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UNIVERSITY OF UTAH RESEARCH INSTITUTE

# UURI

EARTH SCIENCE LABORATORY  
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## MEMORANDUM

**TO:** Marshall Reed  
Mary Willcox  
Peggy Brookshier

**FROM:** Howard Ross

**SUBJECT:** State Cooperative Program, Current Status

**DATE:** February 25, 1992

The State Cooperative Program (SCP), last funded through 12 grants as a result of the 1987 PRDA, is almost concluded. Summary technical results were presented in papers by Ross, Taylor and Reed at DOE Program Review IX (March 1991, San Francisco) and at the Annual Meeting of the Geothermal Resources Council (October 1991, Reno).

Regular monthly reporting was discontinued after the GRC due to lack of project activity. This memorandum reviews the current status of the remaining parts of SCP.

The University of North Dakota, Energy and Environmental Research Center, submitted Volume 2, Engineering Report, of the final technical report on September 27, 1991. This completed all deliverables for the grant. On January 16, 1992, UURI received a draft copy of the Geothermal Resource Map of South Dakota, a late deliverable from an earlier grant to this State Team. UURI completed a technical review, noting significant errors with the map, and returned the marked up map with comments on January 18, 1992. Conversations with Dr. Gosnold (February 3-14) confirmed that revisions are in progress and that the final map should be delivered by February 29.

The formal termination date for the Hawaii- Department of Business, Economic Development, and Tourism (HI-DBED) grant was June 20, 1991. The Principal Investigator, Dr. Donald Thomas, University of Hawaii, suffered a severe injury last year and had numerous time conflicts which continually delayed progress on the final

report. In response to DOE/ID demands for the final report, a substandard "Draft" final report was written and sent to DOE/ID and UURI for review on December 6, 1991. Review comments noting major deficiencies were returned to Dr. Thomas on January 2, 1992, after several telephone conversations. Followup conversations with Dr. Thomas, most recently on February 18, indicate that he is rewriting the final report and has (finally) given this project his highest priority. Dr. Thomas declined to indicate any date for submittal of the report. UURI records indicate that \$4,047 remains for this grant. These funds should be held at DOE/ID until the final report is received.

The State of Alaska, Division of Geological and Geophysical Surveys (AK-DGGS), was issued a no cost time extension (NCTE) to January 31, 1992 for Grant No. DE-FG-0788ID122744. Status reports dated November 29, 1991 indicated that most deliverables were in draft form. Conversations with Roman Motyka, Principal Investigator, assure me that the DGGS is working on the deliverables, but completion of the Geothermal Resources Map and Geochemical Tables are taking much more time than they expected. Roman estimates that a draft report and map will be available for review about March 30. UURI records indicate about \$6,048 remains at DOE/ID for this grant.

Progress on the Oregon-DOGAMI grant for scientific drilling at Santiam Pass, not a formal part of the SCP, is on schedule for completion on time, October 15, 1992!

I recommend that we continue to be patient with the delinquent grants in order to maintain some acceptable rapport with the Principal Investigators, and to assure the best final deliverables to DOE. I will continue to call the Principal Investigators and will report to DOE if they do not continue to progress toward the deliverables.

# UURI

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor  
Robert Creede

FROM: Howard P. Ross

DATE: July 10, 1991

SUBJECT: State Cooperative Program Monthly Reports, May and June, 1991

With the completion of the University of Nevada-Desert Research Institute and University of Wyoming final reports, activity in the State Cooperative Program (SCP) has been substantially reduced. Activities in the SCP and related programs for May and June are described below.

Telephone calls were made to Dr. Henry Heasler regarding the UURI review comments on the Wyoming draft final report and the late delivery of the final report. The final report was received on May 17 and checked for revisions. The final report had been substantially improved. The results of this study were summarized in a DOE weekly news item.

Telephone conversations with Ken Taylor and Scott Applonie, DOE/ID, reviewed the status of grants for the Hawaii-DBED; Alaska-DGGS; Wyoming; and North Dakota state teams. Howard Ross called Gerald Lesperance, Hawaii-DBED and informed him of the DOE/ID decision to close out the grant without new funding and the 90 day period for completion of the final report. Lesperance acknowledged the present status of the grant and noted that he would discuss this information with Dr. Donald Thomas, Principal Investigator (P.I.), and try to expedite the completion of the grant.

Telephone calls and a FAX to Dr. Will Gosnold, University of North Dakota P.I. finally located Dr. Gosnold at Lawrence Livermore National Laboratory (LLNL) where he is working on a summer assignment. The project at LLNL utilizes results of the DOE geothermal studies recently completed at North Dakota. Dr. Gosnold realizes his revised final report is overdue and is attempting to overcome word processing and computer problems so the final report can be completed and printed.

A suite of state Geothermal Resource Assessment Maps was transmitted to Mr. Parry Griffin, Ft. Lauderdale, Florida following his request to DOE/GD.

Howard Ross revised a paper presented at DOE PR-IX which summarized results of the State Cooperative Program, 1988-1991. This new paper, coauthored by Kenneth Taylor and Marshall

Reed, has been submitted to the 1991 GRC and accepted for presentation. Howard Ross and Robert Blackett, of the Utah Geological Survey (UGS), prepared and submitted a second paper to the GRC. This paper titled "Exploring for Concealed Hydrothermal Resources Using the Self-Potential Method, Escalante Desert, Utah" is coauthored by Michael Shubat (UGS) and has been accepted for presentation at the 1991 GRC. The paper describes the results of work completed at UURI as Technical Assistance to State Teams and as Geophysical Research-SP Studies.

#### CURRENT STATUS - STATE COOPERATIVE RESEARCH PROGRAM

Technical studies remain active for four grants monitored by UURI in the State Cooperative Program. Final payment and formal grant closings may be pending for an additional three or four grants. The status of the four active grants is summarized below.

#### ALASKA - DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS (AK-DGGS)

Task 4.1 Geyser Bight KGRA Site Specific Study - has been completed and is reported as part of the University of Alaska-Geophysical Institute final report.

Task 4.2 Aleutian Islands-Alaska Peninsula Region - Resource Map and Technical Documentation. DOE/ID has granted a no cost time extension (NCTE) via Mod M003 to extend the grant termination date to January 31, 1992. Roman Motyka, P.I. is recovering from a skiing accident, and geothermal studies currently have a low priority in the DGGS. This NCTE should wrap things up.

#### HAWAII - DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, & TOURISM

Dr. Donald Thomas (P.I.) and Mr. Gerald Lesperance have been notified that no additional funding will be forthcoming for this grant and that a final technical report is due 90 days after the last contract termination date of June 20, 1991. This means a draft final report is due at DOE and UURI on August 4, 1991 and a final report is due September 18, 1991. Dr. Thomas recently suffered a severe leg injury which will restrict his activities for a few months. He cannot estimate when a draft final report will be submitted. It appears that DOE has little choice but to be patient with this grant completion. The technical work completed to date is significant to the geothermal industry and to DOE.

#### UNIVERSITY OF NORTH DAKOTA - DEPT. OF GEOLOGY AND GEOLOGIC ENGINEERING

The grant termination date for this grant was extended to June 10 1991 by DOE/ID. An incomplete draft final report was reviewed and returned to the P.I., Dr. Will Gosnold, in May. The final report is overdue, but revisions are in progress while the P.I. is working on summer assignment at Lawrence Livermore National Laboratory (LLNL). Dr. Gosnold has assured us of his continuing efforts, and the support of the University of North Dakota, in completing the final report as soon as reasonably possible. DOE has little choice but to continue to be patient for receipt of the final deliverable.

One deliverable remains outstanding from an earlier grant to the UND-DGGE. This is the long overdue "Geothermal Resource Map of South Dakota" still in progress at a draft review stage. It is unrealistic to expect completion and submittal of this deliverable until Dr. Gosnold returns to UND, probably in early September. We must continue to remind Dr., Gosnold of this deliverable.

## OREGON - DOGAMI

Although not a formal part of the State Cooperative Program, this grant is monitored with the SCP grants. The active data gathering part of this grant, the drilling of Santiam Pass 77-24, has been completed and much of the analysis is completed. Several technical presentations are in preparation, and the project appears to be on schedule. The grant termination date and deliverable due date is October 15, 1992. Little monitoring is required until the review of a draft final report is required.

*Howard*

Howard P. Ross  
Project Manager, SCP

# UURI

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor  
Robert Creede

FROM: Howard P. Ross

DATE: May 22, 1991

SUBJECT: State Cooperative Program Monthly Report, April 1991.


DOE Weekly News items were submitted describing: direct-use geothermal projects in New Mexico; the Desert Research Institute final report of the Moana reservoir study; the status of the Alaska-Division of Geological and Geophysical Surveys SCP grant; and geothermal solicitations by the Hawaii - Department of Business, Economic Development, and Tourism. Telephone calls were made to Drs. Jacobson (NV-DRI), Heasler (U-WY) and Gosnold (U-ND) to discuss draft final reports and schedules for completed report deliveries. Dr. Roman Motyka (AK-DGGS) and Dr. Donald Thomas (U. HI) were reminded of the need for draft final report review and scheduled completion dates.

A memorandum was submitted to Ken Taylor, DOE/ID, explaining state team project status and potential problems in grant completions. Slides and hardcopy of the State Cooperative Program, DOE Geothermal Program Review IX talk were sent to Marshall Reed for use in DOE internal meetings.

UURI was visited by Franklin Smith, Ormat Energy Systems, who inquired about the current status of geothermal development and the potential for discovery of new moderate temperature systems in Utah. Data lists for Oregon geothermal areas were sent to Trans-Pacific Geothermal, Oakland, California.

Howard Ross continued data reduction and compilation for self-potential data acquired at the Rincon, Radium Springs, and Tortugas Mountain areas, New Mexico, in March.

Howard Ross (UURI) and Bob Blackett and Mike Shubat (Utah Geological Survey) devoted one week to self-potential field studies in early April. They completed 26,000 line-feet of SP profiles at Thermo Hot Springs, verifying the major SP anomaly and completing data acquisition for this area. They began survey work at Baker Hot Springs, completing 18,000 line-feet of survey and recording one significant anomaly. More work will be required in this study area. Ross and Blackett began work on a GRC paper describing SP studies in Utah.

  
Howard P. Ross  
Project Manager, SCP.

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: April 23, 1991

SUBJECT: State Cooperative Program Monthly Report, March 1991.

UURI completed a critical review of the University of Wyoming draft final report "Improved Computational Schemes for the Numerical Modeling of Hydrothermal Resources in Wyoming," by Henry P. Heasler, John H. George, and Myron B. Allen. Minor revisions and corrections were requested to put the report in final form for DOE and NTIS.

Telephone calls were made to Drs. Gosnold (North Dakota), Heasler (Wyoming) and Jacobson (Nevada-Desert Research Institute) regarding revisions to their draft final reports, and schedules for report completion. Completed final reports are expected from Drs. Heasler and Jacobson in April, but the requested revisions to the North Dakota reports are more extensive and may require yet another no cost time extension.

Dr. Howard Ross prepared text and slides for a technical paper "DOE/GD State Cooperative Program, 1988-91: Results" which was coauthored by Ken Taylor (DOE/ID) and Marshall Reed (DOE/GD). Dr. Ross attended DOE Program Review IX in San Francisco and presented the paper at that time.

Robert Blackett, Utah Geological and Mineral Survey (UGMS) and Howard Ross completed revisions in response to reviewer comments on their UGMS report "Self-Potential Survey and Fluid Chemistry, Wood Ranch (Zane) Thermal Anomaly, Escalante Desert, Iron County, Utah."

UURI sent geothermal resource information for the Phoenix-Williams Air Force Base (Arizona) area to Mr. Ralph Palmroy, Jr., of the Queen Creek (AZ) School District. UURI responded to a request for Industry Coupled data for Soda Lake, Nevada by Trans-Pacific Geothermal Company.

Howard Ross (UURI) and Jim Witcher (Southwest Technology Development Institute (New Mexico State Team) continued their self-potential studies in the southern Rio Grande Rift. They repeated three profiles, totaling 12,400 line-feet in the Rincon area for comparison with data

obtained last November. They added 37,000 line-feet of survey data at Radium Springs, completing this survey, and began a new survey over the well-documented Las Cruces East Mesa (Tortugas Mountain) geothermal system.

*Howard*

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Howard P. Ross  
Project Manager, SCP.



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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: March 26, 1991

SUBJECT: State Cooperative Program Monthly Report, February 1991.

Numerous telephone calls were completed to State Cooperative Program (SCP) Principal Investigators regarding the status of draft final reports and the need for no cost time extensions. Drs. Gosnold (North Dakota) and Heasler (Wyoming) requested project extensions to March 31 and April 15 respectively. Dr. Elizabeth Jacobson (U Nevada - Desert Research Institute) discussed the status of reporting and project expenditures with DOE/ID and planned to submit a completed final report without extending the project period.

Two draft final reports were received from the North Dakota state team, critically reviewed, and returned to the authors for revisions. The two reports are: "Stratabound Geothermal Resources in the Northern Great Plains," and "Study of the Geothermal Production Potential in the Williston Basin, North Dakota." Both reports required substantial work before being accepted as final reports.

A draft final report titled "The Moana Geothermal System in Reno, Nevada: A Hydrologic, Geochemical, and Thermal Analysis" by Elizabeth Jacobson and Jeffrey Johnston was received and critically reviewed by UURI scientists. The draft will require a few additions and revisions before being acceptable as a final report to DOE.

Calls were attempted to Dr. Paul Damon, University of Arizona, for submittal of a final report on the K-Ar Age Dating services grant. It was finally determined that Dr. Damon was traveling in Eastern Europe but had delegated responsibility for report completion to his co-investigator, Dr. Muhammad Shafiqullah. The report is expected in March.

Howard Ross, UURI, prepared and made a presentation "Geological and Geophysical Studies of the Newcastle Geothermal System, south-western, Utah" to the February 11 luncheon meeting of the Utah Geological Association in Salt Lake City. Dr. Ross also completed a critical review of a feature article scheduled for publication in the Utah Geological and Mineral Survey (UGMS) quarterly publication, Survey Notes. This article is written by Robert Blackett, former Utah P.I., and describes DOE funded geothermal studies by the UGMS and UURI at the Newcastle geothermal area.

UURI began preparations for DOE Program Review IX and submitted an abstract for a paper "DOE/GD State Cooperative Program, 1988-91: Results" authored by Howard Ross, Kenneth Taylor, and Marshall Reed.

At month's end Howard Ross began preparing field equipment and field plans for a March field trip to Las Cruces New Mexico, to continue self-potential studies over geothermal areas in the southern Rio Grande rift.

*Howard Ross*

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Howard P. Ross  
Project Manager, SCP.

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: February 28, 1991

SUBJECT: State Cooperative Program Monthly Report, January 1991.

State Cooperative Program (SCP) activities for January included several calls to Drs. Heasler, Gosnold, and Jacobson regarding the status of draft final reports for the Wyoming, North Dakota, and Nevada-Desert Research Institute state teams. Dr. Heasler recognized the need for another no cost time extension, and has requested this from DOE/ID. At month's end, both Dr. Gosnold and Dr. Jacobson hoped to complete their draft reports and make revisions before grant termination dates on February 28.

UURI called Dr. Paul Damon, University of Arizona, requesting a two page final report summarizing the K-Ar age dating grant of 1986-1989. The grant has not yet been formally closed and although this was a laboratory service agreement a final report is required. UURI prepared a draft text and Table outline and submitted this to Dr. Damon for completion.

Dr. Ross prepared illustrations and text for an invited talk on the Newcastle, Utah geothermal system to be present at the Utah Geological Association February 11 luncheon meeting. Two inquiries were received from potential developers in response to an announcement of the talk. UURI responded to new ORMAT requests for several copies of state resource maps for Hawaii, Alaska, Nevada, and California.

Self-potential (SP) survey data for the Rincon and Radium Springs (NM) areas were reduced and preliminary contour maps were sent to Jim Witcher, New Mexico Principal Investigator. Although several geothermal targets have been defined, additional work is needed to complete a publication-quality study. This work will resume in March, weather and schedules permitting.



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Howard P. Ross  
Project Manager, SCP.

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: January 22, 1991

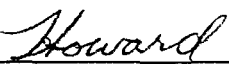
SUBJECT: State Cooperative Program Monthly Report, December 1990.

State Cooperative Program (SCP) activities were somewhat reduced during December as a result of the project status, holidays, illness, and efforts devoted to other projects. The SCP portion of the 1990 Annual Report for DOE was completed and forwarded for inclusion in the report.

A draft final report written by Dr. Min Chu titled "Study of the Geothermal Production Potential in the Williston Basin, North Dakota" was reviewed and edited. A revised final report has not yet been received. The Southwest Technology Development Institute, subcontractor to the New Mexico Research and Development Institute, also submitted a draft final report for review by UURI. This report titled "Time-Integrated Radon Soil-Gas Surveys in Geothermal Exploration in the Southern Rio Grande Rift, New Mexico" was reviewed and edited at UURI. A revised final report which completes all deliverable requirements was received by DOE and UURI before the grant termination date of December 31, 1990.

Telephone calls were made to Dr. Wil Gosnold (University of North Dakota), Dr. Elizabeth Jacobsen (University of Nevada-Desert Research Institute), and Dr. Henry Heasler (University of Wyoming) regarding current project status, status of final reporting, and possible needs for additional no cost time extensions. Conversations with Ken Taylor, DOE/ID, included a recommendation for final payment to the University of Alaska - Geophysical Institute, and the current status of the Hawaii grant. State resource maps were mailed to Petroleum, Inc. (Wichita, KS) and to Ormat Energy systems (Sparks, NV).

Work continued on the reduction of self-potential survey data recorded with state teams at Thermo, UT, Rincon, NM, and Radium Springs, NM. Additional data reduction, interpretation, and field verification tests are needed for all three areas.

  
\_\_\_\_\_  
Howard P. Ross  
Project Manager, SCP.

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: December 12, 1990

SUBJECT: State Cooperative Program Monthly Report, November 1990.

UURI prepared DOE Weekly News Highlights and received and reviewed the University of Alaska - Geophysical Institute final report on Geyser Bight studies. The UURI geochemistry laboratory completed 20 detailed ICP analyses on the Santiam Pass drill core.

Howard Ross discussed project progress and reporting delays with Dr. Will Gosnold, University of North Dakota P.I. and with Ken Taylor, DOE - ID. Dr. Gosnold then notified DOE that UND would take another no cost time extension to complete reporting requirements for the stratabound geothermal aquifer study.

Howard Ross prepared the UURI self-potential equipment and traveled to Las Cruces, New Mexico on November 3 and 4. Ross and Jim Witcher, NMSU P.I. completed 64,000 line feet of SP traverses in the Rincon study area from November 5 - 10, and 50,000 line feet of traverse at Radium Springs, November 12 - 14. Ross assisted Phil Wannamaker with the pickup of CSAMT transmitter dipoles at Valles Caldera on the return trip to Salt Lake City.

Howard Ross presented a review of the State Cooperative Program and self-potential survey activities to Peggy Brookshier, DOE/ID at a briefing at UURI, November 26. Following the briefing, Ross joined Robert Blackett and Michael Shubat for a trip to Beaver, Utah. The UURI - UGMS team completed an additional 65,420 line feet of SP traverse at the Thermo Hot Springs area from November 27 - 30. This effort concludes the SP data acquisition for the winter.

*Howard*

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Howard P. Ross  
Project Manager

# UURI

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## MEMORANDUM

TO: Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard P. Ross

DATE: December 12, 1990

SUBJECT: State Cooperative Program Monthly Report, October 1990.

UURI submitted Weekly News Highlights to DOE and prepared the third quarter SCP report.

Draft final reports were received from Paul Castelin, Idaho-DWR Principal Investigator, for the Twin Falls County and Big Wood River geothermal resource studies. UURI reviewed both reports and discussed suggested revisions with the authors, Paul Castelin, Steve Baker, and Leah Street. Revised final reports were received and inspected at month's end.

Howard Ross discussed scientific studies of the Oregon - DOGAMI Santiam Pass 77-24 drill core with Brittain Hill, DOGAMI Project Manager. Arrangements were made for UURI to complete 20 high precision ICP analyses of the core, and for Dr. Robert Duncan, Oregon State University, to complete three Ar-Ar age dates. The original reports for the Republic Geothermal Company Therma Hot Springs (Utah) data base were returned to Thomas Turner, Utah Energy Office. Other SCP communications included telephone calls to Tom Flynn (Nevada - DES), Henry Heasler (Univ. Wyoming), Jim Witcher (New Mexico - STDI) and Robert Blackett (UGMS).

Howard Ross, UURI and Robert Blackett and Michael Shubat, Utah - UGMS, recorded 57,400 line feet of self-potential (SP) data in the Thermo geothermal area of southwest Utah. This survey when completed, will document the natural SP response of one of Utah's major geothermal areas. A preliminary contour map was prepared and reviewed with the UGMS. Work continued on the UGMS, report of investigation for the Wood Ranch self-potential survey.

Howard Ross completed a preliminary contour map and report of the Rincon, NM self-potential survey and transmitted it to Jim Witcher, NMSU Geologist. These and NMSU radon and temperature studies were presented to NM state energy office officials in Santa Fe, and to community leaders in Las Cruces and Hatch, NM.

Page 2  
December 12, 1990  
H.P. Ross

Additional SCP efforts for October included completion of the August and September monthly reports, and the review of selected geothermal literature.

*Howard*

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Howard P. Ross  
Project manager, SCP



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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** October 23, 1990


**SUBJECT:** State Cooperative Program Monthly Report, August, 1990

State Cooperative Program (SCP) activities were substantially reduced during August due to the scheduled vacation of the UURI Project Manager, and because of activities related to the 1990 International Geothermal Energy Symposium, held at Kailua-Kona, Hawaii.

Illustrations and posters were prepared for a poster presentation which was later presented at the Geothermal Resources Council International Geothermal Energy Symposium. The paper, "Delineation of fluid upflow and outflow plume with electrical resistivity and self-potential data, Newcastle geothermal area, Utah" was presented by Howard Ross, UURI, and was coauthored by Robert Blackett and Michael Shubat, Utah Geological and Mineral Survey (UGMS) and by Claron Mackelprang (UURI contractor). The presentation was well received and provided an opportunity to discuss resistivity and self-potential studies with investigators from several countries, as well as an opportunity to discuss the possible electric power generation potential of the Newcastle geothermal resource.

Howard Ross also prepared slides and a discussion of geophysical data for a presentation by Dr. Duncan Foley, titled "Geology and geophysics of the Zunil geothermal system, Guatemala".

Reproduction of the Thermo Hot Springs data package obtained from Republic Geothermal Company was completed and one copy was delivered to the Utah Geological and Mineral Survey. UURI began working on revisions to a paper "Geothermal Resource Development in Utah" submitted earlier to the Utah Geological Association for inclusion in the 1990 UGA Guidebook.

  
\_\_\_\_\_  
Howard P. Ross  
Project Manager, SCP





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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** October 23, 1990

**SUBJECT:** State Cooperative Program Monthly Report, September, 1990

UURI reviewed project status with several State Cooperative Program (SCP) Principal Investigators and identified the need for no cost time extensions and contract modifications. Dr. Henry Heasler, University of Wyoming P. I. underwent eye surgery so a no cost time extension was awarded to extend this grant to January 31, 1991.

Discussions with Dr. Christopher Nye, University of Alaska Geophysical Institute P.I. and Roman Motyka, Alaska DGGS P.I., resolved problems with the Geophysical Institute draft final report. Dr. Nye reported problems leading to the late delivery of the final report, and requested a second no cost time extension. The revised final report is due on December 1, 1990.

Howard Ross, UURI, met with Ken Taylor at DOE in Idaho Falls on September 6. Ross and Taylor reviewed the status and finances of all SCP grants and completed technical evaluations of contract modifications for the University of Nevada-Desert Research Institute and Hawaii Department of Business, Economic Development, and Tourism grants. Conversations with Dr. Marshall Reed, DOE/GD and Dr. Donald Thomas, Hawaii P.I. explored technical considerations and cost factors related to the Hawaii contract modification.


Final revisions were completed for a technical paper "Geothermal Resource Development in Utah" written by Phillip M. Wright (UURI), Robert Blackett (UGMS) and Howard Ross (UURI). This paper will be published in the 1990 Utah Geological Association Guidebook. Howard Ross prepared slides and a discussion of geophysical surveys and results for a paper "A hydrologic model of the Newcastle geothermal system, Southwestern Utah" presented by Robert Blackett (UGMS) at the 1990 Rocky Mountain Section Meeting, AAPG.

Page 2  
October 23, 1990  
H. P. Ross

Howard Ross and Robert Blackett began documentation of self-potential data acquired on the Woods Ranch thermal area, near Zane, southwestern Utah. The data will be reported as a UGMS Report of Investigation.

Howard Ross met with Jay Hauth, Consulting Geothermal Engineer, to review data on the Newcastle geothermal system which has been acquired by UURI and the UGMS, and has been presented before the GRC and the AAPG. Jay Hauth recognizes some potential for a small binary power plant at the Newcastle resource and is reviewing the available data.

Jim Witcher, New Mexico P.I. at Southwest Technology Development Institute, and Howard Ross, UURI, completed 45,000 line feet of detailed self-potential surveys at the Rincon study area, and 4,000 line feet at the Radium Springs area, New Mexico. The surveys were designed to test radon anomalies generated under the New Mexico SCP grant, and to further document the applicability of the SP method in exploration for low to moderate temperature resources. Three major SP anomalies were detected at Rincon, and one at Radium Springs. All SP anomalies are associated with radon anomalies and some correlate with anomalous thermal wells. More work is needed to complete delineation of these anomalies, and this may be done in November or December.

  
\_\_\_\_\_  
Howard P. Ross  
Project Manager, SCP

# UURI

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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** August 14, 1990

**SUBJECT:** State Cooperative Program Monthly Report, July, 1990

UURI reviewed project status with several state team Principal Investigators (P.I.) and assisted Dr. Donald Thomas, University of Hawaii P. I., with wording of a contract modification. The revised statement of work for the Hawaii grant was reviewed and a recommendation for approval was submitted to DOE/ID. Weekly news items were prepared and submitted to DOE.

UURI completed a review of the University of Alaska-Geophysical Institute draft final report and sent editorial comments to Dr. Christopher Nye, P.I.

A technical paper "Geothermal Resource Development in Utah" was written by Phillip M. Wright, Robert E. Blackett (Utah Geological and Mineral Survey) and Howard P. Ross, and submitted to the Utah Geological Association for inclusion in the 1990 UGA Guidebook. The paper documents several topics presented at a UURI sponsored conference in Salt Lake City last October.

Howard Ross began preparation for a poster presentation at the 1990 GRC Meeting. The topic of the presentation is "Delineation of fluid upflow and outflow plume with electrical resistivity and self-potential data, Newcastle geothermal area, Utah." The paper is co-authored by Robert Blackett and Michael Shubat (UGMS) and Claron Mackelprang (UURI contractor).

Howard Ross and Robert Blackett recorded an additional 20,400 line-feet of self-potential (SP) data over the Zane thermal anomaly. This completes the survey for the present level of study, and

Page 2  
August 14, 1990  
H. P. Ross

will permit reporting of the data as a UGMS Report of Investigation. A coherent negative anomaly of 20 to 50 mV covers 1.25 sq. mi. (2 sq. km) and is closely associated with two shallow wells which have anomalous fluid chemistry and temperature.

*Howard*

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Howard P. Ross  
Project Manager

# UURI

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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** July 9, 1990

**SUBJECT:** State Cooperative Program Monthly Report, June, 1990

UURI reviewed State Cooperative Team (SCP) invoices and submitted recommendations regarding payment to DOE/ID. Calls were completed to most of the remaining SCP principal investigators regarding project status and deliverables, and weekly news items were submitted to DOE.

UURI completed a critical review of the Idaho-Department of Water Resources draft final report *Geothermal Resource Analysis in Twin Falls County, Idaho-Part II* by Steven J. Baker and Paul M. Castelin. The report did not address several subtasks identified in the Statement of Work, and provided little of the new technical data called for in the DOE agreement, and was judged unacceptable. A letter listing the problems was sent to Paul Castelin, Principal Investigator, and Ken Taylor, DOE/ID initiated a conference call with Castelin and Ross to discuss resolution of the problems. ID-DWR agreed to extend their Cooperative Agreement and complete the unfinished work. Howard Ross assisted ID-DWR in extending the agreement to October 30, 1990. Problems with the report were discussed with Leah Street, EG&G (former ID-DWR P.I.) and Bill Young, USGS hydrologist.

A UURI review of the University of Alaska—Geophysical Institute and Alaska—Division of Geological and Geophysical Surveys draft final report on the Geyser Bight geothermal area continued throughout June. Geologic, editorial and contractual requirements have been considered but a review by UURI geochemists is still in progress.

Howard Ross, UURI, joined Robert Blackett and Michael Shubat, Utah Geological and Mineral Survey (UGMS) is conducting a field review of the UGMS Newcastle geothermal study in southern Utah. Ross described the electrical resistivity and self-potential (SP) surveys and results, and Ross, Blackett and Shubat demonstrated the SP method in a profile across the -108 mV SP anomaly. The field review was attended by 17 geologists, hydrologists and engineers.

Following the UGMS Newcastle field review, Ross, Blackett, and Shubat completed an additional 29,000 line-feet of SP coverage over the Wood Ranch thermal anomaly in the Escalante Valley.


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July 9, 1990  
H. P. Ross

UURI completed calls to Don Thomas, Hawaii P. I. regarding the status of his no-cost-time extension, revision of state and federal project charges, and plans for a contract modification. Brittan Hall, DOGAMI, was contacted regarding the Santiam Pass drilling project and UURI support in geochemistry, age dating, and physical property measurements. Dr. Wil Gosnold, North Dakota P. I. was quizzed about progress on the overdue South Dakota resources map. Judging that the North Dakota Survey was again inactive in drafting the map, Dr. Gosnold has demanded that the map be returned so that it can be completed by the Meteorology Department, UND.

UURI submitted a memo to Ken Taylor, DOE/ID, detailing anticipated SCP contract actions through September 3, 1990.

Other SCP activities at UURI include preparations for a GRC poster presentation on the Newcastle, UT geophysical study, and preparation of a paper for the Utah Geological Association (UGA) 1990 guidebook. This paper, titled *Geothermal Resource Development in Utah* will be authored by Mike Wright and Howard Ross (UURI) and Robert Blackett (UGMS).

With this broad range of activities, June was a very busy month for the State Cooperative Program at UURI.

  
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Howard P. Ross  
Project Manager

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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** June 21, 1990

**SUBJECT:** State Cooperative Program Monthly Report, May, 1990

UURI reviewed State Cooperative Team (SCP) invoices and submitted recommendations regarding payment to DOE/ID. Calls were completed to most of the remaining SCP principal investigators regarding project status and deliverables, and weekly news items were submitted to DOE.

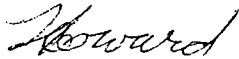
UURI geochemists and the project manager completed a critical review of the Idaho-Department of Water Resources draft final report *Geothermal Resource Analysis in the Big Wood River Valley, Blaine County, Idaho* by Leah Street. Comments were forwarded to Paul Castelin, ID-DWR P.I. and discussed with the author. A review of the University of Alaska-Geophysical Institute draft final report *Geology and Geochemistry of the Geyser Bight Geothermal Area, Unmak Island, Aleutian Islands, Alaska* was begun and is still in progress. Resolution of comments for the University of Nevada-Division of Earth Sciences final report were discussed with Tom Flynn, P.I. and Marshall Reed, DOE. One additional draft final report by the Idaho-DWR was received during May and is awaiting critical review. In short, much of the SCP effort in May was devoted to review of SCP final reports. The same will be true for June.

Howard Ross, UURI and Robert Blackett UGMS, P.I. completed 30,000 feet of self-potential survey traverses on the Wood Ranch, not far from the Newcastle geothermal area in southern Utah. Two wells separated by 1.5 miles produce waters at 27° and 37°C, as compared to surrounding wells with 15° to 20°C fluids. Using self-potential survey techniques similar to those employed in the Newcastle "blind" geothermal system study, Ross and Blackett have identified a broad SP anomaly which appears to be the upflow zone of fluids from another totally blind (hidden) geothermal system. Additional surveys are planned for June and July to further define and confirm this interesting anomaly.

As part of a continuing cooperative study between UURI and the Utah Geological and Mineral Survey (UGMS), Howard Ross contacted Gerry Hutterer, Geothermal Energy Consultant, and Timothy Evans, Republic Geothermal, regarding release of Republic's database for the Thermo geothermal area in southwestern Utah. Tentative agreement was reached to submit the data to UURI and the UGMS and a written request for the data was submitted by Mike Wright, UURI and Lee Allison, UGMS.

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June 21, 1990  
H. P. Ross

Other efforts not specifically charged to the State Cooperative Program, but not reported elsewhere, included the review and cleanup of GeoOperators final reports for the Cascades drilling program, and review of the California Energy Corporation MZ1-11A drilling report. UURI also reviewed and revised a proposed news and data release by the National Geophysical Data Center, NOAA, regarding the old Stillwater and Dixie Valley seismic data.



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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** May 17, 1990

**SUBJECT:** State Cooperative Program Monthly Report, April, 1990

UURI received the draft final report from the University of Nevada - Las Vegas - Division of Earth Sciences, and completed a technical review and editing of this report. The report *Geothermal Fluid Genesis in the Great Basin*, by Thomas Flynn and Paul Buchanan, documents in detail the geochemical, stable light-isotope, radioactive isotope, archaeological and packrat midden studies by UNV-DES. In view of the significance of this study and its conclusions, Marshall Reed requested additional outside review which is in progress. UURI assisted UNV-DES in preparing a one month no-cost-time extension (NCTE) to provide additional time for outside review and final changes to this report.

Discussions with Don Thomas, University of Hawaii Principal Investigator, reviewed the need for contract modification and grant time extension. Dr. Thomas reviewed the Hawaii-DBED billing and found that approximately \$13,000 previously billed as a Federal cost will be rebilled as a State cost share. A request for a contract modification is being prepared and will be submitted to DOE/ID soon.

UURI provided guidance to Dr. Wil Gosnold regarding the environmental checklist completion for his remaining drill holes, and again reminded him of his overdue South Dakota geothermal resources map. Other SCP communications regarding project status were to Elizabeth Jacobsen (UNLV-DRI), Paul Castelin (Idaho-DWR), Bob Blackett (UGMS), and Jim Witcher (NMSU).

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May 17, 1990

SCP-April Report

Howard Ross contributed to a paper *Hydrothermal Energy—An Important Part of America's Energy Strategy*, presented by Ken Taylor at the April Department of Energy Program Review in San Francisco.

Howard Ross (UURI) and Bob Blackett and Mike Shubat (UGMS) reviewed geological and geophysical data for the Newcastle, Utah area and nearby thermal areas in the Escalante Valley. They obtained additional self-potential data at Newcastle, and at the nearby Chloride Canyon area in a one week field trip in mid-April. The paper *Delineation of fluid upflow and outflow plume with electrical resistivity and self-potential data, Newcastle Geothermal Area, Utah* by Ross, Blackett, Shubat, and Mackelprang was accepted by the GRC for a poster presentation in August.



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Howard P. Ross

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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** April 30, 1990

**SUBJECT:** State Cooperative Program Monthly Report, March 1990

UURI reviewed state team invoices and forwarded recommendations to DOE/ID, and provided DOE weekly news items. Telephone calls were completed to several state teams to discuss the status of contract modifications at DOE/ID, project status, and the need for grant time extensions. Drs. Roman Motyka (AK-DGGS) and Christopher Nye (UAK-GI) report continued delays in completing a draft final report for the Geysers Bight study, primarily due to monitoring of the Redoubt volcanic activity. Dr. Henry Heasler (U. WY) reported that he had not received approval for a no-cost-time extension (NCTE) and had been unable to undertake the field data gathering for this study. A NCTE is now in progress. Dr. Elizabeth Jacobsen (UNV-DRI) had determined the need for a NCTE and funding shift within her grant. UURI suggested the format of a letter to DOE/ID through which UNV-DRI would grant itself a NCTE and ask approval for the shift of funds. The letter was immediately accepted as a NCTE. Project status was reviewed in detail with Tom Flynn (UNV-DRI), Jim Witcher (NMSU), and Dr. Wil Gosnold (UND).

UURI compiled a list of journal publications completed during FY89 under State Cooperative Program (SCP) funding and provided this to Marshall Reed at DOE-GTD. Howard Ross reviewed a Meridian Corporation summary of SCP activities and provided comments to Marshall Reed. Ross also provided a write-up of SCP grant status for FY90 and forwarded this to Ken Taylor, DOE/ID. Drs. Wright and Ross reviewed deliverables and contract requirements for the Geo Operator contracts and provide details to Ken Taylor, DOE/ID. Ken Taylor reviewed DOE environmental checklist requirements with Howard Ross and possible sensitive activities in the

state team projects were discussed. Final reports from past SCP grants were received from Ken Taylor and filed at UURI.

UURI responded to information requests regarding geothermal studies and basic geological and geophysical data from Irving Gray, geologist with Double Dragon Exploration (Montana) and Bruce Ferneyhaugh, geophysicist with Newmont Exploration (Colorado). Both inquires relate to precious metals exploration.

Much of the month's SCP effort was devoted to a final interpretation of the Newcastle, Utah resistivity and self-potential data and integration with geologic and geochemical information. Howard Ross and Robert Blackett and Mike Shubat (UGMS) completed a technical report entitled *Delineation of fluid upflow and outflow plume with electrical resistivity and self-potential data, Newcastle Geothermal Area, Utah*. This paper has been submitted to and accepted by the 1990 International Symposium on Geothermal Energy. Ross, Blackett and Shubat hope to follow-up on the Newcastle geophysical study to identify other hidden geothermal systems in the Escalante Desert area.

*Howard*

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Howard P. Ross  
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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** March 20, 1990

**SUBJECT:** State Cooperative Program Monthly Report, February, 1990

UURI reviewed state team invoices and forwarded recommendations to DOE/ID, and provided DOE weekly news items. Telephone calls were completed to several state teams to discuss invoices, and project status and anticipated completion dates. A number of extra copies of Stanford Geothermal Program technical reports, and other state team geothermal reports, were selected and sent to Dr. L. L. "Roy" Mink, Director, Idaho Water Resource Research Institute, and Dr. Duncan Foley, Pacific Lutheran University.

Discussions with Dr. Wil Gosnold, North Dakota Principal Investigator, resulted in agreement to complete the long overdue South Dakota Geothermal Resources Map in black and white, using patterns to replace colors which had been a major stumbling block in completing this deliverable. Work is once again progressing on the map.

The Utah Geological and Mineral Survey (UGMS) submitted a draft final report for the Newcastle geothermal area resource assessment study. The report has been critically reviewed and edited, and comments were presented to Robert Blackett, UGMS P.I. The UGMS has completed a very detailed, multi-discipline study and need only make minor changes to complete an excellent final report.

A substantial effort was committed to the preparation of a technical paper describing geophysical studies at the Newcastle geothermal area, for submittal to the 1990 International Symposium on Geothermal Energy. Final numerical modeling was completed, illustrations prepared, and a draft report begun. The paper is titled *Delineation of fluid upflow and outflow plume with electrical resistivity and self-potential data, Newcastle geothermal area, Utah* and is co-authored by Robert Blackett and Michael Shubat (UGMS) and Claron Mackelprang (UURI consultant). The report must be completed by March 15 to be considered for this symposium.

*Howard*

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## MEMORANDUM

**TO:** Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** February 13, 1990

**SUBJECT:** State Cooperative Program Monthly Report, December, 1989

On December 7 and 8 UURI hosted a meeting to review Radon studies completed at New Mexico State University and to provide a forum for discussion of the role of Radon soil gas surveys in exploration for low and moderate temperature resources. Attending the discussions were: Dr. Rudi Schoenmakers, Director, Southwest Technology Development Institute (of NMSU); Dr. Larry Icerman, former Director of New Mexico Research and Development Institute and former P. I. for the New Mexico SCP grant, and Jim Witcher, who heads up the NMSU Radon study; Bob Blackett, Utah Geological and Mineral Survey (UGMS) P.I., and Charles Bishop, Barry Solomon, and Mike Shubat (all UGMS) presented Radon survey results and other data relating to the Newcastle case study. Attending for UURI were Howard Ross, Joe Moore, Mike Wright, Dennis Nielson, and Susan Lutz. This meeting provided an excellent opportunity for several Radon researchers and geothermal explorationists to critique each others work and to discuss interim results.

Howard Ross continued to work on the Newcastle resistivity and self-potential interpretations as time permitted. A near term goal was to make as much information as possible available to the UGMS to assist in the Newcastle case study. Bob Blackett, UGMS P.I., organized a meeting on December 21 to review the various Newcastle data and interpretations. The meeting was attended by UGMS and University of Utah researchers, and by Howard Ross, UURI. Ken Taylor, DOE/ID, joined Bob Blackett and Howard Ross for a discussion of the project data at UURI on December 6.

UURI reviewed state team invoices and forwarded recommendations for payment to DOE/ID. UURI compiled weekly news items and sent them to DOE. A statement was prepared which described historical support by DOE for Idaho geothermal resource studies and this was forwarded to DOE/ID.

Tom Flynn, University of Nevada - Division of Earth Sciences P. I. was contacted to appraise the need for a no cost time extension (NCTE) for their grant. Dr. Don Thomas, Hawaii P.I., reported the closing down of well HGP-A by the County of Hawaii due to H<sub>2</sub>S pollution problems and said that this would cause a substantial delay in completing the silica brine geochemistry study.

UURI made several telephone calls in response to a DOE request to provide information to Gordon Bloomquist, Washington State Energy Office, regarding the digital database used to compile the state geothermal resource assessment maps from 1980-1983. David Clark, Assistant Director NOAA - Geophysical Data Center, is one of two remaining NOAA employees who worked on the State Geothermal Resource Map program. He confirmed that very little use was made of digital data files in completing the maps. This information and the contact was sent on to Gordon Bloomquist.

Paul Castelin, Idaho-DWR P.I., forwarded a copy of a draft final report by the Berkeley Group, Inc. "Boise Geothermal Aquifer Study" to UURI near the end of the month, and UURI began a critical review of this report.

*Howard*

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Howard Ross  
Project Manager

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## MEMORANDUM

**TO:** Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** December 7, 1989

**SUBJECT:** State Cooperative Program Monthly Report, November, 1989

Revisions to the Washington—DNR final report "New Age Dates, Geochemistry, and Stratigraphic Data for the Indian Haven Quaternary Volcanic Field, South Cascade Range, Washington" were reviewed with Marshall Reed and Ken Taylor. Final editing comments were given to Michael Korosec, WA-DNR P.I. over the phone, and agreement was reached on a cover letter to Ken Taylor which will describe problems with the University of Arizona age dates. A completed final report is expected in December.

State Cooperative Program (SCP) invoices were reviewed and discussed with Ken Taylor. The SCP quarterly report was compiled and sent to DOE/ID for review by Ken Taylor and Ken Osborne. Their comments and corrections were received and the revised quarterly report was distributed. Weekly DOE news items were submitted to DOE.

A summary of the State Cooperative Program activities and progress for FY89 was written for inclusion in the UURI FY89 Annual Report to DOE.

UURI responded to inquires from DOE/ID and EG&G regarding the status of deliverables and contract requirements for the GEO Cascade drilling contracts. All deliverables have been received and contract requirements completed.

Dr. Rudi Schoenmakers, Director, Southwest Technology Development Institute of NMSU called Howard Ross requesting a meeting to review Radon studies completed under the NMRDI SCP grant. Technical studies under this grant are being conducted by NMSU under the direction of Jim Witcher. A meeting has been scheduled at UURI on December 7, 8 which will include Dr. Schoenmakers, Jim Witcher, Larry Icerman (former NMRDI P.I.), Ken Taylor (DOE/ID), Bob Blackett (UGMS P.I.), other UGMS Radon researchers, and UURI scientists.

Non-polarizing porous pot electrodes, cables, and digital voltmeters were prepared for field use in anticipation of completing a Spontaneous Potential (SP) survey at Newcastle. Howard Ross (UURI) and Robert Blackett (UGMS) completed a survey of more than 200 stations during the



week of November 13-17. Excellent data were obtained, with a basic 1 millivolt noise level, even though surface conditions were extremely dry and temperatures were well below freezing in the mornings. A well defined 108 mv low corresponds closely with part of the thermal anomaly, and may indicate the source of thermal fluids.

Numerical modelling of Newcastle dipole-dipole resistivity lines 1, 2, 3, and 4 continued as time permitted.

*Howard*

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Project Manger

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## MEMORANDUM

**TO:** Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** December 7, 1989

**SUBJECT:** State Cooperative Program Monthly Report, October 1989

State Cooperative Program (SCP) activities in September included the review of team invoices and calls to several SCP Principal Investigators. Don Thomas (HI), Roman Montoya (AK-DGGS) Henry Heasler (WY) and Wil Gosnold (ND) were reprimanded for overdue quarterly reports. The responsibility for late reporting is often due to administrative or business personnel rather than SCP Principal Investigators. Howard Ross and Paul Castelin, new Idaho-DWR P.I., reviewed project status and approaches to conclude studies initiated by Leah Street but not yet in a report stage. Copies of a magazine article describing health problems with amoeba found in hot springs were forwarded to Doug Miller (ORMAT) and Karl Meachem, (Monroe, UT).

Several calls were made to Don Chambers, Abilene, Texas inventor regarding instrumentation and data documentation for his oil and gas exploration method. Following discussions with UURI geophysicists and engineers Chambers was advised to contact his local Hewlett—Packard dealer and work out arrangements for short term lease of selected broad-range spectrum analyzers to support his SBA proposal.

October visitors to UURI included Marshall Reed and Sami Aoki (DOE), Karl Meachem (Monroe, Utah hot spring resort owner) and Frank Kawnitz, President of Intermountain H<sub>2</sub>S Safety, who was researching H<sub>2</sub>S in geothermal systems.

Howard Ross, SCP Project Manager, attended the Annual Meeting of the Geothermal Resources Council in Santa Rosa and met with several active and past SCP principal investigators there. Ross contributed geophysical data to the Newcastle Utah study which was presented by Robert Blackett, UGMS P.I. and was a co-author of a paper presented by Alan Tripp (UURI). On October 6 Ross presented a paper "Dipole-dipole electrical resistivity surveys of waste disposal study sites at Hill Air Force Base, Utah" at the Utah Geological Association Hazardous Waste Conference, "Geology and Hydrology of Hazardous-Waste, Mining-Waste, Waste-Waterland Repository Sites in Utah". This talk described environmental studies conducted through the UURI—DOE contract in 1982-83.

Howard Ross and Robert Blackett (UGMS P.I.) presented a talk "Overview of Geothermal

Resources in Utah" at the UURI—Utah Department of Natural Resources seminar "Geothermal Energy in Utah—A Seminar for Developers and Regulators", held at the University of Utah on October 24. Howard Ross and Jeffrey Hulen, UURI, Participated in the UGMS field mapping review of the Keg Pass quadrangle, in snow, on October 26.

Final report revisions were received from Mike Korosec, WA—DNR and reviewed at UURI. Quarterly reports were received from several state teams and reviewed.

Numerically modeling of the Newcastle resistivity survey continued as time permitted. Several iterations have been completed for dipole lines 2 and 3 which cross the main thermal anomaly.

*Howard*

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Howard P. Ross  
Project Manager

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## MEMORANDUM

**TO:** Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** October 16, 1989

**SUBJECT:** State Cooperative Program Monthly Reports, September 1989

State Cooperative Program (SCP) activities in September included the review of team invoices and calls to several SCP Principal Investigators. Elizabeth Jacobsen, UNV-reported that water levels in the Moana wells had not yet recovered to water levels of last October. The study remains somewhat behind schedule and will require a no-cost-time extension (NCTE) at some time in the future. Dr. Wil Gosnold, North Dakota SCP P.I. notified UURI of his desire to change his temperature gradient drilling program 5 holes each in North Dakota and South Dakota to 0 to 2 holes in North Dakota and the remainder in South Dakota. UURI coordinated discussions with Marshall Reed, Ken Taylor and Dr. Gosnold, and recommended wording changes for a contract modification which would result in 8 drill holes in South Dakota and 2 drill holes in North Dakota. All 10 holes will evaluate significant thermal and hydrologic anomalies.

UURI completed a detailed review of the Washington-Dept. of Natural Resources final report and discussed age dating problems with M. Shafiquallah (former U. Arizona Co-PI). Following discussions with Marshall Reed and Ken Taylor, a letter of comment and recommendations for changes was submitted to Michael Korosec, WA-DNR P.I.

Howard Ross and Paul Lineau, OIT, discussed possible collaboration on an update of 1980 Inventory of Western U. S. Cities with Proximate Hydrothermal Potential. The proposed update will look at temperatures greater than 120°F in 14 western states. UURI will work with the State Teams to obtain new resource data and will provide a critical review of existing resource information used in the report.

Howard Ross reviewed a broad spectrum of geophysical data obtained from 1975-1984 at the Roosevelt Hot Springs, Utah geothermal area under DOE programs. Ross presented a lecture "Geophysical Characterization and Methods Testing" as part of the GRC Pre-Course, "Geothermal Exploration and Power Plant Case Histories of the Western U. S." at the Santa Rosa conference.

Howard Ross developed a preliminary interpretative model for Line 3 of the Newcastle electrical resistivity study and provided illustrations and discussion to Bob Blackett, UGMS Principal Investigator. Bob Blackett will present a paper "An Assessment of Geothermal Resources at

Newcastle, Utah" at the GRC annual meeting. This talk will summarize the results to date of the Newcastle case study.

Other September activities at UURI included the preparation of DOE weekly news items and preparation of a talk for the Utah Geological Association to be held October 6 in Salt Lake City.

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Howard P. Ross  
Project Manager

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## MEMORANDUM

**TO:** Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**DATE:** October 16, 1989

**SUBJECT:** State Cooperative Program Monthly Reports, July and August, 1989

State Cooperative Program (SCP) activities continued at a relatively low level during July and August because of vacation periods for many state teams and for the UURI project manager. Because of this, and the late date of this report, July and August activities will be summarized together. As an ongoing activity State Team invoices were reviewed and discussed in detail with Ken Taylor. An in depth review of the Idaho-DNR invoices showed some adjustment of individual task accounting (required for this Cooperative Agreement) which had been in error earlier. Inquires were made regarding a late payment of \$20,000 to ID-DWR which was owed Berkeley Group Inc. for the Boise study.

Calls were made to the state teams to monitor progress, prompt teams for late quarterly reports and to develop DOE weekly new items. Of special interest were calls to Wil Gosnold (U. North Dakota, P.I.) regarding the South Dakota map (only a few more weeks of drafting) and an invited paper on his geothermal studies to be presented in Moscow. Leah Street, Idaho-DNR P. I. indicated her plans to resign from ID-DWR prompting a status review of all tasks and discussion of her replacement. Dr. Larry Icerman, former New Mexico P.I., was contacted regarding the lack of progress by NMRDI in naming a successor P.I. and requesting a contract modification. Subsequent calls to Ponziano Ferraracio, Acting Director NMRDI, and Patrick Rodriguez, nominated as the new P.I. have resulted in requests for necessary contract modifications.

The DOGAMI Santiam Pass grant was again the subject of considerable activity for DOE and UURI. The Phase I report was reviewed and approval forwarded to Peggy Brookshier with the understanding that reproduction and distribution of this interim report would not be required. George Priest was called to discuss problems with map scales and illustrations. Marshall Reed, Howard Ross and George Priest discussed potential problems with access to DOE funded geothermal drill core, to be obtained in Phase II, if stored at Oregon State University, and agreed upon revised wording for the Statement of Work. Peggy Brookshier and Howard Ross reviewed the Phase I report and subsequent letters to determine that the Bureau of Land Management had signed off on a FONSI for environmental effects of the proposed drilling project. The request for Phase II funding was then forwarded to the Secretary, Department of Energy, where it has been awaiting final approval.

October 16, 1989  
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SCP Monthly Report  
H. P. Ross

UURI began a review of the draft final report of the Washington-Dept. Natural Resources volcanic stratigraphy - age date study. The report in its present form is not an acceptable deliverable to DOE. The review continued into September.

Other SCP activities included contributions to the DOE weekly news, review of SCP quarterly report, reading of current technical literature, and information dissemination. The State Cooperative Program continues to respond to information requests and visits by geothermal industry developers and researchers. Information was provided to Mr. Steve Johnson, Ormat Energy Systems regarding Northern Basin and Range resources in general, and San Emidio in particular. Dr. Lowell Lischer, Chief Geologist for True Geothermal Company visited UURI to review Open File data and UURI reports. True Geothermal is also active in the northern Basin and Range and is involved in litigation concerning the Colado resource.

Preparations continued for an electrical resistivity survey at Newcastle, Utah in support of the Utah Geological and Mineral Survey study. Four dipole-dipole resistivity lines were completed at Newcastle from July 10 to 15. The survey team included Howard Ross, and Claron Mackelprang (UURI Research Associate), and Mike Shubat, Charles Bishop, and Bea Mayes (UGMS). Excellent data were obtained which will help to map the area of upwelling fluids, the source of the moderate temperature plume now being utilized by three greenhouse developers.

*Howard*

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Howard P. Ross  
Project Manager

HPR:kr

# UURI

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## MEMORANDUM

**TO:** Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard Ross

**DATE:** July 5, 1989

**SUBJECT:** State Cooperative Program Monthly Report, June 1989

State Cooperative Program (SCP) activities in June included the review of state team invoices and quarterly reports, and telephone calls regarding project status and other items to several SCP Principal Investigators. DOE weekly news items were prepared and submitted to DOE.

The unsolicited DOGAMI proposal for drilling at Santiam Pass continued to be a topic of discussion. DOGAMI must receive final environmental approval for drilling permits prior to a DOE commitment for Phase II funding. DOGAMI cannot complete an agreement with Oxbow Geothermal until DOE support is finalized. Susan Stiger, EG&G, is coordinating the environmental studies with DOE and hopes that drilling may still begin by August 15. George Priest held a meeting of his science team on June 27 to organize personnel and analytical service contributions for the project. UURI has committed to a senior geologist for on site drilling supervision, analytical support and physical property measurements, to be funded by State Cooperative Program Technical Assistance and Cascades project monies.

M. Shafiquallah, University of Arizona CO-PI discussed the K-Ar age date problem with Howard Ross, and provided copies of letters as documentation of the problem resolution. Michael Korosec, Washington-DNR P.I. remains skeptical of the revised age dates but will complete his Cascade volcanism chronology study as scheduled. The dating of four samples now in progress will complete the Arizona grant. Howard Ross talked to Drs. Robert Duncan and Martin Fisk, Oregon State University about the OSU age dating facility. OSU can provide K-Ar or Ar<sup>40</sup>-Ar<sup>39</sup> age date support to the State Cooperative Program at approximately \$400 per sample. The OSU dating service is highly recommended by George Priest who has used it many times. High priority age date requests from the state teams will probably be handled on an individual P. O. basis by UURI.

UURI received receipts and expense information relating to the May DOE Program Review from Drs. Gosnold, Heasler, and Icerman and has issued reimbursement checks.



UURI completed a review of the Washington-Dept. Natural Resources Open File report "Results of the 1988 Geothermal Gradient Test Drilling Project for the State of Washington". Minor changes have been recommended to Michael Korosec and discussed with Ken Taylor of DOE/ID.

Other monitoring calls discussed the status of the South Dakota geothermal resource map and a late quarterly report (Dr. Gosnold); project status, needs for contract modification and a permanent P. I. change (Elizabeth Jacobson, DRI); and several no cost time extensions.

UURI reviewed an interim data report for the Boise geothermal system submitted to the Idaho-Division of Water Resources by the Berkeley Group, Incorporated. Howard Ross discussed the interim report with Leah Street who concurred that the usable well history and supporting data had been properly addressed and that the interim report filled the contract monitoring needs of the Division of Water Resources.

Howard Ross and Robert Blackett, UGMS P.I., discussed scheduling and procedures for an electrical resistivity survey planned for the Newcastle, UT resource area. Present plans call for a three or four line dipole-dipole survey to be completed the week of July 10. UGMS will provide two crew members plus their field expenses, so the survey cost should be about \$10,000.

On June 27 Howard Ross traveled to DOE/ID where he met with Peggy Brookshire and Susan Stiger to discuss the status of the DOGAMI, grant and with Ken Taylor. Taylor and Ross reviewed the status of all SCP grants and identified several action items.

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Howard P. Ross  
Project Manager

# UURI

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## M E M O R A N D U M

TO: Sam Aoki  
Peggy Brookshier  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: June 9, 1989

SUBJECT: State Cooperative Program Monthly Report, May 1989

State Cooperative Program (SCP) activities in May included the review of state team invoices and quarterly reports, and telephone calls regarding project status and other items to several SCP Principal Investigators. DOE weekly news items were prepared and submitted to DOE.

Discussions with Drs. Larry Icerman (NMRDI), Wil Gosnold (U ND) and Henry Heasler (U WY) concerned attendance at and presentations for the May 17 DOE-Geothermal Reservoir Technology Program Review in Washington, and reimbursement of their expenses. Slides summarizing the current State Cooperative Program were prepared for DOE-GTD.

Leah Street, Idaho-Department of Water Resources P. I., finally received delivery of the USGS Final Report "The Hydrothermal System in Central Twin Falls County, Idaho" by R. E. Lewis and H. W. Young (Water-Resources Investigations Report 88-4152). ID-DWR was advised on the initial report distribution, and supplemental copies were submitted to DOE/ID for contract files and TIC. An earlier transmittal of the ID-DWR final report to TIC was verified and the final invoice was approved. DOE/ID has begun to close out this 1984 grant.

DOE and UURI received the first of two final reports from the Washington-Department of Natural Resources. The report "Results of the 1988 Geothermal Gradient Test Drilling Project for the State of Washington" by Douglas B. Barnett and Michael A. Korosec was submitted as WA-Division of Geology and Earth Sciences OF report 89-2 without prior review by UURI or DOE with the understanding that revisions requested by DOE would be made as required. This report is currently being reviewed.

Michael Korosec, WA-DNR P. I., expressed his concern over K/Ar age dates received from the University of Arizona Geochronology Laboratory after receiving revised age dates for four samples in April. The age dating problem resulted when an "accident prone" Research Assistant modified both tracer concentration and composition without the knowledge of her supervisors, causing many erroneous age dates during the period July - December 1988. All samples have been reanalyzed and new age dates calculated.

No Cost Time Extensions (NCTEs) have been requested by the University of Nevada Las Vegas-Division of Earth Sciences and the Utah Geologic and Mineral Survey. The requests are supported by valid reasons and granting the NCTEs will result in better deliverables for DOE. This opinion has been forwarded to Ken Taylor, DOE/ID.

DOE/GTD reports an agreement between DOGAMI and Oxbow Geothermal for joint participation in the drilling of a deep temperature gradient hole in the Santiam Pass area of the Oregon Cascades. DOE/ID is now finalizing the Grant to DOGAMI so that a formal commitment can be made and drilling can be underway no later than August 15.

UURI completed arrangements with Joe Beal of Geysers Geothermal to receive drill core for four drill holes from the Medicine Lake geothermal area, California. The drill core was shipped to UURI during May and is now being sorted and stored in the Geothermal Sample Library.

Howard P. Ross  
Project Manager

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## M E M O R A N D U M

TO: Sam Aoki  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: May 10, 1989

SUBJECT: State Cooperative Program Monthly Report, April 1989

April State Cooperative Program (SCP) activities at UURI included a variety of program management and technical tasks. Annual Business Review reports were received from the Idaho and North Dakota teams, and summary memoranda were written and submitted to DOE/ID following review of these documents at UURI. State team invoices were received, reviewed, and comments regarding payment were telephoned to Ken Taylor, DOE/ID.

Dr. William Sill, former SCP Principal Investigator at the Montana College of Mineral Science and Technology (MCMST), called with concerns that CSAMT equipment used in earlier DOE geothermal studies would be declared surplus by DOE and lost to MCMST projects. Background information was supplied to Marshall Reed who has written a Memorandum supporting the MCMST request to retain this equipment for academic and research purposes.

The DOGAMI unsolicited proposal for a deep heat flow hole at Santiam Pass was again the subject of discussions with Ben Lunis, EG&G, and DOE. A letter of authorization to proceed with Phase I studies has been issued by DOE but the final grant had not been signed at the month's end.

Quarterly reports were received from several state teams and reviewed at UURI. Principal Investigators Drs. Larry Icerman (NMRDI), William Gosnold (UND), and Henry Heasler (UWY) were called to discuss attendance at and presentations for the May 17 program review in Washington. These three PI's should give an excellent indication of the variety and quality of work currently underway in the State Cooperative Program.

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May 10, 1989  
H. P. Ross - SCP Monthly Report

Howard Ross attended the April 19 meeting of the Boise Geothermal Aquifer Coordinating Committee in Boise and participated in discussions with Idaho-Department of Water Resources personnel, Berkeley Group, Inc. and several of the resource users. A field trip to all of the production wells followed this meeting and provided considerable insight into the resource and its present state of development.

Howard Ross began preliminary plans for an electrical resistivity survey at the Newcastle geothermal area in Utah, and has been discussing access permission and scheduling with Bob Blackett, UGMS Principal Investigator. The survey should improve the delineation of fluid upflow along the range front fault, and its outflow plume which is being utilized by three large greenhouse facilities.

*Howard*

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Howard P. Ross  
Project Manager

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## M E M O R A N D U M

TO: Sam Aoki  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: April 13, 1989

SUBJECT: State Cooperative Program Monthly Report, March 1989

Discussions continued with State Cooperative Program (SCP) teams with long term grants regarding their Annual Budget Review. At month's end Annual Budget Reviews had been received from the Alaska-DGGS, Nevada-DRI, and Hawaii-DBED teams. Project status, expenditures, and anticipated changes were reviewed by UURI and a memorandum transmitted to DOE for each team.

Telephone calls to monitor project status were completed to the Wyoming, North Dakota, Arizona, Washington and Idaho Teams. The only (minor) problems are the wrap-up of old grants with Idaho and Arizona, and the overdue delivery of the South Dakota geothermal resources map. The Idaho grant requires delivery of a final USGS report and subcontract payment. Paul Damon, University of Arizona P. I., has to determine a new calibration value to apply to the last six Washington-DNR samples, and is awaiting four additional samples from DOGAMI. Dr. George Priest has been delaying shipment of his last four samples for various reasons but has been advised this opportunity for age dating will terminate unless the samples are shipped soon. No cost time extensions should now be in place for these grants.

State team invoices were reviewed and recommendations for payment forwarded to DOE/ID. A brief description of all new SCP grants was written and transmitted to Ken Taylor in support of his comments at the March DOE Industry Review meeting. Discussion of the DOGAMI Santiam Pass project continued with Ben Lunis, EG&G, and with DOE personnel.

UURI provided State Team reports, maps and geothermal library facilities to two visitors during March. Rick Pole, hydrologist

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April 13, 1989  
H. P. Ross

with JBR Consultants Group (Salt Lake City) was researching density, porosity, thermal conductivity and heat transfer properties for alluvial and sedimentary materials in conjunction with an environmental impact evaluation for a cold water injection project. Bruce Sibbett, Consulting Geologist and former UURI employee, is studying the possible association of previously unknown precious metals deposits with geothermal systems in the western United States for a mining industry client.

Howard Ross joined Bob Blackett and Mike Shubat, Utah Geological and Mineral Survey (UGMS) for the third round of temperature gradient measurements at the Newcastle study area. Temperatures as high as 80°C were measured (in air) at depths of 13 m for the two warmest holes. The UGMS, in cooperation with the University of Utah - Dept. of Geology and Geophysics, is completing a fine case study of this totally blind basin and range geothermal system. UURI hopes to complete a limited electrical resistivity survey over the thermal plume area as additional support for this study. Howard Ross also joined a group of 8 UGMS staff members in an on site review of a geologic mapping project in the Beaver Dam mountains near St. George Utah.

In summary, March was a productive and interesting month for State Cooperative Program activities.

*Howard*

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Howard P. Ross  
Project Manager

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## M E M O R A N D U M

TO: Isamu Aoki  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: January 18, 1989

SUBJECT: State Cooperative Program Monthly Report, December 1988

State Cooperative Program (SCP) activities during December were reduced due to other project commitments, holidays and the relative lack of problems and reporting requirements for the state teams. December activities included the review of state team invoices and discussions with DOE/ID regarding payment of these invoices and project status.

SCP activities, progress, and results for FY 89 were reviewed and compiled in summary reports for the DOE annual report being compiled by EG&G, and in more complete form the UURI Annual Report of DOE projects.

Conversations with state teams included discussions with Leah Street (Idaho-DWR) regarding the overdue USGS report and the status of a proposed transfer of the PI from Twin Falls to Boise (still unresolved). Howard Ross and Michael Korosec (Washington-DNR) discussed the costs associated with the WA-DNR temperature gradient drilling project, and the interim results of this project. A request for a contract modification restating the number of holes and depth of holes was submitted to DOE/ID.

George Priest, Oregon-DOGAMI called to discuss various studies in the Cascades and to inquire about the status of funding for the unsolicited DOGAMI proposal. This was also the subject of discussions with DOE/ID.

On December 6 and 7 Howard Ross accompanied Sami Aoki and Ben Lunis (EG&G) to meetings with the Bonneville Power Administration (BPA) in Portland, Oregon. John Geyer and George Darr presented the current BPA electric power demand scenario for the Pacific northwest. The group discussed the possible role of geothermal energy in the Pacific northwest power mix, and possible



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January 19, 1989  
H. P. Ross

cooperative BPA-DOE initiatives. Geothermal energy can undoubtedly play an important role in future power production in the northwest. Several good thoughts for initiatives were discussed but any new project will be dependent on new funding for DOE or BPA.

Howard  
Howard P. Ross  
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## M E M O R A N D U M

TO: Isamu Aoki  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: December 30, 1988

SUBJECT: State Cooperative Program Monthly Report, November 1988

State Cooperative Program (SCP) activities for November included the review of state team invoices and discussions with DOE/ID regarding payment of these invoices and project status. The various state teams were called for significant developments in geothermal energy in their states for the annual GEOTIMES update by Marshall Reed, and to correct report distribution lists for several of the new grants.

Conversations with Leah Street, Idaho-DWR Principal Investigator, concerned: the status of the ID-DWR RFP for a consultant to review the Boise Geothermal Aquifer data base; further cooperative geologic studies with the U.S.G.S.; and a recent reorganization within the Department of Water Resources. This reorganization which transferred Leah from the Energy Bureau to the Technical Services Bureau-Hydrology Section could impact costs and schedule for the ID-DWR Cooperative Agreement but details are yet to be worked out.

Several state teams, including North Dakota, Nevada-DES, and Wyoming, were reminded that their quarterly reports were overdue. Will Gosnold, North Dakota P.I., and Howard Ross discussed format considerations for the long overdue Geothermal Resources Map of South Dakota.

A summary of State Cooperative Program activities and progress for FY88 was compiled and forwarded to Joel Renner, EG&G, for inclusion in the DOE-GTD Annual Report.

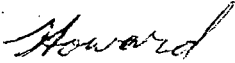
On November 28 Howard Ross travelled to Idaho Falls to participate in discussions with DOE and EG&G personnel regarding

Page 2

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H. P. Ross

problems with funding the Oregon-DOGAMI unsolicited proposal for Cascade drilling. Ross later met with Ken Taylor to discuss a probable contract modification for the Washington-DNR grant, to review state team invoices, and to discuss other SCP matters.



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Howard P. Ross  
Project Manager

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## MEMORANDUM

**TO:** Isamu Aoki  
Marshall Reed  
Kenneth Taylor

**FROM:** Howard Ross

**SUBJECT:** State Cooperative Program Monthly Report, October, 1988

**DATE:** November 16, 1988

State Cooperative Program (SCP) activities for October included the review of state team invoices with recommendations for payment to DOE/ID and telephone calls to review project status and call for overdue quarterly reports. Attendance at the Geothermal Resources Council Annual Meeting in San Diego, October 9-12, provided an excellent opportunity for discussions with several state team members in attendance, and with DOE geothermal program managers.

UURI received two boxes of rock samples submitted by Leah Street, Idaho-DWR for geochemical analyses. UURI will complete whole rock geochemistry, Flourine, trace element, and biotite separates for Flourine analyses in support of Leah's Wood River geothermal study. Conversations with Leah concerned questions on the desired geochemical analyses; the status of her requested modification to the cooperative agreement; and discussions regarding the rate of expenditure for the Wood River study.

A draft final report was received from Dr. George Priest, for the DOGAMI 1984 grant. The report was reviewed and discussed with DOE/ID, and a letter recommending changes for the final report was sent to George Priest. The revised final report and other final deliverables were received at the end of month, reviewed,

Page 2  
November 16, 1988  
October SCP Monthly Report  
H. P. Ross

and all required deliverables for this grant were verified as received and acceptable.

Several discussions with DOE and George Priest attempted to expedite the final site selection of a deep drillhole so that all necessary environmental concerns could be identified and assurances provided to DOE/ID. DOE-DGT has proposed incremental funding for a grant to fund this unsolicited proposal. Details of the work schedule and DOE grant requirements were being resolved at the months end.

Calls to Michael Korosec, Washington-DNR P.I., monitored the progress of the DNR thermal gradient drilling program. At month's end seven of eight drillholes had been completed. WA-DNR was reviewing all costs associated with the drilling before requesting a contract modification.

Quarterly reports were received from four of the SCP teams, and reviewed by UURI.

*Howard*

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Howard P. Ross  
Project Manager

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## M E M O R A N D U M

TO: Isamu Aoki  
Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: October 24, 1988

SUBJECT: State Cooperative Program Monthly Report, September, 1988

State Cooperative Program (SCP) activities for UURI continued at a low level in September due to a diversion of effort to the DOE/CFE Los Azufres study. The monitoring and support demands for the State Cooperative Program were also low because deliverables for most of the pre 1988 grants had been accepted and the last of the 1988 grants were being signed by DOE/ID.

Discussions with DOE/ID, DOE/GTD and EG&G focused on: the Oregon-DOGAMI unsolicited proposal; the Idaho-DWR Task 2 (Boise geothermal aquifer study and RFP for a consultant); and patent clearance for Roman Motyka's (AK-DGGS) paper submitted to *Geochemica et Cosmochemica Acta*.

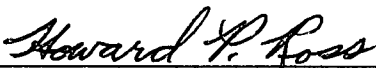
The WA-DNR drilling program was reviewed with Michael Korosec, Principal Investigator; and the need for a contract modification was discussed. It is still too early to specify the number of 500 foot temperature gradient holes that can be drilled with the allocated funds, but eight or nine holes seems likely. Dr. Wil Gosnold, North Dakota was contacted regarding the overdue Geothermal Resources Map of South Dakota (it was mislaid by the drafting group - work is now in progress).

Invoices for the Wyoming and Alaska-Geophysical Institute teams were reviewed and recommendations for payment forwarded to Ken Taylor, DOE/ID.

The UURI quarterly reports on State Cooperative Program activities for the first and second quarters were completed and

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H. P. Ross

submitted to DOE. UURI also devoted some SCP time to the final review of a technical paper titled "Regional Exploration for Convective - Hydrothermal Resources" which has been submitted to Geothermal Science and Technology.

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Howard P. Ross  
Project Manager

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## M E M O R A N D U M

TO: Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

DATE: September 6, 1988

SUBJECT: State Cooperative Program Monthly Report, August, 1988

State Cooperative Program (SCP) activities for UURI during August were at a low level due to vacation periods at UURI and a diversion of effort to the DOE/CFE Los Azufres study. The monitoring and support demands for the State Cooperative Program were also low because deliverables for most of the pre 1988 grants had been accepted and contracts were being closed out by DOE/ID.

Leah Street (Idaho-DWR) was called to track the status of the last deliverable on the 1984 grant. The overdue USGS report has apparently passed final USGS reviews (Geologic Names) and is getting closer to publication. Dr. Wil Gosnold was called to remind him of the overdue Geothermal Resources Map of South Dakota, still expected in a few months.

Activities relating to the 1988 grants included the review of state team abstracts, technical papers, and quarterly reports. Discussions with Leah Street, Idaho-DWR principal investigator, concerned the shipment to UURI and geochemical analysis of Wood River rock samples; the cancellation of the Boise geothermal aquifer test; and a probable modification to the ID-DWR statement of work for the Boise study.

Several monitoring calls to state team members were not completed due to field activities and vacation periods. State Cooperative Program activities should increase substantially in the next few months.

*Howard*

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Howard P. Ross  
Project Manager



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## MEMORANDUM

DATE: July 13, 1988

TO: Marshall Reed  
Kenneth Taylor

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report, June, 1988

State Cooperative Program (SCP) activities for UURI during June were distributed among three different categories: 1) monitoring and support for old (pre 1988) grants; 2) support for 1988 grants; 3) technical writing for DOE program reviews and the open literature.

Conversations with Dr. Larry Icerman established a revised delivery date for the NMRDI final report. This report was received on June 9, reviewed and found to be acceptable to DOE as fulfilling deliverable requirements for the NMRDI grant.

Dr. Dave Blackwell, SMU was called several times regarding the expected, but continually delayed delivery of the SMU final report. The main cause of the delay, a need for additional student support to continue work on the national heat flow data base, was determined by Marshall Reed. Dr. Blackwell agreed to send the completed reports by the end of June and submit any additional data as an addendum at a later time. The SMU final report was received on July 1.

Dr. Bill Sill, Montana College of Mineral Science and Technology was again encouraged to make minor corrections to the Gunnar Emilsson CSAMT thesis so that it could be submitted as a final report to DOE in advance of final corrections and thesis defense by the student. Dr. Sill met with Howard Ross at UURI on June 9 to discuss changes to the text and illustrations. The report was in final form and ready for distribution at the month's end.

Dr. Wil Gosnold was reminded of DOE's continuing interest in the completion of the Geothermal Resources Map of South Dakota. Wil says he is actively working on it and it may be available about August 1.

Page 2  
June SCP Report  
Howard Ross

Deliverable, financial and status information for existing SCP grants was compiled in a format requested by Ken Taylor and then sent to DOE/ID.

Statements of Work (SOW) for the 1988 New Mexico NMRDI and California Energy Commission proposals were resubmitted to DOE/ID. The unsolicited DOGAMI proposal for a deep drill test in the Santiam Pass area was reviewed and a Technical Evaluation Form completed. A Determination of Non-Competitive Financial Assistance (DNCFA) statement and an SOW were prepared for this proposal at DOE/ID request, and these items were forwarded to DOE.

A letter was sent to Leah Street, Idaho-DWR expressing support for her plans to present a paper on current geothermal studies to the GRC in October. Howard Ross participated in a meeting in Idaho Falls on June 22 which had been organized by Ben Lunis, EG&G. Leah Street (Idaho-DWR) and personnel from EG&G, USGS, DOE, and UURI developed preliminary plans for a DOE funded pumping test of the Boise aquifer, tentatively scheduled for August or September of this year. A contract modification to the 1988 ID-DWR Cooperative Agreement may be necessary to clarify deliverables for the Boise study as a result of the timing of this test. A draft statement for the modification was discussed with Leah Street and Ken Taylor.

Conversations with Michael Korosec, Washington-DNR Principal Investigator, and Ken Taylor (DOE/ID) examined the program impact of BLM requirements for blow out preventers (BOP) on holes exceeding 500 feet deep, and on unexpectedly high core drilling bids for the Washington thermal gradient program. Mr. Korosec is exploring alternate drilling possibilities which could result in an acceptable change to the study. A contract modification will be required for this grant.

Calls were made to Marcello Lippman (LBL) and to Michael Campana, UNLV-Desert Research Institute Principal Investigator, to initiate communication between these organizations regarding current geothermal reservoir modeling capabilities. Marcello Lippman offered to review the DRI statement of work for the Moana study and to get in touch with Michael Campana with modeling recommendations.

K/Ar age dating for Oregon Cascades samples was discussed with George Priest, DOGAMI P.I., and with M. Shafiqullah, University of Arizona K/Ar Research Scientist. George was authorized to send four more samples to the University of Arizona for age dating. This leaves the 10 remaining age dates under the Arizona grant for the Washington-DNR team.

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June SCP Report  
Howard Ross

Two technical writing activities also were active in June. Some time was contributed to the Geothermal Studies document presented at the DOE geothermal program review at LBL in June. The other effort is a contribution to a UURI technical paper "Regional Exploration for Hydrothermal Resources" written by several authors and being submitted to "Geothermal Science and Technology" as an invited paper.

Howard

Howard Ross  
Project Manager

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June 16, 1988

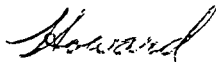
Marshal Reed  
DOE/DGHT  
Mail Stop CE-342  
Washington, DC 20585

Dear Marshall:

Enclosed are the April and May monthly reports for UURI activities on the State Cooperative Program. It seems I overlooked the April report because of the Los Azufres aeromagnetic Survey trip, and much catch-up and technical writing since my return.

Please call me if you have any questions regarding these reports.

Regards,



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Howard P. Ross  
Project Manager

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## M E M O R A N D U M

**DATE:** June 16, 1988

**TO:** Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**SUBJECT:** State Cooperative Program Monthly Report, April, 1988

The principal State Cooperative Program (SCP) activities for April related to monitoring of existing SCP grants, and to discussions with DOE-DGHT and DOE-ID relative to these grants, as reviewed below.

UURI had several conversations with Leah Street, Idaho-DWR Principal Investigator regarding the status of deliverables and future closeout of the present grant. Although the IDWR final report and Boise State University (subcontractor) final report have been submitted and approved, the USGS report is still in a draft stage and may require several months for final editing, approval and printing. After several discussions with DOE-ID, contacts personnel recommended that DOE not accept the USGS draft final report. Leah Street was asked to request another no cost time extension (NCTE) for an additional six months, and to frequently monitor progress by the USGS. UURI made three copies of the draft report and returned the original and copies to IDWR for interim use.

Bill Sill, Montana SCP team Principal Investigator was called relative to the overdue CSAMT report for the Ennis Hot Springs study. This report is the overdue deliverable for the Montana team. Dr. Sill was advised to request another NCTE, and to finalize the report without waiting for the student to make the corrections requested by UURI and DOE.

UURI was in frequent contact with Larry Icerman, NMRDI Principal Investigator, regarding corrections to the draft final report. Larry Icerman reported some difficulty in getting revisions from one subcontractor, Lightning Dock Geothermal. NMRDI was asked to request another NCTE and urged to finalize the report.

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June 16, 1988  
SCP Montly Report for April  
Howard P. Ross

Calls to Wil Gosnold, North Dakota State term, revealed that little new progress had been made on the "Geothermal Resource Map of South Dakota" due to other commitments. This grant has been closed out and Dr. Gosnold is trying to finalize the map in his spare time. He will renew his efforts to do this. Dr. Gosnold also reported interest in direct heat usage on the Fort Toton Indian Reservation. Several aspects of this subject were discussed, and Gosnold was referred to Paul Lienau, OIT, for technical information.

Other contract monitoring activities for existing grants included discussions regarding project status (Paul Damon, Univ. of Arizona; and George Priest, DOGAMI) and review of State Team invoices with Ken Taylor, DOE-ID (DOGAMI and SMU).

The revised statement of work (SOW) which had been developed with Bob Blackett for the Utah Geological and Mineral Survey (1988 grant) was reviewed and approval indicated to DOE. A statement of work was completed for the University of Nevada, Las Vegas-Division of Earth Sciences grant, and this was forwarded to DOE-ID. Work began on a SOW for the new New Mexico Research and Development Institute grant at the month's end. The UNLV-DES and NMRDI cost proposals were reviewed and Technical Evaluation forms were mailed to DOE-ID.

*Howard*  
\_\_\_\_\_  
Howard P. Ross  
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# UURI

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## M E M O R A N D U M

**DATE:** June 16, 1988  
**TO:** Marshall Reed  
Kenneth Taylor  
**FROM:** Howard P. Ross  
**SUBJECT:** State Cooperative Program Monthly Report, May, 1988

State Cooperative Program (SCP) activities for UURI were reduced during May because most support work for the 1987-88 solicitation had been completed, and because of the Los Azufres, Mexico geothermal project.

Dr. William Sill, Montana Tech and Dr. Larry Icerman, NMRDI, were called to discuss final report status and to check on no cost time extensions. Discussions with Dr. Paul Damon, University of Arizona, revealed that he is caught up with all DOE K/Ar age date samples, and that he would complete dating on any new samples with a quick turn around.

UURI called Michael Korosec, Washington DNR Principal Investigator, to determine if he was ready to submit Cascade volcanic samples for K/Ar dating as provided for in his 1988 grant. Unfortunately, it may be several months before W-DNR has selected new samples for age dating.

Dave Blackwell, SMU, was called to verify the status of data submitted for the DNAG Geothermal Map of North America, and revisions for the final report. This report should be completed in early June.

Work was completed on the draft statement of work (SOW) for the NMRDI 1988 grant, and the SOW transmitted to DOE/ID. A SOW was drafted for the California Energy Commission (CEC)-Wilbur grant, and a Technical Evaluation sheet completed, and these items were transmitted to DOE/ID. This completes the SOW's needed for the 1987-88 solicitation.

*Howard*

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## M E M O R A N D U M

**DATE:** April 6, 1988

**TO:** Marshall Reed  
Kenneth Taylor

**FROM:** Howard Ross

**SUBJECT:** State Cooperative Program Monthly Report, March, 1988

Monitoring activities for existing State Cooperative Program (SCP) grants included several conversations with Leah Street, Principal Investigator for the Idaho-Department of Water Resources grant. After a protracted delay, Leah received an improved copy of the USGS report "The Hydrothermal System in Central Twin Falls County, Idaho" by R. E. Lewis and H. W. Young. The draft report was circulated for extensive internal and external review approximately six months ago, and the present version is stamped "Provisional Draft" page for page. Acceptance of this report by ID-DWR and DOE-ID, and payment of subcontract funds to the USGS, are the only items delaying closeout of this ID-DWR grant. The USGS estimates a minimum of six months before the report will be printed in final form. UURI will copy the present report to expedite contract closeout if DOE wishes to accept a less than final quality report. Otherwise yet another no cost time extension (NCTE) for 6-12 months will be required for this grant.

UURI forwarded the original unbound copy of the Idaho-DWR report "Geothermal Resource Analysis in Twin Falls County, Idaho" by Leah Street and Robert E. DeTar to TIC for archival storage and possible printing. Leah Street has requested a letter from DOE/ID acknowledging receipt and acceptance of the ID-DWR and BSU subcontract reports, and the USGS Provisional Draft (if accepted).

Conversations with Dr. Dave Blackwell, SMU Principal Investigator related to outstanding quarterly reports, a needed NCTE, and his draft final report. The outstanding quarterly reports, a letter requesting a NCTE, and a draft final report were received in mid-month. The report was reviewed in detail and comments submitted to DOE/ID and to Dr. Blackwell.



Page 2  
April 6, 1988  
Howard P. Ross

UURI reviewed the DOGAMI financial records and the latest invoice with DOE/ID and recommend payment of same.

UURI provided support to DOE/ID in completing the new Idaho-DWR Co-Operative Agreement. Howard Ross joined Ben Lunis (EG&G) and Richard Berger (DOE/ID) in meetings with the Idaho Department of Water Resources, City of Boise engineering staff, the USGS, and BGL in Boise on March 18, 1988. Discussions related to past, present, and future monitoring efforts for the Boise Geothermal system, the coordination of various studies, and the program of new studies funded by DOE/ID to the ID-DWR..

Howard Ross met with Bob Blackett, Utah UGMS Principal Investigator to discuss changes in the work proposed for the 1988 grant and to draft a revised SOW for DOE/ID. Additional support to DOE/ID for the 1988 PRDA grants included discussions of the Technical Evaluation Comments and deliverable requirements for the University of Alaska-Geophysical Institute and Alaska Division of Geological and Geophysical Surveys grants.

*Howard*

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Howard P. Ross  
Project Manager

M E M O R A N D U M

**DATE:** March 9, 1988

**TO:** Marshall Reed  
Kenneth Taylor

**FROM:** Howard P. Ross

**SUBJECT:** State Cooperative Program Monthly Report, February, 1988

State Cooperative Program (SCP) activities during February included the monitoring of and service to existing grants, and assistance to DOE/ID and state teams in the new PRDA procurement process.

Ken Taylor and Howard Ross discussed the status of Dave Blackwell's (SMU) grant. The last no cost time extension (NCTE) had expired on December 31, 1987 and Dr. Blackwell has not yet submitted a request for another grant extension or a draft final report for review. The last communication with Dave Blackwell indicated that the draft report should be out at the end of the month, and that a NCTE request to May 31, 1988 was about to be mailed.

A draft final report, "New Mexico Statewide Geothermal Energy Program" was received from Larry Icerman, New Mexico SCP principal investigator, at the beginning of the month. The report is an edited composite of four detailed studies completed as subcontracts under the NMRDI grant. UURI completed a detailed technical review of the report and submitted review and editorial comments to Larry Icerman and Ken Taylor. Later telephone discussions with Larry Icerman and Roy Cunniff (NMSU and Lightning Dock Geothermal) followed up the review comments. The revised final report is expected in early March. It should be accompanied by a NCTE to cover the period of final charges and payments to subcontractors.

State Team invoices from DOGAMI, Idaho-DWR, and NMRDI were reviewed and recommendations for payment forwarded to DOE/ID. UURI submitted the Idaho-Department of Water Resources final report to DOE/Chicago for patent clearance and received approval only one week later. At the request of Peggy Brookshier, UURI

Page 2  
March 9, 1988  
SCP Report

copied the University of Alaska - Geophysical Institute final report "Geothermal Energy Resource Investigations at Mt. Spurr, Alaska" and submitted it to the DOE/Technical Information Center at Oak Ridge, TN. An earlier submittal by DOE/ID appears to be lost and not logged into the TIC system.

UURI continued to provide technical support to DOE/ID for completion of the PRDA awards. The Idaho-DWR Co-Operative Agreement was the subject of several discussions with Leah Street, Marshall Reed, Ken Taylor and Ben Lunis. Items discussed included the DWR cost-share; funding level; consultant role in the Boise study; and monitoring subcontractor for the Boise study.

Ken Taylor and Howard Ross discussed changes in overhead rates for the North Dakota and Washington-DNR projects and options for changing the SOW's within or under previous funding requests. Howard Ross has been meeting with Bob Blackett, Principal Investigator for the Utah-UGMS proposal, to expedite major revisions to the SOW for this grant. Substantially more data will result from these revisions at no cost increase to DOE, but the UGMS cost share items must be adjusted.

A draft Statement of Work was completed for the Desert Research Institute - University of Nevada grant, and submitted to DOE/ID. A technical evaluation sheet was also completed and submitted.

UURI received a request for information on geothermal potential for a property in the Midvale - Sandy area from Mr. Jim Henderson, of Salt Lake City. The property in question is in close proximity to the Utah Roses wells and may indeed have geothermal potential. Mr. Henderson was given preliminary information from the Utah Roses wells and advised to evaluate the economics for his project and to contact Utah water regulatory agencies regarding well spacing requirements.

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## MEMORANDUM

**TO:** Marshall Reed  
Kenneth Taylor

**FROM:** Howard Ross

**DATE:** February 16, 1988

**SUBJECT:** State Cooperative Program Monthly Report, January, 1988

Howard Ross met with Ken Taylor at DOE/ID on January 6 to review the status of existing contracts and forthcoming deliverables. Peggy Brookshier and Ben Lunis joined Ross and Taylor for discussions of the new Idaho Cooperative Agreement statement of work (SOW) and in discussions regarding other new SOWs.

The Idaho Cooperative Agreement was the subject of several telephone conversations with Leah Street, Ben Lunis, Peggy Brookshier, Marshall Reed, and Ken Taylor. Points of discussion included: timing and amount of funding; better definition of the Boise study involving a consultant reservoir engineer; and possible coordination of efforts with the City of Boise and a USGS study funded through DOE/DGT. The SOW and a Technical Evaluation form were completed and transmitted to DOE/ID.

Statements of Work were completed for new grants for the following: Hawaii-Department of Business and Economic Development; Utah Geological and Mineral Survey; Geophysical Institute, University of Alaska; and Alaska-Division of Geological and Geophysical Surveys. The SOW's for GI-UAK and AK-DGGS were completed by separating tasks and sub-tasks from the single joint proposal. Following a review of cost items for each proposal Technical Evaluation forms were completed and transmitted to DOE/ID.

Howard Ross joined Ken Taylor in a conference call to Don Turner, (GI-UAK) on January, 29 to discuss the SOW's for GI-UAK and AK-DGGS, and the intended funding levels. It appears that the split of work tasks from the joint proposal was substantially as intended by the proposers.

The routine contract monitoring of existing contracts included a conversation with Dr. Bill Sill (Montana team). Dr. Sill has requested one more no cost time extension (NCTE) to allow him time to complete the CSAMT report of the Ennis Hot Spring area,

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SCP Memorandum  
February 17, 1988

since it is not clear that the student will complete the thesis/report in the near future.

Dr. Will Gosnold was again reminded of his overdue "Geothermal Resources Map of South Dakota". Dr. Gosnold says he is now making good progress after being overcommitted to academic duties during the last quarter. The map should be completed this quarter. Dr. Gosnold has provided information to the Lemmon, SD Economic Development Coordinating Council regarding good geothermal resource potential in northwest South Dakota.

Calls to Dr. Paul Damon (University of Arizona) and Dr. Dave Blackwell (SMU) reviewed the status of their grants and deliverables. Both will request NCTEs to extend the active period of their grants. Dr. Larry Icerman (New Mexico team) will also request a NCTE to allow time to complete his final report which is now in a draft form.

Final reports were received on January 11 from Leah Street for the ID-DWR Twin Falls geothermal study and the Boise State University (subcontract) Boise reservoir study. The USGS final report for the Twin Falls area, partially funded as a subcontract to this grant, has not yet been printed.

The Alaska-DGGS final deliverable, "Stratigraphy, Petrology, and Geochemistry of the Spurr Volcanic Complex, Eastern Aleutian Arc, Alaska" was received on January 4. The report was completed by Dr. Christopher Nye (now at GI-UAK) as provided for in a modification to the DGGS grant. In reviewing this report it was noted that the DOE disclaimer statement had been omitted and the DOE Grant number cited was incorrect. Discussions with Ken Taylor, and then Roman Motyka and Chris Nye resulted in the receipt of a one page "Addendum and Corrections" to be included with the report. This grant is now ready for close out.

On January 22, Howard Ross met with Orrin "Bud" Miller, P.E. (Civil Engineer and Hydrologist) representing the Church of Jesus Christ of Latter Day Saints. The DOE State Cooperative Program was described in some detail and copies of all the western states geothermal resource maps, and other database items, were provided to Mr. Miller. The LDS church is interested in geothermal space heating and other direct use at chapels, farms and other properties throughout the western United States.

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Howard P. Ross  
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## M E M O R A N D U M

**TO:** Susan Prestwich  
Kenneth Taylor

**DATE:** January 4, 1988

**FROM:** Howard P. Ross

**SUBJECT:** State Cooperative Program Monthly Report, December 1987

The main State Cooperative Program activities during December again related to the 1987 PRDA. Narrative statements which described each technical proposal, and the evaluation of each proposal in terms of technical, cost sharing and business criteria, were written and submitted to DOE/ID. The statements were later revised to provide a stronger justification for the final rankings, and again submitted to DOE/ID.

A statement-of-work (SOW) was drafted for the Washington-Department of Natural Resources proposal and submitted to DOE/ID to expedite the negotiation and award process for this competitively ranked proposal. A statement-of-work previously written in grant form for the Idaho-Department of Water Resources proposal was revised to the format for a cooperative agreement and a first draft of this SOW was submitted to DOE/ID with a detailed milestone chart and schedule for payment. Revision of the milestone chart and payment schedule will be required following the start of negotiations with ID-DWR. Technical evaluation for cost proposal forms were completed for the WA-DNR and ID-DWR proposals.

Monitoring activities for existing grants also continued during December. Conversations with Leah Street (ID-DWR) related to delays in delivery of the ID-DWR final report, and the two subcontractor (USGS and Boise State University) reports under this grant. Because of these delays and subsequent delayed payments to the subcontractors, Leah Street was advised to request one more no cost time extension from DOE/ID.

Larry Icerman, Principal Investigator for the New Mexico state team, reported unexpected delays in completing the NMRDI final report, and has not yet submitted a draft report for review by DOE and UURI. In addition final payments to subcontractors

Page 2

January 4, 1988

Memo to S. M. Prestwich & K. Taylor

will be made after the present contract termination date of 12/31/87. Accordingly, Dr. Icerman was advised to request a final no cost time extension from DOE/ID.

Other SCP calls were to Dr. Wil Gosnold, North Dakota state team, relative to the late delivery of the state geothermal resource map of South Dakota; and to Michael Korosec, Washington state team, relative to K/Ar age dating. Payment of DOGAMI Invoice No. 38 was recommended following a review of deliverables and account balance.

Dr. Joseph Moore, UURI, shipped six rock samples to Dr. Paul Damon for possible K/Ar age dating under the University of Arizona age dating grant. These samples are from the Los Azufres geothermal area in Mexico which is being studied under a cooperative DOE agreement.

Dr. William Sill (Co-Principal Investigator, Montana team) submitted a final report by Dave Semmons entitled "Three Dimensional Gravity Modeling Techniques with Application to the Ennis Geothermal Area". This is one part of a two part report deliverable due to DOE under the present grant; the CSAMT study of Ennis Hot Springs is still outstanding. The gravity report incorporates the changes requested following an earlier review and is quite acceptable as part 1 of the final report to DOE.

A draft final report of the Mt. Spurr Alaska study by Dr. Christopher Nye was submitted by Dr. Roman Motyka, Alaska - DGGS Principal Investigator. The report was reviewed in detail at UURI and technical and editorial comments were forwarded to Dr. Motyka.

A collection of geothermal resource maps for all western states and a list of reports completed under DOE funding was transmitted to Mr. Bennie DiBona, Terra Tek, Inc.

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Howard P. Ross  
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## MEMORANDUM

**TO:** Susan Prestwich  
Kenneth Taylor

**DATE:** December 22, 1987

**FROM:** Howard P. Ross

**SUBJECT:** State Cooperative Program Monthly Report, November 1987

The main State Cooperative Program activities during November related to the PRDA review and evaluations. The revised proposals were studied and compared to the original submittals. UURI consultant Dr. Duncan Foley, and Howard Ross met with other members of the Technical Review Panel and Source Evaluation Panel at DOE offices in Idaho Falls on November 9. The revised proposals were discussed and reevaluated. Criteria Evaluation Forms which summarized technical, cost sharing and financial comments of the Technical Review Panel were later completed for all proposals in the competitive range and submitted to DOE/ID.

A first draft narrative statement was written and submitted to DOE/ID which described each proposal and proposal strengths and weaknesses in terms of the evaluation criteria. A first draft Statement of Work was written for the Desert Research Institute proposal.

Other SCP activities related to monitoring of existing SCP grants. Several conversations with Leah Street, Idaho-DWR principal investigator, were concerned with delays in receiving final reports from subcontractors, a month long internal review of her own final report, and the need of yet another no cost time extension on the grant. A revised distribution list for the ID-DWR report was suggested to and approved by DOE/ID.

Michael Korosec, Washington-Department of National Resources, inquired about the possibility of no cost K-Ar dates for volcanic rocks sampled in his program. The dating project with Dr. Paul Damon (University of Arizona) and sample requirements were described in detail. Acting on advice from DOE/ID, the WA-DNR was told to delay any sample shipments until the new PRDA solicitation was concluded. The status of the age date program was discussed with Dr. Damon who will request a no cost time extension through December 31, 1988. Only 10 out of a 40 maximum age dates have been completed to date. Nine



additional samples have been submitted for age dating and some proposers to the SCP PRDA have expressed an interest in the no cost K-Ar dates which support DOE geothermal studies.

Dr. Dave Blackwell was called regarding delivery dates for his final report and the status of maps due DOE. The final report and draft maps should be completed in December, but the national heat flow map will not be published until sometime late in 1988. Dr. Wil Gosnold regrets the late delivery of the geothermal resource map of South Dakota but assured us he will try to complete it during December.

UURI distributed geothermal resource maps of Wyoming, Idaho, and Utah in response to requests from the public during November. UURI began to assemble a collection of all DOE supported state resource maps and a list of state reports in response to a request from Mr. Bennie DiBonna, Terra Tek, Inc.

*Howard Ross*

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## M E M O R A N D U M

**TO:** Susan Prestwich

**DATE:** November 16, 1987

**FROM:** Howard Ross

**SUBJECT:** State Cooperative Program Monthly Report October 1987

State Cooperative Program (SCP) activities during October included the review of state team invoices (NMRDI and DOGAMI) and calls to the teams. Three of the seven active teams are late in the delivery of final reports. The final reports for the Idaho, Montana, and Southern Methodist teams will all be delayed until mid-November or December, so these teams were advised to request another round of no cost time extensions from DOE.

UURI reviewed a letter from Donald Hull, DOGAMI, to Trudy Thorne regarding requested revisions to the DOGAMI proposal. A memorandum of rebuttal was written and sent to DOE/ID after review of associated documentation.

The quarterly status report of SCP grants and the UURI Annual Report of the State Cooperative Program were prepared and sent to DOE following a review of SCP team records, deliverables, and reports.

On October 8, Howard Ross met with Susan Prestwich, Peggy Bookshier, and Ben Lunis in Idaho Falls. Topics of discussion included an update on the status of active SCP grants; the 1987 PRDA; and the Charles Waag report on the Boise geothermal system. Dr. Ross later wrote a letter to Leah Street, ID-DWR, requesting final changes to the Waag report and encouraging its rapid completion.

UURI completed a brief review of the DOGAMI grant and deliverables and completed a Research in Progress form for DOE/ID. A Consultant Agreement with Dr. Duncan Foley, providing for his services as a member of the SCP PRDA Technical Review

Page 2  
November 16, 1987  
October SCP Report

Committee, was extended to permit his continued participation during FY 88.

At the month's end, Drs. Ross and Foley were evaluating clarifying statements and revised proposals to the SCP PRDA.

*Howard Ross*  
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Howard Ross  
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## MEMORANDUM

**TO:** Peggy Brookshier  
Susan Prestwich

**FROM:** Howard Ross

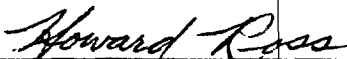
**SUBJECT:** State Cooperative Program Monthly Report  
September, 1987

**DATE:** October 14, 1987

Draft Statements of Work (SOW) were completed for the Wyoming and North Dakota grants which should result from the 1987 State Cooperative Program PRDA. Technical evaluation sheets were also completed for the Wyoming and North Dakota proposals, and then submitted to DOE/ID.

Chapters 1 and 2 of the revised Boise Geothermal System report by Dr. Charles Waag were reviewed and comments sent to DOE/ID and to Ben Lunis, EG & G. Some phrasing of observations and conclusions could still be regarded as sensitive in these chapters, but the observations are generally valid and should be stated with only minor changes. Further discussion of the report may be warranted in October.

Routine project monitoring activities during September included calls to the Montana team requesting action on overdue final technical reports and a no cost time extension, and tracking of the Idaho-DWR report status. UURI also responded to questions regarding proposals to the 1987 PRDA.

  
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Project Manager

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## MEMORANDUM

**TO:** Peggy Brookshier  
Susan Prestwich

**FROM:** Howard Ross

**SUBJECT:** State Cooperative Program Monthly Report  
August 1987

**DATE:** October 14, 1987

State Cooperative Program (SCP) activity at UURI continued at reduced level during August due to the interim status of state team reporting, the notification period for the PRDA responses and vacation and other project activities at UURI.

SCP activities included the review and logging of state team invoices and telephone calls to monitor project status and reporting for selected teams. Several attempts to contact Roman Motyka and Christopher Nye (Alaska-DGGS) were unsuccessful so a letter was sent requesting a project update and a letter asking for a no cost time extension to the existing grant. Conversations with Larry Icerman (New Mexico team) provided assurance that no data obtained under the new contract modification (M003) would be held proprietary. Telephone calls were made to Idaho, North Dakota, and Montana teams regarding the status of final technical reports.

  
Howard Ross  
Project Manager

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## M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
July 1987

DATE: August 20, 1987

State Cooperative Program (SCP) activities during July included the review of state team invoices, and calls to selected teams.

Numerous telephone calls to Dr. Larry Icerman (NMRDI) were concerned with the need for, and the mechanics of, another contract modification for this grant. The need for a contract modification became apparent when litigation involving the Lightening Dock geothermal area in the Animas Valley did not appear to be nearing resolution. NMRDI proposed the delivery of existing studies for this area, and a new temperature gradient study near the Jarilla Fault Zone in the Orgrande Area, Tularosa Basin. UURI prepared a Statement of Work for this contract modification after verbal agreement was reached by NMRDI and DOE.

Howard Ross and Duncan Foley met with DOE/ID in Idaho Falls and participated in the final ranking and evaluation of proposals to the SCP PRDA. Detailed comment sheets were left with DOE.

The completed text of the North Dakota team deliverable "Geothermal Resource Assessment of South Dakota" by Wil Gosnold was reviewed and additional comments were forwarded by telephone. Delivery of the final report is expected in mid August.

*Howard*

Howard Ross

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## M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
June 1987

DATE: August 20, 1987

State Cooperative Program (SCP) activities for June included phone calls to state teams regarding the status of deliverables, review of project accounts and new invoices, and discussions about poster sessions or presentations at this year's annual GRC meeting in Sparks, Nevada. Dr. Douglas Smith, University of Florida was granted an additional month to complete his heat flow studies in Arkansas and the subsequent documentation.

The draft final report of the CSAMT studies at Ennis Hot Springs was received from the Montana team, then reviewed and critiqued by UURI and comments forwarded to Dr. William Sill. A draft (untitled) report discussing studies of the Boise geothermal reservoir by Dr. Charles Waag, Boise State University, was reviewed for later discussion with DOE at Idaho Falls.

The principal activity during June was preparation for and participation in the review of proposals to the new SCP PRDA. This review was conducted June 22-25 at DOE offices in Idaho Falls. Dr. Howard Ross and Dr. Duncan Foley (Consultant) participated for UURI. The scheduled review period was not enough time for a complete evaluation with full documentation of comments, but a preliminary ranking of the 23 proposals was completed. The completion of this evaluation and documentation of reviewer's comments was then scheduled for July.

*Howard*

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Howard Ross

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## M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
May 1987

DATE: June 30, 1987

The principal State Cooperative Program (SCP) activity during May was the review of state team reports, maps, and data. The Washington-DNR team submitted final geologic maps and reports for the Hood River and Mount Adams Quadrangles, Washington, and a final report of the 1985 geothermal gradient project. These reports were reviewed in brief fashion and accepted as final deliverables. These items were released as open file reports by W-DNR with proper acknowledgement of partial DOE funding.

Drs. Sill and Wideman, Montana SCP team, submitted a draft of a M. S. thesis by Gunnar Emilsson titled "A Controlled Source Audiomagnetotelluric Investigation of the Ennis Hot Springs Geothermal Area, Ennis, Montana". The thesis was reviewed in detail and critical comments were forwarded to Dr. Sill. The thesis is another good technical study from the Montana team, but requires considerable revision and some additions before acceptance by DOE.

Leah Street submitted for review two draft reports resulting from the Idaho study. The ID-DWR report "Geothermal Resource Analysis in Twin Falls County, Idaho" reads well but requires clarification of several items relating to hydrograph records, recommendations and conclusions. The USGS report "The Hydrothermal System in Central Twin Falls County, Idaho" by R. E. Lewis and H. W. Young was also read in detail. Only minor critical comments could be offered for this report.

A partial rough draft "Geothermal Resource Assessment of South Dakota" was received from Wil Gosnold (U-ND). This is a very significant geothermal resource study, which hopefully will benefit from the organizational and technical comments offered by UURI.



Other SCP activities included calls relative to report or project status, review of invoices, and discussions regarding contract deadlines and time extensions. Several discussions with George Priest and Jerry Black (DOGAMI) were concerned with the latest DOGAMI request for an additional no cost time extension. Hopefully a five month extension to December 31, 1988 will suffice.

Howard Ross

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## M E M O R A N D U M

**TO:** Peggy Brookshier  
**FROM:** Howard Ross  
**SUBJECT:** State Cooperative Program Monthly Report  
April 1987  
**DATE:** May 15, 1987

State Cooperative Program (SCP) activities during April included the review of SCP team invoices and accounts. Several discussions with the AK-DGGS, ID, MT, ND, and WY teams concerned the status of draft final reports which appeared likely to be late or were already late. It was determined that all but the Wyoming team would require no cost time extensions (NCTEs) for the proper completion of reports and contracts and the teams were advised to request these from DOE-ID. Discussions with Michael Korosec, Washington team, indicated that the two maps which were outstanding deliverables for this contract should be delivered to DOE in early May, and that no additional contract modification would be needed.

A draft final report "Geothermal Modeling of Jackson Hole, Teton County, Wyoming" was received from Dr. Henry Heasler, Wyoming team, in mid-month. The report was reviewed and recommended modifications were transmitted to the author.

Most of the text of a draft final report "Geothermal Resource Assessment, South Dakota" was received from Dr. William Gosnold (U ND) near month's end. The critical review of this report began was not completed during April.

Arrangements were made with a UURI Research Associate, Dr. Judy Ballantyne, to complete CIPW norm calculations for analyses of 20 rock samples in support of the Idaho SCP team (Leah Street) technical studies. The computer calculations were completed at Utah State University.

Questions were received from several state teams regarding the current SCP PRDA. The teams were encouraged to submit specific questions in writing to Ms. Trudy Thorne, Contracts Management Division, DOE-ID.

Howard Ross

cc: P. M. Wright  
H. P. Ross

SCP.APR

# UURI

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## MEMORANDUM

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
March 1987

DATE: April 3, 1987

State Cooperative Program (SCP) activities during March included the review of SCP team invoices and accounts, and telephone calls regarding the status of projects and reports. Several inquiries were received about the status of the 1987 PRDA. Attention was called to the March 5 announcement in the Commerce Business Daily.

UURI reviewed the revised PRDA and discussed possible clarifications and wording changes with DOE-ID.

At the request of DOE-ID, discussions were renewed with Dr. Douglas Smith, University of Florida, concerning his heat flow studies in Arkansas. After clarifying purchasing details UURI issued a Purchase Order for \$2,158 to the University of Florida. Dr. Smith will provide a technical report which summarizes historical heat flow and thermal gradient measurements in Arkansas, and the principal facts and data for at least eight new (1986-87) heat flow determinations.

UURI completed a review of the draft report "Alaska Geothermal Bibliography" and submitted comments to Alaska-DGGS and DOE-ID. The bibliography is one of two deliverables due from DGGS before contract close out on May 15.

Discussions with Dr. Heasler (WY) and Dr. Gosnold (ND) indicate that draft final reports should be received by UURI and DOE-ID in early April. This is somewhat late under the current contract time extensions, but should permit contract completions within 30 - 45 days of the delivery dates. They hope that additional contract modifications will not be required.

*Howard*  
Howard Ross

# UURI

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## M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
February 1987

DATE: March 13, 1987

State Cooperative Program (SCP) activities during February included the review of SCP team invoices and telephone conversations regarding the status of projects and report preparation. The Alaska-DGGS, Idaho-DWR, North Dakota, and Wyoming teams were reminded that draft final reports would be due within the next two months, and encouraged to try to complete the reports without another round of contract extensions.

UURI completed a review and critique of a "Glossary of Terms" being prepared for the geothermal industry by the Geothermal Resources Council.

UURI continued to provide input to the revised SCP PRDA. Once again, several state teams inquired about the status of the solicitation, and expressed concern about the possibility of not being funded during the 1987 summer field season.

The Montana team submitted a draft final report for the gravity studies at Ennis Hot Springs. The report presented an extensive review of existing geologic, geophysical, and geochemical data, and a high quality, state-of-the-art interpretation of the gravity data. ESL reviewed the report in detail and suggested several changes in organization, wording, interpretation, and data presentation. ESL geochemists offered several corrections for the geothermometry section, which was not a required deliverable for the study. Revisions to complete the report in final form are now in progress.

The CSAMT study by the Montana team will be presented in a second report which is still in draft form, not yet received at UURI for review. Drs. Sill and Wideman hope to complete the reports before the end of March without an additional no cost time extension. The termination date of this grant is February 28.

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## M E M O R A N D U M

TO: Peggy Brookshier

FROM: Howard Ross

SUBJECT: State Cooperative Program Monthly Report  
January 1987

DATE: February 16, 1987

During January, State Cooperative Program (SCP) activities at UURI included the routine review of SCP team invoices and quarterly reports, and telephone conversations regarding the status of report preparation. Dr. Paul Damon (U AZ) and Dr. Henry Heasler (WY team) were asked to request no-cost time extensions of their grants from DOE-ID. Discussions with Michael Korosec, WA team, indicated that final geologic maps would not be available for at least two more months so the Washington-Department of Natural Resources group was also asked to formalize a no-cost time extension for their contract.

Discussions with Dr. Paul Damon (U AZ) clarified his sample and information requirements for age dating of young volcanic rocks. Six samples from Ascension Island, South Atlantic Ocean, were shipped to Dr. Damon at the end of the month.

A request for CSAMT modeling support from Gene Wescott (U AK GI) was reviewed in detail by Dr. Phil Wannamaker, UURI. Dr. Wannamaker determined that computer CPU time required for the complex 3-D models would be several days, and thus prohibitive for UURI to undertake without additional support. Dr. Wescott was informed of this and withdrew his request when he understood the magnitude of the computational problem.

The UURI Geochemistry Laboratory completed whole rock and fluorine analyses for ten rock samples submitted by Leah Street, Idaho-DWR, and transmitted the results to the Idaho team.

UURI completed a quarterly review of invoice and SCP contract files and prepared a quarterly report for DOE. A brief status report of the SCP was also prepared, and presented at the Stanford Reservoir Engineering Conference by Dr. Phillip Wright.

Mr. Ronald Turner of Salt Lake City, who is associated with real estate developers in Arizona, contacted DOE-GTD regarding information about the Power Ranches Wells near Phoenix, Arizona. Well logs and other data had been submitted to DOE and UURI during the 1979 evaluation of these geothermal wells for a Williams Air Force Base project. These data and reports were made available to Mr. Turner in response to a request from DOE-GTD.

A memorandum which documented deficiencies in the U AK-GI final report "Geothermal Energy Resource Investigations at Mt. Spurr, Alaska" was completed and transmitted to DOE-ID. After discussions with the Geophysical Institute, DOE decided to accept the report as is, and indicated to U AK-GI that the basic data should remain on file accessible to the public.

A final report titled "Low Temperature Geothermal Assessment of the Santa Clara and Virgin River Valleys, Washington County, Utah" by the Utah (UGMS) team was reviewed and found to be quite acceptable as a final report to DOE. This report had benefited from a critical review by Duncan Foley while in draft form.

Howard Ross  
Section Head/Geophysics

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## M E M O R A N D U M

**TO:** Peggy Brookshier  
**FROM:** Howard Ross  
**SUBJECT:** State Cooperative Program Monthly Report  
December 1986  
**DATE:** January 19, 1987

Earth Science Laboratory activities for the State Cooperative Program during December included the review of invoices, contract tracking through telephone calls, and discussions concerning the status of the announced SCP solicitation. The Utah SCP team was advised to contact DOE-ID regarding the late delivery of a final report, and the Wyoming and North Dakota teams were advised to seek no cost time extensions to their contracts.

Discussions continued with Dr. Douglas Smith, University of Florida regarding his proposal to DOE for minimal funding to support his graduate students in their heat flow studies in Arkansas. A draft statement of work was submitted to DOE-ID to accompany a purchase order which would fund this work, but there was no authorization to proceed because of the freeze on new SCP funds. We hope that some means can be found to support Dr. Smith and his students in their Arkansas heat flow studies in the near future.

Summary maps of the geothermal resources of the United States were updated for DOE-GTD and for a presentation by Dr. P. M. Wright to the Interstate Oil and Gas Commission. Preparation of these maps and discussions with Dr. Gosnold (North Dakota team) and Dr. Wright illustrated the need for an update of several state geothermal resource maps and a subsequent revision of national geothermal resource maps. It has been several years since publication of USGS Circulars 790 (1978) and 892 (1982) and ongoing studies by the SCP state teams and private developers have defined new resources and downgraded some other areas of resource potential. The forthcoming SCP solicitation may provide



a low cost means for updating some state and regional resource distribution maps if this activity would be included in the funded contracts.

Dr. Howard Ross presented a lecture on well logging in geothermal environments to a class at the University of Utah. He also prepared a list of organizations funded by the DOE State Cooperative Program, both past and present, for organizers of the technical program for the 1987 Geothermal Resource Council annual meeting. Members of the organizing committee hope to solicit more technical papers and participation from those organizations which have been funded by the DOE in the past. A search of ESL geothermal files was conducted for the Utah Geological and Mineral Survey in an attempt to locate information on certain private geothermal wells in Utah which has not been published.

A final report on the Mt. Spurr (Alaska) geological and geophysical studies was received from the University of Alaska-Geophysical Institute SCP team. An initial reading indicated some problems with data presentation and conformance with the statement of work tasks. A more critical review was then completed and documented in a memo to DOE-ID.

Abstracts of geothermal papers presented at the AGU and GSA annual meetings were reviewed. Several technical papers presented the results of studies funded by the State Cooperative Program.

Howard Ross

**STATE COOPERATIVE RESOURCE ANALYSIS PROGRAM**  
**Current Status, January 20, 1987**

At the present time twelve contracts are active under the State Cooperative Program (SCP). Of the twelve contracts, ten are with designated state agencies or university teams and two are with university geoscience groups providing specialized service and expertise to other state teams and to the national geothermal data base.

Final reporting and/or contract close out is in progress for seven state teams: AK-DGSS, UAK-GI, MT-CMST, UND-DG, UT-UGMS, WA-DNR, and UWY-DGS. Pending additional contract time extensions only three contracts will be active after May 1: ID-DWR, NMRDI, and OR-OGAMI. Contracts for the two university geoscience support groups will remain active into late 1987. These groups are: U. AZ (Dr. Paul Damon, Dept. of Geosciences) for K/Ar dating of young volcanic rocks; and S M U (Dr. David Blackwell, Dept of Geological Sciences) for heat flow studies in the Cascades and work on the national heat flow map.

A new SCP solicitation was announced in October 1986 but has been held up pending final budget authorization. This solicitation called for a state team cost share program with a budget of approximately \$510K. The maximum funding per team would be \$75K, so seven or more contracts could be funded. This DOE program stresses innovative approaches to geothermal resource delineation and/or geoscience research. Some changes may be made to the solicitation if additional FY87 funds become available.

The Earth Science Laboratory/UURI continues to assist DOE-ID and the SCP teams with contract monitoring and reporting, and provides geochemical laboratory, geophysical interpretation and specialized geological services to the state teams when requested.

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## M E M O R A N D U M

**TO:** Peggy Brookshier  
**FROM:** Howard Ross  
**SUBJECT:** State Cooperative Program Monthly Report  
November, 1986  
**DATE:** December 15, 1986

Earth Science Laboratory activities for the State Cooperative Program during November included the review of state team in-invoices and contract tracking through telephone calls. Two teams (MT and ND) required additional prompting to provide reports for the third quarter which were unusually late.

ESL files for the State Cooperative Program, fiscal years 1978 to 1984, were being reviewed and condensed prior to transfer to the main ESL library. This task will continue, as time permits, into December and perhaps beyond.

The draft PRDA for new State Cooperative Program funds was reviewed and comments provided to DOE-ID. ESL provided a description of technical support services in geochemistry and geophysics which would be available to, and support for, the State Teams under the new funding. Several state teams and groups not presently under contract made inquiries about the status of the solicitation as announced in the Commerce Business Daily in October.

At the request of Marshall Reed, DOE-HQ, ESL contacted Dr. Douglas Smith of the University of Florida to determine the nature of his heat flow studies in Arkansas and the extent of his funding needs. Dr. Smith has one of a very few active graduate student programs in heat flow studies in the southeastern United States. He has established a good working relationship with the Arkansas Geological Commission and has developed an information network of petroleum and water well sources which has identified many drill holes suitable for heat flow studies in this state

with obvious hydrothermal resources. A suggested statement of work was forwarded to DOE-ID which could provide the basis for a Purchase Order to support Dr. Smith and his students at a very modest level. We hope that SCP funds will be available to support this effort in the near future.

Dr. Gene Wescott, U. AK Geophysical Institute, made a number of inquiries about magnetotelluric modeling programs which were investigated here at ESL/UURI and with the National Energy Software Center on behalf of the Alaska team. He is preparing a small number of 3-D models which ESL will run in support of his geophysical program.

Leah Street (ID-DWR) sent ten rock samples to ESL for whole rock and fluorine analysis. The ESL geochemistry lab will complete these analyses in support of the fluoride in geothermal waters studies underway by Leah and Duncan Foley.

Technical papers presented by Dr. Wil Gosnold (ND team) and by Leah Street and Duncan Foley at the annual G S A meeting in San Antonio gave broad exposure to the technical geothermal studies supported by DOE's State Cooperative Program.

*Howard*

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Howard P. Ross

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## M E M O R A N D U M

TO: Peggy Brookshier  
FROM: Howard Ross  
SUBJECT: State Cooperative Program Monthly Report  
October, 1986  
DATE: November 17, 1986

The principal Earth Science Laboratory activities on the State Cooperative Program during October were reviews of new invoices from the state teams and telephone calls for status reports and report reminders.

A comprehensive mailing list was prepared for the new state cooperative program PRDA, and forwarded to DOE-Idaho. Several state teams have inquired about rumors regarding a new solicitation and were told it was forthcoming. A preliminary announcement of the PRDA was published in the Commerce Business Daily on October 27.

Quarterly reports from the state teams were reviewed as received. Several reports were still due at the end of October and the delinquent teams have been called. More no-cost time extensions are anticipated.

  
Howard P. Ross

HPR:leo

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## M E M O R A N D U M

**TO:** Peggy Brookshier  
**FROM:** Howard Ross  
**SUBJECT:** State Cooperative Program Monthly Report  
September, 1986  
**DATE:** October 8, 1986

Earth Science Laboratory activities on the State Cooperative Program during September included contacts with state teams and technical support to DOE.

ESL reviewed the text of the new State Cooperative Program RFP, as submitted to Contracts, and responded to several inquiries about the RFP. A mailing list for the SCP - RFP is being compiled by ESL.

Howard Ross attended a meeting of the Steering Committee, Program for Scientific Drilling - Cascades in Portland, Oregon on September 23, 1986. The PSDC team intends to submit proposals for State Cooperative funds to initiate field studies which will contribute to the PSDC drilling program. Howard Ross represented DOE at the meeting and indicated that the RFP should be out in 2 or 3 months and that a cost shared program was planned. Members from the Oregon and Washington state teams, and Dave Blackwell (SMU) were present.

Several contract modifications and time extensions were completed by DOE/ID during September which extend deliverable dates for draft final and final reports by state teams. These

actions reduced the ESL level-of-effort in report review and comment and increased the effort in tracking contract modifications during the month of September.

*Howard Ross*

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HOWARD P. ROSS

HPR:leo

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## M E M O R A N D U M

TO: Peggy Brookshier  
FROM: Howard P. Ross  
SUBJECT: State Cooperative Program Monthly Report  
August, 1986  
DATE: September 9, 1986

Earth Science Laboratory activities on the State Cooperative Program during August included contacts with state teams, technical support to DOE, and review of reports.

ESL completed a review of the proposed revision in tasks by the New Mexico team and delivered a suggested Statement of Work to DOE. Quarterly reports were received from the University of Alaska-Geophysical Institute; Oregon (DOGAMI); Utah; Washington; and Wyoming. The reports were reviewed, and progress further monitored by calls to all state teams. ESL also advised DOE regarding payment of state team invoices.

ESL submitted to DOE suggested revisions for several sections of the new State Cooperative Program RFP.

Duncan Foley has left ESL and the State Cooperative Program after 8-1/2 years of service to assume a position teaching Geology at Pacific Lutheran College in Tacoma, Washington. His responsibilities as the ESL/UURI contact for the State Cooperative Program have been assumed by Howard Ross.

  
Howard P. Ross

HPR:leo



*As Mailed on letterhead*

August 8, 1986

MEMORANDUM

TO: Peggy Brookshier

FROM: Duncan Foley *15/*

RE: State Cooperative Program monthly report, July, 1986

During July, Earth Science Laboratory activities on the State Cooperative Program included extensive contacts with state teams, technical support to DOE, review of reports, and serving as an information source about geothermal energy for interested people.

Several phone conversations and one meeting were held with the Idaho team. They are monitoring public and governmental response to the discovery of high-fluoride waters in drinking water supplies in the Ketchum, Idaho, area. ESL held a meeting with the Idaho team and a fluoride researcher at Utah State University, which provided much data on the health impacts of F in animals and humans. ESL also coordinated with the Idaho team on their participation in a meeting in Ketchum. ESL also talked with the Oregon team during the month, to track their progress on quarterly progress reports, and to discuss their need for data from the Cascades program.

ESL support to DOE included state team progress monitoring and drafting. ESL personnel met with DOE HQ personnel to discuss progress on the program. ESL began review of a proposed revision

in tasks by the New Mexico team during the month; a suggested statement of work will be delivered to DOE in early August, after conversations with the New Mexico personnel to clarify some points in their proposal.

ESL reviewed two reports during July. The first was by the Alaska team, on geochemistry in the Copper River Basin. This report was outstanding from a previous contract. The second report was by the Utah team, and was a draft final of their report on geothermal resources in Washington County.

ESL coordinated with the geothermal committee of the Interstate Oil and Gas Compact Commission during July. ESL will be providing a speaker for the committee meeting in December, which will be held in Salt Lake City. ESL also provided data about the current status of geothermal resource data bases to the Electric Power Research Institute during the month.

Technology transfer activities during July included continuing efforts on papers about geothermal resources of central Texas and Idaho.

July 10, 1986

MEMORANDUM

TO: Peggy Brookshier

FROM: Duncan Foley

RE: State Cooperative Program monthly progress report, June, 1986

During June, Earth Science Laboratory activities on the State Cooperative Program included technical support to DOE Idaho Falls (ID) and Headquarters (HQ) offices, and several technology transfer activities.

ESL support to Idaho Falls focused on tracking technical and financial progress of the program participants, and continuing efforts toward potential program activities for FY 1987. ID received a report from the Alaska Division of Geological and Geophysical Surveys on the geochemistry of fluids and gasses in the Copper River Basin; ESL will review this report. The Idaho team is continuing their efforts on the Twin Falls geothermal system. The North Dakota team participated in a deep continental drilling meeting during the month. They have identified a thermal and geophysical anomaly in South Dakota that is an attractive target. The New Mexico team completed revisions of a proposal they originally submitted to DOE last November for reprogramming funds; the new proposal is now being reviewed. The Utah team completed writing a draft of their final report on the Washington County (St. George) area. The Utah report on high-temperature systems is in their publication channels. The Wyoming researcher has nearly completed the computer codes for their study of the Jackson Hole area. Some work on verification is still required. The Southern Methodist University research on heat flow is continuing, with data acquisition from cooperating researchers underway.

ESL provided ID with comments on technical progress of teams as DOE received and evaluated invoices. ESL also provided ID with weekly significant events from the program.

ESL support to HQ during June focused on two tasks. The first was to coordinate sampling for age dating of young volcanic rocks, and the second was to provide technical support for HQ technology transfer activities.

ESL was active in technology transfer activities during June. Two abstracts, which are attached to this report, were submitted to the Geological Society of America for presentation at their annual meeting. An article on the thermal regime of the San Antonio area is also in preparation for inclusion in a guide book. ESL is also continuing work on several papers on Idaho geothermal systems.

Two additional technology transfer activities were undertaken in March. A thermal gradient was measured in a water supply well for the City of Sandy, Utah, which has poor quality water. Data on fluoride in thermal waters were provided to the Ketchum, Idaho, Mountain Express. This weekly newspaper has been following changes in water quality in wells that supply several homes. The wells have moderate fluoride, which suggests mixing of cold water with high-fluoride thermal waters that are in the area. ESL will continue to track this problem.

*RD onto letterhead*

June 3, 1986

MEMORANDUM

TO: Peggy Brookshier

FROM: Duncan Foley

RE: State Cooperative Program monthly progress report, May, 1986

During May, Earth Science Laboratory activities on the State Cooperative Program included extensive communication with state agencies, technical tasks to support DOE, technology transfer activities, and providing geological data to interested people.

Most state teams were contacted during the month. The Idaho researchers were contacted on the status reports, progress in preparation for the upcoming field season, and hardware and software for their new computer. The New Mexico team delivered a partial proposal for revised activities under old funding. ESL reviewed this proposal, found it incomplete, and contacted both DOE and New Mexico about resolution of the gaps. This will hopefully be completed in June. The North Dakota team has been making good progress, and are completing preparations for field work. The Oregon team is still working on finishing office work from their field mapping of last season. They will be going to the field in July. Extensive contacts were made with the Washington team during May, to resolve deliverables and their

final report. The missing geologic maps are being prepared, and will be delivered in the fall. ESL contacts with the Wyoming team concerned technical progress. They have nearly completed the computer modeling aspect of their program.

ESL provided DOE with support on a variety of technical tasks during May. The most significant of these, from the standpoint of continuation of the program, was a review of DOE Headquarters suggestions for strategy for an RFP. ESL provided comments on the strategy. This review was aided by use of the DOE electronic mail system. ESL continued to track the progress of researchers on the program, to provide DOE with analyses of accomplishments to judge the appropriateness of requested funding. Significant events in the program were reported on a weekly basis during the month.

Technical transfer activities continued during the month. ESL is preparing two abstracts and a paper for the Geological Society of America meeting in the fall.

ESL continued to be a data source on geothermal resources during May. Requests for information were handled from EG&G, Idaho, and KSL television in Salt Lake.

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## MEMORANDUM

TO: Peggy Brookshier  
FROM: Duncan Foley  
SUBJECT: State Coupled Program  
Monthly Progress Report  
April, 1986  
DATE: May 5, 1986

The Earth Science Laboratory provided DOE with a wide variety of technical support during April. This support included numerous contacts with state teams, meetings with two teams, general technical progress tasks, writing on four program-related reports, and serving as a data source.

The Alaska Division of Geological and Geophysical Surveys team was contacted about progress they are making in their geochemical study of Mt. Spurr. Major element data from rocks have arrived, and are currently being interpreted. The Idaho team was contacted several times about progress on their studies in Twin Falls and Boise. The Montana team is making satisfactory progress, but they generated some problems with their accounting system; ESL coordinated with DOE and the team to resolve technical versus financial discrepancies. The New Mexico team has been holding meetings with individual researchers to scope a revised proposal; ESL has been tracking this progress. The North Dakota team is preparing for field work, which they will start in May. Their South Dakota efforts may result in siting a deep continental drill hole over a thermal anomaly. The Southern Methodist

University team reports satisfactory progress on data compilation for their heat flow map. ESL reminded them of the requirement for quarterly reports on a calendar basis. The Utah team is making good progress on their studies in the St. George area of southern Utah. They have completed field work, and hope to have a draft of their final report by the end of May. The Wyoming team has been making good technical progress, but has been tardy with quarterly reports. ESL identified the problem, and helped the Wyoming personnel understand DOE reporting methods.

ESL met with both the Idaho and Utah teams during April. The Idaho meeting was held in Twin Falls, and involved thermal gradient measurements, water sampling, and rock collecting. ESL personnel have been doing chemical analyses of waters for Utah. The meeting with Utah was to aid in interpretation of these results.

Two technical progress tasks were continued during April. Integration of newly received state team quarterly reports into an overall program tracking document was begun in April. This will be delivered to DOE in early May, when delinquent reports are received. ESL also continued to provide DOE with weekly significant events from the State Coupled Program.

Data collected on State Coupled projects is currently being prepared by ESL as two abstracts and two papers. The abstracts, which will be submitted to the annual meeting of the Geological Society of America, concern the Lackland Air Force Base well, and F in Idaho thermal waters. The papers are on Texas' thermal regime and hot spring systems along the margin of the Idaho batholith.

ESL also continued to provide data on geothermal resources to interested people. Inquiries on southern Utah and Snake River Plain resources were answered during April.



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April 4, 1986

## MEMORANDUM

TO: Peggy Brookshier  
FROM: Duncan Foley  
SUBJECT: State Coupled Program Monthly Progress Report, March 1986


During March, Earth Science Laboratory efforts on the State Coupled Program emphasized technical support of DOE and state teams. The efforts for DOE included both programmatic and general tasks. State team support centered on tracking progress.

The major technical task performed by ESL in support of DOE was to begin coordination of samples that will be submitted from outside researchers to the University of Arizona for age dating. This coordination included several conversations with DOE Headquarters and Idaho Operations Office personnel, the Arizona daters, and scientists who have samples for dating. Efforts on the dating will be coordinated through ESL. During March, ESL also continued low-level efforts on the plugging and abandoning of the Marysville, Montana, geothermal well. ESL also continued to provide weekly significant events from the program to DOE.

Coordination with state teams occupied much time during the month. In addition to their dating study, the University of Arizona required logistical support for report preparation; ESL coordinated with DOE about this support. The Idaho team is seeking to reallocate a small amount of their funds for chemical analyses; ESL discussed the effects on the program of this reallocation. ESL held several conversations with New Mexico personnel, who are

not being responsive to DOE requests for more data on their proposed reallocation of funds and tasks. The Principal Investigator for the North Dakota team is on the geothermal committee of the Interstate Oil and Gas Compact Commission. He is seeking speakers for the next meeting in Anchorage, and ESL provided a list of contacts familiar with high-temperature geothermal resources in Alaska. The Oregon team, in addition to having samples for dating at the University of Arizona, is interested in dating older rocks. ESL provided them with a list of commercial facilities that are capable of doing the potassium-argon "40-39" dating that will be required. The Utah team delivered their bibliography on geothermal resources in the state. ESL reviewed this report for technical content. The Washington team also delivered a final report on their drilling program, and a bill for closing out the contract. ESL reviewed their contract and the report and identified several tasks that were not included. This problem will be resolved in April.

During March, ESL personnel also continued work on technical publications.



A handwritten signature in cursive script, appearing to read 'J. J. ...', is written over a horizontal line. The signature is positioned in the lower right quadrant of the page.

DF/jp

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March 10, 1986

## MEMORANDUM

TO: Peggy Brookshier  
FROM: Duncan Foley  
SUBJECT: State Coupled Program Progress Report, February, 1986

During February, Earth Science Laboratory activities on the State Coupled Program included providing direct support to DOE, assistance to state teams, and serving as an information resource for geothermal energy data. These tasks were supplemented by continued progress on technical publications.

Direct support to DOE included many contacts with state teams on diverse problems. ESL continued to monitor team technical progress, in order to be able to provide DOE with an evaluation of the reasonableness of invoices received. The Alaska team was provided with data about the possibility of obtaining further funding for their program, which overspent on field logistics. The New Mexico team was contacted several times during the month, to encourage them to produce a quarterly report (which they did), to obtain further data on their desired redirection of funds (these data were not produced, due to time conflicts of the principal investigator during the legislative session), and to resolve an apparent problem between a press report and their proposal. The Montana team was contacted about progress on their program. The Washington team is requesting a no-cost extension, as their editor has quit, and they therefore will need extra time to produce the final report. The Wyoming team had several problems with their billing during the month.

ESL contacted them to resolve questions concerning the rate of technical progress versus the rate of invoicing.

During February, ESL provided two additional kinds of support to DOE. The first of these was an update of the state team progress tracking documents. These documents consist of a summary spreadsheet showing all team deliverable dates and current status, and a series of more detailed sheets for each team, outlining financial and task progress. ESL also continued to provide DOE with significant news events about state teams.

The Idaho and Utah teams were major contacts of ESL during the month. Work continued with the Idaho team on a technical paper; this included one meeting during the month. ESL finished review of the final report on last year's contract by the Utah team, and returned the report with extensive comments. The Utah team will now complete production of this document. ESL also provided technical support to Utah as they seek to purchase a personal computer.

During February, ESL continued to serve as an information source for data about geothermal resources for both DOE and others. Two tasks were done for DOE: a preliminary assessment of the requirements for plugging and abandoning the Marysville, Montana geothermal well, and a contact with the Shreveport Intrastate Gas Transmission Company. The plugging of the well involved contacts with both the Montana team and the Montana office of the BLM. The Shreveport company requested geothermal maps. ESL reviewed a paper for the Arizona Geological Digest, which was a summary of state team efforts during the State Coupled Program there. ESL also provided extensive data about Utah geothermal resources to an appraiser, who is working on a bank case involving a well drilled in the 1970s.



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Duncan Foley

DF/jp

UNIVERSITY OF UTAH RESEARCH INSTITUTE

# UURI

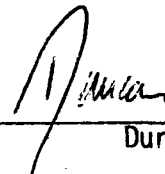
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February 6, 1986

MEMORANDUM

TO: Peggy Brookshier  
FROM: Duncan Foley  
SUBJECT: State Coupled Program Progress Report

Enclosed please find the State Coupled Program monthly progress report from ESL/UURI for January, 1986. Please call me if you have any questions on this report.



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Duncan Foley

DF/jp

enclosure

STATE COUPLED PROGRAM  
MONTHLY PROGRESS REPORT, JANUARY 1986

During January, the Earth Science Laboratory continued to provide DOE and other participants in the State Coupled Program with technical support on a wide range of tasks. ESL also continued to work on the preparation of a technical report during the month.

The main ESL efforts on the program for DOE consisted of contacting numerous state teams to acquire information and track progress. DOE requested data on the financial status of the Wyoming team, which ESL gathered. The Utah team needed information on reporting requirements defined in their current contract modification; ESL provided the data. DOE requested additional information on changes in proposed tasks from the New Mexico team. ESL followed up an earlier memo reviewing the New Mexico proposal by talking with the team during the month. ESL continued to monitor the progress of other teams through conversations with program participants in Idaho, Alaska (on both old work in the Copper River Basin and current efforts at Mt. Spurr) and Washington.

ESL continued to provide DOE with significant events on a weekly basis, when they occurred, and to respond to DOE needs for program data in a short response time. The main request for data in January was for a list of all projects that ESL and State teams had worked on in connection with the Department of Defense. This involved contacting many state teams, including California, Nevada, Oregon, and Washington, and a review of program data files.

During January, ESL worked on two major reviews of reports being prepared for publication by state teams. The first report was from Alaska on research at Akutan, and the second report was from Utah on high-temperature geothermal

systems. Comments on the Alaska report were delivered to the team; comments on the Utah report will be ready in early February.

ESL continued during January to provide interested users with geothermal resource data. A copy of the Nevada geothermal map, which was produced by the State Coupled Program, was given to an aquaculture developer, along with additional resource data. Several publications on geothermal energy along the Wasatch front were compiled for Kimberly-Clark Corporation, who are investigating geothermal resources as they plan expansion of a diaper factory near Ogden. ESL was also contacted by EG&G, Idaho for data compiled by the State Coupled Program.

Progress continued on writing a paper on geothermal resources of Idaho during January. Geochemical modeling of water-rock equilibrium for both ESL-collected and literature-based fluid analyses was done, using the WATEQ program from the U. S. Geological Survey. Studies of the thermal regime continued, with two anomalously warm mines identified in areas without known geothermal systems. One of the mines has a gradient of more than 100 degrees C/km between the 200 and 800 foot levels.

UNIVERSITY OF UTAH RESEARCH INSTITUTE

**UURI**

EARTH SCIENCE LABORATORY  
391 CHIPETA WAY, SUITE C  
SALT LAKE CITY, UTAH 84108-1295  
TELEPHONE 801-524-3422

*Duncan*

January 9, 1986

MEMORANDUM

TO: Peggy Brookshier  
FROM: Duncan Foley  
SUBJECT: Monthly Report

Enclosed please find a monthly report for ESL activities on the State Coupled Program during December. I will prepare a quarterly update on state team progress when I receive all currently due progress reports.

*Duncan* (D.F.)  
\_\_\_\_\_  
Duncan Foley

DF/jp



January 6, 1986

STATE COUPLED PROGRAM  
MONTHLY PROGRESS REPORT  
DECEMBER 1985

During December, the Earth Science Laboratory continued to provide technical support to DOE and state teams under the auspices of the State Coupled Program. ESL also continued efforts in research on geothermal resources.

Support provided to DOE by ESL included meetings, news bulletins, proposal reviews, report reviews, and continuing communication with states. The major meeting during December was with representatives from DOE headquarters and EG&G, Idaho. The wide-ranging discussion covered many current aspects of the program, including state team progress, contract status, management decisions and anticipated deliverables. One major management decision that is unresolved is how rock samples will be selected for age dating by the University of Arizona. ESL prepared a memo describing a suggested decision process, and distributed it to DOE headquarters and Idaho Falls personnel. ESL continued to send DOE weekly summaries of significant items from the program, which are gathered through regular phone calls with states. A proposal for redirection of unspent funds was received from the New Mexico team. ESL reviewed this proposal, and provided DOE with written comments. The Alaska teams are interested in releasing data from their Mt. Spurr research, ESL communicated with both the team and DOE, and reviewed the proposed data release, during the month.

ESL held many conversations with state teams during December. A meeting with the Idaho team was held in Salt Lake City. The Southern Methodist team was concerned about their contract status; ESL communicated this concern to

DOE. The Utah team was provided with further data for their nearly-finished bibliography. The Oregon team is reworking some early field data, but does not anticipate needing a contract task extension. ESL is reviewing a report from the Alaska team on their research at Akutan. The report has been delivered to DOE, and is now being prepared for publication by the state.

Two research efforts continued at ESL during December. The first was rock crushing for age-dating for the Idaho team, and the second was writing a paper on geothermal resources of central Idaho. Efforts on these will continue in January.

UNIVERSITY OF UTAH RESEARCH INSTITUTE

# UURI

EARTH SCIENCE LABORATORY  
391 CHIPETA WAY, SUITE C  
SALT LAKE CITY, UTAH 84108-1295  
TELEPHONE 801-524-3422

December 10, 1985

## MEMORANDUM

TO: ~~Marshall Reed~~  
Peggy Brookshier *revised to be Peggy only, mailed 11 Dec*

FROM: Duncan Foley

SUBJECT: State Coupled Monthly Report  
November, 1985

During November, ESL continued to provide technical support to DOE offices and state teams and to work on technology transfer.

Support to DOE headquarters and the Idaho Falls Operations Office primarily emphasized the preparation of a draft RFP, with efforts also directed toward numerous communications with state teams. ESL/UURI generated suggestions for several sections of the RFP and delivered these to the Idaho office. The RFP is being prepared for distribution to state geological surveys and universities that may wish to seek State Coupled Program funding to pursue research in geothermal programs. As part of the RFP preparation, ESL/UURI contacted current state teams to evaluate their ability to cost-share new work. All teams contacted will be able to cost share, but some will probably propose "in-kind" cost-sharing.

Most state teams were contacted during the month, and several meetings were held with personnel from the Utah Geological and Mineral Survey. Both

teams in Alaska needed information, the Geophysical Institute on deliverable distribution and the Division of Geological and Geophysical Surveys on requirements of DOE for release of data to industry. The Idaho team discovered that the Boise geothermal reservoir may be dropping faster than anticipated. ESL/UURI held many conversations with them to obtain further data in answer to requests from DOE headquarters. The New Mexico team needs to solve reallocation of funds they identified for industry cost-share drilling, now that the companies that were selected have been sold. ESL/UURI has been in touch with the New Mexico Principal Investigator, to encourage prompt decisions on this matter. The North Dakota team had two requests during November; they needed details on their contracts and information on thermal regimes of the Texas Gulf Coast. The Wyoming team was contacted regarding progress of their new research. The meetings with members of the Utah team concerned an ESL/UURI review of their bibliography of geothermal references, and follow-up efforts to identify selected additional references. ESL/UURI also provided the Utah team with national data about the current status of the geothermal industry.

Weekly significant news items were contributed during November. These news items flag areas of importance or concern to DOE.

Technology transfer continued to be emphasized under State Coupled Program auspices during November. The applicability of State Coupled Program research to the needs of private industry was illustrated this month by an industry request for multiple state data on geothermal resources and researchers. ESL/UURI provided the requested data. ESL/UURI continued during November to prepare a paper on geothermal systems in Idaho, and to process samples for age dating. A request was received from an editor of a guidebook to the geology of the Balcones fault zone in central Texas for an article on

the thermal regime of Bexar County. The guidebook will be published in conjunction with the 1986 annual meeting of the Geological Society of America, which will be held in San Antonio.

Duncan

STATE COUPLED PROGRAM  
MONTHLY PROGRESS REPORT  
OCTOBER, 1985

During October, Earth Science Laboratory activities on the State Coupled Program included providing support to the Idaho Falls and Headquarters offices of DOE, providing technical support to state teams, and making progress on technical publications.

Both unusual and routine tasks were done during October in support of DOE. The primary unusual task was to prepare a map depicting known and potential geothermal resource areas in the U.S. for headquarters. This page-size map showed three categories of resources: above 90°C, below 90°C, and geopressured. The final copy of the map was produced in one week. ESL continued to contact State Coupled Program teams for DOE. In October, extensive conversations were held with the University of Alaska, the Alaska Division of Geological and Geophysical Surveys, the Idaho Department of Water Resources, Montana Tech, the New Mexico Energy Institute, the University of North Dakota, Southern Methodist University, and the Utah Geological and Mineral Survey. ESL continued to serve as an information source for other DOE programs during October. The primary emphasis was on providing data for the Cascades program. Seattle City Light was contacted to obtain public data from their geothermal program at Mt. Baker. The Washington State Coupled Program team was contacted about available geologic samples from past drilling programs.

ESL was active on two project management reporting efforts during October. The first of these was to continue to provide weekly news updates to DOE. The other reporting effort is the preparation of an annual report on the status of the program. ESL has begun writing this report, but currently is

waiting for more data from DOE and the states in order to accurately portray the team contracts and progress.

Two major areas of technical support to teams were active in October. The first of these was to review an extensive bibliography of geothermal publications for the Utah team. The nature of the publication made this review extensive and time consuming. The second area of technical support has been to begin preliminary rock preparation steps for providing the Idaho team with dates on volcanic rocks from their geologic mapping area.

During October, ESL was active on two State Coupled Program related publications. The first of these was the publications of "Thermal regimes of the Balcones/Ouachita trend, central Texas", by C. M. Woodruff and Duncan Foley. This paper was published in the Transactions of the Gulf Coast Association of Geological Societies (v. 35, p. 287-292). The second paper, which is in preparation, will be on hydrothermal systems along the margins of the Idaho batholith, in south-central Idaho. This paper will be a discussion of regional hot spring geology and geochemistry.

UNIVERSITY OF UTAH RESEARCH INSTITUTE

# UURI

EARTH SCIENCE LABORATORY  
391 CHIPETA WAY, SUITE C  
SALT LAKE CITY, UTAH 84108-1295  
TELEPHONE 801-524-3422

## MEMORANDUM

**TO:** Kenneth Taylor, DOE/ID

**FROM:** Howard Ross

**SUBJECT:** Estimated Support for DOE State Cooperative Reservoir Analysis Program (SCP) - Technical Assistance - FY 89

**DATE:** October 20, 1988

### 1.0 Introduction

UURI is funded by DOE/ID to provide technical assistance for the DOE-GTD State Cooperative Reservoir Analysis Program (also called the State Coupled Program, or SCP) under Contract DE-AC07-85ID12489. As a result of the 1988 DOE-SCP solicitation and the wrap up of earlier grants, 14 grants and cooperative agreements are now active in the State Cooperative Program. At least seven grants will continue into mid-FY 90, and one or two additional state teams may be funded. We understand that specific funding for SCP activities was not included in the FY 89 Congressional Budget.

### 2.0 Scope

UURI will provide technical and administrative support to DOE/ID and DOE/GTD in the continuation of the State Cooperative Program. Anticipated activities include assistance to DOE in the solicitation process, progress monitoring, review of state team expenditures, critical review of state team technical reports and technical assistance (geological, geotechnical, geophysical) to the state teams.

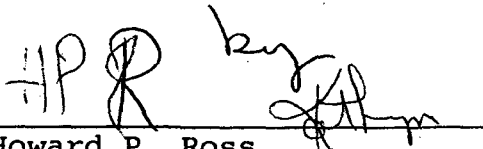


### 3.0 Funding Required

UURI salaries, supplies,  
geochemical analyses, travel: FY 89          \$96,978

We estimate carryover funds of approximately \$30,000, pending our final FY closing. It has been DOE and UURI policy that UURI should carry over enough funding for 3 to 5 months operations because it is characteristicly that length of time before all of our funds have become available from DOE for the new FY. UURI is such a small organization that we can not operate on our own for any significant period of time.

Please contact me or Wil Forsberg (588-3442) for additional clarification. A more complete Statement of Work narrative, from FY88, is attached for your information.

  
Howard P. Ross  
Project Manager

STATEMENT OF WORK

STATE COOPERATIVE RESERVOIR ANALYSIS PROGRAM

1.0 Introduction

The State Cooperative Reservoir Analysis Program (SCP) was established by DOE in the mid-1970's, as the State Coupled Program to assess low-and moderate-temperature geothermal resources in the U.S. The early efforts of the State Coupled Program were national in scope. Geoscientific investigations were made in all states, with the more intensive activity focusing on states with either known existing geothermal resources or a large user potential. These studies provided extensive input to the USGS computer file GEOTHERM and demonstrated that most moderate-and high-temperature geothermal resources are found in the western portion of the country, with low-temperature resources also found in the great plains and Atlantic coast region. These and subsequent studies have led to the publication and distribution of a series of state geothermal resource maps. More recent work has expanded upon earlier resource assessment activities and included detailed reservoir analysis and generic studies.

UURI has provided technical program monitoring, coordination, and administrative support to DOE for the SCP, and has provided technical support to state teams. UURI has also provided technical and administrative support to DOE/ID and DOE/HQ during the establishment of new grants, including the 1987 PRDA solicitation.

2.0 Scope

UURI will provide technical and administrative support to DOE/ID and DOE/HQ in the continuation of the State Cooperative Program. Seven contracts with State teams remain active as of October 1, 1987 and ten or more new grants may result from the 1987 SCP PRDA. Anticipated activities include assistance to DOE in the solicitation process, progress monitoring, review of state team expenditures, critical review of state team technical reports and technical assistance to the state teams.

3.0 Applicable Documents

Reports submitted on geoscience research and technical assistance conducted under DOE Contract No. DE-AC07-85ID12489. DOE/ID Program Research and Development Announcement (PRDA) for State Geothermal Research and Development-PRDA No. DE-PRO7-87ID12662.

4.0 Technical Tasks

Task 4.1 Progress Monitoring

Monitor the technical progress of state teams on all tasks funded through the State Cooperative Program. Accomplish such monitoring through telephone conversations, written communications, and at on-site visits or meetings as may be required. Provide DOE/ID and DOE/HQ with regular updates and evaluations of state team progress.

Task 4.2 Technical Support

Provide geoscience technical support to state teams through conducting studies that support state team efforts or contribute to state team results. Provide geological, geochemical, and geophysical consultation and services as appropriate and within available UURI funding. Provide critical technical report reviews.

5.0 Reports, Data and Deliverables

Prepare appropriate reports and deliverables based on the above tasks, including monthly progress reports, a year-end progress report, and technical reports as appropriate.

6.0 Special Considerations

None.

7.0 Proposed Budget

The proposed budget to complete this project is \$98,490.

## STATEMENT OF WORK

### STATE COOPERATIVE RESERVOIR ANALYSIS PROGRAM

#### 1.0 Introduction

The State Cooperative Reservoir Analysis Program (SCP) was established by DOE in the mid-1970's, as the State Coupled Program to assess low-and moderate-temperature geothermal resources in the U.S. The early efforts of the State Coupled Program were national in scope. Geoscientific investigations were made in all states, with the more intensive activity focusing on states with either known existing geothermal resources or a large user potential. These studies provided extensive input to the USGS computer file GEOTHERM and demonstrated that most moderate-and high-temperature geothermal resources are found in the western portion of the country, with low-temperature resources also found in the great plains and Atlantic coast region. These and subsequent studies have led to the publication and distribution of a series of state geothermal resource maps. More recent work has expanded upon earlier resource assessment activities and included detailed reservoir analysis and generic studies.

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Provide geoscience technical support to state teams through conducting studies that support state team efforts or contribute to state team results. Provide geological, geochemical and geophysical consultation and services as appropriate and within available UURI funding. Provide critical technical report reviews.

#### 5.0 Reports, Data and Deliverables

Prepare appropriate reports and deliverables based on the above tasks, including monthly progress reports, a year-end progress report, and technical reports as appropriate.

#### 6.0 Special Considerations

None.

#### 7.0 Proposed Budget

The proposed budget to complete this project is \$98,490.

No Cost Time Extensions

Direct letters to: Ms. Elizabeth Bowhan, Contracts Director  
U.S. Department of Energy  
Idaho Operations Office  
785 DOE Place  
Idaho Falls, ID 83402

~~Ms. Alice Bush~~

~~Department of Geology and Geophysics  
University of Wyoming~~

~~Dear Alice:~~

Some suggested wording:

It has come to my attention that recent changes in Federal Regulations permit the recipients of research awards to extend the expiration date of the final budget period of the project. Therefore, for the medical reasons cited in my letter of September 13, 1990, The University of Wyoming, Department of Geology and Geophysics, has awarded itself a three month time extension, to January 31, 1991, for the completion of Grant \_\_\_\_\_, as provided for in 10 CFR Part 600, Section 600.31(d) as amended by FR doc. 89-24243, filed 10/12/89. No additional Federal funds are requested for this extension.

Please send \_\_\_\_\_ copies of this letter to:

Howard P. Ross, Earth Science Laboratory, UURI  
Kenneth Taylor, DOE/ID

Please call me at (801) 524-3444 if you have any questions.

Sincerely,

*Howard Ross*

Howard Ross  
Project Manager

Ms. Alice Rush

Department of Geology and Geophysics  
University of Wyoming

Dear Alice:

Some suggested wording:

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Kenneth Taylor, DOE/ID

Please call me at (801) 524-3444 if you have any questions.

Sincerely,

Howard Ross  
Project Manager

No Cost Time Extensions

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Kenneth Taylor, DOE/ID

Please call me at (801) 524-3444 if you have any questions.

Sincerely,

*Howard Ross*  
Howard Ross  
Project Manager



# Rules and Regulations

Federal Register

Vol. 54, No. 197

Friday, October 13, 1989

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

## DEPARTMENT OF ENERGY

Office of the Secretary

### 10 CFR Part 600

**Financial Assistance Rules: Revised Policy on Objective Merit Review of Discretionary Financial Assistance Applications**

**AGENCY:** Department of Energy.

**ACTION:** Final rule.

**SUMMARY:** The Department of Energy today is revising subparts A and B of the Financial Assistance Rules, 10 CFR part 600, to establish standards for program offices to follow in conducting the objective merit review of discretionary financial assistance applications, to provide authority for program assistant secretaries to issue general solicitations covering broad areas of research for which financial assistance is being made available, and to establish a requirement whereby applicants may receive an evaluation of their submission. In addition, this revision gives recipients of financial assistance research awards expanded authority to rebudget among categories and authority to carry over funds from one funding period to the next, to incur preaward costs, and to extend project periods without prior approval under certain circumstances. These changes will maintain the Federal stewardship over the funds being awarded while simultaneously allowing research to be done more efficiently and productively.

**EFFECTIVE DATE:** Effective November 13, 1989.

**FOR FURTHER INFORMATION CONTACT:**

Edward F. Sharp, Business and Financial Policy Division (MA-422), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585 (202) 586-8192.

Christopher Smith, Office of the Assistant General Counsel for Procurement and Finance (GC-34), U.S. Department of Energy, Washington, DC 20585 (202) 586-1526.

**SUPPLEMENTARY INFORMATION:**

Table of Contents

- I. Introduction
- II. Changes to 10 CFR Part 600
- III. Discussion of Comments on Proposed Rule
- IV. Review under Executive Order 12291
- V. Review under the Regulatory Flexibility Act
- VI. Review under the Paperwork Reduction Act
- VII. Review under the National Environmental Policy Act
- VIII. Review Under Executive Order 12612

**I. Introduction**

With this final rule, the Department of Energy (DOE) is amending its Financial Assistance Rules to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications. The changes also allow recipients of financial assistance research awards authority, without obtaining prior approval from the Contracting Officer, to (1) rebudget among categories; (2) carry over funds from one funding period to the next; (3) incur limited preaward costs; and (4) extend project periods without additional funds.

Also, today's rule establishes an outline for a Department-wide process for the review of applications for financial assistance. Requests for financial assistance funds are to be reviewed and evaluated by the DOE based on scientific merit of the project, applicant's qualifications, adequacy of applicant's facilities and resources, project appropriateness to the mission of the DOE, and other appropriate factors established and set forth by the cognizant program office. The DOE review process is to consist of review by DOE personnel for scientific and technical merit and program policy matters and may include external review by Federal (including DOE) and non-Federal personnel either as part of a standing committee, ad hoc committee, or field reader review for scientific and technical merit. The Federal/non-Federal composition of the review groups may vary, as long as objective review standards are maintained.

Additionally, this rule allows the issuance of general solicitations such that applications which are in the subject area of one of the programs listed in the solicitation may be treated as having been in response to the general solicitation.

Finally, a provision regarding evaluations of applications provides that, upon request, the applicant will receive a written summary of the evaluation.

The DOE has concluded that the other changes regarding prior approvals, carryovers, preaward costs and project extensions (which are the DOE's implementation of recommendations stemming from the Federal Demonstration Project) will provide additional flexibility to financial assistance recipients and reduce the work involved in managing financial assistance awards without adversely affecting appropriate Federal oversight of certain awards.

**II. Changes to 10 CFR Part 600**

Section 600.3 is amended by inserting in alphabetical order definitions for "ad hoc committee," "field readers," "objective merit review," "responsible official," and "standing committee," and changing the definition of "research."

Section 600.9 is amended by revising paragraph (a)(1) to provide authority for program assistant secretaries to issue general solicitations. Paragraph (c)(10) is amended to allow program offices to establish due dates or periods appropriate for the receipt of applications. Multiple receipt dates throughout the year may be established which would permit applications to be "bunched" and reviewed in comparison to each other. Paragraph (c)(12)(vi) is changed to provide that solicitations must contain specific requirements for non-statutory cost sharing when cost sharing is to be considered in the selection process.

Section 600.16 is amended by revising paragraph (a) to establish the responsibility of the program office for setting up an objective merit review system and ensuring its satisfactory functioning. A new paragraph (b) is added to set out basic review requirements, including the goal to normally obtain review by at least three individuals who have no other responsibilities concerning the financial assistance applications being reviewed.

Summary

individual who participated in the review of an application being appointed as the project officer. This will not be considered a violation of this policy of objective merit review provided the assignment was not expected when the review was conducted.

(5) Persons outside the cognizant program office must not have been employees of that office, including having line authority over that office, for one year prior to participation as a reviewer in the objective merit review process for the program.

(c) *Comparative review.* (1) In order to enhance the validity of the evaluation and rating process, applications can be evaluated in comparison to each other.

(2) If a program area has issued a program notice, the responsible official may implement review procedures which will result in applications being evaluated in comparison to each other. Applications in response to that notice may be assigned to a group of field readers, to a standing committee, or to an ad hoc committee, as discussed below, which is capable of reviewing them, and may be considered along with other applications which were submitted in response to the program notice. Such an application may also be eligible for review under an applicable program announcement. For solicitations, review procedures may also permit comparative evaluation with field readers, a standing committee, or an ad hoc committee being used as appropriate.

(d) *Types of review groups—(1) Field readers.* (i) Objective merit review of applications may be obtained by using field readers to whom applications are sent for review and comment. Field readers may also be used as an adjunct to financial assistance application review committees when, for example, the type of expertise needed or the volume of financial assistance applications to be reviewed requires such auxiliary capacity.

(ii) Safeguards should be instituted to ensure that field readers clearly understand the process, their role, and the criteria upon which the applications are to be evaluated.

(iii) For those situations in which a standing committee is the appropriate review mechanism (see paragraph (d)(2) of this section), but a group of field readers must be used instead, it should function as nearly like a committee as possible. For example, if all members of the standing committee were to evaluate all of the applications under review, then all field readers must receive all of the applications to be reviewed even though they are in geographically

separate locations and all field readers should be instructed to follow the procedures established for evaluating the applications.

(2) *Standing committees.* (i) Standing committees are normally appropriate when required by legislation or when the following conditions prevail:

(A) A sufficient number of applications on specific topics to justify the use of a standing committee(s) is received by the program on a regular basis in accordance with a predetermined review schedule;

(B) There are a sufficient number of persons with the required expertise who are willing and able to (1) accept appointments, (2) serve over reasonably protracted periods of time, and (3) convene at regularly scheduled intervals or at the call of the chairperson; and

(C) The legislative authority for the particular program(s) involved extends for more than one year.

(ii) Persons outside the cognizant program office shall constitute at least half the reviewers on such committees unless a deviation from this requirement has been approved under § 600.16(g) below.

(3) *Ad hoc committees.* (i) Ad hoc review committees may not exceed one year in duration and are appropriately used when use of a standing committee is not feasible or when one of the following conditions prevails:

(A) A small number of applications is received on an intermittent basis;

(B) The program is one of limited duration, usually less than one year;

(C) The applications to be reviewed have been solicited to meet a specific program objective and cannot appropriately be reviewed by a standing committee because of subject matter, time constraints, or other limitations;

(D) The volume of applications received necessitates convening an additional committee(s) of available reviewers; or

(E) It is determined that the applications submitted have special review requirements, e.g., construction of a facility, the complexity of subject matter cuts across the areas of expertise of two or more standing committees, or the subject matter is of a special, nonrecurring nature.

(ii) Ad hoc committees may not be used for reviewing financial assistance applications for any program for which a standing committee has been established (except for paragraph (d)(3)(i)(D) of this section) unless a deviation is approved under § 600.16(g) below.

(e) *Review summary.* Upon request, applicants are to be provided with a

written summary of the evaluation of their application.

(f) *Reviewers with interest in application being reviewed.* Reviewers must comply with the requirements for the avoidance of conflict of interest established in § 600.17. In establishing a system of objective merit review required in § 600.16(a)(1), the responsible official shall develop procedures which will permit DOE to evaluate whether a conflict of interest exists. A committee or group of field readers which includes as objective merit reviewers any individuals who cannot meet the requirements of § 600.17 or the program's review procedures, with regard to a particular application being reviewed, e.g., officials mentioned in paragraphs (b) (3) and (5) of this section, shall operate as follows:

(1) These individuals or officials may not review, discuss, and/or make a recommendation on an application(s) in which they have a conflict of interest.

(2) In the case of a review committee, the committee member must absent himself or herself from the committee meeting during the review and discussion of the application(s) in which he/she has a conflict of interest.

(g) *Deviations.* (1) In any instance in which a program's pre-established review system is not to be used to review an application, group of applications, or class of applications, written prior approval for utilization of a different procedure, which itself must, to the extent possible, conform to the provisions of this section pertaining to objective merit review, must be obtained from the responsible official or his or her designee.

(2) If the deviation sought applies to a class of applications and constitutes a deviation from the requirements of this part, approval for deviation must be obtained in accordance with § 600.4. If such request for deviation is approved, all details of the review procedure utilized and the proceedings and determination must be fully documented.

5. Section 600.31 is amended by revising paragraph (d) to read as follows:

§ 600.31 Funding.

(d) *Extensions.* (1) Recipients of research awards may extend the expiration date of the final budget period of the project (thereby extending the project period) if additional time beyond the established expiration date is needed to assure adequate completion of the original scope of work within the

Time Extensions

NOTE

funds already made available. A single extension, which shall not exceed twelve (12) months, may be made for this purpose, and must be made prior to the originally established expiration date. The recipient must notify the cognizant DOE Contracting Officer in the awarding office in writing within ten (10) days of making the extension.

(2) DOE may extend any budget period of any type of financial assistance without the need for competition or a justification of restricted eligibility if:

(i) In the case of the final budget period of a project period, the additional time necessary is 18 months or less in total, or for all other budget periods, the additional time necessary is 6 months or less in total; and

(ii) The grantee submits a written request for an extension before the expiration date of the budget period in process and includes a justification for the extension along with an expenditure plan for the use of any additional funds requested. An expenditure plan need not be provided when no additional funds are requested, unless the grantee intends to rebudget funds in such a way as to require DOE prior approval or unless the grantee is instructed otherwise by the Contracting Officer.

6. Section 600.32 is amended by revising paragraph (c)(2), removing paragraph (d), redesignating paragraphs (e) and (f) as (d) and (e) and revising newly redesignated paragraphs (d) and (e) as follows:

§ 600.32 Calculation of award.

(c) *Unobligated balances*—

(2) *Research grants.* Any unobligated balance of funds which remains at the end of any funding period, except the final funding period of the project period, may be carried over to the next funding period, and may be used to defray costs of the period into which it is carried over. The recipient shall not be entitled to reimbursement if a continuation award is not made. Recipients may be requested to provide information with regard to expenditures in the progress report covering the previously completed period. The recipient shall also include in the *Financial Status Report, for the previously completed period, the amount of the unobligated balance as of the end of the funding period.*

(d) *Added funding not required.* Nothing in paragraph (c) of this section shall in any way require the DOE to increase the total amount obligated for the project.

(e) *Adjustments.* Whenever DOE adjusts the amount of an award under this subpart, it shall also make an appropriate upward or downward adjustment to the amount of required cost sharing in order that the adjusted award maintain any required percentage of DOE and non-Federal participation in the costs of the project.

7. Section 600.103 is amended by revising paragraphs (b)(6) and (g) to read as follows:

§ 600.103 Cost determinations.

(b) *Cost principles.*

(6) Before a recipient may make changes in the following areas on research financial assistance awards, the written approval of the cognizant Contracting Officer at the DOE is required: (i) Changes in objectives or scope, (ii) temporary replacement or change of principal investigator or change of key personnel, and (iii) change of the institution to which the award is to be made. All other Federal prior approval requirements, including those in OMB Circulars A-21 and A-110, are waived for research awards. The recipient may maintain such internal prior approval systems as it considers necessary.

(g) *Preaward costs*—(1) *All Awards.* Any preaward expenditures are made at the recipient's risk. Approval of preaward costs by the Contracting Officer or incurrence by the recipient does not impose any obligation on DOE if an award is not subsequently made, or if an award is made for a lesser amount than the recipient expected.

(2) *Research awards only.* (i) For new or renewal research awards, recipients may incur preaward costs up to ninety (90) days prior to the effective date of the award. Preaward costs for periods preceding 90 days prior to the effective date of the award are allowable only if approved in writing, prior to incurrence, by a DOE Contracting Officer.

(ii) For continuation awards within a multiple year project, prior to receipt of continuation funding, preaward expenditures by recipients are not subject to the limitation or approval requirements of paragraph (g)(2)(i) of this section.

(iii) *Preaward costs, as incurred by the recipient, must be necessary for the effective and economical conduct of the project, and the costs must be otherwise in accordance with these rules and may not include those specific costs for which agency prior approval is required under the circulars. In any instance in which the circulars permit the agency to*

grant prior approval to the recipient, it is the Department's intention to do so.

(3) *Other than research awards.* All other financial assistance recipients may incur preaward costs only if the expenditure is approved in writing, prior to incurrence, by the Contracting Officer. In the case of governmental entities, the approval must additionally be reflected on the award notice.

[FR Doc. 89-24243 Filed 10-12-89; 8:45 am] BILLING CODE 5409-01-M

OVERSIGHT BOARD

12 CFR Parts 1510 and 1511

The Resolution Funding Corporation—Operations

AGENCY: Oversight Board.

ACTION: Final rule.

SUMMARY: The Oversight Board has adopted final regulations for the Resolution Funding Corporation. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("Act"), established the Resolution Funding Corporation and the Resolution Trust Corporation. The Resolution Funding Corporation is required by the Act to provide funds to the Resolution Trust Corporation to enable it to carry out its purposes under the Act. These regulations prescribe the manner in which the Resolution Funding Corporation will operate and clarify the manner in which assessments will be made to capitalize the Resolution Funding Corporation.

EFFECTIVE DATE: These regulations are effective September 21, 1989.

FOR FURTHER INFORMATION CONTACT: Bradford E. Baker, Acting Executive Secretary, or Robert Frierson, attorney, at (202) 387-7575.

SUPPLEMENTARY INFORMATION:

A. General

On August 9, 1989, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("FIRREA") was enacted into law. Among other things, the FIRREA added section 21B to the Federal Home Loan Bank Act (the "Act") which established a corporation known as the Resolution Funding Corporation ("Funding Corporation") to provide funds necessary for the Resolution Trust Corporation ("RTC") to carry out its purpose under the FIRREA. The Funding Corporation will issue bonds, notes, debentures, or similar obligations, and with the net proceeds thereof, it will purchase capital



DIVISION OF EARTH SCIENCES  
ENVIRONMENTAL RESEARCH CENTER  
UNIVERSITY OF NEVADA, LAS VEGAS  
100 WASHINGTON ST., SUITE 201  
RENO, NEVADA 89503 • (702) 784-6151  
FAX (702) 784-1300

April 25, 1990

Ms. Elizabeth Bowhan, Contracts Director  
U.S. Department of Energy  
Idaho Operations Office  
785 DOE Place  
Idaho Falls, ID 83402

Dear Ms. Bowhan:

The Division of Earth Sciences is completing work on DOE contract DE-FG07-88ID12784, entitled "Geothermal Fluid Genesis in the Great Basin" (see attached). The scheduled completion date for submission of the final report is May 1, 1990. All of the research and field work have been completed and a draft report was submitted for technical review to Dr. Marshall Reed (DOE Headquarters in Washington, D.C.), Dr. Howard Ross (University of Utah Research Institute), and others, in March, 1990. All comments and suggestions have been incorporated into a revised draft (see attached). The purpose of this letter is to request additional time for review of the draft by the U.S. Geological Survey, in Menlo Park, California.

Earlier this month, Dr. Reed suggested that I forward a copy of the draft to Dr. Robert Mariner, a geologist with the USGS who is a recognized authority in geothermal science. Dr. Ross agreed that the report findings were significant and warranted the expertise of an outside agency for review. I contacted Dr. Mariner by telephone and, although he agreed to review the report, he explained that his schedule would keep him from the review until May 1, 1990. I contacted Dr. Ross and, after discussion with Dr. Reed, they recommended that I contact your office with the following proposal.

The Division of Earth Sciences, University of Nevada, Las Vegas, proposes to grant itself a one month no-cost extension of time on contract DE-FG07-88ID12784 for the purposes of obtaining and incorporating addition input to the draft copy of the final report from the U.S. Geological Survey. This request will change the Budget and Project Termination Date from May 1, 1990 to June 1, 1990. It is the understanding of the Division of Earth Sciences that this request is provided for in 10 CFR Part 600, section 600.31d, as amended by FR doc. 89-24243, filed 10/12/89. No additional Federal funds are requested for this extension.

*Note  
Citation!*

EARTH SCIENCE LABORATORY  
UNIVERSITY OF UTAH RESEARCH INSTITUTE  
391 CHIPETA WAY, SUITE C  
SALT LAKE CITY, UT 84108-1295

September 18, 1990

**DATE**

Ms. Alice Rush  
**TO**

U of Wyoming  
**ORG./LOCATION**

TELEPHONE NO.  
307 766-2737  
**TELEFAX NO.**

Howard Ross  
**FROM**

UURI/ESL  
**ORG./LOCATION**

(801)524-3444  
**TELEPHONE NUMBER**

(801)524-3453  
**TELEFAX NUMBER**

THIS TRANSMITTAL CONSISTS OF 5 PAGES.

(EXCLUDING COVER SHEET)

VERIFICATION TELEPHONE NO. (801)524-3437

*(35) 307-766-2737 Alice Rush*

funds already made available. A single extension, which shall not exceed twelve (12) months, may be made for this purpose, and must be made prior to the originally established expiration date. The recipient must notify the cognizant DOE Contracting Officer in the awarding office in writing within ten (10) days of making the extension.

(2) DOE may extend any budget period of any type of financial assistance without the need for competition or a justification of restricted eligibility if:

(i) In the case of the final budget period of a project period, the additional time necessary is 18 months or less in total, or for all other budget periods, the additional time necessary is 6 months or less in total; and

(ii) The grantee submits a written request for an extension before the expiration date of the budget period in process and includes a justification for the extension along with an expenditure plan for the use of any additional funds requested. An expenditure plan need not be provided when no additional funds are requested, unless the grantee intends to rebudget funds in such a way as to require DOE prior approval or unless the grantee is instructed otherwise by the Contracting Officer.

6. Section 600.32 is amended by revising paragraph (c)(2), removing paragraph (d), redesignating paragraphs (e) and (f) as (d) and (e) and revising newly redesignated paragraphs (d) and (e) as follows:

§ 600.32 Calculation of award.

(c) *Unobligated balances*—

(2) *Research grants*. Any unobligated balance of funds which remains at the end of any funding period, except the final funding period of the project period, may be carried over to the next funding period, and may be used to defray costs of the period into which it is carried over. The recipient shall not be entitled to reimbursement if a continuation award is not made. Recipients may be requested to provide information with regard to expenditures in the progress report covering the previously completed period. The recipient shall also include in the Financial Status Report, for the previously completed period, the amount of the unobligated balance as of the end of the funding period.

(d) *Added funding not required*. Nothing in paragraph (c) of this section shall in any way require the DOE to increase the total amount obligated for the project.

(e) *Adjustments*. Whenever DOE adjusts the amount of an award under this subpart, it shall also make an appropriate upward or downward adjustment to the amount of required cost sharing in order that the adjusted award maintain any required percentage of DOE and non-Federal participation in the costs of the project.

7. Section 600.103 is amended by revising paragraphs (b)(6) and (g) to read as follows:

§ 600.103 Cost determinations.

(b) *Cost principles*.

(6) Before a recipient may make changes in the following areas on research financial assistance awards, the written approval of the cognizant Contracting Officer at the DOE is required: (i) Changes in objectives or scope, (ii) temporary replacement or change of principal investigator or change of key personnel, and (iii) change of the institution to which the award is to be made. All other Federal prior approval requirements, including those in OMB Circulars A-21 and A-110, are waived for research awards. The recipient may maintain such internal prior approval systems as it considers necessary.

(g) *Preaward costs*—(1) *All Awards*. Any preaward expenditures are made at the recipient's risk. Approval of preaward costs by the Contracting Officer or incurrence by the recipient does not impose any obligation on DOE if an award is not subsequently made, or if an award is made for a lesser amount than the recipient expected.

(2) *Research awards only*. (i) For new or renewal research awards, recipients may incur preaward costs up to ninety (90) days prior to the effective date of the award. Preaward costs for periods preceding 90 days prior to the effective date of the award are allowable only if approved in writing, prior to incurrence, by a DOE Contracting Officer.

(ii) For continuation awards within a multiple year project, prior to receipt of continuation funding, preaward expenditures by recipients are not subject to the limitation or approval requirements of paragraph (g)(2)(i) of this section.

(iii) Preaward costs, as incurred by the recipient, must be necessary for the effective and economical conduct of the project, and the costs must be otherwise in accordance with these rules and may not include those specific costs for which agency prior approval is required under the circulars. In any instance in which the circulars permit the agency to

grant prior approval to the recipient, it is the Department's intention to do so.

(3) *Other than research awards*. All other financial assistance recipients may incur preaward costs only if the expenditure is approved in writing, prior to incurrence, by the Contracting Officer. In the case of governmental entities, the approval must additionally be reflected on the award notice.

[FR Doc. 89-24243 Filed 10-12-89; 8:45 am]  
BILLING CODE 5409-01-M

OVERSIGHT BOARD

12 CFR Parts 1510 and 1511

The Resolution Funding Corporation—  
Operations

AGENCY: Oversight Board.

ACTION: Final rule.

**SUMMARY:** The Oversight Board has adopted final regulations for the Resolution Funding Corporation. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("Act"), established the Resolution Funding Corporation and the Resolution Trust Corporation. The Resolution Funding Corporation is required by the Act to provide funds to the Resolution Trust Corporation to enable it to carry out its purposes under the Act. These regulations prescribe the manner in which the Resolution Funding Corporation will operate and clarify the manner in which assessments will be made to capitalize the Resolution Funding Corporation.

**EFFECTIVE DATE:** These regulations are effective September 21, 1989.

**FOR FURTHER INFORMATION CONTACT:** Bradford B. Baker, Acting Executive Secretary, or Robert Frierson, attorney, at (202) 387-7373.

**SUPPLEMENTARY INFORMATION:**

A. General

On August 9, 1989, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("FIRREA") was enacted into law. Among other things, the FIRREA added section 21B to the Federal Home Loan Bank Act (the "Act") which established a corporation known as the Resolution Funding Corporation ("Funding Corporation") to provide funds necessary for the Resolution Trust Corporation ("RTC") to carry out its purpose under the FIRREA. The Funding Corporation will issue bonds, notes, debentures, or similar obligations, and with the net proceeds thereof, it will purchase capital



DESERT RESEARCH INSTITUTE

Water Resources Center - Reno, Las Vegas

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Reno, NV 89512  
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Fax: (702) 673-7397

Mailing Address: P.O. Box 60220  
Reno, Nevada 89506-0220

April 3, 1990

Mr. Kenneth K. Osborne  
Contracts Specialist, DOE/ID  
U.S. Department of Energy  
785 DOE Place  
Idaho Falls, ID 83402

Paul Castelin -  
Please call if you have  
any questions -  
Howard

SUBJECT: DOE Research Grant, DE-FG07-88ID12757;  
Notification of No-Cost Time Extension

Dear Mr. Osborne:

Several situations have occurred during our work on the research project "Evaluation and Simulation of the Moana Geothermal System", Grant DE-FG07-88ID12757, which resulted in project delays and make it impossible to complete this project as scheduled. The initial Principal Investigator, Dr. Michael Campana, left DRI only six weeks after the start of the project requiring the naming of a new Principal Investigator. The logistics required to begin the monitoring program (in all private wells) delayed data collection by approximately three months. Other problems were related to accessing the monitoring wells, training graduate students, and compiling input data for the numerical model. Because of these and other delays, we have granted ourselves, Desert Research Institute-UNS, a seven month no-cost time extension, changing the Budget Period and Project Period termination date from April 30, 1990 to November 30, 1990. This change in the final budget period of the project is provided for by 10 CFR Part 600, Section 600.31(d) as amended by FR Doc. 89-24243, Filed 10-12-89. No additional Federal funds are requested.

note  
citation

In addition, I request DOE approval for a reallocation of project funding categories. Due largely to problems described above, it is necessary to transfer \$6,500 previously budgeted for operation to salaries, increasing the project budget for salaries to \$25,300 for the second year. This transfer involves less than 5 percent of the total project budget and appears to be provided for in Special Terms and Conditions for Research Grants, items 2 and 7. No additional Federal funds are requested.

Please call me if you require additional information on these matters.

Sincerely,

*Elizabeth Jacobson*

Elizabeth Jacobson  
Assistant Research Professor

EJ:bjn

cc: Howard Ross, UURI  
Kenneth J. Taylor, DOE-Idaho

A new paragraph (c) has been added to outline requirements for comparative review. A new paragraph (d) has been added to describe the types of review processes which may be used, which include field readers, standing committees, and ad hoc committees. A new paragraph (e) has been added establishing a requirement for providing the applicant with an evaluation of his/her application. A new paragraph (f) has been added to address situations in which the reviewer has an interest in the application being reviewed. A new paragraph (g) has been added to establish deviation procedures from this part of the rule. Existing paragraphs (b) and (c) have been redesignated paragraphs (h) and (i).

Section 600.31 is amended by including a provision allowing recipients of financial assistance research awards to extend the final year of a project period without receiving the prior approval of the DOE. Recipients must take this action prior to the originally established expiration date and notify the DOE within ten days of the extension.

Section 600.32 is amended to allow recipients of financial assistance research awards to carry over unexpended funds in a continuation award without the prior approval of the DOE.

Section 600.103 is amended to eliminate all Federal prior approval requirements for a recipient of financial assistance research awards (including those in OMB Circulars A-21 and A-110) except for change in objective or scope, temporary replacement or change of principal investigator, change of key personnel, and change of the institution to which the award is made. It is also amended to establish the authority of these recipients to incur pre-award costs of up to 90 days prior to a new or renewal award. The section also provides that, if a recipient takes such an action, the DOE is not, therefore, obligated to issue an award.

### III. Discussion of Comments on Proposed Rule

On March 15, 1989 (54 FR 10670), DOE published a proposed rule to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications, and to implement the provisions of the Federal Demonstration Project (FDP) which would allow recipients of financial assistance research awards expanded authority to act in several areas without obtaining prior approval from the Contracting Officer. Written comments were to be submitted by April 14, 1989.

Three institutions of higher education submitted comments.

All three commenters requested that DOE change its proposal which limits the recipient's ability to extend the length of the project period without additional funds to the last budget period of a project period. They assert that the proposed provision (600.31(d)(1)) is contrary to what is being permitted in the FDP which, they contend, allows any budget period to be extended. They also view reserving the extension without additional funds authority to the last budget period to be an unnecessary restriction.

DOE has reviewed the applicable provision in the FDP and determined the limitation in the proposed rule is not inconsistent with that provision. DOE has also verified with other Federal participants in the FDP that the intention and implementation of the applicable provision have been to limit that authority to the final budget period of the project period. Additionally, it is noted that if recipients did have the authority to extend earlier budget periods, funding needs for the project might well extend into a later fiscal year than the federal agency had anticipated, thereby complicating its budget planning.

For the reasons stated in the previous paragraph, DOE will continue to limit the provision regarding extensions without additional funds to the final budget period as provided in the proposed rule.

The three commenters also requested that DOE change the provision in the proposed rule that permits DOE to adjust the amounts awarded in future budget periods based on the amount the recipient estimates is remaining in the previously completed year (§ 600.32(c)(2)). They noted that this is not consistent with the similar provision in the FDP concerning carryover and that such adjustments would have to rely on an estimate that would be of questionable reliability as it would be made well in advance of the end of the budget year.

DOE agrees with these comments and has changed the final rule to conform with the provision regarding carryover in the FDP. The recipient will have the ability to carryover funds without the approval of DOE, but will be required to report to DOE the amount of funds unobligated in the Financial Status Report to be submitted after the budget period is over. A sentence has been added which permits DOE to request recipients to provide information in the progress report regarding budget expenditures.

One commenter stated that the words "... the costs must be otherwise in accordance with these rules" in § 600.103(g)(2)(iii) are confusing and unneeded. After careful consideration of the comment, DOE has concluded that while some readers may see the phrase as simply expressing a truism (that is, a recipient may not do what it is not permitted to do), it is important to retain the phrase so that the removal of prior approval requirements in the proposed rule not be interpreted as a general waiver of other portions of DOE's financial assistance rules and the applicable OMB circulars. For example, a cost would still have to be allowable to be incurred, even if agency prior approval were not needed to incur it.

One commenter stated that Contracting Officers should have the authority to approve pre-award costs retroactively. DOE's financial assistance rules currently provide that the Contracting Officer may approve pre-award costs prior to incurrence. Retroactive approval would require a deviation under § 600.4. DOE did not propose to change the retroactive approval requirement in the proposed rule and still does not see a reason to do so.

As a result of comments by DOE staff, the following clarifying changes have been made to the proposed rule.

The role of field readers acting as a standing committee in § 600.16(d)(iii) is clarified to emphasize that even though geographically dispersed, they should operate as if they were a standing committee to the degree possible.

In § 600.31(d)(1), the apostrophe after "recipients" and the word "award" have been deleted to remove an awkward phrasing.

In § 600.31(d)(2), the introductory clause is moved to the middle of the sentence and the word "other" is deleted. In § 600.31(d)(2)(i), the references to "research" and "non-research" are eliminated. These changes retain the authority of a Contracting Officer to authorize extensions without additional funds for all types of financial assistance. This authority currently exists in DOE's financial assistance rules and was inadvertently limited in the proposed rule.

In § 600.32(c)(2), the sentence "The recipient shall not be entitled to reimbursement if a continuation award is not made" has been relocated in the section to make its meaning clearer.

Section 600.103(g) is changed to drop the phrase "in the absence of appropriations". Absence of appropriations is envisioned to be already covered by the next clause "if



an award is not subsequently made" and raised the concern that a Contracting Officer might be giving approval for pre-award costs even though funds have not been appropriated.

**IV. Review Under Executive Order 12291**

Today's rule was reviewed under Executive Order 12291 (February 17, 1981). The DOE has concluded that the rule is not a "major rule" because its promulgation will not result in: (1) An annual effect on the economy of \$100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States based enterprises to compete in domestic or export markets. In accordance with requirements of the Executive Order, this rulemaking has been reviewed by the Office of Management and Budget (OMB).

**V. Review Under the Regulatory Flexibility Act**

These regulations were reviewed under the Regulatory Flexibility Act of 1980, Public Law 96-354, 94 Stat. 1164, which requires preparation of a regulatory flexibility analysis for any regulation that will have a significant economic impact on a substantial number of small entities; i.e., small businesses, small organizations, and small governmental jurisdictions. The DOE has concluded that the rule would only affect small entities as they apply for and receive financial assistance and does not create additional economic impact on small entities. The DOE certifies that this rule will not have a significant economic impact on a substantial number of small entities and, therefore, no regulatory flexibility analysis has been prepared.

**VI. Review Under the Paperwork Reduction Act**

No information collection or recordkeeping requirements are imposed upon the public by this rulemaking. Accordingly, no OMB clearance is required under the Paperwork Reduction Act of 1980, 44 USC 3501, *et seq.*, or OMB's implementing regulations at 5 CFR part 1320.

**VII. Review Under the National Environmental Policy Act**

The DOE has concluded that promulgation of these wholly procedural rules clearly would not represent a

major Federal action having significant impact on the human environment under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321, *et seq.* (1976)), the Council on Environmental Quality Regulations (40 CFR parts 1500 through 1508), and the DOE guidelines (10 CFR part 1021) and, therefore, does not require an environmental impact statement pursuant to NEPA.

**VIII. Review Under Executive Order 12612**

Executive Order 12612 requires that regulations or rules be reviewed for substantial direct effects on States, on the relationship between the National Government and the States, or in the distribution of power among various levels of government. If there are sufficient substantial direct effects, E.O. 12612 requires preparation of a federalism assessment to be used in all decisions involved in promulgating or implementing a regulation or rule.

Today's regulatory amendments will have some direct effect on State recipients of financial assistance who receive research awards. The number of awards affected is very small, however, and thus there will be insufficient direct effect to warrant the preparation of a federalism assessment by DOE.

**List of Subjects in 10 CFR Part 600**

Administrative practice and procedure, Cooperative agreements/energy, Copyrights, Debarment and Suspension, Educational institutions, Energy, Grants/energy, Hospitals, Indian Tribal governments, Individuals, Inventions and patents, Nonprofit organizations, Reporting requirements, Small businesses.

In consideration of the foregoing, the DOE hereby amends chapter II of title 10 of the Code of Federal Regulations by amending part 600 as set forth below.

Issued in Washington, DC October 6, 1989.  
Berton J. Roth,  
Deputy Assistant Secretary for Procurement and Assistance Management.

For the reasons set out in the preamble, part 600 of chapter II, title 10 of the Code of Federal Regulations is amended as follows:

**PART 600—[AMENDED]**

1. The authority citation for part 600 continues to read as follows:

Authority: Sec. 644 and 648, Pub. L. 95-91, 91 Stat. 599 (42 U.S.C. 7254 and 7256); Pub. L. 97-258, 95 Stat. 1003-1005 (31 U.S.C. 6301-6308), unless otherwise noted.

2. Section 600.3 is amended by adding new definitions for "Ad hoc committee," "Field readers," "Objective merit

review," "Responsible official," and "Standing committee" in alphabetical order and by revising the definition of "Research" as follows:

**§ 600.3 Definitions**

*Ad hoc committee* means a temporary committee established to perform a single, specific short-term task, after which the committee disbands.

*Field readers* means persons with expertise to evaluate a specific application or category of applications. Field readers may act as independent individuals or as members of a group with the review generally being done by mail.

*Objective merit review* means a thorough, consistent and independent examination of applications based on pre-established criteria by persons knowledgeable in the field of endeavor for which support is requested. This sort of review is conducted to provide advice to selecting officials based on an evaluation of the scientific or technical merit. The reviewers themselves may be engaged in comparable efforts in institutions or organizations similar to the applicant's or have in the past been directly involved in such activities.

*Research* means any scientific or engineering activity which (1) constitutes a systematic, intensive study directed specifically toward greater knowledge or understanding of the subject studied and contributes to a continuing flow of new knowledge; or (2) is directed toward applying new knowledge to meet a recognized need; and/or (3) applies such knowledge toward the production of useful methods, including design, development and improvement of prototypes and new processes to meet established requirements.

*Responsible official* means the Head of a Departmental Element or a Program Assistant Secretary. These individuals are responsible for the system of objective merit review of financial assistance applications funded by their program or department element. The functions associated with the objective merit review may be delegated, but only to the level specified in the relevant sections of this part. The responsible official, however, remains ultimately responsible for the execution of these functions.

*Standing committee* means a long-term committee established to review applications and may be used when

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required by legislation or when significant numbers of applications on specific topics are received periodically.

3. Section 600.9 is amended by revising paragraphs (a)(1) and (c)(8), (10), and (12)(vi) as follows:

**§ 600.9 Solicitation.**

(a) *General.* . . .

(1) A Program Assistant Secretary may annually issue a program notice describing research areas in which financial assistance is being made available. Such notice shall also state whether the research areas covered by the notice are to be added to those listed in a previously issued program rule. If they are to be included, then applications received as a result of the notice may be treated as having been in response to that previously published program rule. If they are not to be included, then applications received in response to the notice are to be treated as unsolicited applications. Solicitations (other than a program rule which serves to solicit applications), e.g., PONS and PRDAS, may be issued only by a DOE Contracting Officer.

(c) . . .

(8) The name of the responsible DOE Contracting Officer (or, for program notices, the program office contact) to contact for additional information, and, as appropriate, an address where application forms may be obtained;

(10) Appropriate periods or due dates for submission of applications and a statement describing the consequences of late submission. If programs have established a series of due dates to allow for the comparison of applications against each other, these dates shall be indicated in the solicitation;

(12) . . .

(vi) Sources of financing available to the project. Any expectation concerning cost sharing shall be clearly stated. While cost sharing is encouraged, unless the cost sharing expectation is addressed in the solicitation, it shall not be considered in the evaluation process and shall be considered only at the time the award is negotiated.

4. Section 600.16 is amended by revising paragraph (a), redesignating paragraphs (b) and (c) as (h) and (i), and by adding new paragraphs (b) through (g) as follows:

**§ 600.16 Reviewer affiliation.**

(a) *General.* (1) Each responsible official must establish and publish in the Federal Register the details of the system of objective merit review which

covers the financial assistance program administered by each cognizant program office within his or her jurisdiction within 120 days of the issuance of this rule for existing programs and prior to the review of applications for new programs. More than one program may adopt the same system. If a program wants to review an application or group of applications using the criteria and procedures of an already established review system other than its own, it may do so by following the deviation procedure described in paragraph (g) of this section. DOE employees designated by responsible officials to carry out the review process shall ensure that the evaluation of applications is conducted in a fair and objective manner.

(2) Objective merit review of financial assistance applications is intended to be advisory and is not intended to replace the authority of the program official with responsibility for deciding whether an award will be made. It is expected that the cognizant project/program officer (scientific monitor) who normally also reviews the proposals for technical/scientific merit, will, additionally, review it from a program policy perspective. Nevertheless, the objective merit review system must set forth the relationship between the reviewing individuals, or the review committees or groups, and the official who has the final decision-making authority. In defining this relationship, the system must set out, as a minimum, the decision-making and documentation processes to be followed by the authorized official responsible for selection when an adverse recommendation has been received through the objective merit review process.

(3)(i) This section applies to all new and renewal applications (except applications for conferences/symposia and for awards which come under the criteria of paragraph (a)(3)(ii) of this section) in programs which make discretionary financial assistance awards and to any other financial assistance programs in which objective merit review is required by the authorizing legislation.

(ii) For projects in which multiple renewals are probable, an objective merit review need not necessarily be done at each renewal, but instead at appropriate points in the overall project period. A determination that a project need not be reviewed at each renewal shall be made in writing by the project officer at the time the initial award is issued, or at least one year prior to the date a renewal award would be issued, and concurred in by an official at least one level above the official responsible for selecting the application for award.

The determination shall also indicate the reports required under the award. The criteria on which the determination that a project need not be reviewed at each renewal is based shall be included in the system of objective merit review to be established by the responsible official in accordance with paragraphs (a) (1) and (2) of this section.

(4) Each responsible official shall insure consistency among DOE field offices in the implementation of the review system(s) for his/her program area.

(5) Each formal review system must contain the elements listed in paragraphs (b) through (e) of this section.

(b) *Basic review standards.* (1) Each application may be assessed from a policy/programmatic perspective prior to undergoing merit review. Those that meet policy and programmatic considerations shall generally be reviewed by at least three qualified persons in addition to the official responsible for selection.

(2) The reviewers of any particular application may be any mixture of federal or non-federal experts, including individuals from within the cognizant program office, except as indicated otherwise below (see paragraphs (b)(3), (5) and (d)(2)(ii) of this section). The DOE shall select external (non-DOE Federal or non-federal) reviewers on the basis of their professional qualifications and expertise in the field of research.

(3) In selecting persons in accordance with § 600.16(b) (1) and (2) to review applications, such selection of additional reviewers shall not include, to the extent possible, anyone who, on behalf of the Federal Government, performed or is likely to perform any of the following duties for any of the applications:

(i) Providing substantive technical assistance to the applicant;

(ii) Approving/disapproving or having any decision-making role regarding the application;

(iii) Serving as the project officer or otherwise monitoring or evaluating the recipient's programmatic performance;

(iv) Serving as the Contracting Officer (CO), or performing business management functions for the project; or

(v) Auditing the recipient or the project.

Anyone who has line authority over a person who is ineligible to serve as a reviewer because of the above limitations is also ineligible to serve as a reviewer.

(4) It may occasionally be necessary, after the fact, to change project officer designation, thereby resulting in an

## Rules and Regulations

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This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510. The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

### DEPARTMENT OF ENERGY

Office of the Secretary

10 CFR Part 600

**Financial Assistance Rules; Revised Policy on Objective Merit Review of Discretionary Financial Assistance Applications**

**AGENCY:** Department of Energy.

**ACTION:** Final rule.

**SUMMARY:** The Department of Energy today is revising subparts A and B of the Financial Assistance Rules, 10 CFR part 600, to establish standards for program offices to follow in conducting the objective merit review of discretionary financial assistance applications, to provide authority for program assistant secretaries to issue general solicitations covering broad areas of research for which financial assistance is being made available, and to establish a requirement whereby applicants may receive an evaluation of their submission. In addition, this revision gives recipients of financial assistance research awards expanded authority to rebudget among categories and authority to carry over funds from one funding period to the next, to incur preaward costs, and to extend project periods without prior approval under certain circumstances. These changes will maintain the Federal stewardship over the funds being awarded while simultaneously allowing research to be done more efficiently and productively. **EFFECTIVE DATE:** Effective November 13, 1989.

**FOR FURTHER INFORMATION CONTACT:**

Edward F. Sharp, Business and Financial Policy Division (MA-422), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585 (202) 586-8192.

Christopher Smith, Office of the Assistant General Counsel for Procurement and Finance (GC-34), U.S. Department of Energy, Washington, DC 20585 (202) 586-1526.

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**I. Introduction**

With this final rule, the Department of Energy (DOE) is amending its Financial Assistance Rules to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications. The changes also allow recipients of financial assistance research awards authority, without obtaining prior approval from the Contracting Officer, to (1) rebudget among categories; (2) carry over funds from one funding period to the next; (3) incur limited preaward costs; and (4) extend project periods without additional funds.

Also, today's rule establishes an outline for a Department-wide process for the review of applications for financial assistance. Requests for financial assistance funds are to be reviewed and evaluated by the DOE based on scientific merit of the project, applicant's qualifications, adequacy of applicant's facilities and resources, project appropriateness to the mission of the DOE, and other appropriate factors established and set forth by the cognizant program office. The DOE review process is to consist of review by DOE personnel for scientific and technical merit and program policy matters and may include external review by Federal (including DOE) and non-federal personnel either as part of a standing committee, ad hoc committee, or field reader review for scientific and technical merit. The Federal/non-Federal composition of the review groups may vary, as long as objective review standards are maintained.

Additionally, this rule allows the issuance of general solicitations such that applications which are in the subject area of one of the programs listed in the solicitation may be treated as having been in response to the general solicitation.

Finally, a provision regarding evaluations of applications provides that, upon request, the applicant will receive a written summary of the evaluation.

The DOE has concluded that the other changes regarding prior approvals, carryovers, preaward costs and project extensions (which are the DOE's implementation of recommendations stemming from the Federal Demonstration Project) will provide additional flexibility to financial assistance recipients and reduce the work involved in managing financial assistance awards without adversely affecting appropriate Federal oversight of certain awards.

**II. Changes to 10 CFR Part 600**

Section 600.3 is amended by inserting in alphabetical order definitions for "ad hoc committee," "field readers," "objective merit review," "responsible official," and "standing committee," and changing the definition of "research."

Section 600.9 is amended by revising paragraph (a)(1) to provide authority for program assistant secretaries to issue general solicitations. Paragraph (c)(10) is amended to allow program offices to establish due dates or periods appropriate for the receipt of applications. Multiple receipt dates throughout the year may be established which would permit applications to be "bunched" and reviewed in comparison to each other. Paragraph (c)(12)(vi) is changed to provide that solicitations must contain specific requirements for non-statutory cost sharing when cost sharing is to be considered in the selection process.

Section 600.16 is amended by revising paragraph (a) to establish the responsibility of the program office for setting up an objective merit review system and ensuring its satisfactory functioning. A new paragraph (b) is added to set out basic review requirements, including the goal to normally obtain review by at least three individuals who have no other responsibilities concerning the financial assistance applications being reviewed.

A new paragraph (c) has been added to outline requirements for comparative review. A new paragraph (d) has been added to describe the types of review processes which may be used, which include field readers, standing committees, and ad hoc committees. A new paragraph (e) has been added establishing a requirement for providing the applicant with an evaluation of his/her application. A new paragraph (f) has been added to address situations in which the reviewer has an interest in the application being reviewed. A new paragraph (g) has been added to establish deviation procedures from this part of the rule. Existing paragraphs (b) and (c) have been redesignated paragraphs (h) and (i).

Section 600.31 is amended by including a provision allowing recipients of financial assistance research awards to extend the final year of a project period without receiving the prior approval of the DOE. Recipients must take this action prior to the originally established expiration date and notify the DOE within ten days of the extension.

Section 600.32 is amended to allow recipients of financial assistance research awards to carry over unexpended funds in a continuation award without the prior approval of the DOE.

Section 600.103 is amended to eliminate all Federal prior approval requirements for a recipient of financial assistance research awards (including those in OMB Circulars A-21 and A-110) except for change in objective or scope, temporary replacement or change of principal investigator, change of key personnel, and change of the institution to which the award is made. It is also amended to establish the authority of these recipients to incur pre-award costs of up to 90 days prior to a new or renewal award. The section also provides that, if a recipient takes such an action, the DOE is not, therefore, obligated to issue an award.

### III. Discussion of Comments on Proposed Rule

On March 15, 1989 (54 FR 10670), DOE published a proposed rule to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications, and to implement the provisions of the Federal Demonstration Project (FDP) which would allow recipients of financial assistance research awards expanded authority to act in several areas without obtaining prior approval from the Contracting Officer. Written comments were to be submitted by April 14, 1989.

Three institutions of higher education submitted comments.

All three commenters requested that DOE change its proposal which limits the recipient's ability to extend the length of the project period without additional funds to the last budget period of a project period. They assert that the proposed provision (600.31(d)(1)) is contrary to what is being permitted in the FDP which, they contend, allows any budget period to be extended. They also view reserving the extension without additional funds authority to the last budget period to be an unnecessary restriction.

DOE has reviewed the applicable provision in the FDP and determined the limitation in the proposed rule is not inconsistent with that provision. DOE has also verified with other Federal participants in the FDP that the intention and implementation of the applicable provision have been to limit that authority to the final budget period of the project period. Additionally, it is noted that if recipients did have the authority to extend earlier budget periods, funding needs for the project might well extend into a later fiscal year than the federal agency had anticipated, thereby complicating its budget planning.

For the reasons stated in the previous paragraph, DOE will continue to limit the provision regarding extensions without additional funds to the final budget period as provided in the proposed rule.

The three commenters also requested that DOE change the provision in the proposed rule that permits DOE to adjust the amounts awarded in future budget periods based on the amount the recipient estimates is remaining in the previously completed year (§ 600.32(c)(2)). They noted that this is not consistent with the similar provision in the FDP concerning carryover and that such adjustments would have to rely on an estimate that would be of questionable reliability as it would be made well in advance of the end of the budget year.

DOE agrees with these comments and has changed the final rule to conform with the provision regarding carryover in the FDP. The recipient will have the ability to carryover funds without the approval of DOE, but will be required to report to DOE the amount of funds unobligated in the Financial Status Report to be submitted after the budget period is over. A sentence has been added which permits DOE to request recipients to provide information in the progress report regarding budget expenditures.

One commenter stated that the words "... the costs must be otherwise in accordance with these rules" in § 600.103(g)(2)(iii) are confusing and unneeded. After careful consideration of the comment, DOE has concluded that while some readers may see the phrase as simply expressing a truism (that is, a recipient may not do what it is not permitted to do), it is important to retain the phrase so that the removal of prior approval requirements in the proposed rule not be interpreted as a general waiver of other portions of DOE's financial assistance rules and the applicable OMB circulars. For example, a cost would still have to be allowable to be incurred, even if agency prior approval were not needed to incur it.

One commenter stated that Contracting Officers should have the authority to approve pre-award costs retroactively. DOE's financial assistance rules currently provide that the Contracting Officer may approve pre-award costs prior to incurrence. Retroactive approval would require a deviation under § 600.4. DOE did not propose to change the retroactive approval requirement in the proposed rule and still does not see a reason to do so.

As a result of comments by DOE staff, the following clarifying changes have been made to the proposed rule.

The role of field readers acting as a standing committee in § 600.16(d)(iii) is clarified to emphasize that even though geographically dispersed, they should operate as if they were a standing committee to the degree possible.

In § 600.31(d)(1), the apostrophe after "recipients" and the word "award" have been deleted to remove an awkward phrasing.

In § 600.31(d)(2), the introductory clause is moved to the middle of the sentence and the word "other" is deleted. In § 600.31(d)(2)(i), the references to "research" and "non-research" are eliminated. These changes retain the authority of a Contracting Officer to authorize extensions without additional funds for all types of financial assistance. This authority currently exists in DOE's financial assistance rules and was inadvertently limited in the proposed rule.

In § 600.32(c)(2), the sentence "The recipient shall not be entitled to reimbursement if a continuation award is not made" has been relocated in the section to make its meaning clearer.

Section 600.103(g) is changed to drop the phrase "in the absence of appropriations". Absence of appropriations is envisioned to be already covered by the next clause "if

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an award is not subsequently made" and raised the concern that a Contracting Officer might be giving approval for pre-award costs even though funds have not been appropriated.

**IV. Review Under Executive Order 12291**

Today's rule was reviewed under Executive Order 12291 (February 17, 1981). The DOE has concluded that the rule is not a "major rule" because its promulgation will not result in: (1) An annual effect on the economy of \$100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States based enterprises to compete in domestic or export markets. In accordance with requirements of the Executive Order, this rulemaking has been reviewed by the Office of Management and Budget (OMB).

**V. Review Under the Regulatory Flexibility Act**

These regulations were reviewed under the Regulatory Flexibility Act of 1980, Public Law 96-354, 94 Stat. 1164, which requires preparation of a regulatory flexibility analysis for any regulation that will have a significant economic impact on a substantial number of small entities; i.e., small businesses, small organizations, and small governmental jurisdictions. The DOE has concluded that the rule would only affect small entities as they apply for and receive financial assistance and does not create additional economic impact on small entities. The DOE certifies that this rule will not have a significant economic impact on a substantial number of small entities and, therefore, no regulatory flexibility analysis has been prepared.

**VI. Review Under the Paperwork Reduction Act**

No information collection or recordkeeping requirements are imposed upon the public by this rulemaking. Accordingly, no OMB clearance is required under the Paperwork Reduction Act of 1980, 44 USC 3501, *et seq.*, or OMB's implementing regulations at 5 CFR part 1320.

**VII. Review Under the National Environmental Policy Act**

The DOE has concluded that promulgation of these wholly procedural rules clearly would not represent a

major Federal action having significant impact on the human environment under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321, *et seq.* (1976)), the Council on Environmental Quality Regulations (40 CFR parts 1500 through 1508), and the DOE guidelines (10 CFR part 1021) and, therefore, does not require an environmental impact statement pursuant to NEPA.

**VIII. Review Under Executive Order 12612**

Executive Order 12612 requires that regulations or rules be reviewed for substantial direct effects on States, on the relationship between the National Government and the States, or in the distribution of power among various levels of government. If there are sufficient substantial direct effects, E.O. 12612 requires preparation of a federalism assessment to be used in all decisions involved in promulgating or implementing a regulation or rule.

Today's regulatory amendments will have some direct effect on State recipients of financial assistance who receive research awards. The number of awards affected is very small, however, and thus there will be insufficient direct effect to warrant the preparation of a federalism assessment by DOE.

**List of Subjects in 10 CFR Part 600**

Administrative practice and procedure, ~~\_\_\_\_\_~~, Copyrights, Debarment and Suspension, Educational institutions, ~~\_\_\_\_\_~~ Hospitals, Indian Tribal governments, Individuals, Inventions and patents, Nonprofit organizations, Reporting requirements, Small businesses.

In consideration of the foregoing, the DOE hereby amends chapter II of title 10 of the Code of Federal Regulations by amending part 600 as set forth below.

Issued in Washington, DC October 6, 1989.

Berton J. Roth,  
Deputy Assistant Secretary for Procurement and Assistance Management.

For the reasons set out in the preamble, part 6500 of chapter II, title 10 of the Code of Federal Regulations is amended as follows:

**PART 600—[AMENDED]**

1. The authority citation for part 600 continues to read as follows:

Authority: Sec. 644 and 646, Pub. L. 93-97, 91 Stat. 599 (42 U.S.C. 7254 and 7256); Pub. L. 97-253, 96 Stat. 1003-1005 (31 U.S.C. 6301-6308), unless otherwise noted.

2. Section 600.3 is amended by adding new definitions for "Ad hoc committee," "Field readers," "Objective merit

review," "Responsible official," and "Standing committee" in alphabetical order and by revising the definition of "Research" as follows:

**§ 600.3 Definitions**

*Ad hoc committee* means a temporary committee established to perform a single, specific short-term task, after which the committee disbands.

*Field readers* means persons with expertise to evaluate a specific application or category of applications. Field readers may act as independent individuals or as members of a group with the review generally being done by mail.

*Objective merit review* means a thorough, consistent and independent examination of applications based on pre-established criteria by persons knowledgeable in the field of endeavor for which support is requested. This sort of review is conducted to provide advice to selecting officials based on an evaluation of the scientific or technical merit. The reviewers themselves may be engaged in comparable efforts in institutions or organizations similar to the applicant's or have in the past been directly involved in such activities.

*Research* means any scientific or engineering activity which (1) constitutes a systematic, intensive study directed specifically toward greater knowledge or understanding of the subject studied and contributes to a continuing flow of new knowledge; or (2) is directed toward applying new knowledge to meet a recognized need; and/or (3) applies such knowledge toward the production of useful methods, including design, development and improvement of prototypes and new processes to meet established requirements.

*Responsible official* means the Head of a Departmental Element or a Program Assistant Secretary. These individuals are responsible for the system of objective merit review of financial assistance applications funded by their program or department element. The functions associated with the objective merit review may be delegated, but only to the level specified in the relevant sections of this part. The responsible official, however, remains ultimately responsible for the execution of these functions.

*Standing committee* means a long-term committee established to review applications and may be used when

required by legislation or when significant numbers of applications on specific topics are received periodically.

3. Section 600.9 is amended by revising paragraphs (a)(1) and (c)(8), (10), and (12)(vi) as follows:

§ 600.9 Solicitation.

(a) *General.* . . .

(1) A Program Assistant Secretary may annually issue a program notice describing research areas in which financial assistance is being made available. Such notice shall also state whether the research areas covered by the notice are to be added to those listed in a previously issued program rule. If they are to be included, then applications received as a result of the notice may be treated as having been in response to that previously published program rule. If they are not to be included, then applications received in response to the notice are to be treated as unsolicited applications. Solicitations (other than a program rule which serves to solicit applications), e.g., PONS and FRDAS, may be issued only by a DOE Contracting Officer.

(c) . . .

(8) The name of the responsible DOE Contracting Officer (or, for program notices, the program office contact) to contact for additional information, and, as appropriate, an address where application forms may be obtained;

(10) Appropriate periods or due dates for submission of applications and a statement describing the consequences of late submission. If programs have established a series of due dates to allow for the comparison of applications against each other, these dates shall be indicated in the solicitation;

(12) . . .

(vi) Sources of financing available to the project. Any expectation concerning cost sharing shall be clearly stated. While cost sharing is encouraged, unless the cost sharing expectation is addressed in the solicitation, it shall not be considered in the evaluation process and shall be considered only at the time the award is negotiated.

4. Section 600.16 is amended by revising paragraph (a), redesignating paragraphs (b) and (c) as (h) and (i), and by adding new paragraphs (b) through (g) as follows:

§ 600.16 Reviewer affiliation.

(a) *General.* (1) Each responsible official must establish and publish in the Federal Register the details of the system of objective merit review which

covers the financial assistance program administered by each cognizant program office within his or her jurisdiction within 120 days of the issuance of this rule for existing programs and prior to the review of applications for new programs. More than one program may adopt the same system. If a program wants to review an application or group of applications using the criteria and procedures of an already established review system other than its own, it may do so by following the deviation procedure described in paragraph (g) of this section. DOE employees designated by responsible officials to carry out the review process shall ensure that the evaluation of applications is conducted in a fair and objective manner.

(2) Objective merit review of financial assistance applications is intended to be advisory and is not intended to replace the authority of the program official with responsibility for deciding whether an award will be made. It is expected that the cognizant project/program officer (scientific monitor) who normally also reviews the proposals for technical/scientific merit, will, additionally, review it from a program policy perspective. Nevertheless, the objective merit review system must set forth the relationship between the reviewing individuals, or the review committees or groups, and the official who has the final decision-making authority. In defining this relationship, the system must set out, as a minimum, the decision-making and documentation processes to be followed by the authorized official responsible for selection when an adverse recommendation has been received through the objective merit review process.

(3)(i) This section applies to all new and renewal applications (except applications for conferences/symposia and for awards which come under the criteria of paragraph (a)(3)(ii) of this section) in programs which make discretionary financial assistance awards and to any other financial assistance programs in which objective merit review is required by the authorizing legislation.

(ii) For projects in which multiple renewals are probable, an objective merit review need not necessarily be done at each renewal, but instead at appropriate points in the overall project period. A determination that a project need not be reviewed at each renewal shall be made in writing by the project officer at the time the initial award is issued, or at least one year prior to the date a renewal award would be issued, and concurred in by an official at least one level above the official responsible for selecting the application for award.

The determination shall also indicate the reports required under the award. The criteria on which the determination that a project need not be reviewed at each renewal is based shall be included in the system of objective merit review to be established by the responsible official in accordance with paragraphs (a) (1) and (2) of this section.

(4) Each responsible official shall insure consistency among DOE field offices in the implementation of the review system(s) for his/her program area.

(5) Each formal review system must contain the elements listed in paragraphs (b) through (e) of this section.

(b) *Basic review standards.* (1) Each application may be assessed from a policy/programmatic perspective prior to undergoing merit review. Those that meet policy and programmatic considerations shall generally be reviewed by at least three qualified persons in addition to the official responsible for selection.

(2) The reviewers of any particular application may be any mixture of federal or non-federal experts, including individuals from within the cognizant program office, except as indicated otherwise below (see paragraphs (b)(3), (5) and (d)(2)(ii) of this section). The DOE shall select external (non-DOE Federal or non-federal) reviewers on the basis of their professional qualifications and expertise in the field of research.

(3) In selecting persons in accordance with § 600.16(b) (1) and (2) to review applications, such selection of additional reviewers shall not include, to the extent possible, anyone who, on behalf of the Federal Government, performed or is likely to perform any of the following duties for any of the applications:

(i) Providing substantive technical assistance to the applicant;

(ii) Approving/disapproving or having any decision-making role regarding the application;

(iii) Serving as the project officer or otherwise monitoring or evaluating the recipient's programmatic performance;

(iv) Serving as the Contracting Officer (CO), or performing business management functions for the project; or

(v) Auditing the recipient or the project.

Anyone who has line authority over a person who is ineligible to serve as a reviewer because of the above limitations is also ineligible to serve as a reviewer.

(4) It may occasionally be necessary, after the fact, to change project officer designation, thereby resulting in an

individual who participated in the review of an application being appointed as the project officer. This will not be considered a violation of this policy of objective merit review provided the assignment was not expected when the review was conducted.

(5) Persons outside the cognizant program office must not have been employees of that office, including having line authority over that office, for one year prior to participation as a reviewer in the objective merit review process for the program.

(c) *Comparative review.* (1) In order to enhance the validity of the evaluation and rating process, applications can be evaluated in comparison to each other.

(2) If a program area has issued a program notice, the responsible official may implement review procedures which will result in applications being evaluated in comparison to each other. Applications in response to that notice may be assigned to a group of field readers, to a standing committee, or to an ad hoc committee, as discussed below, which is capable of reviewing them, and may be considered along with other applications which were submitted in response to the program notice. Such an application may also be eligible for review under an applicable program announcement. For solicitations, review procedures may also permit comparative evaluation with field readers, a standing committee, or an ad hoc committee being used as appropriate.

(d) *Types of review groups—(1) Field readers.* (i) Objective merit review of applications may be obtained by using field readers to whom applications are sent for review and comment. Field readers may also be used as an adjunct to financial assistance application review committees when, for example, the type of expertise needed or the volume of financial assistance applications to be reviewed requires such auxiliary capacity.

(ii) Safeguards should be instituted to ensure that field readers clearly understand the process, their role, and the criteria upon which the applications are to be evaluated.

(iii) For those situations in which a standing committee is the appropriate review mechanism (see paragraph (d)(2) of this section), but a group of field readers must be used instead, it should function as nearly like a committee as possible. For example, if all members of the standing committee were to evaluate all of the applications under review, then all field readers must receive all of the applications to be reviewed even though they are in geographically

separate locations and all field readers should be instructed to follow the procedures established for evaluating the applications.

(2) *Standing committees.* (i) Standing committees are normally appropriate when required by legislation or when the following conditions prevail:

(A) A sufficient number of applications on specific topics to justify the use of a standing committee(s) is received by the program on a regular basis in accordance with a predetermined review schedule;

(B) There are a sufficient number of persons with the required expertise who are willing and able to (1) accept appointments, (2) serve over reasonably protracted periods of time, and (3) convene at regularly scheduled intervals or at the call of the chairperson; and

(C) The legislative authority for the particular program(s) involved extends for more than one year.

(ii) Persons outside the cognizant program office shall constitute at least half the reviewers on such committees unless a deviation from this requirement has been approved under § 600.16(g) below.

(3) *Ad hoc committees.* (i) Ad hoc review committees may not exceed one year in duration and are appropriately used when use of a standing committee is not feasible or when one of the following conditions prevails:

(A) A small number of applications is received on an intermittent basis;

(B) The program is one of limited duration, usually less than one year;

(C) The applications to be reviewed have been solicited to meet a specific program objective and cannot appropriately be reviewed by a standing committee because of subject matter, time constraints, or other limitations;

(D) The volume of applications received necessitates convening an additional committee(s) of available reviewers; or

(E) It is determined that the applications submitted have special review requirements, e.g., construction of a facility, the complexity of subject matter cuts across the areas of expertise of two or more standing committees, or the subject matter is of a special, nonrecurring nature.

(ii) Ad hoc committees may not be used for reviewing financial assistance applications for any program for which a standing committee has been established (except for paragraph (d)(3)(i)(D) of this section) unless a deviation is approved under § 600.16(g) below.

(e) *Review summary.* Upon request, applicants are to be provided with a

written summary of the evaluation of their application.

(f) *Reviewers with interest in application being reviewed.* Reviewers must comply with the requirements for the avoidance of conflict of interest established in § 600.17. In establishing a system of objective merit review required in § 600.16(a)(1), the responsible official shall develop procedures which will permit DOE to evaluate whether a conflict of interest exists. A committee or group of field readers which includes as objective merit reviewers any individuals who cannot meet the requirements of § 600.17 or the program's review procedures, with regard to a particular application being reviewed, e.g., officials mentioned in paragraphs (b) (3) and (5) of this section, shall operate as follows:

(1) These individuals or officials may not review, discuss, and/or make a recommendation on an application(s) in which they have a conflict of interest.

(2) In the case of a review committee, the committee member must absent himself or herself from the committee meeting during the review and discussion of the application(s) in which he/she has a conflict of interest.

(g) *Deviations.* (1) In any instance in which a program's pre-established review system is not to be used to review an application, group of applications, or class of applications, written prior approval for utilization of a different procedure, which itself must, to the extent possible, conform to the provisions of this section pertaining to objective merit review, must be obtained from the responsible official or his or her designee.

(2) If the deviation sought applies to a class of applications and constitutes a deviation from the requirements of this part, approval for deviation must be obtained in accordance with § 600.4. If such request for deviation is approved, all details of the review procedure utilized and the proceedings and determination must be fully documented.

5. Section 600.31 is amended by revising paragraph (d) to read as follows:

§ 600.31 Funding.

(d) *Extensions.* (1) Recipients of research awards may extend the expiration date of the final budget period of the project (thereby extending the project period) if additional time beyond the established expiration date is needed to assure adequate completion of the original scope of work within the

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funds already made available. A single extension, which shall not exceed twelve (12) months, may be made for this purpose, and must be made prior to the originally established expiration date. The recipient must notify the cognizant DOE Contracting Officer in the awarding office in writing within ten (10) days of making the extension.

(2) DOE may extend any budget period of any type of financial assistance without the need for competition or a justification of restricted eligibility if:

(i) In the case of the final budget period of a project period, the additional time necessary is 18 months or less in total, or for all other budget periods, the additional time necessary is 6 months or less in total; and

(ii) The grantee submits a written request for an extension before the expiration date of the budget period in process and includes a justification for the extension along with an expenditure plan for the use of any additional funds requested. An expenditure plan need not be provided when no additional funds are requested, unless the grantee intends to rebudget funds in such a way as to require DOE prior approval or unless the grantee is instructed otherwise by the Contracting Officer.

6. Section 600.32 is amended by revising paragraph (c)(2), removing paragraph (d), redesignating paragraphs (e) and (f) as (d) and (e) and revising newly redesignated paragraphs (d) and (e) as follows:

§ 600.32 Calculation of award.

(c) *Unobligated balances*—

(2) *Research grants*. Any unobligated balance of funds which remains at the end of any funding period, except the final funding period of the project period, may be carried over to the next funding period, and may be used to defray costs of the period into which it is carried over. The recipient shall not be entitled to reimbursement if a continuation award is not made. Recipients may be requested to provide information with regard to expenditures in the progress report covering the previously completed period. The recipient shall also include in the Financial Status Report, for the previously completed period, the amount of the unobligated balance as of the end of the funding period.

(d) *Added funding not required*. Nothing in paragraph (c) of this section shall in any way require the DOE to increase the total amount obligated for the project.

(e) *Adjustments*. Whenever DOE adjusts the amount of an award under this subpart, it shall also make an appropriate upward or downward adjustment to the amount of required cost sharing in order that the adjusted award maintain any required percentage of DOE and non-Federal participation in the costs of the project.

7. Section 600.103 is amended by revising paragraphs (b)(6) and (g) to read as follows:

§ 600.103 Cost determinations.

(b) *Cost principles*. . . .

(6) Before a recipient may make changes in the following areas on research financial assistance awards, the written approval of the cognizant Contracting Officer at the DOE is required: (i) Changes in objectives or scope, (ii) temporary replacement or change of principal investigator or change of key personnel, and (iii) change of the institution to which the award is to be made. All other Federal prior approval requirements, including those in OMB Circulars A-21 and A-110, are waived for research awards. The recipient may maintain such internal prior approval systems as it considers necessary.

(g) *Preadward costs*—(1) *All Awards*. Any preaward expenditures are made at the recipient's risk. Approval of preaward costs by the Contracting Officer or incurrence by the recipient does not impose any obligation on DOE if an award is not subsequently made, or if an award is made for a lesser amount than the recipient expected.

(2) *Research awards only*. (i) For new or renewal research awards, recipients may incur preaward costs up to ninety (90) days prior to the effective date of the award. Preadward costs for periods preceding 90 days prior to the effective date of the award are allowable only if approved in writing, prior to incurrence, by a DOE Contracting Officer.

(ii) For continuation awards within a multiple year project, prior to receipt of continuation funding, preaward expenditures by recipients are not subject to the limitation or approval requirements of paragraph (g)(2)(i) of this section.

(iii) Preadward costs, as incurred by the recipient, must be necessary for the effective and economical conduct of the project, and the costs must be otherwise in accordance with these rules and may not include those specific costs for which agency prior approval is required under the circulars. In any instance in which the circulars permit the agency to

grant prior approval to the recipient, it is the Department's intention to do so.

(3) *Other than research awards*. All other financial assistance recipients may incur preaward costs only if the expenditure is approved in writing, prior to incurrence, by the Contracting Officer. In the case of governmental entities, the approval must additionally be reflected on the award notice.

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BILLING CODE 5400-01-M

OVERSIGHT BOARD

12 CFR Parts 1510 and 1511

The Resolution Funding Corporation—  
Operations

AGENCY: Oversight Board.

ACTION: Final rule.

**SUMMARY:** The Oversight Board has adopted final regulations for the Resolution Funding Corporation. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("Act"), established the Resolution Funding Corporation and the Resolution Trust Corporation. The Resolution Funding Corporation is required by the Act to provide funds to the Resolution Trust Corporation to enable it to carry out its purposes under the Act. These regulations prescribe the manner in which the Resolution Funding Corporation will operate and clarify the manner in which assessments will be made to capitalize the Resolution Funding Corporation.

**EFFECTIVE DATE:** These regulations are effective September 21, 1989.

**FOR FURTHER INFORMATION CONTACT:** Bradford B. Baker, Acting Executive Secretary, or Robert Frierson, attorney, at (202) 387-7575.

**SUPPLEMENTARY INFORMATION:**

**A. General**

On August 9, 1989, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("FIRREA") was enacted into law. Among other things, the FIRREA added section 21B to the Federal Home Loan Bank Act (the "Act") which established a corporation known as the Resolution Funding Corporation ("Funding Corporation") to provide funds necessary for the Resolution Trust Corporation ("RTC") to carry out its purpose under the FIRREA. The Funding Corporation will issue bonds, notes, debentures, or similar obligations, and with the net proceeds thereof, it will purchase capital



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# Rules and Regulations

Federal Register  
Vol. 54, No. 197  
Friday, October 13, 1989

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510. The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

## DEPARTMENT OF ENERGY

Office of the Secretary

10 CFR Part 600

**Financial Assistance Rules; Revised Policy on Objective Merit Review of Discretionary Financial Assistance Applications**

**AGENCY:** Department of Energy.

**ACTION:** Final rule.

**SUMMARY:** The Department of Energy today is revising subparts A and B of the Financial Assistance Rules, 10 CFR part 600, to establish standards for program offices to follow in conducting the objective merit review of discretionary financial assistance applications, to provide authority for program assistant secretaries to issue general solicitations covering broad areas of research for which financial assistance is being made available, and to establish a requirement whereby applicants may receive an evaluation of their submission. In addition, this revision gives recipients of financial assistance research awards expanded authority to rebudget among categories and authority to carry over funds from one funding period to the next, to incur preaward costs, and to extend project periods without prior approval under certain circumstances. These changes will maintain the Federal stewardship over the funds being awarded while simultaneously allowing research to be done more efficiently and productively.

**EFFECTIVE DATE:** Effective November 13, 1989.

**FOR FURTHER INFORMATION CONTACT:**

Edward F. Sharp, Business and Financial Policy Division (MA-422), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585 (202) 586-8192.

Christopher Smith, Office of the Assistant General Counsel for Procurement and Finance (GC-34), U.S. Department of Energy, Washington, DC 20585 (202) 586-1526.

**SUPPLEMENTARY INFORMATION:**

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- VIII. Review Under Executive Order 12812

**I. Introduction**

With this final rule, the Department of Energy (DOE) is amending its Financial Assistance Rules to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications. The changes also allow recipients of financial assistance research awards authority, without obtaining prior approval from the Contracting Officer, to (1) rebudget among categories; (2) carry over funds from one funding period to the next; (3) incur limited preaward costs; and (4) extend project periods without additional funds.

Also, today's rule establishes an outline for a Department-wide process for the review of applications for financial assistance. Requests for financial assistance funds are to be reviewed and evaluated by the DOE based on scientific merit of the project, applicant's qualifications, adequacy of applicant's facilities and resources, project appropriateness to the mission of the DOE, and other appropriate factors established and set forth by the cognizant program office. The DOE review process is to consist of review by DOE personnel for scientific and technical merit and program policy matters and may include external review by Federal (including DOE) and non-federal personnel either as part of a standing committee, ad hoc committee, or field reader review for scientific and technical merit. The Federal/non-Federal composition of the review groups may vary, as long as objective review standards are maintained.

Additionally, this rule allows the issuance of general solicitations such that applications which are in the subject area of one of the programs listed in the solicitation may be treated as having been in response to the general solicitation.

Finally, a provision regarding evaluations of applications provides that, upon request, the applicant will receive a written summary of the evaluation.

The DOE has concluded that the other changes regarding prior approvals, carryovers, preaward costs and project extensions (which are the DOE's implementation of recommendations stemming from the Federal Demonstration Project) will provide additional flexibility to financial assistance recipients and reduce the work involved in managing financial assistance awards without adversely affecting appropriate Federal oversight of certain awards.

**II. Changes to 10 CFR Part 600**

Section 600.3 is amended by inserting in alphabetical order definitions for "ad hoc committee," "field readers," "objective merit review," "responsible official," and "standing committee," and changing the definition of "research."

Section 600.9 is amended by revising paragraph (a)(1) to provide authority for program assistant secretaries to issue general solicitations. Paragraph (c)(10) is amended to allow program offices to establish due dates or periods appropriate for the receipt of applications. Multiple receipt dates throughout the year may be established which would permit applications to be "bunched" and reviewed in comparison to each other. Paragraph (c)(12)(vi) is changed to provide that solicitations must contain specific requirements for non-statutory cost sharing when cost sharing is to be considered in the selection process.

Section 600.16 is amended by revising paragraph (a) to establish the responsibility of the program office for setting up an objective merit review system and ensuring its satisfactory functioning. A new paragraph (b) is added to set out basic review requirements, including the goal to normally obtain review by at least three individuals who have no other responsibilities concerning the financial assistance applications being reviewed.

A new paragraph (c) has been added to outline requirements for comparative review. A new paragraph (d) has been added to describe the types of review processes which may be used, which include field readers, standing committees, and ad hoc committees. A new paragraph (e) has been added establishing a requirement for providing the applicant with an evaluation of his/her application. A new paragraph (f) has been added to address situations in which the reviewer has an interest in the application being reviewed. A new paragraph (g) has been added to establish deviation procedures from this part of the rule. Existing paragraphs (b) and (c) have been redesignated paragraphs (h) and (i).

Section 600.31 is amended by including a provision allowing recipients of financial assistance research awards to extend the final year of a project period without receiving the prior approval of the DOE. Recipients must take this action prior to the originally established expiration date and notify the DOE within ten days of the extension.

Section 600.32 is amended to allow recipients of financial assistance research awards to carry over unexpended funds in a continuation award without the prior approval of the DOE.

Section 600.103 is amended to eliminate all Federal prior approval requirements for a recipient of financial assistance research awards (including those in OMB Circulars A-21 and A-110) except for change in objective or scope, temporary replacement or change of principal investigator, change of key personnel, and change of the institution to which the award is made. It is also amended to establish the authority of these recipients to incur pre-award costs of up to 90 days prior to a new or renewal award. The section also provides that, if a recipient takes such an action, the DOE is not, therefore, obligated to issue an award.

### III. Discussion of Comments on Proposed Rule

On March 15, 1989 (54 FR 10670), DOE published a proposed rule to establish standards for program offices in setting up procedures for the objective merit review of discretionary financial assistance applications, and to implement the provisions of the Federal Demonstration Project (FDP) which would allow recipients of financial assistance research awards expanded authority to act in several areas without obtaining prior approval from the Contracting Officer. Written comments were to be submitted by April 14, 1989.

Three institutions of higher education submitted comments.

All three commenters requested that DOE change its proposal which limits the recipient's ability to extend the length of the project period without additional funds to the last budget period of a project period. They assert that the proposed provision (600.31(d)(1)) is contrary to what is being permitted in the FDP which, they contend, allows any budget period to be extended. They also view reserving the extension without additional funds authority to the last budget period to be an unnecessary restriction.

DOE has reviewed the applicable provision in the FDP and determined the limitation in the proposed rule is not inconsistent with that provision. DOE has also verified with other Federal participants in the FDP that the intention and implementation of the applicable provision have been to limit that authority to the final budget period of the project period. Additionally, it is noted that if recipients did have the authority to extend earlier budget periods, funding needs for the project might well extend into a later fiscal year than the federal agency had anticipated, thereby complicating its budget planning.

For the reasons stated in the previous paragraph, DOE will continue to limit the provision regarding extensions without additional funds to the final budget period as provided in the proposed rule.

The three commenters also requested that DOE change the provision in the proposed rule that permits DOE to adjust the amounts awarded in future budget periods based on the amount the recipient estimates is remaining in the previously completed year (§ 600.32(c)(2)). They noted that this is not consistent with the similar provision in the FDP concerning carryover and that such adjustments would have to rely on an estimate that would be of questionable reliability as it would be made well in advance of the end of the budget year.

DOE agrees with these comments and has changed the final rule to conform with the provision regarding carryover in the FDP. The recipient will have the ability to carryover funds without the approval of DOE, but will be required to report to DOE the amount of funds unobligated in the Financial Status Report to be submitted after the budget period is over. A sentence has been added which permits DOE to request recipients to provide information in the progress report regarding budget expenditures.

One commenter stated that the words " . . . the costs must be otherwise in accordance with these rules" in § 600.103(g)(2)(iii) are confusing and unneeded. After careful consideration of the comment, DOE has concluded that while some readers may see the phrase as simply expressing a truism (that is, a recipient may not do what it is not permitted to do), it is important to retain the phrase so that the removal of prior approval requirements in the proposed rule not be interpreted as a general waiver of other portions of DOE's financial assistance rules and the applicable OMB circulars. For example, a cost would still have to be allowable to be incurred, even if agency prior approval were not needed to incur it.

One commenter stated that Contracting Officers should have the authority to approve pre-award costs retroactively. DOE's financial assistance rules currently provide that the Contracting Officer may approve pre-award costs prior to incurrence. Retroactive approval would require a deviation under § 600.4. DOE did not propose to change the retroactive approval requirement in the proposed rule and still does not see a reason to do so.

As a result of comments by DOE staff, the following clarifying changes have been made to the proposed rule.

The role of field readers acting as a standing committee in § 600.16(d)(iii) is clarified to emphasize that even though geographically dispersed, they should operate as if they were a standing committee to the degree possible.

In § 600.31(d)(1), the apostrophe after "recipients" and the word "award" have been deleted to remove an awkward phrasing.

In § 600.31(d)(2), the introductory clause is moved to the middle of the sentence and the word "other" is deleted. In § 600.31(d)(2)(i), the references to "research" and "non-research" are eliminated. These changes retain the authority of a Contracting Officer to authorize extensions without additional funds for all types of financial assistance. This authority currently exists in DOE's financial assistance rules and was inadvertently limited in the proposed rule.

In § 600.32(c)(2), the sentence "The recipient shall not be entitled to reimbursement if a continuation award is not made" has been relocated in the section to make its meaning clearer.

Section 600.103(g) is changed to drop the phrase "in the absence of appropriations". Absence of appropriations is envisioned to be already covered by the next clause "if

an award is not subsequently made" and raised the concern that a Contracting Officer might be giving approval for pre-award costs even though funds have not been appropriated.

#### IV. Review Under Executive Order 12291

Today's rule was reviewed under Executive Order 12291 (February 17, 1981). The DOE has concluded that the rule is not a "major rule" because its promulgation will not result in: (1) An annual effect on the economy of \$100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States based enterprises to compete in domestic or export markets. In accordance with requirements of the Executive Order, this rulemaking has been reviewed by the Office of Management and Budget (OMB).

#### V. Review Under the Regulatory Flexibility Act

These regulations were reviewed under the Regulatory Flexibility Act of 1980, Public Law 96-354, 94 Stat. 1164, which requires preparation of a regulatory flexibility analysis for any regulation that will have a significant economic impact on a substantial number of small entities; i.e., small businesses, small organizations, and small governmental jurisdictions. The DOE has concluded that the rule would only affect small entities as they apply for and receive financial assistance and does not create additional economic impact on small entities. The DOE certifies that this rule will not have a significant economic impact on a substantial number of small entities and, therefore, no regulatory flexibility analysis has been prepared.

#### VI. Review Under the Paperwork Reduction Act

No information collection or recordkeeping requirements are imposed upon the public by this rulemaking. Accordingly, no OMB clearance is required under the Paperwork Reduction Act of 1980, 44 USC 3501, *et seq.*, or OMB's implementing regulations at 5 CFR part 1320.

#### VII. Review Under the National Environmental Policy Act

The DOE has concluded that promulgation of these wholly procedural rules clearly would not represent a

major Federal action having significant impact on the human environment under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321, *et seq.* (1976)), the Council on Environmental Quality Regulations (40 CFR parts 1500 through 1508), and the DOE guidelines (10 CFR part 1021) and, therefore, does not require an environmental impact statement pursuant to NEPA.

#### VIII. Review Under Executive Order 12612

Executive Order 12612 requires that regulations or rules be reviewed for substantial direct effects on States, on the relationship between the National Government and the States, or in the distribution of power among various levels of government. If there are sufficient substantial direct effects, E.O. 12612 requires preparation of a federalism assessment to be used in all decisions involved in promulgating or implementing a regulation or rule.

Today's regulatory amendments will have some direct effect on State recipients of financial assistance who receive research awards. The number of awards affected is very small, however, and thus there will be insufficient direct effect to warrant the preparation of a federalism assessment by DOE.

#### List of Subjects in 10 CFR Part 600

Administrative practice and procedure, Cooperative agreements/energy, Copyrights, Debarment and Suspension, Educational institutions, Energy, Grants/energy, Hospitals, Indian Tribal governments, Individuals, Inventions and patents, Nonprofit organizations, Reporting requirements, Small businesses.

In consideration of the foregoing, the DOE hereby amends chapter II of title 10 of the Code of Federal Regulations by amending part 600 as set forth below.

Issued in Washington, DC October 6, 1989.  
Berton J. Roth,

*Deputy Assistant Secretary for Procurement and Assistance Management.*

For the reasons set out in the preamble, part 6500 of chapter II, title 10 of the Code of Federal Regulations is amended as follows:

#### PART 600—[AMENDED]

1. The authority citation for part 600 continues to read as follows:

Authority: Sec. 644 and 646, Pub. L. 95-91, 91 Stat. 599 (42 U.S.C. 7254 and 7256); Pub. L. 97-254, 96 Stat. 1003-1005 (31 U.S.C. 6301-6308), unless otherwise noted.

2. Section 600.3 is amended by adding new definitions for "Ad hoc committee," "Field readers," "Objective merit

review," "Responsible official," and "Standing committee" in alphabetical order and by revising the definition of "Research" as follows:

#### § 600.3 Definitions

*Ad hoc committee* means a temporary committee established to perform a single, specific short-term task, after which the committee disbands.

*Field readers* means persons with expertise to evaluate a specific application or category of applications. Field readers may act as independent individuals or as members of a group with the review generally being done by mail.

*Objective merit review* means a thorough, consistent and independent examination of applications based on pre-established criteria by persons knowledgeable in the field of endeavor for which support is requested. This sort of review is conducted to provide advice to selecting officials based on an evaluation of the scientific or technical merit. The reviewers themselves may be engaged in comparable efforts in institutions or organizations similar to the applicant's or have in the past been directly involved in such activities.

*Research* means any scientific or engineering activity which (1) constitutes a systematic, intensive study directed specifically toward greater knowledge or understanding of the subject studied and contributes to a continuing flow of new knowledge; or (2) is directed toward applying new knowledge to meet a recognized need; and/or (3) applies such knowledge toward the production of useful methods, including design, development and improvement of prototypes and new processes to meet established requirements.

*Responsible official* means the Head of a Departmental Element or a Program Assistant Secretary. These individuals are responsible for the system of objective merit review of financial assistance applications funded by their program or department element. The functions associated with the objective merit review may be delegated, but only to the level specified in the relevant sections of this part. The responsible official, however, remains ultimately responsible for the execution of these functions.

*Standing committee* means a long-term committee established to review applications and may be used when

required by legislation or when significant numbers of applications on specific topics are received periodically.

3. Section 600.9 is amended by revising paragraphs (a)(1) and (c)(8), (10), and (12)(vi) as follows:

**§ 600.9 Solicitation.**

(a) *General.* . . .

(1) A Program Assistant Secretary may annually issue a program notice describing research areas in which financial assistance is being made available. Such notice shall also state whether the research areas covered by the notice are to be added to those listed in a previously issued program rule. If they are to be included, then applications received as a result of the notice may be treated as having been in response to that previously published program rule. If they are not to be included, then applications received in response to the notice are to be treated as unsolicited applications. Solicitations (other than a program rule which serves to solicit applications), e.g., PONS and PRDAS, may be issued only by a DOE Contracting Officer.

(c) . . . .

(8) The name of the responsible DOE Contracting Officer (or, for program notices, the program office contact) to contact for additional information, and, as appropriate, an address where application forms may be obtained;

(10) Appropriate periods or due dates for submission of applications and a statement describing the consequences of late submission. If programs have established a series of due dates to allow for the comparison of applications against each other, these dates shall be indicated in the solicitation;

(12) . . . .

(vi) Sources of financing available to the project. Any expectation concerning cost sharing shall be clearly stated. While cost sharing is encouraged, unless the cost sharing expectation is addressed in the solicitation, it shall not be considered in the evaluation process and shall be considered only at the time the award is negotiated.

4. Section 600.16 is amended by revising paragraph (a), redesignating paragraphs (b) and (c) as (h) and (i), and by adding new paragraphs (b) through (g) as follows:

**§ 600.16 Reviewer affiliation.**

(a) *General.* (1) Each responsible official must establish and publish in the Federal Register the details of the system of objective merit review which

covers the financial assistance program administered by each cognizant program office within his or her jurisdiction within 120 days of the issuance of this rule for existing programs and prior to the review of applications for new programs. More than one program may adopt the same system. If a program wants to review an application or group of applications using the criteria and procedures of an already established review system other than its own, it may do so by following the deviation procedure described in paragraph (g) of this section. DOE employees designated by responsible officials to carry out the review process shall ensure that the evaluation of applications is conducted in a fair and objective manner.

(2) Objective merit review of financial assistance applications is intended to be advisory and is not intended to replace the authority of the program official with responsibility for deciding whether an award will be made. It is expected that the cognizant project/program officer (scientific monitor) who normally also reviews the proposals for technical/scientific merit, will, additionally, review it from a program policy perspective. Nevertheless, the objective merit review system must set forth the relationship between the reviewing individuals, or the review committees or groups, and the official who has the final decision-making authority. In defining this relationship, the system must set out, as a minimum, the decision-making and documentation processes to be followed by the authorized official responsible for selection when an adverse recommendation has been received through the objective merit review process.

(3)(i) This section applies to all new and renewal applications (except applications for conferences/symposia and for awards which come under the criteria of paragraph (a)(3)(ii) of this section) in programs which make discretionary financial assistance awards and to any other financial assistance programs in which objective merit review is required by the authorizing legislation.

(ii) For projects in which multiple renewals are probable, an objective merit review need not necessarily be done at each renewal, but instead at appropriate points in the overall project period. A determination that a project need not be reviewed at each renewal shall be made in writing by the project officer at the time the initial award is issued, or at least one year prior to the date a renewal award would be issued, and concurred in by an official at least one level above the official responsible for selecting the application for award.

The determination shall also indicate the reports required under the award. The criteria on which the determination that a project need not be reviewed at each renewal is based shall be included in the system of objective merit review to be established by the responsible official in accordance with paragraphs (a) (1) and (2) of this section.

(4) Each responsible official shall insure consistency among DOE field offices in the implementation of the review system(s) for his/her program area.

(5) Each formal review system must contain the elements listed in paragraphs (b) through (e) of this section.

(b) *Basic review standards.* (1) Each application may be assessed from a policy/programmatic perspective prior to undergoing merit review. Those that meet policy and programmatic considerations shall generally be reviewed by at least three qualified persons in addition to the official responsible for selection.

(2) The reviewers of any particular application may be any mixture of federal or non-federal experts, including individuals from within the cognizant program office, except as indicated otherwise below (see paragraphs (b)(3), (5) and (d)(2)(ii) of this section). The DOE shall select external (non-DOE Federal or non-federal) reviewers on the basis of their professional qualifications and expertise in the field of research.

(3) In selecting persons in accordance with § 600.16(b) (1) and (2) to review applications, such selection of additional reviewers shall not include, to the extent possible, anyone who, on behalf of the Federal Government, performed or is likely to perform any of the following duties for any of the applications:

- (i) Providing substantive technical assistance to the applicant;
- (ii) Approving/disapproving or having any decision-making role regarding the application;
- (iii) Serving as the project officer or otherwise monitoring or evaluating the recipient's programmatic performance;
- (iv) Serving as the Contracting Officer (CO), or performing business management functions for the project; or
- (v) Auditing the recipient or the project.

Anyone who has line authority over a person who is ineligible to serve as a reviewer because of the above limitations is also ineligible to serve as a reviewer.

(4) It may occasionally be necessary, after the fact, to change project officer designation, thereby resulting in an

individual who participated in the review of an application being appointed as the project officer. This will not be considered a violation of this policy of objective merit review provided the assignment was not expected when the review was conducted.

(5) Persons outside the cognizant program office must not have been employees of that office, including having line authority over that office, for one year prior to participation as a reviewer in the objective merit review process for the program.

(c) *Comparative review.* (1) In order to enhance the validity of the evaluation and rating process, applications can be evaluated in comparison to each other.

(2) If a program area has issued a program notice, the responsible official may implement review procedures which will result in applications being evaluated in comparison to each other. Applications in response to that notice may be assigned to a group of field readers, to a standing committee, or to an ad hoc committee, as discussed below, which is capable of reviewing them, and may be considered along with other applications which were submitted in response to the program notice. Such an application may also be eligible for review under an applicable program announcement. For solicitations, review procedures may also permit comparative evaluation with field readers, a standing committee, or an ad hoc committee being used as appropriate.

(d) *Types of review groups*—(1) *Field readers.* (i) Objective merit review of applications may be obtained by using field readers to whom applications are sent for review and comment. Field readers may also be used as an adjunct to financial assistance application review committees when, for example, the type of expertise needed or the volume of financial assistance applications to be reviewed requires such auxiliary capacity.

(ii) Safeguards should be instituted to ensure that field readers clearly understand the process, their role, and the criteria upon which the applications are to be evaluated.

(iii) For those situations in which a standing committee is the appropriate review mechanism (see paragraph (d)(2) of this section), but a group of field readers must be used instead, it should function as nearly like a committee as possible. For example, if all members of the standing committee were to evaluate all of the applications under review, then all field readers must receive all of the applications to be reviewed even though they are in geographically

separate locations and all field readers should be instructed to follow the procedures established for evaluating the applications.

(2) *Standing committees.* (i) Standing committees are normally appropriate when required by legislation or when the following conditions prevail:

(A) A sufficient number of applications on specific topics to justify the use of a standing committee(s) is received by the program on a regular basis in accordance with a predetermined review schedule;

(B) There are a sufficient number of persons with the required expertise who are willing and able to (1) accept appointments, (2) serve over reasonably protracted periods of time, and (3) convene at regularly scheduled intervals or at the call of the chairperson; and

(C) The legislative authority for the particular program(s) involved extends for more than one year.

(ii) Persons outside the cognizant program office shall constitute at least half the reviewers on such committees unless a deviation from this requirement has been approved under § 600.16(g) below.

(3) *Ad hoc committees.* (i) Ad hoc review committees may not exceed one year in duration and are appropriately used when use of a standing committee is not feasible or when one of the following conditions prevails:

(A) A small number of applications is received on an intermittent basis;

(B) The program is one of limited duration, usually less than one year;

(C) The applications to be reviewed have been solicited to meet a specific program objective and cannot appropriately be reviewed by a standing committee because of subject matter, time constraints, or other limitations;

(D) The volume of applications received necessitates convening an additional committee(s) of available reviewers; or

(E) It is determined that the applications submitted have special review requirements, e.g., construction of a facility, the complexity of subject matter cuts across the areas of expertise of two or more standing committees, or the subject matter is of a special, nonrecurring nature.

(ii) Ad hoc committees may not be used for reviewing financial assistance applications for any program for which a standing committee has been established (except for paragraph (d)(3)(i)(D) of this section) unless a deviation is approved under § 600.16(g) below.

(e) *Review summary.* Upon request, applicants are to be provided with a

written summary of the evaluation of their application.

(f) *Reviewers with interest in application being reviewed.* Reviewers must comply with the requirements for the avoidance of conflict of interest established in § 600.17. In establishing a system of objective merit review required in § 600.16(a)(1), the responsible official shall develop procedures which will permit DOE to evaluate whether a conflict of interest exists. A committee or group of field readers which includes as objective merit reviewers any individuals who cannot meet the requirements of § 600.17 or the program's review procedures, with regard to a particular application being reviewed, e.g., officials mentioned in paragraphs (b) (3) and (5) of this section, shall operate as follows:

(1) These individuals or officials may not review, discuss, and/or make a recommendation on an application(s) in which they have a conflict of interest.

(2) In the case of a review committee, the committee member must absent himself or herself from the committee meeting during the review and discussion of the application(s) in which he/she has a conflict of interest.

(g) *Deviations.* (1) In any instance in which a program's pre-established review system is not to be used to review an application, group of applications, or class of applications, written prior approval for utilization of a different procedure, which itself must, to the extent possible, conform to the provisions of this section pertaining to objective merit review, must be obtained from the responsible official or his or her designee.

(2) If the deviation sought applies to a class of applications and constitutes a deviation from the requirements of this part, approval for deviation must be obtained in accordance with § 800.4. If such request for deviation is approved, all details of the review procedure utilized and the proceedings and determination must be fully documented.

5. Section 600.31 is amended by revising paragraph (d) to read as follows:

§ 600.31 Funding.

(d) *Extensions.* (1) Recipients of research awards may extend the expiration date of the final budget period of the project (thereby extending the project period) if additional time beyond the established expiration date is needed to assure adequate completion of the original scope of work within the

funds already made available. A single extension, which shall not exceed twelve (12) months, may be made for this purpose, and must be made prior to the originally established expiration date. The recipient must notify the cognizant DOE Contracting Officer in the awarding office in writing within ten (10) days of making the extension.

(2) DOE may extend any budget period of any type of financial assistance without the need for competition or a justification of restricted eligibility if:

(i) In the case of the final budget period of a project period, the additional time necessary is 18 months or less in total, or for all other budget periods, the additional time necessary is 6 months or less in total; and

(ii) The grantee submits a written request for an extension before the expiration date of the budget period in process and includes a justification for the extension along with an expenditure plan for the use of any additional funds requested. An expenditure plan need not be provided when no additional funds are requested, unless the grantee intends to rebudget funds in such a way as to require DOE prior approval or unless the grantee is instructed otherwise by the Contracting Officer.

6. Section 600.32 is amended by revising paragraph (c)(2), removing paragraph (d), redesignating paragraphs (e) and (f) as (d) and (e) and revising newly redesignated paragraphs (d) and (e) as follows:

§ 600.32 Calculation of award.

(c) *Unobligated balances*—

(2) *Research grants.* Any unobligated balance of funds which remains at the end of any funding period, except the final funding period of the project period, may be carried over to the next funding period, and may be used to defray costs of the period into which it is carried over. The recipient shall not be entitled to reimbursement if a continuation award is not made. Recipients may be requested to provide information with regard to expenditures in the progress report covering the previously completed period. The recipient shall also include in the Financial Status Report, for the previously completed period, the amount of the unobligated balance as of the end of the funding period.

(d) *Added funding not required.* Nothing in paragraph (c) of this section shall in any way require the DOE to increase the total amount obligated for the project.

(e) *Adjustments.* Whenever DOE adjusts the amount of an award under this subpart, it shall also make an appropriate upward or downward adjustment to the amount of required cost sharing in order that the adjusted award maintain any required percentage of DOE and non-Federal participation in the costs of the project.

7. Section 600.103 is amended by revising paragraphs (b)(6) and (g) to read as follows:

§ 600.103 Cost determinations.

(b) *Cost principles.*

(6) Before a recipient may make changes in the following areas on research financial assistance awards, the written approval of the cognizant Contracting Officer at the DOE is required: (i) Changes in objectives or scope, (ii) temporary replacement or change of principal investigator or change of key personnel, and (iii) change of the institution to which the award is to be made. All other Federal prior approval requirements, including those in OMB Circulars A-21 and A-110, are waived for research awards. The recipient may maintain such internal prior approval systems as it considers necessary.

(g) *Preaward costs*—(1) *All Awards.* Any preaward expenditures are made at the recipient's risk. Approval of preaward costs by the Contracting Officer or incurrence by the recipient does not impose any obligation on DOE if an award is not subsequently made, or if an award is made for a lesser amount than the recipient expected.

(2) *Research awards only.* (i) For new or renewal research awards, recipients may incur preaward costs up to ninety (90) days prior to the effective date of the award. Preaward costs for periods preceding 90 days prior to the effective date of the award are allowable only if approved in writing, prior to incurrence, by a DOE Contracting Officer.

(ii) For continuation awards within a multiple year project, prior to receipt of continuation funding, preaward expenditures by recipients are not subject to the limitation or approval requirements of paragraph (g)(2)(i) of this section.

(iii) Preaward costs, as incurred by the recipient, must be necessary for the effective and economical conduct of the project, and the costs must be otherwise in accordance with these rules and may not include those specific costs for which agency prior approval is required under the circulars. In any instance in which the circulars permit the agency to

grant prior approval to the recipient, it is the Department's intention to do so.

(3) *Other than research awards.* All other financial assistance recipients may incur preaward costs only if the expenditure is approved in writing, prior to incurrence, by the Contracting Officer. In the case of governmental entities, the approval must additionally be reflected on the award notice.

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OVERSIGHT BOARD

12 CFR Parts 1510 and 1511

The Resolution Funding Corporation—  
Operations

AGENCY: Oversight Board.

ACTION: Final rule.

**SUMMARY:** The Oversight Board has adopted final regulations for the Resolution Funding Corporation. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("Act"), established the Resolution Funding Corporation and the Resolution Trust Corporation. The Resolution Funding Corporation is required by the Act to provide funds to the Resolution Trust Corporation to enable it to carry out its purposes under the Act. These regulations prescribe the manner in which the Resolution Funding Corporation will operate and clarify the manner in which assessments will be made to capitalize the Resolution Funding Corporation.

**EFFECTIVE DATE:** These regulations are effective September 21, 1989.

**FOR FURTHER INFORMATION CONTACT:** Bradford B. Baker, Acting Executive Secretary, or Robert Frierson, attorney, at (202) 387-7575.

**SUPPLEMENTARY INFORMATION:**

A. General

On August 9, 1989, the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 ("FIRREA") was enacted into law. Among other things, the FIRREA added section 21B to the Federal Home Loan Bank Act (the "Act") which established a corporation known as the Resolution Funding Corporation ("Funding Corporation") to provide funds necessary for the Resolution Trust Corporation ("RTC") to carry out its purpose under the FIRREA. The Funding Corporation will issue bonds, notes, debentures, or similar obligations, and with the net proceeds thereof, it will purchase capital