size and use potential of the reservoir discussed in the proposal?

Evaluate the size and use potential giving higher scores to those reservoirs which appear to have large potential for significant development beyond the project described in this proposal.

Discussion: Score_____

c. Considering the resource requirements of the intended end use, evaluate the likelihood that the proposed hydrothermal resource would actually supply those requirements.

Discussion: Score_____

CRITERION 1 TOTAL SCORE _____
(0-10)

Criterion 2: Technical & Economic Feasibility - The total project, including the proposed use of produced fluids, will be evaluated for technical and economic feasibility, (disregarding any proposed DOE funding). The following factors will be considered:

a. Feasibility of the total project based on the project description and the resource description.

---

a. Evaluate the technical feasibility of the total project based upon the marriage of the project description and resource description.

Discussion:

CRITERION 2 TOTAL SCORE _____ (0-10)

Criterion 3b. Project Management - The project management will be evaluated to determine the adequacy of the following:

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

---

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

Discussion:

CRITERION 3b TOTAL SCORE _____ (0-10)

Criterion 4: Technical Planning - The technical planning of the reservoir confirmation project will be evaluated for content, adequacy, and completeness of exploration, drilling, and flow test plans, particularly the relevancy of the exploration plan to the siting of a drill hole.

---

1. Are all elements in the exploration program directed toward obtaining a better understanding of the target concepts and toward drill site selection?

2. Is the exploration program as modest as possible consistent with good drill site selection?

3. Is the mix of techniques in the exploration program balanced properly?

4. Does the exploration plan call for data analyses that keeps pace with data acquisition?

5. Will the proposed exploration program lead to a geologic understanding of the target that is adequate for drill site selection?

6. Is proposed geologic compilation and/or mapping at a scale adequate for data interpretation, target documentation, and drill site selection?

7. Does the proposed geologic data acquisition adequately emphasize features generally associated with geothermal reservoirs?

8. Will each proposed geophysical technique answer specific questions and thus contribute to a better understanding of the target concept?

9. Is each proposed geophysical survey properly designed?

10. Is the proposed geophysical data analysis adequate?

11. Will the proposed geochemical work answer specific questions and thus contribute to a better understanding of the target concept?

12. Is the proposed geochemical work properly designed?

13. Is the proposed analysis of the geochemical work adequate?

14. Will the proposed hydrology work answer specific questions and thus contribute to a better understanding of the target concept?

15. Is the proposed hydrology work properly designed?

16. Is the proposed analysis of the hydrology work adequate?

17. Are the proposed thermal gradient and/or heat flow holes properly designed to answer specific questions about drill site selection?

18. Will the proposed exploration program lead to converging lines of evidence that show the best drill test location?

Discussion:

a. Content ☐

b. Adequacy ☐

c. Completeness ☐

CRITERION 4 TOTAL SCORE _____ (0-10)

_____ _____

Signature of Evaluator Date

RESOURCE SUBCOMMITTEE CONSENSUS SCORESHEET

Proposal_____ Identification No._____

	Eval 1	Eval 2	Eval 3	Eval 4	Subcommittee Consensus*
Criterion 1 Resource Potential					
a. Likelihood					
b. Size & Use Potential					
c. Correlation					
Criterion 1 Total Score					

Discussion:

Criterion 2 Technical & Economic Feasibility					**
a. Technical Feasibility					

Discussion:

*This group of numbers should be entered on the Comprehensive Technical Summary Sheet.

**This number should be entered on Criterion 2 Summary Sheet.

		Eval 1	Eval 2	Eval 3	Eval 4	Subcommittee Consensus
Criterion 3	Project Management					***
b.	Organization & Management Team					

Discussion:

Criterion 4	Technical Planning					****
a.	Content					
b.	Adequacy					
c.	Completeness					
	Criterion 4 Total Score					

Discussion:

Evaluators: _____ _____

_____ _____

Date: _____

***This number should be entered on Criterion 3b Summary Sheet.

****This number should be entered on Criterion 4 Summary Sheet.

UTILIZATION SUBCOMMITTEE WORKSHEET

Proposal _____. Identification No. _____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 2: Technical & Economic Feasibility - The total project, including the proposed use of produced fluids, will be evaluated for technical and economic feasibility, (disregarding any proposed DOE funding). The following factors will be considered:

a. Feasibility of the total project based on the project description, the resource description, and the technical and economic aspects of the project.

b. Cascaded or multiple uses of the hydrothermal fluid and projects which propose alternative fluid utilization in the event required temperatures and flows are not encountered.

c. The impact on local or regional energy needs.

---

a) Feasibility (Technical/Economic)

1. Perform an energy balance on the system described in the proposal. Is the proposed design realistic from an energy balance standpoint?

2. Will the geothermal fluid be utilized for a significant portion of the proposer's energy requirements? Estimate or calculate the percent geothermal _____.

3. Is the utilization factor for the proposed design realistic?

4. Has the proposer taken the corrosion and scaling properties of the fluid into consideration for the design of components and selection of materials?

5. Are the schematics sufficient to assure that the proposer is familiar with geothermal design considerations?

6. Are the major system components adaptable to the use of geothermal fluids?

7. Convert the annual energy consumption that will be met through the use of geothermal energy into gallons of No. 2 fuel oil. Use this figure in a comparison with other projects to measure the projects impact on local or region energy needs.

8. Assess the feasibility of converting the existing energy system to a geothermal system.

9. Is the proposer using the predicted resource to its full potential in terms of maximizing extraction of energy from the fluid?

10. Is the proposer's plan for disposal of the fluid technically adequate?

11. Are the capital costs for the utilization system realistic?

12. Are the replacement costs realistic in terms of timing of the replacement and cost of the replacement?

13. Are the operating and maintenance costs realistic?

14. Compute cost of geothermal in $/MBtu.

15. Compute cost per installed kilowatt. (Convert Peak Btu/hr to kilowatts by multiplying by 2.931×10^{-4}.)

16. Compute a payback period for the project.

17. Compute a benefit cost ratio for the project.

18. Does the proposed design utilize existing technology?

19. Are the majority of system components off-the-shelf items?

20. Is the degree of retrofit extensive?

21. Does the retrofit appear to be technically feasible?

22. If the energy is to be sold to non-project users:

a) Does the proposer list potential customers?
b) Is the energy rate structure cost competitive?
c) Does it appear feasible that customers will be attracted to the use of the system by technical and economic benefits?

23. Is the cost of geothermal competitive with other available energy sources in the area?

Discussion: Score_____

b) Are cascaded or multiple uses of the fluid proposed?

Discussion: Score_____

c) Impact

1. Assess the impact of the project on local or region energy needs. Is the impact significant? (List ranges for evaluation.)

Discussion:

Score_____

CRITERION 2 TOTAL SCORE _____ (0-10)

Criterion 3b. Project Management - The project management will be evaluated to determine the adequacy of the following:

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

---

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

Discussion:

CRITERION 3b TOTAL SCORE _____ (0-10)

Criterion 5: Variable Cost-Share Plan - The variable cost-share plan as based on the degree of success will be evaluated for adequacy and fairness between DOE and the proposer.

---

1. Does the proposer present a Process Energy Requirements Plot and the rationale for the cost-share plan?

2. Are the minimum temperatures realistic for the process(es) proposed?

3. Are the energy requirements realistic for the process(es) proposed?

4. Are the flow rates realistic for the system design and well proposed?

5. Are the other proposed minimum acceptable resource requirements realistic?

6. Does the proposer present a cost-share formula that is continuous from 10%-80%? If not continuous, are the "break points" realistic?

7. What elements of the cost-share plan require improvement?

Discussion: Score_____

CRITERION 5 TOTAL SCORE _____
(0-10)

_____ _____
Signature of Evaluator Date

UTILIZATION SUBCOMMITTEE CONSENSUS SCORESHEET

Proposal_____ Identification No._____

		Eval 1	Eval 2	Eval 3	Subcommittee Consensus*
Criterion 2	Technical Feasibility				
a.	Feasibility				
b.	Alternate Use				
c.	Regional Needs				
	Criterion 2 Total Score				

Discussion:

Criterion 3	Project Management				**
b.	Organization & Management Team				

Discussion:

*This group of numbers should be entered on Criterion 2 Summary Sheet.

**This number should be entered on Criterion 3 Summary Sheet.

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus
Criterion 5 Variable Cost-Share Plan				***

Discussion:

Evaluators: _____

_____

_____

Date: _____

***This number should be entered on Criterion 5 Summary Sheet and the overall rating entered on the Comprehensive Technical Summary Sheet.

RESERVOIR SUBCOMMITTEE WORKSHEET

Proposal_____ Identification No:_____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 2: Technical & Economic Feasibility - The total project, including the proposed use of produced fluids, will be evaluated for technical and economic feasibility, (disregarding any proposed DOE funding). The following factors will be considered:

a. Feasibility of the total project based on the project description, the resource description, and the technical and economic aspects of the project.

---

a) Does the project description, as it relates to reservoir expectations, reflect the feasibility of this project?

Discussion:

CRITERION 2 TOTAL SCORE _____ (0-10)

Criterion 3b. Project Management - The project management will be evaluated to determine the adequacy of the following:

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

---

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

Discussion:

CRITERION 3b TOTAL SCORE _____ (0-10)

Criterion 4: Technical Planning - The technical planning of the reservoir confirmation project will be evaluated for content, adequacy and completeness of exploration, drilling, and flow test plans, particularly the relevancy of the exploration plan to the siting of a drill hole.

---

a) Does the Well Test Plan discuss a proposed plan for data assimilation during drilling to maximize the interpretation of the subsurface hydrologic systems?

Discussion:

b) Evaluate the completeness of the Well Test Plan as to:

1. flow test design (type, duration)
2. type and accuracy of measurements.

Discussion:

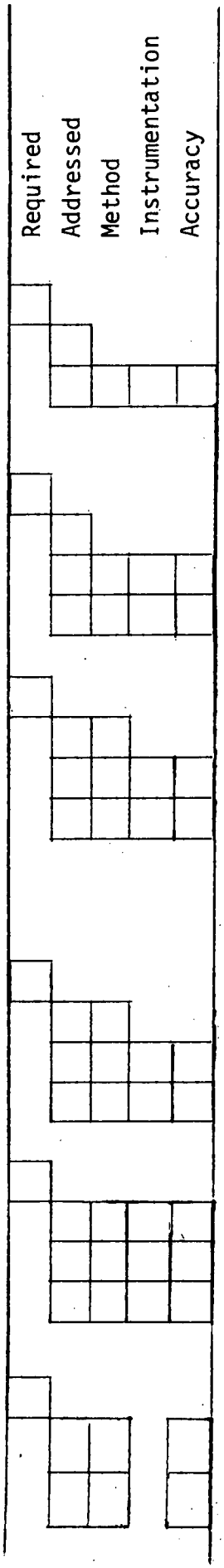
c) Evaluate the data analysis techniques proposed as to their applicability, assumptions, and accuracy in predicting well and reservoir behavior (see attached score sheet).

Discussion:

CRITERION 4 TOTAL SCORE _____ (0-10)

_____ _____

Signature of Evaluator Date



EVALUATION DURING DRILLING

1. Physical Drilling
   a. Penetration rate and bit weight
   b. Formation identification (chips, geophysics, cores, petrology)

2. Hydrologic Data
   a. Drilling fluid (type, circulation)
   b. In/Out temperature
   c. Measured head or flow

3. Post-Drilling Data
   a. Well development method
   b. Well response during development
   c. Temperature log

TEST DESIGN

1. Organization
   a. Fluid disposal
   b. Baseline data
   c. Test (type, pulse, sustained, duration)

2. Measurements/Instrumentation
   a. Rate
   b. Fluid level
   c. Temperature

3. Test Analyses
   a. Well behavior (specific capacity, well efficiency, well loss)
   b. Reservoir behavior (assumptions, thermal, technique or method predictions)

RESERVOIR SUBCOMMITTEE CONSENSUS

SCORESHEET

Proposal _____ Identification No. _____

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus*
Criterion 2 Technical Feasibility				
a. Feasibility				

Discussion:

Criterion 3 Project Management				**
b. Organization & Management Team				

Discussion:

*This number should be entered on Criterion 2 Summary Sheet.

**This number should be entered on Criterion 3 Summary Sheet.

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus
Criterion 4 Technical Planning				***
a. Content				
b. Adequacy				
c. Completeness				
Criterion 4 Total Score				

Discussion:

Evaluators: _____

_____

_____

Date: _____

***These numbers should be entered on Criterion 4 Summary Sheet.

DRILLING SUBCOMMITTEE WORKSHEET

Proposal _____ Identification No: _____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 2: Technical & Economic Feasibility - The total project, including the proposed use of produced fluids, will be evaluated for technical and economic feasibility, (disregarding any proposed DOE funding). The following factors will be considered:

a. Feasibility of the total project based on the project description, the resource description, and the technical and economic aspects of the project.

---

a) Based upon the drilling program proposed, is this project technically feasible?

Discussion:

CRITERION 2 TOTAL SCORE _____ (0-10)

Criterion 3b. Project Management - The project management will be evaluated to determine the adequacy of the following:

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

---

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

Discussion:

CRITERION 3b TOTAL SCORE _____ (0-10)

Criterion 4: Technical Planning - The technical planning of the reservoir confirmation project will be evaluated for content, adequacy and completeness of exploration, drilling, and flow test plans, particularly the relevancy of the exploration plan to the siting of a drill hole.

---

a) Evaluate the Preliminary Drilling Plan (see Worksheet) for thoroughness in addressing:

1. casing, cementing, fluids and logging
2. rig, support services, and wellhead hardware.

Discussion:

a. Content ☐

b. Adequacy ☐

c. Completeness ☐

CRITERION 4 TOTAL SCORE _____ (0-10)

_____ Signature of Evaluator

_____ Date

DRILLING GUIDELINE WORKSHEET

	Required	Addressed
Rig Selection	☐	
Size	☐	
Control Equipment	☐	
Support Equipment & Instrumentation	☐	
Well Design	☐	
Borehole Configuration	☐	
Casing Program	☐	
Cement Program	☐	
Method of Completion	☐	
Drilling Fluids	☐	
Type	☐	
Appropriateness	☐	
Fluid Losses	☐	
Formation Identification	☐	
Lithology (mud log, borehole geophysics, etc.)	☐	
Drill Data	☐	
Temperature Logging	☐	
Support Services (fluid sampling, mud logging, coring, directional drilling, etc.)	☐	
Well Development	☐	
Method	☐	
Recovery Measurement	☐	
Wellhead Equipment (materials, thermal expansion, etc.)	☐	

DRILLING SUBCOMMITTEE CONSENSUS

SCORESHEET

Proposal _____ Identification No. _____

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus*
Criterion 2 Technical Feasibility				
a. Feasibility				

Discussion:

Criterion 3 Project Management				**
b. Organization & Management Team				

Discussion:

*This number should be entered on Criterion 2 Summary Sheet.

**This number should be entered on Criterion 3 Summary Sheet.

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus
Criterion 4 Technical Planning				***
a. Content				
b. Adequacy				
c. Completeness				
Criterion 4 Total Score				

Discussion:

Evaluators: _____

_____

_____

Date: _____

***These numbers should be entered on Criterion 4 Summary Sheet.

PROJECT MANAGEMENT SUBCOMMITTEE WORKSHEET

Proposal _____ Identification No: _____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularly complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 3: Project Management - The project management will be evaluated to determine the adequacy of the following:

a. Project Management Plan - will be evalutated for:

1) Completeness and adequacy of the comprehensive project description, discussion of individual responsibilities and task assignments of each project participant, estimates of personnel effort for each of the tasks, discussion of manpower availability to satisfy task requirements, and management techniques.

2) Completeness and adequacy of the detailed schedule including sequence of project tasks, principal milestones and decision points.

3) Adequacy of participant/team commitments to assure completion of the project in a timely manner.

b. Organization and Management Team - will be evaluated for:

1) Qualifications, capabilities and experience of key personnel with projects of comparable scope, i.e., in geothermal, petroleum, hydrology or related technologies.

2) Qualifications, capabilities and experience of all participating organizations.

a) Project Management Plan

1. Is Statement of Work detailed to give a comprehensive description of project and tasks?

2. Do individual responsibilities and task assignments appear clear cut, with accurate estimates for time required?

3. Is schedule of tasks provided?

4. Are major milestones and decision points provided?

5. Is organization of the project orderly and in format necessary to complete the project in a timely manner?

6. What elements should be added to the plan to improve it?

Discussion: Score_____

b) Organization & Management Team

1. Do key personnel assigned to the project have the qualifications and experience necessary to conduct a project of this scope?

2. Do all participating organizations have adequate experience and capabilities to conduct a project of this scope?

3. What elements of the team should be improved if this project is selected?

Discussion: Score_____

CRITERION 3 TOTAL SCORE _____ (0-10)

_____ _____

Signature of Evaluator Date

MANAGEMENT SUBCOMMITTEE CONSENSUS SCORESHEET

Proposal _____ Identification No. _____

	Eval 1	Eval 2	Eval 3	Subcommittee Consensus*
Criterion 3 Project Management				
a. Plan				
b. Organization & Management Team				

Discussion:

Evaluators: _____

_____

_____

Date: _____

*Enter item "a" Evaluator's scores on Criterion 3 Summary Sheet. Only subcommittee consensus score is used for item "b" on Criterion 3 Summary Sheet.

BUSINESS COMMITTEE WORKSHEET

Proposal _____ Identification No: _____

INSTRUCTIONS

The evaluators shall consider the following factors in their comprehensive evaluation of each study proposal. Significant and detailed favorable and/or unfavorable comments are to be recorded in the spaces provided. The evaluator shall be particularily complete in recording data regarding scores which are exceptionally high or low. These data will be used to arrive at a consensus score for each proposal. (Please note that each Criterion shall be scored 0 to 10, with 10 being OUTSTANDING.)

Criterion 7: Project Cost/Budget Summary

a. The proposal will be evaluated for compliance with instructions for completing optional Form 60.

b. Reasonableness of costs and time proposed for functional tasks.

Discussion:

CRITERION 7 TOTAL SCORE _____
(0-10)

Criterion 8: Project Financial Plan - The Project Financial Plan will be evaluated for the ability of the proposer to commit resources to finance the non-DOE share of the entire development through end use.

Discussion:

CRITERION 8 TOTAL SCORE _____
(0-10)

Criterion 9: Organization Information

a. Adequacy of the proposing entity to accomplish the project considering its size, type of business, and history.

b. A satisfactory record of past performance.

Discussion:

CRITERION 9 TOTAL SCORE _____
(0-10)

_____ _____
Signature of Evaluator Date

APPENDIX C

Criteria Evaluation Summary Sheets

and

Comprehensive Summary Sheets

Attached are six technical Criterion Summary Sheets to be used in a meeting of the Technical Subcommittee Chairmen to arrive at an overall score for each criterion. These Criterion Summary Sheets are then summarized on the Comprehensive Technical Summary Sheet. Also attached is a Business Criteria Summary Sheet for use by the Business Advisory Committee.

CRITERION 1 SUMMARY SHEET

Proposal _____ Identification No: _____

Note: Evaluation is among 4 subcommittee members.

Resource Potential	Committee Consensus
a. Likelihood	
b. Size & Use Potential	
c. Correlation (resource to use)	
	(0-10)

Discussion:

Committee Consensus Rating for Criterion 1 _____ (0-10)

Evaluators: _____

Date: _____

CRITERION 2 SUMMARY SHEET

Proposal _____ Identification No: _____

Note: Evaluation is by 4 committee chairmen.

Technical Feasibility	Resource	Drilling	Reservoir	Utilization	Committee Consensus
a. Feasibility					
b. Alternate Use					
c. Regional Needs					
				(0-10)	(0-10)

Discussion:

Committee Consensus Rating for Criterion 2 _____ (0-10)

Evaulators: _____

Date: _____

CRITERION 3 SUMMARY SHEET

Proposal _____ Identification No: _____

Note: Evaluation is among 3 subcommittee members for a., and among 6 subcommittee chairmen for item b.

	Evaluator 1	2	3	Committee Consensus*
Project Management				
a. Plan				

Discussion:

*These numbers should be entered on the Comprehensive Technical Summary Sheet.

	Institutional	Resource	Utilization	Reservoir	Drilling	Management	Committee Consensus*
Project Management b. Organization & Management Team							

Discussion:

Committee Consensus Rating for Criterion 3 _____ (0-10)

*These numbers should be entered on the Comprehensive Technical Summary Sheet.

3a. Evaluators _____

_____

_____

Date: _____

3b. Evaluators _____

_____

_____

_____

_____

_____

Date: _____

CRITERION 4 SUMMARY SHEET

Proposal _____ Identification No: _____

Note: Evaluation is by 3 subcommittee chairmen.

Technical Planning	Resource	Reservoir	Drilling	Committee Consensus
a. Content				
b. Adequacy				
c. Completeness				
	(0-10)			(0-10)

Discussion:

Committee Consensus Rating for Criterion 4 [ ] (0-10)

Evaluators: _____

Date: _____

CRITERION 5 SUMMARY SHEET

Proposal _____ Ientification No: _____

Note: Evaluation is among 3 committee members.

	Evaluator 1	Evaluator 2	Evaluator 3	Committee Consensus
Variable Cost-Share Plan				
	(0-10)			(0-10)

Discussion:

Committee Consensus Rating for Criterion 5 _____ (0-10)

Evaluators: _____

Date: _____

CRITERION 6 SUMMARY SHEET

Proposal _____ Identification No: _____

Note: Evaluation is among 3 committee members.

Institutional Considerations	Evaluator 1	Evaluator 2	Evaluator 3	Committee Consensus
a. Rights				
b. Issues				
c. Problems				
d. Safety				
	(0-10)			(0-10)

Discussion:

Committee Consensus Rating for Criterion 6 _____ (0-10)

Evaluators: _____

Date: _____

COMPREHENSIVE TECHNICAL SUMMARY SHEET

Proposal _____ Identification No: _____

Yes No

Passes Basic Qualification Criteria

Technical Evaluation (Score 0-10; 10 = Outstanding)

1. Resource Potential
   - a. Likelihood
   - b. Size and Use Potential
   - c. Correlation

2. Technical Feasibility
   - a. Feasibility
   - b. Alternate Use
   - c. Regional Needs

3. Project Management
   - a. Plan
   - b. Organization and Management Team

4. Technical Planning
   - a. Content
   - b. Adequacy
   - c. Completeness

5. Variable Cost-Share Plan

6. Institutional Considerations
   - a. Rights
   - b. Issues
   - c. Problems
   - d. Safety

Discussion:

Compiler: _____ Date: _____

COMPREHENSIVE BUSINESS CRITERIA SUMMARY SHEET

Criteria 7, 8 and 9

Proposal _____ Identification No: _____

Note: Evaluation is among 6 committee members and committee chairman.

	Evaluator 1	2	3	4	5	6	7	Summary Rating
Criterion 7 - Project Cost/Budget Summary								
Criterion 8 - Project Financial Plan								
Criterion 9 - Organization Information								
				(0-10)				(0-10)

Discussion:

Evaluators: _____

Date: _____

APPENDIX D

Preference Factor and Final Ranking Worksheets

PREFERENCE FACTOR WORKSHEET

Proposal _____ Identification No: _____

1. The project is located near/in _____ (geographic location).

2. The end use of this project is _____ (type of use).

3. This project reflects the potential for expansion or development of the resource. Yes____ No____

4. Alternative uses of the fluid are proposed. Yes____ No____

5. Cascaded and multiple uses are designed into the project. Yes____ No____

6. The total funds required at a 90% DOE cost-share = $_____.

7. The "Btus/yr on-line" projected by this project are _____.

8. The ratio of item 7 to item 6 is _____Btu/hr/dollar.

Discussion:

_____ _____
Signature of Evaluator Date

PROGRAM POLICY FACTORS SUMMARY SHEET

(no rank implied)

ID No.	Proposer	Compl. Date	Location	End Use	Expansion Potential	Alternative Uses	Cascaded & Multiple Uses	Total Funds @ 90% DOE	Btu's/yr On-line	Btu's/yr DOE Funds

USER-COUPLED CONFIRMATION DRILLING PROGRAM

Ranking Sheet

	TECHNICAL CRITERIA						BUSINESS CRITERIA				
Proposer Identif. Number	Resource Raw / x12	Feasi-bility Raw / x8	Manage-ment Raw / x4	Planning Raw / x4	Cost-Share Raw / x2	Institu-tional Raw / x2	Cost Raw / x3	Finan-cial Raw / x2	Organi-zational Raw / x1	Weighted Score	Rank