1 of 2

MANAGEMENT SUPPORT SERVICES TO THE OFFICE OF UTILITY TECHNOLOGIES

FINAL TECHNICAL REPORT

CONTRACT No.: DE-AC01-91CE35038

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MANAGEMENT SUPPORT SERVICES TO THE OFFICE OF UTILITY TECHNOLOGIES

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INTRODUCTION

BNF Technologies Inc. submits this final technical report as part of the reporting requirements of the contract for Management Support Services for the Office of Utility Technologies (OUT), Contract DE-AC01-91CE35038, under which BNF has provided services.

The Office of Utility Technologies works cooperatively with industry and the utility sector to realize the market potential for energy efficiency and renewable energy technologies.

Under this contract, BNF has provided management support services for OUT R&D activities for the following Program Offices:

- I. OFFICE OF ENERGY MANAGEMENT
- II. OFFICE OF SOLAR ENERGY CONVERSION
- III. OFFICE OF RENEWABLE ENERGY CONVERSION
- IV. DEPUTY ASSISTANT SECRETARY

During the period between 4/17/91 and 9/17/93, BNF Technologies Inc. has furnished the necessary personnel, equipment, materials, facilities and travel required to provide management support services for each of the above Program Offices. From 9/18/93 to 12/17/93, BNF has been involved in closeout activities, including final product deliverables. Research efforts that have been supported in these Program Offices are:

- (1) for Energy Management:
 - Advanced Utility Concepts Division
 - Utility Systems Division
 - Integrated Resource Planning
- (2) for Solar Energy Conversion:
 - Photovoltaics Division
 - Solar Thermal and Biomass Power Division
- (3) for Renewable Energy Conversion:
 - Geothermal Division
 - Wind, Hydroelectric and Ocean Systems Division
- (4) for the Deputy Assistant Secretary
 - Support as required by the Supporting Staff

This final report contains summaries of the work accomplished for each of the Program Offices listed above. In addition to the summaries of the work accomplished for each Program Office, summary tables at the end of this report list the deliverables BNF has submitted during the contract period.

Office of Energy Management

I. OFFICE OF ENERGY MANAGEMENT

The Office of Energy Management supports research and development (R&D) in the areas of integrated resource planning, high-temperature superconductivity, utility battery storage, thermal energy storage, hydrogen energy systems, electric and magnetic field effects, transmission and distribution technologies, and district heating and cooling.

BNF Technologies Inc. has provided the following assistance:

- Assisted in the preparation of Transmission and Distribution Program's initiative on Real-Time Control and Operation. Assisted in preparation of graph on Historical Perspective on Electric Systems in the United States.

- Attended a seminar on Demand Side Management: Strategies and Methods, presented by Public Utilities Reports, Utility Management Program on December 11-12, 1991.

- Revised a National Renewable Energy Laboratory (NREL) draft of the Office of Utilities Technology (OUT) Transmission and Distribution Program Overview.

- Reviewed technical paper on: Perspectives on the Future of Power Generation and Transmission Worldwide for inclusion in the Proceedings of the IEEE special issue on Advanced Generation Methodologies.

- Attended conference held in San Francisco in February 26-28, 1992, on Future Directions for Integrated Resource Planning

- Assisted in tracking and analyzing energy legislation for OUT in the areas related to the Office of Energy Management (OEM):

- Reviewed impact analysis of NES Legislation (S. 2166, H.R. 776 and H.R. 4559) on OEM programs.
- Submitted a copy of Section 6301 of Senate Bill 2166, which is applicable to District Heating and Cooling.
- Provided analysis of the Energy Policy Act of 1992 for summaries of legislation affecting OEM activities.
- Delivered copies of the EPA 1992 legislation sections that deal with T&D, DHC, and EMF effects.
- Reviewed Section 152 of the Energy Policy Act of 1992 concerning requirements for DHC feasibility studies for federally-owned installations.

- Visited the district heating and cooling facility at Georgetown University with Mr. Floyd Collins. Facility was funded by DOE and served as a learning experience. Currently, a new cogeneration project is scheduled for 1994.
- Submitted and discussed outline of T&D presentation to OMB; prepared sample graphics to be used in the presentation.
- Assisted in drafting OEM's input to the Internal Review Budget.
- Attended a World Bank consultative meeting and symposium held in May, 1992 on Demand Side Management.
- Attended the International District Heating And Cooling Association Annual Conference on behalf of DOE. The conference was held in Danvers, Massachusetts, during June 13-17, 1992.
- Participated in providing DOE's input to current proposals for International Energy Agency District Heating and Cooling Annex IV.
- Assisted BMS Management Services in efforts for adoption of the District Heating and Cooling/Cogeneration National Action Plan.
- Assisted in planning for responses to requests from DHC industry for R&D proposals to DOE.
- Assisted DHC in preparing response to modular Cogeneration Corporation covering completion of the development of the artificial intelligence required to run the Smart-1 cogenerator.
- Prepared summary abstract on Jet Refrigeration and Air Conditioning Project.
- Assisted in preparation of response to Drexel University researchers (Dr. Young and Dr. Harold Lorsch) concerning their research on the use of paraffin-slurry in district cooling. Prepared summary abstract of the Paraffin Slurries in District Cooling Project being carried out by Drexel University.
- Assisted in preparation of response to West Virginia University's desire to participate in DHC activities, and planning of activities to include other universities.
- Assisted in analyzing the list of 19 R&D proposals submitted by the Principal Managers group of the International District Heating and Cooling Association for DOE involvement in future R&D efforts.
- Prepared report on *The Department of Energy's District Heating and Cooling Program — A Decade (1982-1992) of Accomplishments*.
- Provided a listing of projects worked under the IEA's R&D program completed in Annex II (1987-1990).

One of the drawings that BNF produced for the District Heating and Cooling Report.

- Developed database for District Heating and Cooling. Task provided for a survey of all funded organizations under the past program and currently funded organizations that will not be able to complete the originally intended work because of funding phase-out. The objective was to seek input as to benefits achieved from their work, any follow-up work required, and ways to transfer their efforts to the private sector. Also included was a review of DHC participation in IEA programs.
- Prepared a summary of the following projects: DHC Market Potential Estimation project being developed by Argonne National Laboratory (ANL) and DHC/cogeneration characterization study conducted by Oak Ridge National Laboratory (ORNL).
- Prepared an abstract of the Georgia World Congress Center and Georgia Dome Complex project for the development of a district cooling system and the assessment of an integrated utility system plan in conjunction with the Atlanta 1996 Olympic Games.
- Attended a seminar on July 22, dealing with the International and Domestic Electric Power Plant Market. The seminar provided information dealing with current trends in the electric supply industry. The trends presented included the privatization of electric power supply, the rationalization trend used to justify mergers of companies, the environmentalism trend, and the trend towards gas-turbine based power plants. Discussion focused on the implications of the generation as well as the T&D side of the electric utility industry. Prepared paper based on information presented and discussed at the Seminar.
- Assisted City of Fairbanks, Alaska, officials in current DHC expansion proposals for DOE participation.

- Started work on DHC Program Recipient Review task: Prepared draft letters for previous participants in DOE DHC project and draft letters for organizations currently working on DOE DHC projects. Submitted initial list of organizations to be contacted.
- Contacted officials at Pittsburgh Allegheny County Thermal, Ltd., concerning DOE's involvement in their development of DHC and change from Allegheny Steam Heating Company.
- Assisted in review of 1993 Spend Plan in the areas related to Office of Energy Management.
- Assisted in preparing background materials and a presentation on Utility Energy Storage Options and Superconducting Magnetic Energy Storage.
- Prepared documentation to supplement the National Academy of Science's presentation on specific OUT projects (including the New York High Phase Order Transmission Test and others).
- Assembled a list of major T&D projects conducted at Oak Ridge National Laboratory. The initial list consisted of 16 projects.
- Assisted with development of District Heating and Cooling Program proposal for Community Scale Systems using renewable energy technologies.
- Prepared background books on IRP, electromagnetic field (EMF) effects, Public Utility Holding Act (PUHCA) reform, and transmission access.
- Provided input for CE-10 Comments on United Nations Committee on Environmental Development (UNCED) Agenda 21 Activities related to OEM.
- Reviewed articles entitled "The District Heating Renaissance" from *Independent Energy Magazine*, and the article "CFC's New Water Regs Send Users to Cooling Loop" from *Energy User News*.
- Attended the Transmission and Wheeling Conference during November 21-22, 1992. Prepared detailed comments and summary of the Transmission and Wheeling Conference.
- Provided copies of articles on the energy transition team and DOE's role in the new Clinton administration.
- Provided information to OUT on the BNF experience in obtaining project reports for OUT projects in T&D and District Heating and Cooling.
- Provided database and listing of OEM personnel for OUT personnel database.

- Attended Sixth Annual demand Side Management Conference. Based on conference presentations, prepared a binder with a synopsis of all papers presented.

- Assisted in research for DOE's involvement with renewable energy supply options for future and existing District Heating and Cooling systems.

- Prepared and delivered on 9/17/93 two copies of the report *The Department of Energy Transmission and Distribution Technologies — A Decade of Accomplishments*; two sets of four diskettes, an appendix of references, and a set of instructions on how to access and print the master document.

Electric field of an electromagnetic pulse versus time versus distance — one of the drawings that BNF produced for the Transmission and Distribution report.

Office of Solar Energy Conversion

II. OFFICE OF SOLAR ENERGY CONVERSION

The Office of Solar Energy Conversion supports research and development (R&D) in the areas of electric power generation utilizing photovoltaics (PV), solar thermal, and biomass fuels.

BNF Technologies Inc. has provided assistance in the following areas:

1. Photovoltaics

- Developed budget rationale for Office of Solar Energy Conversion on April 24, 1991
- Completed Office of Solar Energy Conversion Multi-Year Program Plan (MYPP); delivered to client on April 26, 1991.
- Hosted a meeting of the Department of Defense Photovoltaics Review Committee on April 26. The purpose was to take the first step in a new DOE/DOD strategy; meeting was attended by members of the Army, Navy, Air Force, the Office of the Secretary of Defense, DOE and the Coast Guard. For the Office Director and Division Director, integrated comments received on Department of Defense/DOE strategy for the DOD PV Review Committee. Coordinated with individual members of the DOD PV Review Committee on potential project opportunities on San Clemente Island in California and in Yuma, Arizona.
- Coordinated inputs for a proposal to The Energy Foundation entitled "Photovoltaics: Accelerating Utility-Scale Deployment". Team members included SERI/MRI, SEIA, ECD, Argonne, Sandia, and Deloitte Touche.
- Prepared input for paper on PV markets and applications for ASES/International Solar Energy Symposium (ISES) meeting August 17-24, 1991.
- Prepared package for India that describes the impact of the TI, Armech, Astropower, and other innovations on the competitive nature of PV. Delivered on July 18, 1991, a 50-page draft of "Technology, Performance, Cost" section of report.
- Prepared database and set of charts that displayed the World PV Module Markets, U.S. PV Module Market, World Cumulative to 2000, and U.S. Cumulative to 2000 under two scenarios: "Business as Usual," and "Accelerated." This database was based on report *Photovoltaic Technology, Performance, Cost and Market to 2010*.
- Completed a paper: "Photovoltaics Systems and Applications" for presentation by Jim Rannels at the IEEE Photovoltaic Specialists meeting.

Provided support to the FINESSE program:

- Developed and coordinated invitation letters to the FINESSE workshop in Kuala Lumpur in October.
 - Participated in several informal strategy meetings with appropriate World Bank principals in preparation for the workshop.
 - Developed initial draft for the FINESSE descriptive brochure.
 - Developed potential visuals for booklet.
 - Visited Kuala Lumpur during period July 24-28, 1991, to assist with preparation for the FINESSE Workshop scheduled for the week of 21 October 1991. Continued arrangements for the FINESSE workshop in Kuala Lumpur in October.
 - Met with World Bank staff on establishment of FINESSE Fund; set up meeting to review and evaluate business plans; and participated in a steering group meeting and several meetings with World Bank personnel.
 - Provided support to the World Bank, DOE, and CORECT on the FINESSE program plan of operation.
 - Participated in the FINESSE Workshop in Kuala Lumpur. Provided essential detailed support for the conference operations, acted as facilitator for several workshop sessions, wrote the joint World Bank/DOE press release at the conference conclusion, developed a participant's survey to assess the effectiveness of the workshop.
 - Provided after-workshop support to FINESSE including: analysis of workshop evaluation response by participants, developing press release for U.S. technical publications, and other tasks associated with the December 1 opening of FINESSE facility at the World Bank.
 - Participated in FINESSE related seminars at the World Bank, UNDP, and Rockefeller Foundation to review participation in FINESSE activities.
 - Provided requested support for ASTAE Office of the World Bank in support of FINESSE operations. This included:
 - ♦ Evaluation criteria for assessment of FINESSE Projects
 - ♦ Application of project evaluation criteria to proposed projects from the Philippines and prepared review report
 - ♦ Review of World Bank report *Energy Efficiency and Conservation in the Developing World*
 - ♦ Review of the ESMAP report *Philippines Non-Conventional Energy Planning Assistance Program*
- Provided additional support to the World Bank Asia Technical Alternative Energy Unit in designing, developing, and implementing a work program.
- Prepared a slide viewgraph showing PV Market Size versus Module Price for Jim Rannels, Director of the Photovoltaics Division.

- Participated in a World Bank mission to India to identify and examine PV and other renewable energy project opportunities. Assisted in the development of project feasibility study documentation
- Conducted research on collaboration between government and industry under partnerships for accelerating adoption of solar energy conversion technologies:
 - Prepared a concept paper on collaborative arrangements in the utility sector for accelerating adoption of solar energy conversion technologies.
 - Initiated research on federal mechanisms for assisting "critical" industries facing short-term capital shortages.
 - Prepared a paper on options for government assistance to the solar conversion industry.
 - Prepared slide presentation.
- Completed "Photovoltaics Program" briefing and slides for presentation by Jim Rannels at the Electric Power Research Institute (EPRI) PV meeting on 11/20/91.
- Preparation of "SOLAR 2000 — PV Summary" presentation for the PV Division Director for SOLTECH 92 conference in February 1992 in Albuquerque, New Mexico:
 - Prepared slide presentation, with program inputs from the Director, Division of Solar Thermal and Biomass Power.
 - Prepared a briefing on Solar 2000 and the PV Program for Jim Rannels.
 - Provided study of options for Solar 2000, i.e., what must happen for U.S. photovoltaic to obtain 1,500 MW cumulative by 2000?; what if U.S. penetration grows to 45%?; what can be done to increase U.S. cumulative shipments by 600 MW?
 - In support of the overall Solar 2000 strategy, worked on the market identification scoping study. Coordinated activities with SERI, Sandia, EA Mueller, and the Solar Energy Industries Association.
- Prepared a draft paper for Crystalline PV Technology Conference in Albuquerque, New Mexico, per the DOE PV Program Manager's guidance.
- Provided background data for DOE proposals for U.S. participation at the United Nations Committee on Environmental Development (UNCED) meetings to be held in Rio de Janeiro, Brazil, June 1992.
- Reviewed solar energy-related language in H.R. 776 and analyzed potential impact of legislative proposal on solar energy-related programs.
- Assisted the Photovoltaics Division Director in assembling information on the effect of the NES on individual states on those technologies represented by DOE SEC Office. This was documented in a report for the Division Director.

- Compiled PV program planned activities, their objectives, and possible benefits for the FY 94 Internal Review Budget (IRB) inputs using DOE-HQ guidance and format samples.
- Provided logistic support and prepared supporting material for DOE and NREL PV planning meeting scheduled for May 15, 1992, in Kansas City, Missouri. Also, supported efforts to identify possible venues for SOLTECH 93. These activities generated supporting material for future National Energy Strategy (NES) updates for OSEC.
- Compiled "New Energy Technologies" briefing for presentation at the Brookings Meeting, April 29, 1992. Information material collected for preparation of this briefing was utilized to support OSEC planning activities during 1992.
- Assembled relevant background information on government-sponsored PV programs in the Pacific Islands, which can serve as a potential market for OSEC technologies. This activity was performed during provision of back-up supporting material for the budget.
- Provided support in analyzing the application of the Michael Porter thesis of "Clusters of Innovation" to the Solar PV market.
- Provided support to Robert Annan for the LAC Renewable Energy Project Database for the Rio UNCED meeting.
- Provided support to Gary Burch by providing information on the involvement of the Dutch company Belgo in LUZ Solar Electric Generating Systems (SEGS) operations.
- Worked on task for "International Competition Study," including research on tariffs, trade barriers, and country case studies.
- Prepared and delivered PV Cost Curve from information regarding projections of PV market size and module price. In addition, prepared a correlation summary for energy requirements on monthly basis versus length of line extension.
- Reviewed comments on the "Non-conventional Energy Project" that is under consideration for the World Bank, Global Environmental Fund (GEF).
- Prepared photovoltaic displays for the DOE building.
- Researched and created a listing of utility sponsored demand side management (DSM) programs that include on-site photovoltaic generation as part of the program, along with discussions on the advantages and disadvantages of the programs in terms of costs and benefits to society at large. Delivered completed report on PV DSM Projects to Jim Rannels on 10/12/93.

2. Biomass Electric

- Provided necessary assistance to the biomass program manager regarding possible schematics for the IECEC paper on the magnetohydrodynamic (MHD) cycle assessment using biomass/fossil fuel (coal) options. Provided several revisions to the MHD schematics for the IECEC Conference in Boston, Massachusetts. This paper was presented by the DOE program manager who summarized the use of biomass/coal feedstocks in the MHD conversion cycle.
- Assisted with biomass MYPP summary and provided background summary updates for the FY93 Internal Review Budget Briefings using Division inputs and guidance.
- Support activities for SOLAR 2000:
 - Prepared a summary of Biomass Electric Technology Development and Validation efforts needed for the Solar 2000 strategy exercise.
 - Coordinated review comments on the Biomass Electric section of the SOLAR 2000 — Draft Strategy effort.
- Revised Biomass Electric Technology Rationale document following detailed discussion with SERI Biomass Electric program manager and DOE-HQ program manager.
- Prepared and delivered a revised Biomass Electric Technology five-year milestone, chart using Division guidance and inputs.
- Updated and revised the document *Biomass Electric Technology Rationale and Status*, using Division guidance and inputs. Met with the field and headquarters program managers to discuss future updates and direction of effort. Incorporated revised schedule chart for the biomass electric technology options. Revised version was completed in August 1991.
- Provided biomass program summary charts for the solar thermal/biomass power division field quarterly review meeting. Also began preparation of background summary charts for FY92 program review briefing.
- Prepared revised "feedstock (biomass) characterization" section for the Biomass Electric Technology Rationale (revised draft) document. Coordinated with DOE-HQ and SERI Biomass Electric Program staff members.
- Provided necessary assistance in the preparation of several drafts of the "Biomass Power FY 1992 Program Review" briefing, using DOE-HQ inputs and relevant programmatic plans for the coming fiscal year. This briefing package provided FY91 program accomplishments and key technical and programmatic funding plans, including their relevance to overall budget allocation process.
- Provided input to preparing the paper "Electricity from Biomass: A Development Strategy."

- Provided "straw man" outline and related schedule for the Biomass Five-year Plan Strategy summary.
- Prepared "Opportunities for Biomass Power" briefing and slide presentation for DOE-HQ, for presentation at the Biomass Combustion Conference held in Reno, Nevada, during January 28-30, 1992. In addition, attended above conference and participated in discussion about future plan for biomass electric program.
- Prepared a summary paper "Comparative Economic Analysis of Biomass Power Production" and attended IGT-sponsored "Energy from Biomass Wastes XVI" conference in Orlando, Florida on 5 March 1992.
- Collected biomass electric program material, including technical program details, provided by NREL management presentations at the Semi-Annual review meeting for the DOE Solar Thermal and Biomass Power Division on April 21, 1992.
- Provide assistance in the identification and preparation of materials to support DOE Biomass Power industry meetings for biomass industry characterization in line with background support for the National Energy Strategy update. Also provided backup biomass power plant information to address industry requests.
- Provided background support material and assistance in the compilation of the FY 1994 Biomass Power IRB budget rationale using key inputs and guidance from the Division of Solar Thermal and Biomass Power. In addition, conducted background efforts on biomass power economic and cost issues.
- Assisted in preparation of briefing charts for biomass briefing at the Hawaii meeting.

OVERALL STUDY FOCUS RESOURCE TO MARKET

IDENTIFY STATE/LOCAL SYSTEM TARGET OPPORTUNITIES

MIDWEST STATES - DEVELOPING FARMING SYSTEMS FOR BIOMASS POWER PRODUCTION / BNF TECHNOLOGIES

Drawing that BNF produced for Biomass Electric Power program.

3. Solar Thermal

- Prepared updates to the solar thermal electric technology FY93 Internal Review Budget background materials.
- Updated two-page solar thermal technology MYPP summary, as the Division requested. Both base case and accelerated case scenarios were revised with Division inputs.
- In response to a request from the Office Director, prepared background material for him to participate in an in-house exercise on the Strategic Environmental Research and Development Program (SERDP). In addition, gathered background material on proposals that were submitted both from the Department of Defense and from DOE.
- Compiled and delivered an information package containing several solar thermal programmatic materials including: 1990 Solar Thermal Reference Book; FY 1990 Solar Thermal Quarterly Review Proceedings; and FY 1991 First Quarter Solar Thermal Quarterly Review meeting summary of presentations.
- Provided a package containing the latest available solar thermal project photographs and background summary material for the American Public Power Association's solar article, as the Division requested.
- Obtained a copy of the written transcript and video news clips on California Utility versus Global Warming, as the Division requested. The news clip on ABC-TV emphasized the use of renewable energy technologies to reduce global carbon dioxide impact on the environment.
- Prepared, delivered and distributed "Solar Thermal and Biomass Power Division — Field Quarterly Review Meeting" announcement packages, per Division guidance. Package included information regarding the upcoming field/laboratory quarterly review meeting scheduled for July 16-17, 1991, detailed presentation format/guidelines, and draft meeting agenda.
- Prepared and delivered "Renewable Energy Option in the United States" chart showing renewable energy technology readiness for various intermediate/baseload peaking applications in the United States using Division guidance and inputs.
- Assisted program manager in compiling solar thermal progress briefing charts for the field quarterly review presentation.
- Provided support in coordination and conducting of the Solar Thermal Field Quarterly Review meeting (July 16, 1991). Compiled final agenda for the meeting by obtaining relevant information from DOE-HQ, and field/lab (Sandia, SERI) organizations.

- Several support activities were undertaken to update the SOLAR 2000 Draft Strategy document, including:

- Preparation of SOLAR 2000 Draft review comments summary using field/HQ review inputs.
- Preparation of revised Solar Thermal five-year detailed milestone chart using Division guidance and inputs.
- Compilation of a draft summary chart of Photovoltaic/Solar Trough/Solar Dish cost comparison for demand side management applications of solar energy conversion technologies. Relevant information was compared with peaking cost in various states including California, Nevada, Pennsylvania, New York and Colorado.
- Provided inputs to the SOLAR 2000 revision in which a summary of "Solar Thermal Technology Development and Validation" was compiled. Relevant information was prepared in line with the FY 1993 Internal Review Budget process.

- Assisted in preparation of the "Fiscal Year 1992 Program Review" briefing package. Several drafts were compiled to reflect programmatic decisions during FY91 and program plans for FY92. Included were summaries of expected results during coming years. DOE-HQ inputs were utilized to prepare the draft versions. Compiled background summary charts for the solar thermal FY92 program review briefing.

- Prepared and provided key graphics chart for the document *Solar Thermal Electric Technology Rationale* to SERI, as DOE-HQ requested. This document will be printed by SERI Technical Information Program as part of a series of Renewable Energy Technology Rationale documents this year.

- Prepared a detailed outline and layout of the "Solar Thermal Electric Program" briefing package to provide overview of technologies, progress made-to-date, planned activities in next two years and to highlight the joint-venture central-receiver and dish/stirling programs.

- Prepared suggested lay-out and theme statements for Solar Thermal Multi-Year Program Plan (MYPP) draft (Fiscal Years 1992-1997) per discussion with Division Staff.

- Completed Solar Thermal Fiscal Year 1992 program briefing for presentation to the Assistant Secretary for Conservation and Renewable Energy.

- Reviewed WEC (World Energy Conference) report *Renewable Energy Resources: Opportunities and Constraints 1990-2020: Solar Energy Chapter*. This review included an evaluation of current economic and technical aspects of solar technology in the United States compared to that in other industrial countries.

- Prepared title slides for the Solar Thermal Electric Program Overview briefing for use by the Division Director. Also attended CORECT Annual Meeting at the DOE-HQ on March 24, 1992.

- Prepared and provided detailed "straw man" outline and tentative schedule for the solar thermal MYPP (FY92-FY97) for discussion with Division staff. Assisted Division Director in preparation of the solar thermal five-year program plan using key technical inputs from DOE-HQ and National Laboratories (NREL and Sandia) responsible for the solar thermal electric program.
- Provided analytical support for the Solar Thermal Strategy on Market Conditioning, and in designing planning assessment methods.
- Coordinated preparation of final agenda draft for the Solar Thermal and Biomass Power Semi-Annual Review meeting scheduled for 21 April 1992.
- Collected informational material provided by the National Laboratories/field organizations regarding solar thermal electric technology and program activities. This information was collected to support DOE's spring '92 planning and budgetary exercise in coming months. As part of this activity, coordinated semiannual review meeting for the Division of Solar Thermal and Biomass Power.
- Provided detailed solar thermal, domestic and international projects backup information and visual material in response to the solar thermal electric industry request to the division.
- Prepared solar thermal cost trends from system performance data provided by the Solar Thermal Technology Division for 1984-1990. This information was provided to the Division for an annual report prepared by the Office of Utility Technologies.
- Provided an assessment of the International Solar Energy Symposium that reviewed the current status of solar energy and the environment.

Office of Renewable Energy Conversion

III. OFFICE OF RENEWABLE ENERGY CONVERSION

The Office of Renewable Energy Conversion supports research and development (R&D) for the utilization of geothermal, wind, ocean, and hydroelectric resources for electric generation and direct heat applications.

BNF Technologies Inc. has provided assistance in the following areas:

1. Geothermal

- Compiled data on cost of systems competing with geothermal electric.
- Assisted in developing growth and cost projections for a technical paper in a Geothermal Resources Council publication, and for analyses of geothermal's role in the National Energy Strategy (NES).
- Assisted in drafting and developing a four-page, color brochure on geothermal energy.
- Assisted in drafting and reviewing information and data on geothermal energy that will be sent to the Energy Information Administration (EIA). This information was intended to update EIA's knowledge of the current state of geothermal energy and for future EIA publications.
- Assisted in drafting charts tracing the progress in geothermal energy technology over the past fiscal year.
- Assisted in preparing several briefing presentations consisting of technical and policy information, color slides, and hard copies. The presentations are entitled, Industrial Technology Development Organization of Japan (NEDO), and Internal Review Budget (IRB).
- Assisted in drafting *Geothermal Program Summary: Fiscal Year 1990* (Volumes I and II). The Program Summary Volumes I and II is a set of documents describing DOE's geothermal program for fiscal year 1990. The documents describe the program's focus, and the up-to-date accomplishments as a result of DOE sponsored R&D. The program summary is an annually published document which describes the direction and progress of DOE's geothermal energy R&D programs.
- Assisted in drafting geothermal program milestones for upcoming Fiscal Years 1992 and 1993.
- Updated several mailing lists consisting of members of the geothermal industry, national and university laboratory researchers, and local, state, and federal government employees connected with geothermal energy development.

- Assisted in preparing the Division's latest MYPP. The MYPP is the Geothermal Division's long-term guide for planning the direction and scope of each of DOE's geothermal R&D programs.

- Assisted in drafting the Geothermal Facts Handbook and the accompanying scoping paper. The handbook and scoping paper both listed facts and topics that guide the Geothermal Division's program managers in setting the direction and focus of their respective programs.

- The Geothermal Power Plants Database was updated to keep the Geothermal Division abreast of the latest trends and status in the geothermal electric power industry. The Geothermal Power Plants Database is periodically updated to permit the Division to remain abreast of the latest trends and status in the geothermal electric power industry. Used database to provide EIA with information regarding ownership of geothermal power plants in the United States.

- Assisted in responding to the requests of National Laboratories and EIA for data and cost analyses regarding various developments in geothermal energy technology.

- Prepared three working drafts of a four-page brochure on geothermal energy. The brochure was designed to promote geothermal energy as a supply and demand side management option for utilities. Prepared the text and provided graphics for the brochure's eventual layout and completion.

- Assisted in preparing several briefing presentations. The "House of Cards" briefing and the "Geothermal Briefing Package" were general purpose briefing packages designed to be used on various occasions by high-level DOE officials and Geothermal Division program managers. The "Geopressured Consortium Briefing" focused on the current state of the geopressured industry and its future direction.

Program Reviews:

- Produced and submitted summarizing matrices of Program Review IX, Industry Comments.
- Produced and submitted summary matrices of Program Review IX, Attendees' Evaluations.
- Produced PERT draft for Program Review X.
- Assisted in wrap-up activities for DOE's annual Geothermal Program Review. These wrap-up activities included updating mailing lists obtained at the conference and coordination of all technical papers presented for publication.
- Participated in Program Review of current and planned geothermal activities by DOE and DOE funded Laboratories.
- Prepared a summation of industry's critiques of DOE's geothermal program, spanning all Annual Program Reviews since 1988.
- Worked on technical coordination for Annual Program Review XI of the Geothermal R&D Program.

- Assisted in drafting the International R&D Report, which tracks development of geothermal technology around the world. This is an important document for the Division's technology transfer program, which is aimed at assisting the U.S. geothermal energy industry.
- Wrote and delivered draft report on the technical status of "Economic Assessments of Geothermal Electric Technology and U.S. Geothermal Resources." Provided review comments regarding a technical article submitted by Enrico Barbier to the International Energy Agency. Revised graphics for technical reports containing NES projections on geothermal energy.
- Assisted in preparing several briefing presentations. The "Implementation Review" is presented annually and outlines the Division's R&D program. Also prepared briefing for the Hot Dry Rock Advisory Committee. In addition, assisted in preparing presentation for the Saudi Annex.
- Assisted in analyzing and developing geothermal energy tax credit for the period of 1980 to 1990. Analyzed the macro components of all geothermal facilities to include: depletion, depreciation, energy tax credit, R&D, and drilling costs.
- Assisted in designing and developing briefings and presentations for Geothermal programs.
- Provided an advance notice to the DOE Pacific Site Office of the intent to prepare an Environmental Impact Statement for the Hawaii Geothermal Project: Resource Verification and Characterization and Construction and Operation of Geothermal Power Plants.
- Developed a series of questions on geothermal and renewable energy for the National School Science Bowl.
- Reviewed international geothermal information to develop background data for the potential design and development of an abbreviated international geothermal energy database.
- Assisted in drafting and preparing the *Geothermal Progress Monitor* (GPM) #13. The GPM is a document produced annually, which details latest technology and business developments in the U.S. and international geothermal industry.
- Assisted in preparing a briefing package on the environmental benefits of geothermal energy. Supporting handouts of specific interest were selected and copied for distribution.
- Assisted in drafting the FY 1992 Annual Operating Plan and the accompanying FY 1992 Management-by-Objectives Plan. These are annually produced documents that represent the DOE geothermal R&D plans to be undertaken and accomplished by the National Laboratories involved in the program.

- Assisted in preparing several briefing presentations. Completed the annual address to the Geothermal Resource Council (GRC) briefing package. It is presented annually and outlines the Geothermal Division's R&D program.

- In support of the Interagency Geothermal Coordinating Council (IGCC):

- Verified membership and particulars of the IGCC's Budget and Planning Work Group (BPWG);
- Prepared letters, sent faxes and assembled packages for the BPWG members' input to the IGCC Annual Report.
- Assisted in preparing letters requesting FY 1991 input from the Budget and Planning Working Group of the IGCC.
- Assisted preparation of the IGCC's Annual Report for Fiscal Year 1991, which is included as an appendix to the Secretary's Annual Report to Congress. The report was drafted from information received from the various agencies pertaining to their FY 1991 activities.
- Obtained concurrence from IGCC members and finalized the IGCC report to Congress.

- Participated at the annual Geothermal Resource Council meeting in Sparks, Nevada. Provided support to the DOE presentation booth, supporting DOE and National Laboratories in discussing Geothermal activities with the conference participants. Produced trip report including set of recommendations for further support of DOE Geothermal Division.

- Reviewed Draft Analytical report by DOE-PPA, *Oil Conservation Potential in the U.S. Economy, 2000 to 2010*.

- Assisted in preparing letters of appreciation for Source Evaluation Board members and their supervisors. The Source Evaluation Board worked for more than a year to select a contractor to conduct field tests and studies of geopressured-geothermal reservoirs.

- Assisted in formulating and developing a briefing package designed to provide the Assistant Secretary for Conservation and Renewable energy with an overview of the geothermal technology development and industrialization program.

- Researched geothermal development in New Zealand and provided articles and bulletized notes to pass on to Secretary Watkins as background information for his New Zealand visit.

- Prepared and delivered a technical presentation, co-authored with Dr. Allan Jelacic, on "Geothermal Projections for the National Energy Strategy," at the Geothermal Resources Council Annual Meeting, on October 9. Dr. Entingh delivered the briefing, and emphasized DOE's need for more detailed information from industry regarding geothermal system performance and costs.

- Assisted in responding to requests from California Energy Company to provide geothermal information to the Warm Springs Indian Reservation in Oregon. California Energy Company believes there may be significant geothermal resources underlying the reservation and are interested in exploration there.
- Assisted in developing a general geothermal briefing for presentation to the meeting of the Council of Energy Resource Tribes in Portland, Oregon.
- Developed a "Geothermal Energy Spectrum" graphic chart, showing how different geothermal resource types and end-uses/conversion systems map across a large range of temperatures. This chart lets audiences quickly understand how different targets of the research program relate to each other.
- Developed technical inputs for updating the Research Objectives of the Geothermal Program. There were two initial deliverables. The first was an analysis of the programmatic and National Energy Strategy related requirements for the way in which the objectives are stated and quantified. The second was a list of industry and government technical achievements since early 1986; these were analyzed to update the technology baseline performance and cost estimates.
- Assisted in preparing a major briefing on the furtherance of the Geothermal R&D program to the Assistant Secretary for Conservation and Renewable Energy.
- Completed the User's Manual for the IMGEO Cost of Geothermal Electricity program. This manual will guide the Geothermal Division's R&D Program managers as they use the IMGEO model to develop estimates of the technical and economic impacts of their projects.
- Assisted in preparing a briefing package that was presented to DOE support offices to inform them about geothermal energy.
- Assisted in preparing the overview and panel briefing packages to be presented during the Geothermal Peer Review conducted by DOE's Office of Energy Research.
- Prepared presentation materials for the Geothermal Division's Annual Peer review in Salt Lake City, covering Reservoir Engineering, Geochemistry and Geophysics.
- Developed information and background for DOE International Energy Agreement database concerning the U.S. DOE bilateral agreements on Geothermal Energy with Mexico, Italy and Saudi Arabia.
- Reviewed the Archeological Resources Protection Act of 1979 and the corresponding regulations. Provided diagram detailing the levels of authority concerning the Act. Provided an overview covering the Act and pertinent regulations.

- Assisted in preparing the Division's input to the Secretary's Annual Report to Congress. Summarized the division's major research accomplishments, identified photos for inclusion in the report, and generated suitable charts.
- Assisted in responding to more than 60 requests for documents that were received at the DOE exhibit booth at the GRC Annual 1991 Meeting.
- Assisted in preparing the FY 1992 Spend Plan. The task included assisting in the preparation of a summary and numerous charts detailing the various components of the geothermal R&D program.
- Prepared a submission for award consideration (Dr. Eugene Premuzic's work in geothermal brines) as Geothermal Division's application to *Renew America* as an "Environmental Success Story."
- Prepared a proposal on a study of styles which different countries use in marketing geothermal equipment and services.
- Developed a technical fact sheet for current and projected domestic and international aspects of geothermal generated power.
- Energy Fact Sheet: Prepared *Geothermal Energy Fact Sheet — International Status*, listing status, funding and trends.
- Assisted with the completion of *Significant Accomplishments of Geothermal Energy Systems*, which included technical accomplishments, accomplishments of industrial and institutional business, a list of the industry participants, and the Geothermal Energy Fact Sheets.
- Assisted in updating the DOE Visuals Library. The geothermal visuals library was searched for appropriate slides and/or photos that could represent current geothermal technology and the Geothermal Energy R&D Program. Selections were presented to the Geothermal Division for consideration.
- Dorfman Award: Researched Dr. Myron Dorfman's career in geopressured-geothermal R&D and wrote up letter of commendation and designed a DOE plaque to honor his contributions.
- Industry Critiques: Summarized industry's critiques of Geothermal Annual Review meetings, researched DOE's programs for rebuttals to critiques and submitted completed matrices for Geothermal Division's review.
- Assisted in the preparation of graphics and background materials to support Congressional Staff Briefings.
- 40-Minute Presentation to Dr. Allan Hoffman: Prepared a slide package (including mock-ups of slides) for a presentation describing the history, R&D program and the economics of geothermal energy.

GEOHERMAL SYSTEM COMPONENTS

GEOSCIENCE

Exploration

Reservoir Engineering

Sensors

PRODUCTION

Environmental Management

Conversion

Well Drilling & Completion

Production Wells

Injection Wells

100° C - 400° C

25° C - 50° C

200 M - 4,000 M

Slide that BNF produced for the Geothermal program.

- Provided support to renew the agreement between DOE and King Abdulaziz City for Science and Technology of the Kingdom of Saudi Arabia for cooperation in the field of Renewable Energy. Existing Annex I & II involve solar energy projects, the new Annex III is for Geothermal support. The agreement was signed by authorizing agents, DOE working with Bureau of Land Management to develop Annex III. This agreement is designed to provide DOE and U.S. Geological Survey (USGS) support in analyzing the geothermal potential for Saudi Arabia:

- Amended the joint Saudi Arabian/U.S. Agreement on Cooperation in the Field of Renewable Energy R&D.
- Attended Saudi/U.S. working group meetings and prepared and submitted detailed meeting minutes.
- Maintained liaison with Dr. Alawaji in Saudi Arabia by telephone and produced periodic progress updates, Action Memoranda, and memoranda of understanding (MOU) revisions for Geothermal Division senior management.
- Maintained liaison with Dr. Alawaji in Saudi Arabia and produced periodic status report.
- Participated at discussions meeting with DOE, Saudi Arabian experts, JECOR, and Dept. of Treasury on Agreement renewal.
- Generated a chronology of events in the history of Saudi Arabian/U.S. negotiations in arranging for renewable energy R&D collaboration.

- Annual Progress Report:

- Prepared draft of the Hydrothermal Section of the Annual Progress Report for FY91.
- Prepared draft of the Hot Dry Rock Section Annual Progress Report for FY91.
- Prepared draft of the Geopressured- Geothermal section of the Annual Progress Report for FY91.
- Wrote, edited and produced a 125-page annual progress report of the Geothermal Energy Research and Development Program for FY91, using input from the National Laboratories.

- Geothermal Peer Review:

- Summarized the findings of the Peer Review for Dave Lombard for eventual debriefing by Mike Davis.
- Organized reviewers' detailed comments into Criticisms and Recommendations in 28 pages of itemized matrices.
- Assisted in the preparation of letters to the principal investigators who made presentations during the recent Peer Review. The letters transmitted the ratings assigned by the Peer Review Panel.

- Geothermal Archives: Analyzed the contents of 18 file folders from 1980 to the present, and submitted a list of action for Geothermal Division's review.

- Geothermal Briefing Paper: Revised three Congressional Briefing papers summarizing issues, background and sensitive areas for the Geopressured-Geothermal Research Program.
- Completed and revised drafts of the section of the Annual Progress Report on geopressured-geothermal program research:
 - Supplemented the information in the report from other documents, mostly from an in-house collection.
 - Prepared an initial draft of the report on advanced biochemical processes for removal of toxic materials from geothermal brines. The draft included sketches for illustrations.
- Assisted in preparing the FY 1993 Geothermal Spend Plan. The task included the preparation of numerous charts detailing the various components of the geothermal R&D program and an overview briefing.
- Submitted a proposal for a geothermal video on the topic of scientific curiosities and puzzles solved in the development of geothermal power in the United States:
 - First section of script of video on Geothermal Program focused on early development work in Italy; second section consisted of materials for later geothermal development work in New Zealand and the United States.
 - Produced biographical information on life of U.S. geothermal pioneer, Ben McCabe, for use in the video on geothermal's history.
 - Prepared Prospectus for the proposed geothermal video as a marketing device to be sent out to prospective funders and distributors.
- Participated in design of World Geothermal marketing study, analyzing the levels of potential participation in the growth of the development by U.S. firms:
 - Developed a proposal to Geothermal Division for a comprehensive, in-depth analysis of the international geothermal market, U.S. geothermal developers with international foci and, most importantly, foreign geothermal developers competing with U.S. firms.
 - Developed and submitted Research Plan to Assess International Marketing Styles in Geothermal Energy Development.
 - Produced statement of work to acquire and analyze data on Congressional efforts to make the United States internationally competitive in "tied aid."
 - Outlined the approach to investigate international marketing styles. The task included generation of letters to U.S. and foreign practitioners.
 - Obtained information and interviewed director on programs supported by the New Energy and Industrial Technology Development Organization of Japan (NEDO)
 - Worked in conjunction with two industry representatives to reflect real export information needs of the U.S. geothermal industry.

- Reviewed New York Energy Research and Development Administration's (ERDA's) policy paper on expanded State programs with utilities, and developed three background papers.
- Provided an analysis: *The Impact of Taxation on the Development of Geothermal Resources*. This study was designed to review the potential impact of changes in the current tax credits available to developers of geothermal electric power. Produced a White Paper, including a financial sensitivity analysis, on tax regulations and the economics of geothermal power in the United States. Reviewed the tax situation for geothermal facilities:
 - Reviewed the financial incentive aspects of tax credits for geothermal facilities including: depletion, depreciation, energy tax credit, R&D, and intangible drilling cost.
 - Included the potential impact of the Alternative Minimum Tax on operations compared to energy tax credit, depletion, etc.
- Revised the Geothermal text *Equipment and Services for Worldwide Applications*, which was last issued in August, 1987. This digest was distributed at the GRC conference scheduled for early October, 1992:
 - Research focused on equipment and technologies introduced since 1987. Scanned Annual Progress Reports for innovations in geothermal technology since 1987.
 - Produced Statement of Work for a five-year update of the *Equipment and Services Digest*.
Obtained a series of photographs to illustrate the document.
- Produced a summary of new reporting requirements for the Geothermal Division in the proposed new energy bills before the House and Senate floors.
- Developed an encyclopedic compilation of geothermal laws, regulations, economics, international and national development initiatives, and other such matters. Reference volumes on government organization, laws affecting geothermal energy, and regulations affecting geothermal were revised and put into final draft form.
- Assisted in preparing briefing materials for a presentation to DOE's Office of Energy Research. The task included identifying past and current activities jointly conducted by Geothermal Division and the Office of Energy Research (ER).
- Prepared descriptive captions for selected geothermal photos that will be used to update the DOE Visuals Library.
- Assisted in defining the requirements for a drilling database. A database hierarchy was developed and data categories were defined.
- Assisted in the preparation of a detailed outline for the FY 1993 *Annual Operating Plan*. The document included information on the research objectives and benefits to be derived from the research efforts, descriptions of each task and overviews of the individual

projects, work statements, FY 1992 accomplishments and FY 1993 milestones, project funding, and outyear plans.

- Provided support in developing background material for internal review budget process. The 1993 IRB was updated for 1994. Write-ups for 1994 and revisions to the text were incorporated.

- Designed and produced a display of Geothermal highlights for the Geothermal Research Division corridor of the Forrestal Building:

- Phase I of the Geothermal hall display — two 30- by 42-inch posters highlighting the development of geothermal technology — was mounted it on the wall outside the Geothermal offices on the fifth floor of the Washington, D.C., DOE building. Dr. Ted Mock sent a letter of commendation, praising the quality of the exhibit. The posters charted geothermal progress in the use of ground heat pumps, time sequences between discovery and development of the resource, and other aspects of developing technology — such as the use of binary plants.
- The second phase of the hall display presentation was installed. This consisted of a 30- by 7½-ft banner at the entrance hallway of the Geothermal Department announcing a geothermal theme of "...power for the future", and included two displays charting the progress of geothermal energy over the past 25 years.

- Risks In Developing Geothermal Energy as perceived by the Financial Community: Produced first draft based on contacts with the financial community.

- Developed management flow chart of inputs into creating a utility strategy for the Geothermal Division.

- Worked with the Washington Post to get permission to use particular cartoon as a logo or comic-relief graphics on DOE Geothermal Division geothermal publications.

- Produced text, figures and graphics for a Congressional Hearing on Direct Use Geothermal Applications and Environmental Impact.

- Wrote a white paper providing an overview of geothermal energy with an attachment containing current activities by DOE and industry.

- Reviewed and commented on NREL's revisions to the geothermal sections and chapter of IEA's publication, "Renewable Sources of Energy."

- Assisted in the design and development of a PC-Compatible Geothermal Mailing Database system for the storage, retrieval, and processing of the Geothermal Division mailing list:

- Provided possible options for a Geothermal Division user-friendly system for tracking documents and other information.

- Created programmable and sortable geothermal mailing list of about 2,500 names and addresses, transferred from WordPerfect to dBase, and coded by different audience types.
- The final summary of the peer review was completed for presentation to Dr. Robert San Martin. According to Dr. Dave Lombard, who called to convey his appreciation for the work done, the presentation went very well.
- For Geothermal Division's Drilling R&D initiative:
 - Compiled a list of geothermal, oil and gas, groundwater, mining, and excavation and tunneling companies who may be interested in participating or receiving information about the project.
 - Developed the database structure for tracking U.S. drilling companies for eventual Geothermal Division use in developing joint ventures with private industry.
- Produced five-page narrative proactive strategy DOE Geothermal Division could follow to foster the greater use of geothermal energy by the utilities. The strategy included demand side and supply side options.
- Provided *Background on the California Energy Company* to Dr. Mock. The background piece included a biographical sketch of Richard R. Jaros and an overview of the company.
- Designed a financial review and evaluation of perception of new Geothermal project development by energy investment analysts.
- Investigated the potential for GHP market penetration in the year 2010. Reviewed *Geothermal Heat Pumps Marketing Plan* for Lew Pratsch.
- Assisted in response to a request for information on the Office of Conservation and Renewable Energy IRP-related projects by describing IMGEO and its potential use in evaluation of the role of geothermal energy in meeting future electric generation needs.
- The House and Senate NES bills were reviewed to draft summary sections that may directly affect or be of interest to the division.
- Produced two versions of the all Division Annual Operating Plan: one version based on FY91 Work Breakdown Structure (WBS); another based on projected new FY92 WBS.
- Produced draft of fill-in-the-blanks reporting format for use by Principal Investigators and Geothermal Division contractors working on geothermal R&D.
- Compiled and produced background on Energy Policy Act of 1992 provisions that potentially affect Geothermal programs and initiatives.

- Prepared an annotated outline for the "MIT" geothermal hydrothermal economics study, and transmitted that to the Massachusetts Institute of Technology (MIT) and DOE. Also, packaged and transmitted to MIT extensive documentation on the IMGEO cost of power model.
- Worked on development of utility strategy for geothermal development with utility associations (EEI) and evolved proposed concept of industry round table with DOE to create white paper for U.S. market development.
- Continued to assist the National Geothermal Association in formation of proposal to develop international export opportunities for U.S. industry through study of private power developments in target developing countries.
- Prepared Geothermal Budget History for Ms. Gladys Hooper. These summary tables covered the President's Budget Request and the Actual Appropriations. The years that were covered in these tables were from 1980-1993.
- Performed a comparative analysis of the performance and cost of the Kalina Cycle and Organic Rankine Cycle geothermal power systems for moderate temperature reservoirs. Developed simple computerized working models of both and incorporated them into the larger IMGEO Geothermal cost of power model, version 4.0B. Drafted a technical report of the analysis and delivered that for Dr. Mock to review on 2/19/93.
- Developed the program and agenda for the UNESCO Geothermal Summit, including approach for reviewing the past decade and prospects for the next ten years around the world. Participated in the Preparation Meeting for the Geothermal Summit and tasked to provide financial information on U.S. operations and coordinate the presentation schedule for the meeting.
- Developed the design for the Geothermal risk analysis workshop, analyzing the potential risks of participating in Geothermal projects in the United States during the next five years.
- Reviewed EIA National Energy Modeling System (NEMS) component Design Report (CDR) for Geothermal Electricity Submodule for the Geothermal Division.
- Provided data and background on estimates of labor costs for geothermal electric power plants to Mr. Tony Taylor of Bob Lawrence and Associates, Alexandria, Virginia, at request of Dr. John Mock, Geothermal Division.
- Produced a full-color mock-up of the Geothermal Poster showing a cutaway through the Earth's crust and several uses of geothermal energy.

GEOHERMAL SYSTEM COMPONENTS

This graphic, a slide that BNF prepared for the Geothermal Division, was used several times in briefings. Later, BNF made a color poster from this figure.

- Developed financial information and data for the cost of developing geothermal facilities in the United States from 1973-1992 for the UNESCO background paper.
- Developed Poster idea using Herman cartoon and series of observations of geothermal energy's advantages. Obtained permission from distribution syndicate to use Herman cartoon. Multiple versions of the Herman Poster were delivered to the Geothermal Division for review and selection.
- Prepared *Technology Evaluation Rationale for Geothermal Hydrothermal Flashed-Steam and Binary Electric Systems*.
- Prepared *Technology Characterization of Geothermal Flashed Steam Electricity Systems*.
- Prepared *Technology Characterization of Geothermal Binary Electricity Systems*.
- Prepared *Technology Characterization of Geothermal Heat Pumps* (Revision of draft Prepared by Geothermal Division staff)
- Developed *Geothermal Fact Sheet: Labor Impacts of Geothermal Electric Project*, 5/24. Also, drafted *Report: Employment Impacts of Geothermal Electric Projects*.
- Reviewed NREL/EPRI/PG&E 12/92 Conference presentations on "Distributed Utility" with respect to possible roles and impacts on geothermal energy systems. Provided brief report *Niches for Geothermal Energy in the Distributed Utility of the Future*, 6/29/93.
- Completed and printed the Annual Progress Report for FY 1992
- Reviewed ORNL draft EIS for *Hawaii Geothermal Project*. Provided written review comments to Allan Jelacic on *Comments on Geothermal Facilities-Hawaii Geothermal EIS Preliminary Draft Report*.
- Completed three working papers on the programmatic objectives of the Geothermal R&D program.

2. Ocean

- Conducted review and search of document titles to be catalogued into the Ocean Energy Resource Center for storage.
- Prepared the 1991 *Ocean Energy Fact Sheet — Domestic Status*.
- Prepared, conducted surveys and updated the 1991 *Ocean Energy Fact Sheet — International Status*.
- Delivered the Compilation of Research Program Characterizations to the DOE Ocean Energy Program Officer.
- Compiled and prepared the Ocean Energy Technology Program Research Accomplishments for Fiscal Years 1990 and 1991.
- Monitored the Net Power Producing Experiment (NPPE) weekly activities and prepared reports to be included in the Ocean Energy Resource Center. Monitored weekly activities from the National Renewable Energy Laboratory (NREL) as they administered the vacuum spin tests of the turbine for the NPPE being conducted at MTI in Latham, NY. The tests were witnessed by PICHTR staff J. Arcate, and by NREL staff D. Bharathan. This turbine was fabricated for the NPPE with State of Hawaii funds.
- Assisted with Ocean Energy Technology Program (OETC) Phase-Down Activities and consolidated the OETC Program designs, plans, data, and documentation to assist the OETC Program in bringing its open-cycle OETC development activities into final form, and in transferring responsibility for further development of the technology to other DOE designated organizations.
- Reviewed new reports on the Test Plan for Braze Aluminum Surface Condenser prepared by Argonne National Laboratory (ANL) for inclusion in the Index for Ocean Energy Resource Center.
- Responded to inquiries for information by National Laboratories, public interest groups, and resource planners.
- Responded to request to research the Ocean Energy Resource Center's Index for information on ocean energy cold water piping for experimental units in developing farming methodologies.
- Produced data based on research from the Ocean Energy Resource Center's Index for information on ocean energy deep water pumping for experimental units in developing pumping criteria for other applications in industry.
- Monitored progress of the Thermodynamic Research and Analysis used to develop and validate the OTEC system performance and cost models for land-based plants using a baseline heat-exchanger design.

- Monitored development of Materials and Structural Research. The objectives of the research were to determine biofouling and rates of corrosion for various materials in marine environments and the effects of heat-exchanger manufacturing processes on seawater corrosion.
- Conducted search for environmental assessments and environmental reports in support of SERI research activities.
- Reviewed 452 titles now contained in the NREL library and compared them to existing titles in the Ocean Energy Resource Center for the purpose of identifying duplicates.
- Provided analytical and technical assistance to the Ocean Energy Technology Program in the development of briefings for DOE presentations.
- Provided on-going analytical and technical assistance to the Ocean Energy Technology Program.

Illustration that BNF produced of an ocean thermal energy conversion system.

3. Hydropower

- Provided analytical and technical assistance to the Hydropower Program in the development of a Multi-Year Program Plan (MYPP). Assisted in preparing graphics materials detailing the FY 1991 budget for DOE's Hydropower Program.
- Conducted research, gathered data, updated and prepared the 1991 *Hydropower Fact Sheet — Domestic Status*.
- Conducted research, gathered data, conducted surveys, updated and prepared the 1991 *Hydropower Fact Sheet — International Status*.
- Conducted research and analysis on regulatory and institutional issues, resource assessments, environmental analysis, engineering improvements, dam safety, and incentives necessary to facilitate the development of hydropower's full potential.
- Researched data on hydropower facilities and operations to support inclusion in the Internal Review Budget for DOE energy programs.
- Prepared background information on environmental mitigation studies and Environmental Impact Statements (EISs) for program review and assessment.
- Assisted in responding to requests from various National Laboratories and research organizations for data and cost analyses regarding development of hydropower and environmental impacts associated with expanding hydropower development.
- Prepared a document, "Hydropower Program", for the Hydropower Division that included: background information on hydropower; goals and strategies; program overview for 1992; resource assessments; environmental elements and funding requirements.
- Researched data for information on the number of hydropower facilities that will be relicensed in the next 10 years and provided the data to DOE for inclusion in monthly reports on hydropower. Reported on the number of hydropower facilities operating in this country that were due for inspection and relicensing in the next three years.
- Prepared FY 1992 Program Reviews, including updates on all budget items, descriptions of the programs, and the latest Congressional language supporting the programs.
- Researched data and prepared draft Multi-Year Program Plan in preparation for annual report. Documents researched included all new production activities, international and domestic development of hydropower and all applicable laws and regulations pertaining to relicensing in existing plants through the year 2000.

- Assisted in the preparation of graphics for FY 1993 Congressional Staff Budget Briefing outlining Hydropower Program goals, strategy, and major accomplishments for 1991.

- Researched data for information on the number of hydropower facilities that will be affected by new rules on fish passage as a result of the Endangered Species Act. Provided an assessment as to the effects of altering water flow for fish passage. Monitored activities in hydropower systems development to comply with environmental programs and to improve fish passage in the dams that were due for relicensing in 1993.

- Researched data regarding the number of customers that will be affected by the increase in power costs from the Columbia and Snake rivers as a result of the Endangered Species Act requirements for less water run-off in winter months.

- Provided analytical and technical assistance to the Hydropower Program in the development of briefings for DOE presentations.

- Researched data regarding the number of hydroplants that are under the water shedding programs in the Northwest.

- Researched data for information on the number of hydropower facilities that are being retrofit for new fish passages.

Deputy Assistant Secretary

IV. DEPUTY ASSISTANT SECRETARY

The Office of the Deputy Assistant Secretary for Utility Technologies (DAS/UT) and his supporting staff are responsible for the oversight and management of the utility technology programs within DOE Office of Energy Efficiency and Renewable Energy (previously Conservation and Renewable Energy). This includes oversight responsibility for programs under the Program offices listed above.

BNF Technologies Inc. has provided assistance in the following areas:

- Prepared critique of *Ecowatts: The Clean Switch*.
- Developed timelines on alternative technology development and commercialization reflecting differences in program budget levels and emphases.
- Provided graphics production support for presentations on program development and evolution under alternative budget and priority scenarios.
- Assisted in review of program for the June 1991 Keystone Integrated Resource Planning conference and submitted recommendation relating to issues and conference output.
- Developed characterizations of utility capacity and load projections on a regional basis. Developed information on U.S. utilities and their generation and transmission requirements.
- Assisted in preparation of summary report of May 21, 1991, Independent Power Producer's Conference.
- Reviewed and commented on the International Energy Agency's (IEA's) final draft chapters of *Assessment of Energy Technology Priority Areas*.
- Prepared background material on probable key stakeholders' positions on the issues of transmission access, market-based rates, integrated resource planning (IRP), the Federal Energy Regulatory Commission's (FERC's) review process for mergers, and implementation of the Clean Air Act Amendments that were likely to be addressed at FERC hearings on electricity issues on June 18, 1991. Attended the June 18 hearings and prepared a summary of the positions taken by different parties on the issues.
- Prepared edits to the NES chapter on renewable energy options and submitted in final form on June 13.
- Reviewed and commented on a technical compendium of total fuel cycle analysis methodologies and models.

- Briefed RTI personnel on issues related to electric power in the Northwest. Prepared a back-up book of pertinent information and articles.
- Analyzed and submitted comments on the Environmental Protection Agency's proposed rules on Auctions, Direct Sales and Independent Power Procedure's Written Guarantees of SO₂ Allowances under Title IV of the Clean Air Act Amendments (Acid Rain Reduction).
- Prepared presentation for Boston DSM conference on DOE role in encouraging DSM.
- Drafted storyboards on four technologies using client-supplied materials for Davis "Decade of Progress" briefing.
- Researched information and compiled estimates on technology-by-technology use of Federal tax credits by renewable energy during the 1980s.
- Analyzed, reviewed and submitted comments on the draft report on energy efficiency by the U.S. Energy Association.
- Provided CE-1 with viewgraph on cost of electricity generated from wind.
- Prepared summaries of the Environmental Protection Agency's (EPA's) Acid Rain Advisory Committee proposed rules.
- Prepared an informational book on issues relating to proposed revisions to the Public Utility Holding Company Act (PUHCA).
- Researched, gathered and transmitted information on tax depreciation rules for conventional and renewable energy technologies.
- Prepared and delivered presentation and support materials for ISES meeting August 19-20, 1991.
- Provided background material on the impact of electric utility fuel expenses on federal income tax payments.
- Assisted in the preparation of draft and final presentation, including storyboards, viewgraphs, and an abstract on regional IRP for Dr. San Martin for the October 1 NARUC conference.
- Reviewed and summarized the report "Competing for Power" prepared by the National Independent Energy Producers.
- Compiled information including storyboards and slides for a presentation to Merck Pharmaceutical in Atlanta on September 24, 1991.

- Prepared background information on regional planning for electric utility holding companies and details on the regulatory and court proceedings related to the history surrounding Energy's Grand Gulf One nuclear plant.
- Compiled a summary of Federal budget information on renewable energy programs and drafted a letter submitting same to Ronald Pearson, MGE International.
- Installed cc:Mail system at BNF as test bed for task tracking system. Continued preparation of tutorial on use of system and system description.
- Reviewed National Environmental Policy Act (NEPA), implementing Council of Environmental Quality regulations, DOE orders, regulations, and Secretarial Notices regarding NEPA.
- Assisted in developing information for presentation to The New York Academy of Sciences on 10/7/91, entitled "Office of Utility Technologies — Conservation & Renewable Energy: The New Energy Paradigm." This presentation included 56 slides, a presentation book of the storyboards, and copies of the slides.
- Assisted in developing information and procured briefing materials for presentation given by Dr. Hoffman in Sweden on 10/25/91, entitled "The Role of Renewable Energy in the U.S. National Energy Strategy." Presentation was in two versions: The first was the general version with color copies of the slides to be delivered to the conference. The second was a shorter version (25 minutes) for the actual speech. The presentation included 43 slides, a presentation book for each version that had all the storyboards, and black/white copies of the slides used.
- Reviewed Clean Water Act (CWA), implementing CFR regulations, DOE orders, and Secretarial Notices which implement the CWA.
- Reviewed the "Endangered Species Act of 1973" and the updated listing of threatened and endangered species. Wrote overview on the Act and the matching listing of endangered species. Composed diagram showing levels of authority concerning the Endangered Species Act.
- Reviewed IEA Report on Electricity Prospects in IEA countries in general, with emphasis on Europe. Provided detailed information on the comparative costs of electricity from renewable energy technologies in the United States.
- Prepared a summary of the Senate Banking Subcommittee meeting on Securities round table hearing on legislation to amend PUHCA.
- Assisted in preparing graphics and storyboards for a presentation on the environment for utility decision making and the DOE IRP program that was presented to the Office of Financial and Technical Assistance regional directors.

U.S. ELECTRICITY PRIMARY ENERGY FLOW IN 1990 (QUADS)

(INCLUDES ELECTRICITY LOSSES)

Slide that BNF prepared for the Office of the Deputy Assistant Secretary.

- Reviewed and commented on the Southeastern Power Administration's management plan for energy efficiency and renewable resources.
- Reviewed and commented on the report "Implications of the Clean Air Act Amendments of 1990 for Energy-Efficiency and Renewable Energy Technologies and Programs" prepared by PNL and NREL.
- Prepared a summary and meeting notes for the conference "Collaborative Jurisdiction in the Regulation of Electric Utilities: A New Look at Jurisdictional Boundaries."
- Provided support to presentation by San Martin (A. Hoffman) at the Southwest Border States Solar Conference in El Paso, TX, Nov. 15, 1991. Developed charts and analysis of joint U.S. and Mexico energy trade in renewable energy, including developments of geothermal plants in Mexico for the U.S. market.
- Provided support for Environmental Safety and Health (ES&H) training requirements for CE technical and management staff:
 - Reviewed technical support and training requirements for ES&H) for CE.
 - Assisted in design of training program for CE Senior Staff and Program Managers to presented in January 1992.
 - Developed a preliminary matrix evaluating the level of impact on CE technologies of specific environmental laws and regulations.
 - Selected technology-appropriate examples of environmental problems for potential case studies for the training program.
 - Reviewed existing EH&S training programs at DOE and other support groups.
- Reviewed testimony of Thomas J. Grahame, USDOE, on externality evaluations from a system perspective presented before the Commonwealth of Massachusetts, Department of Public Utilities (Case DPU 91-131).
- Drafted chapters 1 and 2 of the 12th Secretary's Annual Report to Congress, which were on renewable energy technologies, demand side management, and integrated resource planning.
- Reviewed the Executive Summary of *America's Energy Choices*, an alternative to the National Energy Strategy which focuses on conservation and renewable energy technologies.
- Prepared a summary of a meeting of the House Energy and Power Subcommittee, discussing mark-up of the final provisions of the comprehensive energy bill (H.R. 776).
- Prepared a summary of projected natural gas usage to 2010 from information in the natural energy strategy annexes and Energy Information Administration (EIA) projections of end-use.

- Provided a review of the financial and other incentives for renewable energy technology in the industrial countries, with specific detail for Japan, Germany, and Italy.
- Prepared draft and final primary energy flow charts of energy consumption in the United States in 1990, including electric and gas utility energy, transportation energy usage, and building and industrial energy usage. The charts illustrate total primary energy flow in the United States; detailed primary energy flow in the electric utility sector, divided into IOUs, cooperatives, other public utilities, and the federal sector; and detailed primary energy flows in the natural gas utility sector divided into LDCs and gas pipelines.
- Prepared a graphic of weekly electricity output comparing 1990 to 1991 and the percentage increase or decrease between 1990 to 1991.
- Reviewed, edited and commented on draft of speech for Dr. Robert San Martin on the Federal perspective of the future of Integrated Resource Planning, to be given at the opening session of the Conference on Future Directions for Integrated Resource Planning, in San Francisco.
- Reviewed and prepared a proposed response on *A Proposal to Develop Ground Water and Hydroelectric Power at High Elevations on the Islands of Maui and Hawaii on the State of Hawaii*, submitted by a private citizen.
- For CE-1, designed and produced a multiple graphic chart showing costs of electricity for geothermal, wind, photovoltaics, biomass, and solar thermal, using data from the Decade of Progress briefing.
- Prepared a presentation to be made by Dr. Lloyd F. Lewis at the HGP-EIS Public Scoping Meeting in Hawaii. Also prepared a working draft of the moderator's opening statement.
- Assisted in preparing a summary of regulatory issues (e.g., transmission access and pricing, competitive bidding, and nonutility generation) for background material in preparation of DOE testimony at a Texas PUC hearing.
- Prepared graphics and briefing materials on the status of energy research and development for the utility sector for presentation at the National Association of State Energy Officials Winter Annual Meeting in Washington, DC, on February 5.
- Reviewed and commented on draft of the Los Alamos National Laboratory report titled *Cost-Effectiveness of Conservation and Renewable Energy Technology as CAAA-90 Compliance Options: Methodology and Case Studies*.
- Reviewed and commented on the draft report titled *Public Participation In Siting — A Broader View*, By Elizabeth Peelle and John H. Reed of Oak Ridge National Laboratory.

- Reviewed and commented on the integrated resource planning program's multiyear program plan, strategic plan, and the IRP technical annex to the National Energy Strategy. Prepared background material and provided graphics and production assistance for the IRP program spend plan presentation.
- Reviewed and summarized Hawaii Public Utility Commission decision in Docket No. 6617 dealing with Integrated Resource Planning issues.
- Updated and submitted estimates of program impacts of S. 2166, H.R. 776 and H.R. 4559.
- Developed estimates of the cumulative impacts on OUT programs of S. 2166, H.R. 776 and H.R. 4559.
- Prepared a side-by-side presentation of S. 2166 and H.R. 776, proposed National Energy Strategy legislation.
- Drafted presentation for Allan Hoffman to EPRI Committee on Storage and Renewable Technology on S. 2166, H.R. 776 and H.R. 4559.
- Prepared an assessment of the potential implications of H.R. 776 and S. 2166 for existing laws impacting the electric and gas utility industry.
- Worked on speech for Mike Davis entitled "The Greening of Utilities, Why Being Pro-Environmental is Good Business."
- Prepared an evaluation of American Public Power Association's recommendations for awards under their demand side management program awards.
- Prepared a presentation on moving new technologies into the marketplace for presentation to the Electric Power Research Institute on April 28, 1992.
- Assisted in the preparation of Gantt Charts for the fiscal year 1993 Integrated Resource Planning Program Spend Plan presentation.
- Prepared information related to asset utilization and system efficiencies in the generation, transmission, and distribution systems within the electric utility industry.
- Collected information on DSM program energy savings in the electric utility industry and the percentage of utilities with DSM programs in effect.
- Assisted in the preparation of a presentation on the greening of utilities titled, "Why Being Pro-Environmental Makes Good Business Sense," for the Pacific Coast Electric Association conference on May 13, 1992.

- Reviewed and commented on draft EIA report *Renewable Fuels in United States' Electricity Supply*.
- Reviewed input materials, developed requests for additional material, developed proposed presentation materials, drafted summaries and overviews, and performed other work involved with the fiscal year 1994 Internal Review Budget presentation.
- Developed background materials on hydrogen as an energy source and summarized and converted into "talking points" the proposed Department of Energy Hydrogen program plan.
- Prepared and sent memo to Allan Hoffman highlighting various amendments to H.R. 776 offered by the following House Committees: Public Works and Transportation, Government Operations, Merchant Marines and Fisheries, and Ways and Means.
- Prepared summaries of potential impacts of H.R. 776 and S. 2166, e.g., reports/assessments, R&D/joint ventures/funding mechanisms, inventory/forecasts, and other activities.
- Prepared an abstract for the 27th Intersociety Energy Conversion Engineering Conference (IECEC), entitled *An Industry in Transition, Maximizing Today's Potential, Expanding Options for Tomorrow*, to be held in San Diego, California, August 3-7, 1992.
- Developed information to be used by EIA in its draft report, *"Renewable Fuels in United States' Electricity Supply,"* including results of research on commercialization status of utility-scale photovoltaic and wind systems.
- Compiled statistical information on the current status and level of nonutility generation (NUG) in the United States, using UDI database files. Developed various graphs and tables depicting this information for use in preparation of a speech for Linda Stuntz, on the history and legislative/regulatory treatment of independent power.
- As requested by Joe Galdo, provided background assistance to OMT request for overview and recommendation for actions on Russian energy development. Input focus was on opportunity for IRP programs for improved operations and maintenance of current Russian utility systems for energy efficiency.
- Prepared background material and a presentation, including graphics and storyboards, on the National Energy Strategy and the status of NES legislation, for presentation to the Pennsylvania Rural Electric Association.
- Prepared a graphic on DOE program offices and utility functions in the generation, transmission, distribution, and end-use areas of R&D, operations, regulation, and policy.

Drawing that BNF produced of the power system of the future.

- Developed a series of planning charts/graphics using Timeline software package to facilitate project management activities at OUT. Developed a master planning chart depicting all the recurring activities performed by OUT, and began creating detailed charts for each activity contained in the master chart.
- Reviewed and provided comments on *Missouri Statewide Energy Study* for Allan Hoffman.
- At OUT request, participated at an AID forum on electric power sector development in Eastern Europe. The electric power situation in Bulgaria, Czechoslovakia, Hungary and Poland were presented and discussed, including suggestions for expanded U.S. support during the energy transition for these countries.
- Provided an assessment of the current electric power situation in Russia for the potential participation of CE in a MOC agreement signed in June to assist in improving energy technology applications at the electric utilities in Russia.
- Prepared and submitted paper to Allan Hoffman on "NES II" ideas based on review and research of many different sources.
- For OUT developed summaries of state DSM policies for the entire United States, examining: 1) established programs (for cost recovery, lost revenue, and shareholder incentives mechanisms), 2) proposed programs, 3) states with no DSM programs.
- Assisted in developing a presentation for the EPRI Task Force on Renewables and Storage on moving new energy technologies into the marketplace.
- Assisted in the identification and assessment of mandates relating to DOE review of the net income neutrality applications as required under the Clean Air Act Amendments.
- Developed two notebooks titled "Generation of Electric Power Information Book 1992" and "Transmission and Distribution of Electric Power Information Book 1992." The notebooks included topics such as generation and transmission statistics, history and trends, issues facing the generation/transmission of electricity, and outlook and current events.
- Updated budgetary and FTE impacts of proposed EPA '92 on Office of Utility Technologies using Lotus spreadsheets based on revised information provided by OUT Offices.
- Obtained 64 scientific slides from the Union of Concerned Scientists, entitled "Energy and the Environment." These slides COVERED various areas, such as: costs of energy use, renewable energy, energy efficiency, and scenarios for the future.

- Prepared comments for OUT that responded to various environmental issues identified in UNCED Agenda 21.

- Reviewed and commented on NREL report: *Utility Technology Success Stories*.

- At OUT request, attended a briefing presenting a new study "Energy Efficiency and Job Creation: The Employment and Income Benefits from Investing in Energy Efficient Technologies" produced by the American Council for an Energy Efficient Economy (ACEEE). The briefing was presented on Oct. 5, 1992, at the Russell Senate Office building and included over 200 congressional staff and other participants. The study was reviewed and a report was submitted to OUT.

- Reviewed the Proposed Rule on Investment Offset Agreement (IOA). The proposed rule for acquisition regulations concerning the imposition of an Investment Offset Agreement was reviewed and summarized.

- Prepared document review report on current 1992 OECD/IEA study of cost of electric power to the year 2000 or shortly beyond. Reported on the study's discussion and conclusion about renewable energy technologies potential for baseload penetration, especially biomass and wind power generation.

- Prepared a notebook on the history of the utility industry.

- Prepared a document entitled "Technical Annex To The DOE Integrated Resource Planning Program."

- Provided support to OUT on integrated resource planning activities such as attending a FY 93 program review with the National Laboratories.

- Continued progress on design of a wall display of the renewable technologies under the Office of Utility Technologies.

- Reviewed and commented on CPUC rulings on externalities as they relate to OUT technologies.

- Participated at three-day International Electric Power generation conference. Reviewed the potential impact of changing energy fuel supplies and demand requirements for renewables and energy conservation in the electric power sector.

- Prepared background information and developed slides for a presentation on the Mexico/United States joint energy support programs, including solar and geothermal facilities.

- Provided onsite support to the Associate Deputy Assistant Secretary, Office of Utility Technologies. Work included organization and coordination of various office procedures, calendars, conferences, seminars, travel plans and vouchers.

- Developed material to assist in a presentation to OMB on the FY94 Integrated Resource Planning (IRP) program.

- Support and Participation at the DOE EIA National Energy Modeling System (NEMS):

- Participated at the NEMS two-day conference, presenting the NEMS system and approach. Reviewed the meeting and provided an assessment of the NEMS model on CE technology operations.
- Participated at the NEMS Electricity Working Group discussion of technology characterizations.
- Reviewed to provide support for the Electricity Module and Renewable Energy Module. Analyzed the Component Design Report (CDRs) for the following modules:
 - ♦ Geothermal
 - ♦ DSM
 - ♦ Natural Gas Distribution and Transmission Modules
- Analyzed other related subcomponent reports for the interindustry submodule. Participated in periodic meetings of the NEMS group, including the renewable energy technologies.
- Reviewed and commented on the Biofuels (Ethanol) Supply Submodule of the NEMS. Provided comments on the Total Fuel Cycle Analysis (TFCA) and the need to use analysis for E95 (95% ethanol).

- Prepared the *Controlled Correspondence Guide* for the Office of DAS/UT. This document is to be used as a guide for writing and responding to correspondence concerning energy matters. Also, prepared the Controlled Correspondence Task Force report.

- Prepared a Conservation and Renewable Energy Budget Request History in the following categories: buildings, industry, transportation, utility, technical and financial assistance, and policy and management.

- Prepared comments and suggestions on a WRI draft report, titled *A New Power Base: Renewable Energy Policies for the Nineties and Beyond*.

- Prepared comments on two IRP papers being developed for OUI including "Preparing the Nation's Utilities for the 21st Century", and "A New Decision-Making Paradigm for the Utility Sector."

- Reviewed, summarized and commented on *A Vision of Change for America* for Allan Hoffman.

- Prepared background materials for a presentation made on the topic of "Powering America, Changing Government: New Designs for America", at the 8th Annual Executive Forum of the Federal Executive Institute and its Alumni Association.

- Participated at the International Solar Energy Symposium reviewing the current status of solar energy and the environment. Developed a list of International Energy Agency Implementing Agreements as part of the International Utilities Technologies Project Data Series. Assisted in developing materials presented to the International Solar Energy Symposium, "Balancing Energy, The Economy, and Ecology: The Solar Energy Contribution," at the University of Delaware.

- Prepared several documents for OUT's sections for inclusion in the appendix of the 5-year plan required by 2202 of EPAct regarding the Advanced Manufacturing Initiative. These documents included:

- A detailed industry situation analysis
- An explanation of the planning assumptions used in the detailed industry situation analysis.
- Descriptions of PVMaT, SolarMaT, and Advanced Wind Turbine projects.
- Tables reflecting comments received from industry by OUT specific needs to be addressed by an advanced manufacturing initiative.

- Completed the first phase of entering FY93 Actuals into the Spend Plan database at the Department of Energy. Edits and changes needed to be done in accordance with G. Elliott's instructions.

- Developed graphics and storyboard titled "Utility Sector Overview."

- Reviewed a draft document prepared by the California Public Utility Commission (CPUC) which recommends that the State reform its electric utility regulatory programs.

- Provided a Summary of the DOE Laboratory Act of 1993.

- Developed framework for analyzing program commercialization requirements and barriers and priorities to advance technology deployment.

- Developed background information relating to current OUT priority issues.

- Developed OUT Budget Summaries. Developed background data books to support budget preparation and justification.

- Developed briefing on DOE electric energy storage programs.

- Developed briefing for the International Energy Agency meeting.

- Developed briefing on EE/RE program status for S-2.

- Developed presentation for SOLTECH.

- Developed background slides and materials for GTDE concept.

- Developed briefing for Electric Power Research Institute (EPRI) Utility Renewable Resources Association.
- Developed briefing for the Inter American Development Bank.
- Prepared notebook of background material for Allan Hoffman's trip to Scotland to attend the IEA Renewable Energy Working Party and workshop on "The Environmental Characteristics of Renewable Energy Technologies."
- Reviewed potential impact of National Action Plan for Global Climate Change on renewable energy requirements.
- Provided comments on and assessment of the Office of Technology Assessment report on Defense Conversion and role of DOE R&D labs. The report reviewed the changing mission of the DOE nuclear laboratories and the prospects for developing appropriate civilian technologies. Case studies were developed for three DOE labs to develop transportation technologies and the impact on EE operation.
- Completed and mounted the photographic display depicting current technological developments within the Office of Utilities Technology in the corridor of the sixth floor.
- Developed graphics in support of budget development for use in discussion with Deputy Secretary staff.
- Reviewed Integrated Environmental Policy Plan for the Dutch Energy Distribution Sector.
- Reviewed studies on the potential impact of including the external costs of electric power facilities on renewable electric power by Olav Hohmeyer.
- Developed a list of electric utilities in the nine flood-affected midwest areas.
- Submitted memorandum to Allan Hoffman containing the results of a review of the FY 1995 Gas Industry RD&D Funding Recommendations.
- Submitted memorandum containing a review and discussion of restructuring options for the Office of Utility Technologies.
- Compiled a series of fact sheets providing current financial, operating, and fuel source statistics for U.S. investor-owned electric utilities and delivered to Allan Hoffman on 9/3/93. Each sheet provided a graphic of the statistical information, and where necessary, back-up tables on the reverse side of the graph.
- Compiled copies of five presentations previously prepared by BNF for OUT and shipped them to Dave Chamberlain of DOE's Boston Support Office at Kurt Klunder's request on 9/8/93. These presentations would be used as support information for a presentation Mr. Chamberlain was scheduled to give in October.

- Compiled presentation materials and supporting information at Allan Hoffman's request to be used by Dr. San Martin for a presentation delivered at the Solar Energy Applications Laboratory (SEAL) in Colorado. Delivered 9/15/93 to Allan Hoffman.
- Prepared a report of the *Delegation of Authority Study Committee Report* and copies for all DASC members and the Organizational Development Steering Committee. Prepared a briefing package for a presentation to the Committees, as a preliminary to the presentation to management. Delivered *Delegation of Authority Study Committee Report* with diskettes and delivered briefing package for management presentation to Dan Ancona on 10/12/93.
- Provided data on estimated future renewable energy production incentive (REPI) payments furnished by the American Public Power Association (APPA) and DOE at Dan Alpert's request. As requested, BNF provided these estimates on two separate charts using the same scales for the X and Y axes. Also, BNF supplied a third chart that combined the two estimates into a side-by-side bar chart analysis.
- Delivered one hard copy of the State-by-State Data Base and one diskette to Joe Galdo on 10/12/93.
- Delivered one hard copy of the Technology Fact Sheets and the supporting data on diskette to Joe Galdo on 10/12/93.
- Delivered binders with the completed review and summary of the UNESCO World Solar Summit technical papers to Allan Hoffman, EE-10 and to Dave Lombard, EE-122 on 10/29/93.

Appendix

Summary Tables of Deliverables

COMPILATION OF MATERIAL SUPPORTING THE OFFICE OF THE ASSISTANT SECRETARY AND SUPPORT STAFF		
TASK 1 & 1A Deliverable Due Date: July 1991		
CONTRACT NO.: DE-AC01-91CE35038		
ITEM	DELIVERABLE	DATE
1	Routing Slip To: Bill Herrold, Meridian From: Bernard Devin, Agence Francaise Pour La Maitrise De Lenergie (Letter regarding present version of Chapter 3 Reserve Exploitable)	April 17, 1991
2	Summary of Draft Chapter 3 on Renewable Energy Reserves by Solar Energy Group on Environment and Development	_____
3	The S.341 Mark Up: Leaving the Best for Last	_____
4	The Changing Face of S.341: Full Committee Markup	April 23, 1991
5	FY 1993 Spring Planning Process (with Program Detailed Backup Material) (Presentation for San Martin)	April 29, 1990
6	FY 1993 Internal Review Budget: Office of Utility Technologies (Presentation for Davis)	May 17, 1991
7	Keystone Group: DOE Energy Conservation Meeting	June 1991
8	Integrated Resource Planning: Office of Utility Technologies (Presentation to Davis) (Presented by San Martin)	June 1991
9	Federal Energy Regulatory Commission's: Public Conference on Electricity Issues	June 18, 1991
10	National Energy Resources Organization Luncheon Address: Rep. Philip Sharp, Chairman, House Energy and Power Subcommittee	June 18, 1991
11	Memo to: Bill Herrold/R. San Martin From: Mac Rogers Subject: DOE/IRP Meeting	June 24, 1991

COMPILATION OF MATERIAL SUPPORTING THE OFFICE OF THE ASSISTANT SECRETARY AND SUPPORT STAFF		
TASK 1 & 1A Deliverable Due Date: July 1991		
CONTRACT NO.: DE-AC01-91CE35038		
ITEM	DELIVERABLE	DATE
12	Energy Efficiency and Conservation in the Electric Power Sector - The Federal Perspective: Goals and Objectives to be Achieved by Conservation Policy (Presentation for San Martin)	June 27-28, 1991
13	The Federal Perspective: Presentation by Department of Energy Regarding Goals to be Achieved by Conservation Policy (Draft Outline for Keystone Meeting)	_____
14	Expanding Energy Supply Options: "The Need for PUHCA Reform"	_____
15	Review of Ontario Hydro Planning and DSM Documents	_____
16	House Energy and Power Subcommittee Hearings on PUHCA and FPA Reform (Day 1)	_____
17	House Energy and Power Subcommittee Hearings on PUHCA and FPA Reform (Day 2)	_____
18	RETSIE '91 "Science and Technology" The Impacts on Education, Human Resources and Training -- Keeping Pace During the '90s (Presentation for San Martin)	_____
19	The PUHCA Debate: Players and Positions	_____
20	Review of DOE Study Entitled: Carbon Dioxide Inventory and Policy Study, Volume II: Policy Analysis	_____
21	Solar Energy for the 21st Century: A Decade of Progress	_____
22	Critique of Ecowatts: The Clean Switch by Science Concepts, Inc.	_____
23	Background Notebook -- Bonneville Power Administration and Other Electric Power Resource Groups in the Pacific Northwest Region	June 18, 1991

COMPILATION OF MATERIAL SUPPORTING THE OFFICE OF RENEWABLE ENERGY CONVERSION		
TASK 1 & 1A Deliverable Due Date: July 1991		
CONTRACT NO.: DE-AC01-91CE35038		
ITEM	DELIVERABLE	DATE
1	Hydropower Program: Hydropower Multi-Year Program Plan Briefing	April 1991
2	Hydropower Program	
3	Ocean Energy Technology Program: Resource Center Listings	April 18, 1991
2	U.S. Geothermal Energy Development (Presented to: Japanese Geothermal Development Mission) (Present by: John E. Mock)	May 20, 1991
3	Management By Objectives Plan FY 1991	June 5, 1991
4	Annual Operating Plan FY 1991	June 5, 1991
5	Geothermal Energy Program: Multiyear Plan FY 1992-1997	June 27, 1991
6		

COMPILATION OF MATERIAL SUPPORTING THE OFFICE OF SOLAR ENERGY CONVERSION		
TASK 1 & 1A		
Deliverable Due Date: July 1991		
CONTRACT NO.: DE-AC01-91CE35038		
ITEM	DELIVERABLE	DATE
1	DOE-PV Review Committee Meeting Summary	April 26, 1991
2	OSEC Power Market Assessment Task Statement	May 14, 1991
3	Adapting DOE Alternative Energy Technologies to DOD Applications	May 28, 1991
4	Solar Thermal and Biomass FY 1993 IRB Support Material a (CE Program Element Summary)	April 25, 1991
5	Solar Thermal and Biomass Technology Development & Validation Draft Summary	May 24, 1991
6	Solar Thermal and Biomass Power Division Quarterly Review Meeting - 3rd Quarter FY 1991	June 19, 1991
7	Revisions to the Biomass Electric Technology Rationale & Status (Draft)	June 27, 1991

COMPILATION OF MATERIAL SUPPORTING THE OFFICE OF ENERGY MANAGEMENT TASK 1 & 1A Deliverable Due Date: July 1991 CONTRACT NO.: DE-AC01-91CE35038		
ITEM	DELIVERABLE	DATE
1	Conservation & Renewable Energy Office of Utility Technologies Energy Legislation 102nd Congress - 1st Session	April 23, 1991
2	Memo to: Bill Herrold/R. San Martin From: Mac Rogers Subject: DOE/IRP Meeting	June 24, 1991
3	Integrated Resource Planning Process (Presentation)	_____
4	Memo to: Ken Schafer, DOE From: Mac Rogers, Meridian Subject: Keystone Meeting Objectives	June 24, 1991
5	Keystone Group Meeting Participants Roles • Summary of Integrated Resource Planning (IRP) Literature • Addressing Demand-side Management (DSM) Issues	_____
6	DOE/Keystone Group Meeting Guidelines	_____
7	Proposed Outline of Activity Keystone Conference	June 27-28, 1991
8	Keystone Group (Key Issues - Pitfalls & Opportunities)	June 27, 1991

**COMPILATION OF DOCUMENTS IN SUPPORT OF
THE OFFICE OF THE ASSISTANT SECRETARY AND SUPPORT STAFF**

TASK 2

Deliverable Due Date: October 31, 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Federal and State Environmental Actions Memo to: San Martin	07/02/91
2	Alliance Proposal: Energy Efficiency in the 1990s Review Memo to: Allan Hoffman	07/03/91
3	Draft USEA Report on Energy Efficiency-Review Report Memo to: Allan Hoffman	07/03/91
4	Drafts & TOC for Hearing Books Financial Assistance Letters Memo to: Judy Florance	07/15/91
5	Draft Storyboard for a "Decade of Renewable Energy Progress" Memo to: Eldon Boes	07/19/91
6	Task on Tax Credits for Renewable Energy (1980-1990) Memo to: Allen Hoffman	07/26/91
7	2nd Draft Storyboard for a "Decade of Renewable Energy Progress" Memo to: Eldon Boes	08/01/91
8	Tables and Graphs of Estimates of Tax Credits Memo to: Eldon Boes/Joe Galdo	08/05/91
9	PUHCA Notebook Memo to: Robert San Martin	08/13/91
10	Financial Assistance Letters - Judy Florance	08/19/91
11	Cost of Electricity from Wind (Graphic Picture) - Robert San Martin	08/21/91
12	Draft Fossil Fuel Tax Proposal Data - Robert San Martin	08/22/91
13	DOE FY93 OMB Budget Request - R. San Martin/J. Michael Davis	08/22/91
14	ARAC Draft Proposed Rules - Robert San Martin	08/29/91
15	Draft Outline for Hoffman (SPP) Presentation: Allan Hoffman	09/04/91
16	Depreciation Treatment of Generation Technologies Memo to: Eldon Boes	09/05/91
17	Review of "Competing For Power" Report - Robert San Martin	09/11/91
18	3/4" Tape, Made 5 VHS Copies - Jamie Pound	09/18/91

**COMPILATION OF DOCUMENTS IN SUPPORT OF
THE OFFICE OF THE ASSISTANT SECRETARY AND SUPPORT STAFF**

TASK 2

Deliverable Due Date: October 31, 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
19	Energy and The Environment Conference (9/19-20/91) Radisson Hotel (Downtown) Denver Colorado	09/19-20/91
20	Background Information on Federal/State Regulatory Authority and on Energy's Grand Gulf Nuclear Plant Summary Overview	09/91

**COMPILATION OF DOCUMENTS IN SUPPORT OF
THE OFFICE OF RENEWABLE ENERGY CONVERSION**

TASK 3

Deliverable Due Date: October 31, 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Questions and Answers for the CE-1992 Science - Bowl Task Force Memo to: John E. Mock	08/28/91
2	Advance Notice of Intent to Prepare an Environmental Impact Statement for the Hawaii Geothermal Project, Phases 3 and 4: Resource Verification and Characterization, and Construction and Operation of Geothermal Power Plants	08/29/91
3	Geothermal Energy Program Implementation Review (Sept 1991) John E. Mock	09/03/91
4	Comments on Geopressured-Geothermal Brochure Memo to: John E. Mock/Allen Jelacic	09/23/91

**SUMMARY OF INFORMATION ORGANIZATION AND RETRIEVAL METHODS
IN SUPPORT OF
THE OFFICE OF THE DEPUTY ASSISTANT SECRETARY FOR UTILITY TECHNOLOGIES**

**TASK 2A
Deliverable Due Date: November 29, 1991**

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Electricity Regulation and Transmission Hearing Before The House Energy and Power Subcommittee	06/26/91
2	Senate Banking Subcommittee on Securities Roundtable Hearing on Legislation to Amend PUHCA	07/17/91
3	Office of UT (Task Tracking System - Status) Presentation: Robert San Martin	08/05/91
4	Markup of Electricity Policy Act of 1991	10/09/91
5	H.R. 776-- The Comprehensive National/11-06-91 Energy Policy Act	11/09/91
6	CE-10 Task Tracking System Program Review Presentation: Allan Hoffman/Robert San Martin	11/14/91

**COMPILATION OF TECHNICAL BRIEFINGS AND PRESENTATIONS
IN SUPPORT OF
THE OFFICE OF THE DEPUTY ASSISTANT SECRETARY FOR UTILITY TECHNOLOGIES**

TASK 2A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Agenda For IRP Coordinating Committee Meeting	07/17/91
2	The Role of The Federal Government In Demand-Side Management: Helping to Make DSM More Effective Presentation: Robert San Martin	07/30/91
3	Investment Opportunities and Challenges in Energy Services DOE Energy Conservation Meeting Keystone Center Presentation: Robert San Martin	08/91
4	Budget Materials for Fiscal Years 1975 through 1992 and a Summary of the National Energy Strategy Ltr To: R. Pearson (MGE International) from Robert San Martin	08/09/91
5	A Decade of Progress Springboard for the 90s & Beyond Presentation by: Michael Davis	08/19/91
6	A Decade of Progress Springboard for the 90s & Beyond Presentation: General Version	09/91
7	Office of Utility Technologies (Overview & Program Activities) Presentation: Allan Hoffman	09/25/91
8	Regional Integrated Resource Planning in the United States: Getting Started - Presentation: Robert San Martin	09/30/10- 2/91
9	Regional Integrated Resource Planning in the United States: Getting Started - Ltr To: M. Foley (NARUC) from R. San Martin	09/30/91
10	OUT/Conservation & Renewable Energy: The New Energy Paradigm Presentation: Allan Hoffman	10/07/91
11	Meridian Notes From NARUC-FERC Workshop on IRP/Market-Based Pricing	10/07/91
12	The Evolving Utility Sector: A DOE Perspective (50th Anniversary SPP) - Presentation: Allan Hoffman	10/11/91
13	Environment for Utility Decision Making Presentation: Robert San Martin	10/21/91

**COMPILATION OF TECHNICAL BRIEFINGS AND PRESENTATIONS
IN SUPPORT OF
THE OFFICE OF THE DEPUTY ASSISTANT SECRETARY FOR UTILITY TECHNOLOGIES**

**TASK 2A
Deliverable Due Date: November 1991**

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
14	Trip Report-Targets of Opportunity Identified in Environmental Delegation to Eastern Europe and the Soviet Union Memo to: Robert San Martin	10/21/91
15	30 Residential Letters Regarding Hawaii Geothermal Plant Xeroxed for L. Lewis	10/23/91
16	Review of Draft Report: Oil Conservation Potential in the U.S. Economy 2000-2010 - Memo to: Joe Galdo	10/24/91
17	Letters Sent to ORNL from L. Lewis (Regarding: Sending 2 Federal Express Packages - w/Copies of NIMBY Letters & w/EIS Mailing)	10/25/91
18	OUT - The Role of Renewable Energy in the U.S. (NES) Presentation: Allan Hoffman (Sweden - General Version)	10/25/91
19	OUT - The Role of Renewable Energy in the U.S. (NES) Presentation: Allan Hoffman - Version	10/25/91
20	Financial Assistance Letters - Judy Florance	10/25/91
21	Southeastern's Power Administration's (SEPA) Management Plan for Energy Efficiency and Renewable Resource Program, OUT Memo to: Robert San Martin	10/28/91
22	Review of Implications of the Clean Air Act Amendments of 1990 for Energy Efficiency and Renewable Energy Technologies and Programs - Memo to: Robert San Martin	10/30/91
23	Recent Developments in Integrated Resource Planning Fifteenth Annual International Scientific Forum "Making the Market Right for the Efficient Use of Energy" - Presentation: Robert San Martin	10/29-30/91
24	FY1992 IRP Program Funded Projects	10/30/91
25	Summary and Executive Overview Outlining NARUC Conference on Regional IRP - Memo to: Robert San Martin	10/31/91
26	U.S. Electric Generating Capacity Trends (NES) - Gap Slide Eldon Boes	11/01/91
27	Information on 6.5 MW PV Installation Slide - Memo to: A. Hoffman	11/04/91

**COMPILATION OF TECHNICAL BRIEFINGS AND PRESENTATIONS
IN SUPPORT OF
THE OFFICE OF THE DEPUTY ASSISTANT SECRETARY FOR UTILITY TECHNOLOGIES**

**TASK 2A
Deliverable Due Date: November 1991**

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
28	Review of DOE 4200.3C, Revised 5-17-91 - Memo to: J. Florance	11/05/91
29	Review of Executive Summary of "America's Energy Sources" Memo to: Allan Hoffman	11/13/91
30	Southwest Border States Solar Conference New Strategies El Paso Speech - Presentation: Allan Hoffman	11/15/91
31	Draft Chapters 1&2 of the 12th Secretary's Annual Report to Congress - Joe Galdo	11/21/91
32	Review of Draft USEA Energy Efficiency Committee Report Memo to: Allan Hoffman	11/22/91
33	Direct Testimony of Thomas J. Grahame, USDOE before the Commonwealth of Massachusetts, Department of Public Utilities (D.P.U. 91-131) - Memo to: Ken Schafer	11/22/91
34	FY 1992 Spending Plan Amplification - Presentation: Allan Hoffman	11/25/91
35	Co-Firing Limits for Small Power Produces under PURPA Memo to: Eldon Boes	11/26/91
36	Integrated Resource Planning Program Multi-Year Plan Fiscal Years 1993-1997	
37	The Environment For Utility Decision-making a Complex Puzzle	
38	Implications of the Clean Air Act Amendments of 1990 for Energy- Efficiency and Renewable Energy Technologies and Programs	
39	Status of Renewable Energy Technologies Presentation: Robert San Martin	
40	CE Integrated Resource Planning Coordinating Committee	
41	DOE/Keystone Group Meeting Guidelines	

**BUDGET DEVELOPMENT SUPPORT FOR
THE OFFICE FOR RENEWABLE ENERGY CONVERSION****TASK 3A****Deliverable Due Date: November 1991****CONTRACT NO.: DE-AC01-91CE35038**

ITEM	DELIVERABLE	DATE
1	Geothermal Energy Program Multi-Year Plan FY1992-1997	11/91
2	IGCC Input Letters From: John E. Mock - To: IGCC Council	10/29/91
3	IGCC Request Letters (BPWG) w/Faxed Information 10 Complete Packages Sent via Regular Mail	10/29/91
4	Geothermal Program FY1992 Spending Plan Summary	11/91

**COMPILATION OF TECHNICAL BRIEFINGS AND PRESENTATIONS
IN SUPPORT OF THE OFFICE FOR RENEWABLE ENERGY CONVERSION**

TASK 3A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Geothermal Promotional Brochure 2 Versions - 1 w/comments from Mock, 1 w/o a date	07/11/91
2	Geothermal Energy R&D Program Presentation: Allan Jelacic	07/24-25/91
3	Renewable Energy Research and Development FY1991 - Financial Plan	08/09/91
4	(Draft) Office of Renewable Energy Conversion Implementation Review Geothermal Energy Program Presentation	08/91
5	Geothermal Technology Transfer: A Fundamental Mission of Federal Geothermal R&D Strategy, Geothermal Resources Council Presentation John E. Mock	10/07/91
6	Program Review for the Assistant Secretary for Conservation and Renewable Energy Geothermal Energy Program Presentation	10/31/91
7	Geothermal International Program Database Inputs John E. Mock	11/13/91
8	Geothermal Energy Peer Reviews (Panel 1 - Reservoir Engineering; Panel 2 - Geochemistry; Panel 3 - Geophysics) Presentation: Allan Jelacic	11/29/91
9	Geothermal Program Overview for Peer Review Assessment Presentation: Allan Jelacic	12/3-5/91
10	Geopressured-Geothermal Energy The Untapped Resource Energy Opportunities into the 21st Century	
11	DOE Support for the Birth and Growth of a New U.S. Industry Proposed Entry of Geopressured Resources into the Marketplace - John E. Mock	
12	Appendix D - Interagency Geothermal Coordinating Council Inputs	
13	(H2) Geothermal Energy - Interagency Geothermal Coordinating Council Inputs	
14	Unlocking Geothermal Energy R&D for a Secure Energy Future Presentation (2 copies - different versions)	

**COMPENDIUM OF PRESENTATION IN SUPPORT OF
THE OFFICE FOR SOLAR ENERGY CONVERSION**

TASK 4A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Office of Solar Energy Conversion Fiscal year 1992 Program Review: Solar Thermal Technology - Presentation: Robert Annan	08/91
2	Office of Solar Energy Conversion Fiscal Year 1992 Program Review: Photovoltaics Technology - Presentation: Robert Annan	08/91
3	Office of Solar Energy Conversion Fiscal Year 1992 Program Review: Overview - Presentation: Robert Annan	08/91
4	Office of Solar Energy Conversion Fiscal Year 1992 Program Review: Resource Assessment Program - Presentation: Robert Annan	08/91
5	Office of Solar Energy Conversion Fiscal Year 1992 Program Review: Biomass Power Technology - Presentation: Robert Annan	08/91
6	Biomass Electric Program Overview - Presentation: Gary D. Burch	10/22/91
7	Solar Thermal Electric Program Overview - Presentation: Gary D. Burch	10/22/91
8	U.S. Photovoltaic Program Addressing Utility Issues Presentation: James Rannels	10/22/91
9	Finesse Brochure (xerox copy)	10/21-25/91
10	Finesse Workshop Handout (xerox copy)	10/21-25/91
11	Finesse Workshop (Vol. 1 & 2) (work books)	10/21-25/91
9	Program Review for the Assistant Secretary for Conservation and Renewable Energy; Solar Thermal Technology Program Presentation: Gary D. Burch	10/31/91
10	H.R. 776--The Comprehensive National Energy Policy Act	11/06/91
11	Photovoltaics Program - Presentation: James Rannels	11/20/91

**COMPILATION OF MEETING PREPARATION MATERIALS
IN SUPPORT OF THE OFFICE FOR SOLAR ENERGY CONVERSION**

TASK 4A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Draft Finesse Workshop Management Plan Mike Thomas	10/31/91
2	CE-13 Solar Thermal and Biomass Power Division Quarterly Review Meeting - Third Quarter FY1991	

**COMPILATION OF PLANNING DOCUMENTATION IN SUPPORT OF
THE OFFICE FOR SOLAR ENERGY CONVERSION**

TASK 4A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	Draft in Preparation Solar 2000 Office of Solar Energy Conversion Strategy	07/30/91
2	Solar Thermal Five-Year Plan Strawman Outline	11/25/91

**COMPILATION OF BACKGROUND ANALYSES IN SUPPORT OF
THE OFFICE FOR SOLAR ENERGY CONVERSION**

TASK 4A

Deliverable Due Date: November 1991

CONTRACT NO.: DE-AC01-91CE35038

ITEM	DELIVERABLE	DATE
1	IEEE Briefing	10/7-11/91
2	Draft PV Collaborative Venture: The Role of Utilities	10/24/91
3	Solar 2000: Office of Solar Energy Conversion Strategy Robert Annan (2 Versions)	
4	Presentation Guide for Worldwide Systems and Applications James Rannels	
5	Worldwide Systems and Applications Twenty-Second IEEE Photovoltaics Specialists Conference Las Vegas, NV. U.S.A.	

Task Assignment (5) Period: 7/2/91 thru 4/17/92

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Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Compilation of Background Material Deliverable Due Date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Memo for the Record: Subject: Seminar on DSM: Strategies & Methods (2/11&12/92)	12/13/91
2	To: Dietrich Roessler (DOE) From: Jose Barcia (BNF) Subject: Initiative on Real-Time Control and Operation	1/7/92
3	Memo to: Dietrich Roessler (DOE) From: Jose Barcia (BNF) Subject: Revision of T&D Program Overview	2/18/92
4	To: Floyd Collins (DOE) From: Jose Barcia (BNF) Subject: Preliminary Draft - District Heating & Cooling (DHC) Accomplishments Resulting from DOE Participation	3/12/92

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Compilation of Information Organization and Retrieval Deliverable Due Date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Memo to: Dietrich Roessler (DOE) From: Jose Barcia (BNF) Subject: Review of Paper on - Perspectives on the Future of Power Generation and Transmission Worldwide.	2/18/92
2	Memo to: Dietrich Roessler (DOE) From: Jose Barcia (BNF) Subject: Outline of OMB Presentation	4/6/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: PURPA and Co-Firing Limits	12/10/91
2	For: J. Florance (DOE) Subject: FY93 Congressional Budget Request	12/17/91
3	Presented by: Dr. Robert L. San Martin Subject: Integrated Resource Planning Program: OUT/CE (Draft)	No Date
4	Presented by: Dr. Robert L. San Martin Presented to: OEM Subject: Integrated Resource Planning Program: OUT	12/17/92
5	Presented by: Dr. Robert L. San Martin Subject: A Presentation on Integrated Resource Planning, Fiscal Year 1993 Budget	No Date
6	Draft Memo to: A/S Paul Zeimer (CE-1 DOE) From: Davis (EH-1 DOE) For: L. Lewis Subject: Environment, Safety, and Health Training for CE	12/19/91
7	Letter to: Carl Freedman For L. Lewis Subject: (Video tape on: DOE Environmental Criminal Liability Briefing, dated 9/7/89	12/20/91
8	For: J. Florance (DOE) Subject: Financial Assistance Letters (5 total)	12/26/91
9	For: L. Lewis (DOE) Presentation: ES&H Training for CE - 4th Version, dated 1/14/92	1/13/92
10	For: A. Hoffman (DOE) Subject: Multi-Year Plan (Draft Section 3 - Office of Utility Technologies)	1/13/92
11	For: A. Hoffman (DOE) Presentation: Office of Utility Technologies (Overview and Program Activities) given to the State Energy Office Directors	1/13/92
12	For: L. Lewis (DOE) Presentation: ES&H (NEPA Procedures Manual for CE)	1/15/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
13	Draft Memo to: Office Directors - From: Dr. San Martin (DOE) Subject: ES&H Training for CE (1st Version) For: L. Lewis	1/23/92
14	For: A. Hoffman (DOE) Subject: FY94 Field Call Planning Assumptions - Utility Sector	1/24/92
15	Draft Memo to: Office and Division Directors From: Dr. San Martin (DOE) (L. Lewis) Subject: ES&H Training for CE (2nd Version)	1/24/92
16	Draft Memo to: Office and Division Directors From: Dr. San Martin (DOE) Subject: ES&H Training for CE (3rd Version) (L. Lewis)	1/29/92
17	Memo to: Fitzgerald (Liaison between CE & Congress) From: R.L. San Martin Subject: Introduction to CE-10 Activities, Identification of "Congressional Issues"	1/29/92
18	Memo to: A. Hoffman (DOE) From: M. Gaffen (BNF) Subject: Incentives in Germany, Japan and Italy for Renewable Energy	1/29/92
19	Memo to: Russ Profozich (DOE) From: B. Loret (BNF) Subject: Slide on "Aggressive Pursuit of IRP"	1/30/92
20	Presented by: Mr. J. Michael Davis Subject: An Executive Dialogue in Resource Planning and Investment Decisions Meeting Utility Obligations in a Changing Environment	1/30-31/92
21	Presented by: Dr. Robert L. San Martin Subject: The Status of Energy R&D for the Electric Utility Sector Presented at: The 1992 NASEO Winter Meeting (Back-up information attached)	2/5/92
22	For: R. San Martin From: Ben Loret Subject: IRP Program Review (Thank You Letters)	2/14/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
22	For: M. Davis (DOE) From: A. Hoffman (DOE) Subject: Decade of Progress for Renewable Energy Technologies - Graphic Chart: Cost of Electricity for Wind, PV, Geo, Solar, Biomass	2/18/92
23	For: J. Florance Subject: Financial Assistance Letters (total 7 packaged w/attachments)	2/18/92
24	Letter to: O. Lawrence For: Dr. L. Lewis (DOE) Subject: CE - ES&H Training Program Materials (w/listing and box of training materials)	2/18/92
25	Memo to: Dr. L. Lewis (DOE) Subject: Minutes of ES&H Training Coordination Meeting held on 1/14/92	2/18/92
26	To: J. Galdo (DOE) Subject: Energy Legislation Database Update-Senate & House Bills)	2/18/92
27	Presented by: Dr. Robert L. San Martin Subject: Building on Progress - Moving Solar Technologies Into The Marketplace Presented at: SOLTECH 92 (Backup information attached)	2/18/92
28	Federal Express Package: Dr. Donald W. Aitken, Union of Concerned Scientists - Various slides made and sent of the Atlanta Briefing For: A. Hoffman (DOE)	2/21/92
29	Note to: Rich From Janine Subject: Comments regarding SRC speech	2/21/92
30	For: J. Galdo (DOE) Subject: CE-10 FY93 Congressional Hearings calendar, dated 2/21/92.	2/25/92
31	Graphics: U.S. Primary Energy Flow in 1990 (Quads) (Includes Electricity Losses) Graphics: U.S. Primary Energy Flow in 1990 (Quads) (Includes Electricity Losses/OUT)	No date

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
32	Graphics: The U.S. Power System Must Cope With Many Challenges	No date
33	Memo to: Joe Galdo, From: Ben Loret Subject: Energy Legislation Database Update (Senate & House Bills)	3/9/92
34	To: Joe Galdo Subject: 12th Annual Secretary Report to Congress (Revised Draft) (Sent to Galdo over cc:Mail system)	3/9/92
35	Memo to: Ron Loose (DOE) From: Ben Loret (BNF) For: Lloyd Lewis (DOE) (Action Item) Subject: ES&H Training Catalog	3/11/92
36	IRP/CC Meeting Agenda - Talking Points	3/11/92
37	CE/IRP Coordinating Council	3/19/92
38	Memo for: Allan Hoffman (DOE) From: Ben Loret (BNF) Subject: Questions & Answers (1st version)	3/19/92
39	Memo for: Allan Hoffman (DOE) Thru: Ron Loose (DOE) From: Ben Loret (BNF) Subject: Response to CE-50 on ES&H Training Attendance and Req.	3/19/92
40	For: Joe Galdo Subject: Congressional Hearing Calendar	3/31/92
41	For: Allan Hoffman Subject: Questions & Answers w/o pg.#s (Final Version)	4/6/92
42	For: Joe Galdo Subject: CE-10 FY93 Congressional Hearing Calendar (3/30/92)	4/13/92
43	Memo for: ER Attendees From: Allan Hoffman, (DOE) CE-10 Subject: Background Info. for Mtg. to Discuss Possibilities for CE/ER Joint Program Development FY 94	4/14/92
44	For: Joe Galdo Subject: CE-10 FY93 Congressional Hearings Calendar (4/10/92)	4/13/92
45	Memo to: Joe Galdo From: D. Cleverdon Subject: Draft of Early Action Items	4/16/92

Task Assignment (5) Period: 7/2/91 thru 4/17/92

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Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 6: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
46	For: Joe Galdo From: D. Cleverdon Subject: HR 4559 Impacts	4/16/92
47	OUT-SPR FY93 For: A. Hoffman (DOE)	4/17/92

Task Assignment (5) Period: 7/2/91 thru 4/17/92
 Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

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OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Programmatic Documents Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Memo to: CE IRP Coordinating Council From: Robert L. San Martin Subject: Draft Minutes from March 19, 1992 Meeting	3/25/92
2	Impact Analysis of S.2166, NES ACT for CE	3/26/92
3	Impact Analysis of H.R. 776, NES ACT for CE	3/30/92
4	Examples of CE Projects that Impact the Electric and Gas Utility Sectors	No date
5	Cross Cutting Activities - FY93 Spend Plan	No date
6	S.2166 Impact on DOE's Office of Utility Technologies	No date
7	FY 1993 Program Budget Review	No date
8	H.R. 776 Impact on DOE's Office of Utility Technologies	No date
9	Integrated Resource Planning Program Multi-Year Plan Fiscal Years 1993-1997	No date

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 6: Summary of Review of Other Publications and Related Materials Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Draft Version Memo to: Robert L. San Martin From: Linda Kelliher Subject: Detailed Summary of the Transmission & Wheeling Conference	12/17/91
2	Final Version Memo to: Robert L. San Martin From: Linda Kelliher Subject: Detailed Summary of the Transmission & Wheeling Conference	12/17/91
3	Memo to: Ken Schafer From: Janine Finnell Subject: Background on California Public Utility Commission, June 5, 1991	12/30/91
4	Draft Letter to: Oakes Ames From: A. Hoffman	1/7/92
5	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: Transmission Access	1/21/92
6	Note to: Dr. San Martin From: Bill Subject: Regarding Resource Report Pertaining to Geothermal	1/21/92
7	Memo to: A. Hoffman (DOE) From: B. Loret (BNF) Subject: Collective Bargaining Agreement	1/23/92
8	Memo to: A. Hoffman (DOE) From: B. Loret (BNF) Subject: NREL Tiger Team Corrective Action Plan	1/23/92
9	Memo to: Ken Schafer From: Mac Rogers Subject: IRP MYPP	2/20/92
10	Memo to: Allan Hoffman, From: B. Loret Subject: Review of: A Proposal to Develop Ground Water and Hydroelectric Power at High Elevation on the Islands by Maui and Hawaii in the State of Hawaii 2/26/92	2/26/92
11	Memo to: A. Hoffman From: Mac Rogers Subject: Response to Julian Powers	2/26/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Summary of Review of Other Publications and Related Materials Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
12	Memo to: Ken Schafer From: Janine Finnell Subject: Review of DOE Natural Gas Strategic Plan	2/28/92
13	Memo to: A. Hoffman From: Linda Kelliher Subject: NES Comparison (HR 776 & S. 2166)	3/3/92
14	Note to: Bob From: Janine Finnell Subject: Material for meeting with Kevin Kelly	3/10/92
15	Paper on: AGA's Long Range Forecasting for Integrated Resource Planning Seminar (Back-up information attached)	3/11-13/92
16	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: Draft LANL Clean Air Amendment Study	3/13/92
17	To: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: Impact of Analysis of S. 2166, NES Act	3/18/92
18	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: Meeting on Energy Legislation Tasks	3/20/92
19	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: Review of Public Participation In Siting - A Broader View	3/23/92
20	Memo to: A. Hoffman (DOE) From: D. Cleverdon (BNF) Subject: One Pagers for House Committee on Science, Space & Technology	3/30/92
21	Memo to: Ken Schafer From: D. Cleverdon Subject: Summary of Disputed Issues in HPUC Docket No. 6617	4/1/92
22	Paper on: Legislative Update	4/3/92
23	Letter to: Ms. Jacquelyn A. Cochran From: Dr. Robert L. San Martin Subject: American Public Power Association's 1992 Energy Innovator Awards Ballot	4/7/92
24	Paper on: Abstracts for Ecoworld Conference	No date
25	Paper on: IRP Success	No date

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 6: Summary of Review of Other Publications and Related Materials Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
26	Draft Letter to: Emily Cox From: Dr. Robert L. San Martin Subject: Evaluator for PG&E	No date
27	Draft Presentation: Expected Outcomes	No date
28	Paper on: HR 776 - Comprehensive National Energy Policy Act	No date
29	Amendments of Existing Laws (H.R. 776 & S. 2166) (attached side-by-side comparison)	No date

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Documents Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Saudi Arabia: - U.S. Annex III 1. Letter to Fahad Huraib (Saudi)- From: T. Mock (DOE) 2. Memo from Mock - To: Deputy Secretary	1/3/92
2	Agreement Between DOE & KACST (King Abdulaziz City for Science and Technology) - Annex III	1/7/92
3	Significant Accomplishments - Geothermal Energy Systems	1/21/92
4	(Memo to: T. Mock (DOE) - From: M. Gaffen (BNF) Subject: Status of the U.S. - Saudi Arabian Renewable Energy & Geothermal Agreement - Annex III	1/23/92
5	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	2/11/92
6	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	2/19/92
7	To: Dr. Dorfman From: A. Jelecic (DOE) Subject: Letter of Commendation (Draft)	2/20/92
8	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	2/26/92
9	To: A. Jelecic (DOE) Subject: U.S. Saudi Arabian	2/27/92
10	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	3/4/92
11	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	3/9/92
12	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. Mailing List	3/30/92
13	Subject: Draft - Geothermal Energy Multi-Year Program Plan FY 1993-1997, Geothermal Division, U.S. Department of Energy, March 1992	3/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Documents Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
14	Package to: Ms. Deni Adaniga From: L. Lewis (DOE) Subject: National Environmental Policy Act (NEPA) Determination Hawaiian Deep Water Cable (HDWC Program Contract)	4/3/92
15	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Info. See Inventory List	4/7/92
16	Letter to: (Dr. Mary Hunt - LBL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS: Tapes Scoping Meeting.	4/9/92
17	To: A. Jelacic (DOE) Subject: Summary of Peer Review	4/9/92
18	To: A. Jelacic (DOE) Subject: Summary of Industry Critique	4/9/92
19	For: L. Lewis (DOE) Subject: Graphics page done for (HGP-EIS) Update Meeting on 4/21/92	4/10/92
20	Letter to: (Dr. Amy Wolfe - ORNL) From: Ben Loret (BNF) For: L. Lewis (DOE) Subject: HGP-EIS Response Letters (Coupons and Scoping Comments)	4/17/92

Task Assignment (5) Period: 7/2/91 thru 4/17/92
 Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

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OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Budget Development Support Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic (DOE) Subject: Geothermal Funding Profiles (Version 1)	12/23/91
2	To: R. Fortuna (DOE) Subject: Geothermal Funding Profiles (Version 2)	12/31/91
3	To: A. Jelacic (DOE) Subject: Congressional Hearing Brief (1st half only) (1st draft faxed to A. Jelacic & then final version)	1/15/92
4	To: A. Jelacic (DOE) Subject: Congressional Hearing Brief (2nd half only)	1/15/92
5	To: A. Jelacic (DOE) Subject: Cost Estimate for Revision of "Equipment and Services for Worldwide	2/92
6	To: A. Jelacic (DOE) Subject: Geothermal Energy Program: FY93 Congressional Staff Budget Briefing	2/92
7	To: A. Jelacic (DOE) Subject: Geothermal Energy: Overview FY93 Spend Plan Review (Backup Info. FY92 SPR 11/91)	4/9/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Background Analyses Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic/Dr. Kessler (DOE) Subject: Application for National Environmental Achievement	1/28/92
2	To: A. Jelacic (DOE) Subject: Summary of Industry Critiques	1/29/92
3	To: A. Jelacic (DOE) Subject: Completed Task Matrix	2/7/92
4	To: A. Jelacic (DOE) Subject: Active Tasks Matrix	2/7/92
5	To: A. Jelacic (DOE) Subject: Geothermal Energy Program FY 1993	2/07/92
6	To: J. Mock/A. Jelacic (DOE) Subject: 40 Minute Presentation to Dr. Hoffman	2/10/92
7	To: Gladys Hooper (DOE) Subject: Energy Fact Sheet	2/12/92
8	To: L. Lewis (DOE) Subject: Clean Air Act	2/13/92
9	To: A. Jelacic (DOE) Subject: Peer 1. Ed	2/20/92
10	To: David Lombard (DOE) Subject: Summary of Geothermal Peer Review, 1991	2/20/92
11	To: A. Jelacic (DOE) Subject: Annual Progress Report for 1991	2/21/92
12	To: A. Jelacic/GD (DOE) Subject: Research Plan to Assess International Marketing Styles in Geothermal	2/21/92
13	To: A. Jelacic/R. Fortuna (DOE) Subject: Inventory of Archived Geothermal File Folders	2/21/92
14	To: World Bank - Finesse Office Subject: Evaluation Criteria for Assessment of Potential Finesse Projects	2/25/92
15	To: Ted Mock (DOE) Subject: Peer Review Assessment Letter/Information	2/28/92

Task Assignment (5) Period: 7/2/91 thru 4/17/92
Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

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OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Background Analyses Deliverable due date: 4/17/92		
16	To: Ted Mock (DOE) Subject: Telcon on Saudi/Arabian Agreement	3/13/92
17	To: A. Jelacic (DOE) Subject: List of International Geothermal Companies	4/9/92
18	To: A. Jelacic (DOE) Subject: Environmental Aspects of Geothermal Energy	No date

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	To: J. Mock (DOE) Subject: IGCC Letters & Annual Report to Congress (for final review)	12/30/91
2	To: A. Jelacic (DOE) Subject: International Geothermal Activities	12/31/91
3	To: A. Jelacic (DOE) Subject: Observations on Japanese versus American & Within European Geothermal Marketing Styles	1/3/92
4	To: A. Jelacic (DOE) Subject: Summary NGA Perspectives on Geo. Tech Development	1/3/92
5	To: A. Jelacic (DOE) Subject: Geothermal Video Proposal	1/3/92
6	To: A. Jelacic (DOE) Subject: Proposed 40-Minute Presentation Scheme	1/10/92
7	To: L. Lewis (DOE) Subject: 1) Presentation on ES&H (Hawaii Geothermal Project: EIS) DOE-HQ, ORNL Roles and Responsibilities Clarification and Concurrence - 1st Version Dated 1/15/92 2) TV Video Duplication	1/15/92
8	To: L. Lewis (DOE) Subject: Presentation on ES&H (Hawaii Geothermal Project: ESI) DOE-HQ ORNL Roles and Responsibilities Clarification and Concurrence - 2nd Version, (dated 1/23/92)	1/23/92
9	To: A. Jelacic (DOE) Subject: Mock-up 40-Minute Presentation on the Geothermal Program	1/31/92
10	To: A. Jelacic (DOE) Subject: Summary of Industry Critique	1/31/92
11	To: Gladys Hooper (DOE) Subject: Geothermal Funding Profiles (3rd version)	2/3/92
12	To: A. Jelacic (DOE) Subject: IGCC - Final Update	2/11/92
13	To: A. Jelacic (DOE) Subject: Summary of Meeting on U.S./S.A. Geothermal Support Annex, III on Renewable Energy	2/12/92

Task Assignment (5) Period: 7/2/91 thru 4/17/92

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Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 7: Compilation of Technical Briefings and Presentations Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
14	To: A. Jelacic (DOE) Subject: Award for Dr. Myron Dorfman Recognition for Achievements and Contributions in Geopressed-Geothermal Energy 1974-1992	2/21/92
15	To: L. Lewis (DOE) Subject: HGP-EIS Moderator's Statement (Working Draft)	2/27/92
16	To: A. Jelacic (DOE) Subject: The Impact of Taxation on the Development of Geothermal Resources	2/28/92
17	To: L. Lewis (DOE) Subject: HGP-EIS Public Scoping Meetings (Presentation)	2/28/92
18	To: Dr. Alan Jelacic (DOE) Subject: Annual Progress Report - Geothermal Energy	3/20/92
19	To: J. Mock (DOE) Subject: Geothermal Power: Tapping the Heat of the Earth (Spring Symposium Interagency Advanced Power Group)	3/31/92
22	To: A. Jelacic (DOE) Unlocking Geothermal Energy R&D for a Secure Energy Future	No Date

Task Assignment (5) Period: 7/2/91 thru 4/17/92
Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

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OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 7: Compilation of Meeting Preparation Materials Deliverable due date: 4/17/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic (DOE) Subject: Geothermal Program Overview: Peer Review Assessment	12/3-5/91
2	To: A. Jelacic (DOE) Subject: Summary Program Review IX Conference Evaluation	1/3/92
3	To: A. Jelacic (DOE) Subject: Summary Meeting on U.S. Saudi Arabian Geothermal Support, Annex III of Agreement on Renewable Energy	2/12/92
4	To: Larry Ott (Dept. Treasury) Subject: Annex 1/Joint U.S. /Saudi Renewable Energy R&D Agreement	2/13/92
5	To: A. Jelacic (DOE) Subject: Geothermal Funding Profile	2/18/92
6	To: Ted Mock (DOE) Subject: Geothermal Program Review X	3/3/92
7	To: Ted Mock (DOE) Subject: Announcement of Geysers Meeting During Geothermal Program Review X.	3/16/92
8	To: A. Jelacic (DOE) Subject: The DOE Geopressured-Geothermal Program: An Historical Perspective (Geothermal Program Review X)	3/25/92
9	To: J. Mock (DOE) Subject: Geothermal Program Review X (Abstracts)	No date

Task Assignment (5) Period: 7/2/91 thru 4/17/92
Task Assignment (6, 7 & 8) Period: 11/30/91 thru 4/17/92

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OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 8: Compendium of Presentations Deliverable due date: 4/17/93		
ITEM	DELIVERABLE	DATE
1	PV Market Size vs. Model Price	12/91
2	Presented by: Sigmund Gronich (DOE) & Ralph Overend (NREL) Subject: Biomass Power Program	12/91
3	Solar Thermal Electric Technology Strategy (Dish Rationale Summary)	12/91
4	Presented by: Dr. R. San Martin (DOE) Subject: Opportunities for Biomass Power (Biomass Combustion Conference)	1/28-30/92
5	Presented by: Jim Rannels (DOE) Subject: Photovoltaics Program - SOLTECH 92	2/18/92
6	Presented by: Gary Burch (DOE) Subject: Overview of Solar Thermal Electric Program (SOLTECH 92 Conference)	2/19/92
7	To: Gary Burch (DOE) Subject: Comparative Economic Analyses of Biomass Power Production (Energy from Biomass and Wastes XVI) (Abstract and Presentation)	3/2-6/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 8: Compilation of Meeting Preparation Materials Deliverable due date: 4/17/93		
ITEM	DELIVERABLE	DATE
1	Memo from: Gary Burch (DOE) To: Various (DOE) staff and Contractors Subject: Solar Thermal and Biomass Program Semi-Annual Review Meeting	3/5/92
2	Semi-Annual Review Meeting: Solar Thermal & Biomass Power Division, Agenda	4/21-22/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 8: Compilation of Background Data and Planning Documentation Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Solar Thermal Electric Five-Year Plan "Strawman" Outline	12/9/91
2	Solar Thermal Electric Five-Year Plan (Draft in Preparation)	3/4/92
3	Solar Thermal Electric Program Plan 1992-1997 (Draft)	3/92
4	Solar Thermal Electric Five-Year Program Plan FY92-92	4/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 8: Compilation of Background Analyses Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	For: World Bank - Finesse Office Evaluation Criteria for Assessment of Potential Finesse Projects	02/025/92
2	Funding Profiles: Solar Two at Barstow CA, PV R&D, Biomass Power	12/91
3	Solar Thermal Fact Sheet Domestic Status	1/92
4	Office of Solar Energy Conversion: Solar Thermal Electric B&R Codes	3/92
5	Memo to: Bud Annan (DOE) From: Linda Kelliher Subject: HR 776	3/25/92
6	The State Alternative Energy Challenge	
7	ASTAE - Asian Alternative Energy Unit: World Bank (foldout)	

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 8: Compilation of Market Data Deliverable due date: 4/17/92		
ITEM	DELIVERABLE	DATE
1	Biomass Program Analysis (Market Conditioning)	
2	Solar Thermal Electric	3/92

**OFFICE OF ENERGY MANAGEMENT
CONTRACT NO.: DE-AC01-91CE35038****TASK 9:****Compilation of Spring Planning Exercise Documents, Presentations, and Background Materials
Deliverable due date: 6/18/92**

ITEM	DELIVERABLE	DATE
1	DHC Accomplishments resulting from DOE Participation For: Floyd Collins (DOE)	4/27/92
2	Pre-final draft report on: The Department of Energy District Heating and Cooling Program A Decade (1982-1992) of Accomplishments For: Floyd Collins (DOE)	5/29/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 10: Compilation of Materials Supporting the Spring Planning Exercise Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	FY 1994 Congressional Budget Request	None
2	"Four Buckets" Briefing	None
3	Johnston Utility Briefing - Draft	None
4	Johnston Utility Briefing	None
5	FY 1994 Congressional Budget Request - Draft	None
6	FY 1994 Congressional Budget Request - Draft	None
7	FY 1994 Congressional Budget Request - Draft	None
8	FY 1994 Congressional Budget Request - Draft	None
9	FY 1994 Congressional Budget Request - Draft	None
10	FY 1994 Congressional Budget Request - Draft	None
11	Fax to Ken Schafer: "Managing Demand" article	None
12	Fax to Ken Schafer: Utility Participation in DSM Programs	None
13	Managing DSM programs	None
14	Integrated Resource Planning Conference	None

**OFFICE OF UTILITY TECHNOLOGIES
CONTRACT NO.: DE-AC01-91CE35038**

**TASK 10:
Compilation of Materials Relating to the Monitoring and Evaluation of National Energy Strategy
Deliverable due date: 6/18/92**

ITEM	DELIVERABLE	DATE
1	Integrated Resource Planning Program, Spend Plan Presentation	5/4/92
2	Resource Expenditure on SEC, Geo & IRP For: Joe Galdo (DOE)	5/7/92
3	FY 94 - Internal Review Budget - UT For: Allan Hoffman (DOE)	5/21/92
4	Integrated Resource Planning Program, Spend Plan Presentation - Draft	None
5	IRP Timelines	None
6	Fax to San Martin/Schafer: The Greening of Utilities	None
7	Costs of SMES Systems	None
8	IRP Timelines	None
9	Fax to Allan Hoffman: List of Aging Unit Capacity	None
10	IRP Q&A	None

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OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 11: Compilation of Materials Supporting the Spring Planning Exercises Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	Draft Copy "Letter Report Energy Options EIS on the HGP" For: Lloyd Lewis (DOE)	4/23/92
2	HGP:EIS Scoping Comments To: Amy Wolfe - ORNL From: Lloyd Lewis (DOE)	4/23/92
3	HGP:EIS Summary Notes on 3/7/92 for the Pahoa, Hawaii For: Mary Hunt comments and changes	4/27/92
4	HGP:EIS Scoping Comments For: Lloyd Lewis (DOE)	4/27/92
5	Drilling Database Categories and Progress Report Memo For: Allan Jelacic (DOE)	4/27/92
6	U.S. Department of Energy: Geothermal R&D Program Briefing For: John Mock (DOE)	4/28/92
7	Potential Role of Geothermal Energy in Fueling Economic and Human Development Briefing For: John T. Mock (DOE)	4/30/92
8	Photo Captions for Geothermal Energy Visuals Library Memo For: Allan Jelacic	5/14/92
9	Drill R&D Efforts in the Oil and Gas Industry Memo For: Allan Jelacic	5/14/92
10	Status Report - Drilling Database	5/15/92
11	Revised the Hydropower Program Briefing for Spring Planning Exercises For: Hydropower Division	5/25/92
12	HGP:EIS Various info & scoping meeting and comments From: Lloyd Lewis (DOE) To: Amy Wofe (ORNL)	5/28/92
13	Geothermal Equipment & Services Digest (DRAFT) For: Allan Jalecic	6/12/92
14	Drilling Database Status Memo For: Allan Jelacic	6/12/92
15	Equipment and Services Digest (Draft) For: Allan Jelacic (DOE)	6/15/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 11: Compilation of Materials Supporting Budget Development Exercises Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	The Impact of Taxation on the Development of Geothermal Resources For: Ted Mock/Allan Jelacic (DOE)	4/24/92
2	Updated and Incorporated Geothermal Divisions's revisions into the Internal Budget Reveiw For: Geothermal Division	5/21/92
3	Revised the Hydropower Program Congressional Staff Budget Briefing as part of the Budget Development Support For: Hydropower Division	6/10/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 11: Compilation of Materials Supporting National Energy Strategy Legislation Requirements Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	HGP:EIS (Mailing List) For: Lloyd Lewis	5/6/92
2	HGP:EIS (Mailing List & Scoping Comments) For: L. Lewis & Amy Wolfe (ORNL)	5/6/92
3	HGP:EIS (Mailing list & Imp. Plan) For: Lloyd Lewis (DOE)	5/7/92
4	HGP:EIS (Index of Documents) For: Lloyd Lewis & Amy Wolfe (ORNL)	5/7/92
5	HGP:EIS For: Lloyd Lewis	5/13/92
6	Side-by-Side Comparsion for National Energy Strategy Legislation, S.2166 and H.R. 776 For: Hydropower Division	5/28/92
7	HGP:EIS Letter to A. Wolfe (ORNL) For: Dr. Lewis (DOE)	5/28/92
8	Impact Analysis of H.R. 776 NES Act, Conservation and Renewable Energy For: Allan Hoffman	6/2/92
9	HGP:EIS (Merge letters) & 3 sets of Lables For: Dr. Lewis (DOE)	6/3/92
10	HGP-EIS: Mailing list For: Dr. Lewis (DOE)	6/10/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 12: Compendium of Spring Planning Exercise Documents, Presentations and Background Material Deliverable due date: 6/18/92		
ITEM	DESCRIPTION	DATE
1	Brookings Presentation for OSEC Director - New Energy Technologies	4/28/92
2	Belgo Involvement/LUZ Operations For: Gary Burch	6/8/92
3	Summary of Meeting on U.S. - Saudi Arabian Geothermal and Solar Support Agreement on Renewable Energy Fax/For: Allan Jelacic (DOE)	6/9/92
4	Input for Paper on Department of Energy National PV Program	6/10/92
5	Briefing Book Draft - Pacific Island Nations: Summary of Programmatic Activity Related to Renewable Energy	
6	Midwest Bioelectric Study For: G. Burch (DOE)	6/17/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 12: Compendium of Budgetary and Planning Materials Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	OSEC FY 1994 IRB Backup Support Draft Biomass Power Budget Rationale for 1994	5/11/92
2	OSEC FY 1994 IRB Backup Support Draft Solar Thermal Budget Rationale for 1994	5/11/92
3	OSEC FY 1994 IRB Backup Support PV Program (Base/Target/Enhanced) Activities and Benefits Summary	5/12/92

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 12: Compendium of Materials Relating to National Energy Strategy Legislation Deliverable due date: 6/18/92		
ITEM	DELIVERABLE	DATE
1	Solar Thermal Electric Support Energy Production for Central Receiver Plants	5/5/92
2	Background Material NREL:/Meeting on May 1992	5/7/92
3	Summary Notes on Meeting "NREL: Emerging Roles and Opportunities"	5/14/92
4	List of Industrial Players in the Biomass Power "fuel cycle"	5/26/92
5	PV 2000: Strategy for Enhancing the Market Conditioning and Joint-Venture Process	6/92
6	Outline Draft Parabolic Dish/Engine Module Briefing	6/17/92
7	Draft Paper - The PV Partnership: A New Era in Government - Industry Cooperation	6/18/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: NES Status Reports Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	NES Status Reports (June 17, 1992 thru Dec. 17, 1992)	June 92
2	November NES Initiatives Status Report	12/2/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Planning Calendar Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	CE-10 Master Schedule (Milestone Chart)	9/9/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Document Reviews and Preparations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: Dr. Boston From: Lloyd Lewis Subject: HGP-EIS Inventory/Mailing List	6/24/92
2	To: Joe Galdo From: Dan Cleverdon Memorandum For: Ed Watts, EP-63 Subject: Comments on IPCC Technology Characterizations	6/26/92
3	To: Joe Galdo From: Dan Cleverdon Subject: Comments on Draft EIA Report Renewable Fuels in the U.S. Electricity Supply	6/30/92
4	To: MOU Staff From: Lloyd Lewis Subject: HGP-EIS (MOU's and IP Transmittal Letters)	7/1/92
5	To: MOU Staff From: Lloyd Lewis Subject: HGP-EIS (Document Listing)	7/7/92
6	Subject: HGP-EIS (Letters to: M. Kaya & R. Dedman) From: Lloyd Lewis	7/10/92
7	To: Joe Galdo Subject: BNF - Periodicals	7/17/92
8	Letter to: Andrea Campbell Subject: HGP-EIS (Various Documents)	7/24/92
9	Subject: HGP-EIS Mailing of Memo Re: Travel Status To: HGP-EIS Staff From: Lloyd Lewis	7/27/92
10	For: Allan Hoffman, Joe Galdo From: Ben Loret Subject: Seminar on Powerplant Market-International and Domestic	8/10/92
11	To: HGP-EIS Staff From: Lloyd Lewis Subject: Edits to HGP-EIS Memorandum of Understanding	8/17/92
12	Subject: Visual Aids To: Allan Hoffman From: Ben Loret	8/18/92
13	Subject: Letter to Bill Cook, HIGA From: Lloyd Lewis	8/19/92
14	To: Allan Hoffman From: B. Loret Subject: Slides and Viewgraphs	8/25/92
15	For: Dr. Lloyd Lewis Subject: Fax of Slides copied from flip charts	8/26/92
16	From: Lloyd Lewis-HGP-EIS Subject: Letter to: William Halliday	8/28/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Document Reviews and Preparations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
17	From: Lloyd Lewis HGP-EIS Subject: Letter to: Mary Hunt (LBL)	9/2/92
18	From: Lloyd Lewis HGP-EIS Subject: Letter to: C. Boston (ORNL)	9/3/92
19	For: Lloyd Lewis Subject: HGP-EIS Mailing List and Library Additions	9/9/92
20	To: Joe Galdo From: Mike Gaffen Subject: MAM/NEMS Review	9/10/92
21	For: R. San Martin, Allan Hoffman, From: Murraray McCombs Subject: EPRI Program Overview DOE	9/15/92
22	To: Charles Boston From: Lloyd Lewis Subject: HGP-EIS Documentation Letter	9/16/92
23	To: Mary Hunt From: Lloyd Lewis Subject: HGP-EIS Documentation Letter	9/16/92
24	To: Allan Hoffman From: Murray McCombs Subject: Missouri Statewide Energy Study	9/18/92
25	To: HGP-EIS Staff From: Lloyd Lewis Subject: HGP-EIS F&WS Proposal	9/21/92
26	To: Mary Hunt, Charles Boston, Andrea Campbell From: Lloyd Lewis Subject: HGP-EIS Coop Agency Meeting Minutes (October 91)	9/18-21/92
27	To: Allan Hoffman From: Ben Lorett Subject: Update on Renewable Cost Curves	9/26/92
28	To: J. Galdo From: Dan Cleverdon Subject: NEMS Integrating Manuals comments	9/28/92
29	To: Allan Hoffman From: Dan Cleverdon Subject: Elec. Sector & Renewable Energy Fact Sheet	10/2/92
30	To: L. Lewis From: Mary Anne Fernandez Subject: HGP-EIS (Fed Exp. package to ORNL - Boston/Campbell)	10/2/92
31	To: J. Galdo From: D. Cleverdon Subject: NREL "Utility Technologies Success Stories)	10/5/92
32	To: Joe Galdo From: Murray McCombs Subject: Comments on NEMS four (4) Modules	10/5/92
33	To: Lloyd Lewis From: Mary Anne Fernandez Subject: HGP-EIS Mailing List & Library Additions	10/9/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Document Reviews and Preparations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
34	To: Lloyd Lewis From: Mary Anne Fernandez Subject: HGP-EIS (Mailing List Updates)	10/9/92
35	To: Lloyd Lewis From: Sharon Crowell Subject: HGP-EIS Implementation Plan (Draft)	10/20/92
36	To: Lloyd Lewis From: Mary Anne Fernandez Subject: Memorandum to: R. Ritschard Re: HGP-EIS (Information)	10/29/92
37	To: Lloyd Lewis From: Mary Anne Fernandez Subject: Memorandum to: C. Boston Re: HGP-EIS (Action Items)	10/29/92
38	To: Lloyd Lewis From: Mary Anne Fernandez Subject: Memorandum to: C. Boston Re: HGP-EIS (Mailing List/Action Items)	10/29/92
39	To: Allan Hoffman From: Mike Gaffen Subject: Proposed Rule on Investment Offset Agreement	11/5/92
40	To: Lloyd Lewis From: Sharon Crowell Subject: HGP-EIS Thank You Letters for Implementation Plan	11/10/92
41	To: Lloyd Lewis From: Denise Norris Subject: HGP-EIS Reviewer	11/24/92
42	To: Allan Hoffman, Joe Galdo From: Mike Gaffen Subject: Review: of IEA Study on Cost of Electric Power	11/25/92
43	To: Allan Hoffman From: Mike Gaffen Subject: Review: Landlord Funding Implementation Guide	12/5/92
44	To: Lloyd Lewis From: Sharon Crowell Subject: HGP EIS Program	12/15/92
45	To: Lloyd Lewis From: Sharon Crowell Subject: VIEO Energy Efficiency Impact Analysis	12/17/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Budget Documentation Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: J. Galdo From: B. Loret Subject: CE End-Use Sector Funding Tables	7/21/92
2	To: J. Galdo From: B. Loret Subject: Draft FY93 Spend Plan	9/2/92
3	To: J. Galdo From: B. Loret Subject: Draft II FY93 Spend Plan	9/5/92
4	To: J. Galdo From: Dan Cleverdon Subject: FY94 Amended OMB Budget Request	10/14/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Technical Briefings and Presentations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: J. Galdo From: M. Gaffen Subject: A Forum "Electric Power Sector Developments in Eastern Europe"	8/6/92
2	To: J. Galdo From: D. Cleverdon Subject: OUT Projects Responsive to the Energy Policy Act	11/3/92
3	To: Allan Hoffman From: Mike Gaffen Subject: Summary of Proposed Rule (IOA)	11/5/92
4	To: Allan Hoffman From: Dan Cleverdon Subject: American Physical Society Presentation "DOE's Approach to Renewable Energy in the Utility Sector"	11/5/92
5	To: Allan Hoffman From: Dan and Rob Carpenter Subject: State Energy Advisory Board Presentation "Office of Utility Technologies Strategic Approach to the Utility Sector"	11/11/92
6	To: Allan Hoffman From: Dan Cleverdon Subject: Draft: Overview Program Activities of the Office of Utility Technologies	12/10/92
7	To: Allan Hoffman From: Dan Cleverdon Subject: Final: Overview Program Activities of the Office of Utility Technologies	12/11/92
8	To: Joe Galdo From: Mike Gaffen Subject: Comments on NEMS: DSM Meeting	12/15/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 1 & 1A: Compilation of Material Relating to the Enactment of the National Energy Strategy Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: J. Galdo From: R. Merrian Subject: BNF Review/Comments on Titles XX-XIII of H.R. 776	6/29/92
2	To: J. Galdo From: D. Cleverdon Subject: Update on Items in March 20, 1992 Memo relating to Energy Legislation Tasks	7/1/92
3	To: A. Hoffman/J. Galdo From: D. Cleverdon Subject: Indices to S.2116 and H.R. 776	7/17/92
4	To: J. Galdo From: R. Merriam Subject: Senate/House Versions of H.R. 776 (Side-by-Side Revisions per S.2116)	8/4/92
5	To: Allan Hoffman From: Ben Loret Subject: Thoughts for NES II	10/1/92
6	To: Joe Galdo From: Dan Cleverdon Subject: Review of the UNCED Aenda 21 Inventory	10/5/92
7	To: Joe Galdo From: Dan Cleverdon Subject: Updates to Legislation Index	10/5/92
8	To: Joe Galdo From: Dan Cleverdon Subject: Update on NES Legislation	10/5/92
9	To: A. Hoffman From: Dan Cleverdon Subject: Energy Policy Act of 1992 - Provisions Affecting OUT	10/13/92
10	To: Joe Galdo From: Dan Cleverdon Subject: NES Impacts	10/13/92
11	To: Joe Galdo, Allan Hoffman From: Dan Cleverdon Subject: Summary of Authorizations of Interest to OUT in Energy Policy Act of 1992	10/13/92
12	To: Joe Galdo From: Dan Cleverdon Subject: NES Impacts	10/13/92
13	To: Joe Galdo From: Dan Cleverdon Subject: NES Act	10/14/92
14	To: Joe Galdo From: Dan Cleverdon Subject: Energy Policy Act - 1992 Provisions Affecting OUT	10/15/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Material Relating to the Enactment of the National Energy Strategy Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
15	To: Joe Galdo From: Dan Cleverdon Subject: Report Language for Sections of Energy Policy Act of 1992	10/16/92
16	To: Joe Galdo From: Dan Cleverdon Subject: Energy Policy Act 1992 - OUT Action Items	10/19/92
17	To: Joe Galdo From: Dan Cleverdon Subject: Energy Policy Act 1992 - Provisions Affecting OUT Revised	10/19/92
18	To: Joe Galdo From: Dan Cleverdon Subject: Energy Policy Act	10/19/92
19	To: J. Galdo/Allan Hoffman From: Rob Merriam Subject: EPA 92 Report Language Explanation by Section	10/23/92
20	To: Joe Galdo From: Dan Cleverdon Subject: PNL Appraisal Report	10/29/92
21	To: Joe Galdo From: Rob Merriam Subject: Sections of EPA '92 of Interest to OUT w/explanatory Language from Committee Reports (Final Version)	11/2/92
22	To: Joe Galdo From: Rob Merriam Subject: OUT Implementation Plans for EPA '92	11/5/92
23	To: Joe Galdo From: Dan Cleverdon Subject: ANL Appraisal Report	11/13/92
24	To: Allan Hoffman From: Rob Merriam Subject: Provisions of H.R.11 of Interest to OUT	11/24/92
25	To: Allan Hoffman/Dan Alpert From: Rob Merriam Subject: EPA Act Section-by-Section Implementation One-Pagers (Ver. 2)	12/15/92
26	To: Joe Galdo From: Dan Cleverdon Subject: EPA Act Implementation Sheets for OMR	12/18/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 1 & 1A: Compilation of Planning Support Materials Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: C. Boston - ORNL For: Lloyd Lewis Subject: HGP-EIS (Federal Express)	7/15/92
2	To: Joe Galdo From: Mike Gaffen Subject: DOE Memorandum of Cooperation (MOC) on Energy with Russia	7/17/92
3	Letters to: M. Hunt, C. Boston, A. Campbell From: Lloyd Lewis Subject: Preparation and Transmittal of V-Graphs	8/26/92
4	Various Letters to: (see attached) From: Lloyd Lewis Subject: Copy and Inventory PUNA Geo. Venture Project (& Permits) HGP-EIS	8/31/92
5	Merge Letters to: (see attached) From: Lloyd Lewis, for R. San Martin signature Subject: HGP-EIS Letters of Understanding (see attached for list)	9/1/92
6	To: Allan Hoofman From: Murray McCombs Subject: Rethinking Renewable Energy in "NES - II"	9/28/92
7	Thank you Letters to: (see attached) From: Lloyd Lewis Subject: Working Draft of the HGP-EIS Implementation Plan	10/20/92
8	To: J. Galdo From: Dan Cleverdon Subject: 1993 Crosscut Form Generation	11/3/92
9	To: D. Alpert From: Rob Merriam Subject: Draft Field Office Letters Re: FY93 Field Guidance for Utility Technologies	11/5/92
10	To: A. Hoffman From: Rob Merriam Subject: Outline of Projects at OUT	11/12/92
11	To: J. Galdo From: Rob Merriam Subject: ANL Evaluation Form	11/12/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 2 & 2A: Compilation of Documents Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: A. Jelacic From: D. Diachok Subject: Statement of Work for the Utilities Mailing List	6/5/92
2	To: Geothermal Staff From: D. Diachok Subject: A Script for a Video on Geothermal Energy	6/7/92
3	To: R. Burr From: M. McCombs Subject: Paper Presentation Outline "Renewable Energy Technologies for Rural Power Supply in Developing Countries"	6/19/92
4	To: R. Burr From: M. McCombs Subject: Revised Paper Presentation Outline "Renewable Energy Technologies for Rural Power Supply in Developing Countries"	6/23/92
5	To: R. Burr From: M. McCombs Subject: Draft Paper Presentation Outline "Renewable Energy Technologies for Rural Power Supply in Developing Countries"	7/7/92
6	To: R. Burr From: M. McCombs Subject: Update Faxed Paper Presentation Outline "Renewable Energy Technologies for Rural Power Supply in Developing Countries"	7/14/92
7	To: R. Burr From: M. McCombs Subject: Final Paper Presentation Outline "Renewable Energy Technologies for Rural Power Supply in Developing Countries"	7/24/92
8	To: D. Lombard From: D. Diachok Subject: Summary of Peer Review - Part 2 For: D. Lombard	8/10/92
9	To: A. Jelacic From: D. Diachok Subject: Peer Review Summary - Part 1 Draft	8/14/92
10	To: A. Jelacic From: D. Diachok Subject: Reporting Format for the Annual Progress Report	9/1/92
11	To: Allan Jelacic From: Darian Diachok Subject: Questionnaire for Annual Progress Report	9/8/92
12	To: Allan Jelacic From: Darian Diachok Subject: Reporting form for Annual Progress Report	11/15/92
13	To: Allan Jelacic From: Dan Entingh Subject: Annual Operating Plan	11/15/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 2 & 2A: Compilation of Documents Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
14	To: Allan Jelacic From: Darian Diachok Subject: Ideas on Pursuing Utility Strategy	11/16/92
15	To: Allan Jelacic From: Darian Diachok Subject: Annual Operating Plan	11/28/92
16	To: John Mock From: Darian Diachok Subject: Request for Approval of Geothermal Program Review XI	12/7/92
17	To: Allan Jelacic From: Darian Diachok Subject: Script on Geothermal Energy for NREL Utility film	12/8/92
18	To: Ted Mock From: Darian Diachok Subject: 1992 IGCC Letters Re: Work Group Input for Secy's Rept to Congress	12/17/92
19	To: Allan Jelacic From: Darian Diachok Subject: Annual Operating Plan	12/23/92
20	To: Allan Jelacic From: Darian Diachok Subject: Synopsis of NREL script	12/23/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 2 & 2A: Compilation of Budget Support Documentation Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	Memorandum to: All GD Program Managers From: T. Mock Subject: The Creation of a Divisional Annual Operating Plan (AOP)	7/6/92
2	To: A. Jelacic From: D. Diachok Subject: Compilation of Geothermal Budget History	8/4/92
3	To: Gladys Hooper From: D. Diachok Subject: Geothermal Budget History (FY1980-1993)	11/25/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 2 & 2A: Compilation of Technical Briefings and Presentations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: A. Jelacic From: D. Diachok Subject: Forty Minute Presentation on the Geothermal Program	7/10/92
2	To: T. Mock From: D. Diachok Subject: Congressional Testimony Outline Re: Direct Uses of Geothermal Heat and Geothermal Heat Pumps	7/15/92
3	To: A. Jelacic From: M. Gaffen Subject: Study: The Impact of Taxation on Geothermal Resources (Draft)	7/17/92
4	To: K. Manger (Meridian) From: D. Diachok cc: A. Jelacic Subject: Review Paper on Environmental Aspects of Geothermal Energy Development	8/4/92
5	To: A. Jelacic From: M. Gaffen Subject: Study: The Impact of Taxation on Geothermal Resources (Draft)	8/14/92
6	To: D. Lombard From: D. Entingh Subject: Peer Review Summary	8/25/92
7	To: A. Jelacic From: M. Gaffen Subject: Study: The Impact of Taxation on Geothermal Resources (Final)	9/11/92
8	To: A. Jelacic From: D. Diachok Subject: Annual Operating Plan	10/5/92
9	To: T. Mock From: D. Entingh Subject: Initiatives for an Augmented Geothermal R&D Program	11/11/92
10	To: T. Mock From: D. Entingh Subject: U.S. Hydrothermal Electric Technology Preliminary Outline	11/24/92
11	To: T. Mock From: D. Entingh Subject: Geothermal Fact Sheets	12/1/92
12	To: A. Jelacic From: D. Diachok Subject: Goals & Status of Geothermal R&D Program (Draft)	12/2/92
13	To: T. Mock From: D. Entingh Subject: The Economic Supply of U.S. Geothermal Hydrothermal Electricity: Potential Effects of Technology"	12/18/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Compilation of Technical Briefings and Presentations Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
14	To: A. Jelacic From: D. Diachok Subject: Geothermal Program Briefing Package for New Administration (1st Version)	12/21/92
15	To: A. Jelacic From: D. Diachok Subject: Geothermal Program Briefing Package for New Administration (2nd Version)	12/21/92
16	To: A. Jelacic From: D. Diachok Subject: Geothermal Program Briefing Package for New Administration (3rd Version)	12/23/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Compilation of NES Legislation Materials Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD. ALL NES WORK WAS DONE WITH OUT		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Preparation of DOE Exhibit Booth for GRC Conference Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: A. Jelacic From: D. Diachok/E. Easwaran Subject: DOE/GD Booth at the GRC Meeting	7/1/92

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Revision of Equipment & Services Digest Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Compile Automated Database of U.S. Drilling/Mining/Tunneling Industries Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 2 & 2A: Analysis of Marketing Styles Foreign Companies (International Geothermal) Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: A. Jelacic From: D. Diachok Subject: International Geothermal Marketing Study Status	8/13/92

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 3 & 3A: Compilation of Documents and Background Material Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	From: Jose Barcia, To: Floyd Collins Subject: R&D for District Heating and Cooling	7/2/92
2	From: Jose Barcia, To: Floyd Collins Subject: Attendance at International District Heating & Cooling Association Conference	7/8/92
3	From: Jose Barcia, To: Floyd Collins Subject: Summary of Current Proposals for International Energy Agency District Heating and Cooling Annex IV	7/13/92
4	To: Floyd Collins, From: Jose Barcia Subject: Smart- 1 Cogeneration System	7/24/92
5	To: Floyd Collins, From: Jose Barcia Subject: Jet Refrigeration & Air Conditioning	7/27/92

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 3 & 3A: Compilation of Information Organization and Response Material Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: Floyd Collins From: Jose Barcia Subject: Report on DOE District Heating & Cooling Accomplishments Document	8/11/92
2	To: Floyd Collins From: Jose Barcia Subject: District Heating & Cooling Program - Recipients	8/11/92
3	To: Floyd Collins From: Jose Barcia Subject: Task Assignment & Draft Letters for Program Recipients Review Task	7/13/92
4	To: Floyd Collins From: Jose Barcia Subject: District Heating & Cooling Program: A Decade (1982-1992) of Accomplishments (Pre-Final Draft)	8/12/92
5	To: Floyd Collins From: Jose Barcia Subject: District Heating & Cooling Program: A Decade (1982-1992) of Accomplishments (Final Draft)	9/18/92
6	To: Floyd Collins From: Jose Barcia Subject: District Heating & Cooling Program: A Decade (1982-1992) of Accomplishments (Final Draft - Revisions)	11/9/92
7	To: Floyd Collins From: Jose Barcia Subject: Transmission & Distribution Report (Preliminary Outline)	11/23/92

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 3 & 3A: Compilation of Materials Relating to NES Legislation Deliverable due date: 12/17/92		
ITEM	DESCRIPTION	DATE
1	To: Floyd Collins From: Jose Barcia Subject: Senate Bill S.2166: Section 6301 - Subtitle C-Utilities Section Dealing with IRP; DH&C; Cogeneration	7/9/92

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: NES Status Reports Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Hoffman From: R. Merriam Subject: EPAAct Presentation (Titles I&XII)	3/10/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: Revised Planning Calendar Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: J. Galdo From: D. Cleverdon Subject: Revised Planning Calendar (1/14/93)	1/14/93
2	To: C. Short From: R. Merriam Subject: Legislative Calendar Update (3/15/93)	
2	To: C. Short From: R. Merriam Subject: Legislative Calendar Update (4/5/93)	4/6/93
3	To: C. Short From: R. Merriam Subject: Legislative Calendar Update (4/12/93)	4/12/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4: Compilation of Document Reviews and Preparations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: Joe Galdo From: Mike Gaffen Subject: Review of NEMS: CDR for the Coal Synthetics Submodule (CSS)	12/26/92
2	To: P. Mazariegos From: P. Smith-Tyler Subject: Updated Draft "Controlled Correspondence Manual"	1/12/93
3	To: J. Galdo From: M. Gaffen Subject: NEMS: Natural Gas Transmission and Distribution Module (NGTDM)	1/25/93
4	To: Allan Hoffman From: R. Merriam Subject: Current RET Subsidies/Definitions from EIA Report	2/5/93
5	To: J. Galdo From: M. Gaffen Subject: Review of the NEMS: CDR for Electricity Transmission and Trade (ETT)	2/5/93
6	To: A. Hoffman From: R. Merriam Subject: Tables Identifying Current RET Subsidies/Incentives	2/10/93
7	To: P. Mazariegos From: P. Smith-Tyler Subject: OUT Controlled Correspondence Task Force Report Steering Committee	2/11/93
8	To: S. Launey From: A. Hoffman Subject: Background Information for Cabinet Secretaries	2/16/93
9	To: J. Galdo From: M. Gaffen Subject: NEMS: CDR for the Load and Demand Side Management Submodule - 1/29/93	2/17/93
10	To: J. Galdo/A. Hoffman From: D. Cleverdon Subject: Review and summary of "A Vision of Change for America"	2/19/93
11	To: A. Hoffman From: D. Cleverdon Subject: "Renewable Energy Sources of Fuels and Electricity"	2/24/93
12	To: P. Mazariegos From: P. Smith-Tyler Subject: Reformatting the "Controlled Correspondence Manual" for OUT (Dated 2/25/92)	2/25/93
13	To: A. Hoffman From: D. Cleverdon Subject: Revised Description of Current RET Incentives	2/26/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4: Compilation of Document Reviews and Preparations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
14	To: J Galdo From: D. Cleverdon Subject: Comments on IEA Update of Renewable Sources of Energy - Draft dated 12/15/93	3/1/93
15	To: J. Galdo From: D. Cleverdon Subject: Thoughts on the NEMS Conference	3/5/93
16	To: J. Galdo From: M. Gaffen Subject: NEMS Electric Utility Technology Characterization	3/5/93
17	To: J. Galdo From: D. Cleverdon Subject: Review of NREL Peer Review Draft of Report on RETs and Competitive Bidding (Blair Swezey)	3/10/93
18	To: A. Hoffman From: D. Cleverdon Subject: Additional Information for AMI Document	3/11/93
19	To: A. Hoffman From: D. Cleverdon Subject: Overview of Electric Utility Industry	3/12/93
20	To: A. Hoffman From: D. Cleverdon Subject: Revised of Overview of Electric Utility Industry	3/12/93
21	To: A. Hoffman From: M. Gaffen Subject: List of Renewable Energy Contacts	3/12/93
22	To: A. Jelacic From: R. Merriam Subject: Edits to AMI Incorporating SOLAR-MaT	3/18/93
23	To: Polly M. From: P.Smith-Tyler/M. Fernandez/D. Cleverdon Subject: Final Controlled Correspondence Task Force Report	4/3/93
24	To: J. Galdo From: D. Cleverdon Subject: Weekly Report for OUT	4/20/93
25	To: A. Hoffman From: R. Merriam Subject: Revised Memo on Current RET Incentives	4/22/93
26	To: A. Hoffman From: D. Cleverdon/R. Merriam Subject: Natural Gas Industry Review	4/23/93
27	To: A. Hoffman From: R. Merriam Subject: Replacement of Slides/VuGraphs of DOE Org. Chart	4/23/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4: Compilation of Document Reviews and Preparations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
28	To: J. Galdo From: D. Cleverdon Subject: NEMS Electricity Working Group	4/23/93
29	To: J. Galdo From: D. Cleverdon Subject: Experience on Acquisition of Project Reports	4/23/93
30	To: J. Galdo From: D. Cleverdon Subject: Weekly Report for OUT	5/4/93
31	To: J. Galdo From: D. Cleverdon Subject: Edited Weekly Report for OUT	5/10/93
32	To: J. Galdo From: D. Cleverdon Subject: Weekly Report for OUT (Update)	5/11/93
33	To: J. Galdo From: D. Cleverdon Subject: Edited Weekly Report for OUT	5/17/93
34	To: P. Mazariegos From: Mary Anne Fernandez Subject: Final Controlled Correspondence Report	5/14/93
35	To: P. Mazariegos From: Mary Anne Fernandez Subject: 1st Set of Change Pages: Controlled Correspondence Report	5/24/93
36	To A. Hoffman From: D. Cleverdon Subject: Review of Lab. Working Groups' Position Papers	5/26/93
37	To: J. Galdo From: D. Cleverdon Subject: Revision to Weekly Report for OUT	6/1/93
38	To: J. Galdo From: D. Cleverdon Subject: Weekly Report for OUT	6/7/93
39	To: J. Galdo From: D. Cleverdon Subject: Revised Weekly Report for OUT	6/7/93
40	To: J. Galdo From: M. Gaffen Subject: NEMS: Electricity Working Group Meeting of June 2	6/9/93
41	To: A. Hoffman From: M. Gaffen Subject: Comments on OTA Report on Defense Conversion and Role of DOE R&D Labs	6/10/93

**OFFICE OF UTILITY TECHNOLOGIES
CONTRACT NO.: DE-AC01-91CE35038**

**TASK 4:
Compilation of Spring Planning Documentation
Deliverable due date: 6/19/93**

ITEM	DELIVERABLE	DATE
NO ASSIGNMENTS GIVEN TO BNF TO BE PERFORMED ON THIS TASK		

**OFFICE OF UTILITY TECHNOLOGIES
CONTRACT NO.: DE-AC01-91CE35038**

**TASK 4:
Compilation of Budget Documentation
Deliverable due date: 6/19/93**

ITEM	DELIVERABLE	DATE
1	To: K. Klunder/D. Alpert From: D. Cleverdon Subject: Prepare Graphics for Draft OUT FY94 Budget Review (Presentation to Davis)	1/8/93
2	To: K. Klunder/D. Alpert From: D. Cleverdon Subject: Final OUT FY94 Budget Review (Presentation to Davis)	1/12/93
3	To: G. Elliott From: R. Merriam Subject: Summary of House/Senate/Conference Appropriations Committees Marks (FY93 Markup Comparison)	1/28/93
4	To: G. Elliott From: R. Merriam Subject: Draft FY93 Comparison of Committee Language	1/29/93
5	To: A. Hoffman From: D. Cleverdon Subject: FY 1994 Passbacks	2/19/93
6	To: Dan Alpert From: D. Cleverdon Subject: Review, Edit, Modify Fact Sheet on FY94 OUT Budget	3/10/93
7	To: Dan Alpert From: Ben Loret Subject: Draft Fact Sheet for CE Budget	3/11/93
8	To: J. Galdo From: D. Cleverdon Subject: Five Year Program Plan	4/19/93
9	To: G. Elliott From: R. Merriam Subject: Revised 1/29/93 Congressional Appropriations Committees Language Side-By-Side	4/26/93
10	To: Gloria Elliott From: Merriam Subject: Appropriations Committee Side-By-Side	5/28/93
11	To: K. Klunder From: D. Cleverdon Subject: Support for Internal Review Budget Process	6/2/93
12	To: K. Klunder From: R. Merriam Subject: Revised IRB "Planning Level" Analysis Table	6/8/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: Compilation of Technical Briefings and Presentations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Hoffman From: D. Cleverdon Subject: Biographical Information on Hazel O'Leary	12/22/92
2	To: J. Galdo From: R. Merriam Subject: Edits to IEA Renewable Sources of Energy Tax	1/11/93
3	To: A. Hoffman From: D. Cleverdon Subject: Presentation - Overview of CE for the Armed Forces Industrial College (1st Draft)	1/29/93
4	To: A. Hoffman From: D. Cleverdon Subject: Presentation - Overview of CE for the Armed Forces Industrial College (Hoffman Book Version)	2/5/93
5	To: A. Hoffman From: D. Cleverdon Subject: Presentation - Overview of CE for the Armed Forces Industrial College (Version given out at presentation)	2/5/93
6	To: A. Hoffman From: D. Cleverdon Subject: Presentation - Overview of CE for Chinese Delegation	2/22/93
7	To: R. Kessler From: D. Cleverdon Subject: HGP EIS Briefing for R. San Martin (1st draft dated 2/26/93)	2/26/93
8	To: R. Kessler From: D. Cleverdon Subject: HGP EIS Briefing for R. San Martin (2nd draft incorporated Kessler revisions dated 3/3/93)	3/3/93
9	To: R. Kessler From: D. Cleverdon Subject: HGP EIS Briefing for R. San Martin (3rd draft incorporated Kessler revisions dated 3/4/93)	3/4/93
10	To: A. Jelacic From: R. Merriam Draft of Text for Plan Required by §2202 of E pact	3/17/93
11	To: K. Klunder From: D. Cleverdon Subject: Black & White Version of first part of the Overview "Office of Utility Technologies"	3/26/93
12	To: A. Hoffman From: D. Cleverdon Subject: Final Version Overview "Office of Utility Technologies"	3/31/93

**OFFICE OF UTILITY TECHNOLOGIES
CONTRACT NO.: DE-AC01-91CE35038**

**TASK 4:
Compilation of Technical Briefings and Presentations
Deliverable due date: 6/19/93**

ITEM	DELIVERABLE	DATE
13	To: A. Hoffman From: D. Cleverdon Subject: Presentation & Briefing Materials on the Renewable Energy Production Incentive	4/7/93
14	To: A. Hoffman From: Cleverdon/Carpenter Subject: Presentation to Delegation from Ministry of Energy in China	4/21/93
15	To: J. Galdo From: R. Merriam Subject: 3 Additional Copies of Draft Gas Utility Industry Overview	5/3/93
16	To: J. Galdo From: D. Cleverdon Subject: Preparation of Briefing on Renewable Energy for A. Hoffman Visit w/Finnish Delegation on 6/3/93	5/5/93
17	To: K. Klunder From: Cleverdon/Carpenter Subject: Presentation for Direction of Utility Programs at DOE	5/14/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: Compilation of Legislative Reports Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Hoffman/D. Alpert From: R. Merriam Subject: EAct Implementation One-Pagers (Section-by-Section Analysis)	12/18/92
2	To: A. Hoffman/D. Alpert From: R. Merriam Subject: EAct Implementation One-Pagers (Section-by-Section Analysis - 2nd edition)	12/30/92
3	To: A. Hoffman/D. Alpert From: R. Merriam Subject: EAct Implementation One-Pagers (Section-by-Section Analysis - 2nd draft/revision - footers)	1/6/93
4	To: A. Hoffman From: R. Merriam Subject: EAct Implementation One-Pagers (Section-by-Section Analysis - 3rd draft/revision - dates/milestones)	1/7/93
5	To: D. Alpert From: R. Merriam Subject: EAct Notebook - Table of Contents	1/27/93
6	To: D. Alpert From: R. Merriam Subject: EAct Additional One-Pagers	2/1/93
7	To: A. Hoffman/D. Alpert From: R. Merriam Subject: EAct Implementation One-Pagers (Section-by-Section Analysis - Revisions 2/5/93)	2/5/93
8	To: D. Alpert From: R. Merriam Subject: Legislative History for EAct §1212 (Renewable Energy Production Incentives)	6/4/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: Compilation of Planning Support Materials Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: L. Lewis From: B. Loret Subject: HGP EIS Meeting Minutes (59 sets)	1/5/93
2	To: L. Lewis From: B. Loret Subject: HGP EIS Misc. Info. Mailed to ORNL	1/18/93
3	To: L. Lewis From: B. Loret Subject: Edits/corrections of the HGP EIS State of Hawaii, Cooperating Agency Meeting Minutes	2/1/93
4	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT to BNF	2/9/93
5	To: J. Galdo From: R. Merriam Subject: Detailed Appropriations Actions Timeline	2/16/93
6	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT to BNF	2/19/93
7	To: A. Hoffman From: D. Cleverdon Subject: Creation of Position Descriptions for Economist and Policy Analyst	2/19/93
8	To: J. Galdo From: D. Cleverdon Subject: State-by-State Database for CE/OUT Projects (Form submitted for review)	2/22/93
9	To: J. Galdo From: D. Cleverdon Subject: State-by-State Database for CE/OUT Projects (One Pager Project Listings)	2/24/93
10	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT to BNF	2/26/93
11	To: J. Galdo From: D. Cleverdon Subject: Review and Suggest Changes for OUT Strategic Plan	3/2/93
12	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT to BNF	3/5/93
13	To: A. Hoffman/J. Galdo From: D. Cleverdon Subject: Assignments for OUT to BNF	3/26/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4: Compilation of Planning Support Materials Deliverable due date: 6/19/93		
14	To: A. Hoffman From: D. Cleverdon Subject: Prepared draft response to ES93-007374 Control Correspondence letter	3/31/93
15	To: L. Lewis From: Cleverdon/Fernandez Subject: HGP-EIS Mailing List	4/1/93
16	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	4/2/93
17	To: L. Lewis From: D. Cleverdon/Crowell Subject: Revised HGP EIS Mailing List for ORNL	4/6/93
18	To: L. Lewis From: Cleverdon/Crowell Subject: Revision to HGP EIS Mailing List	4/8/93
19	To: J. Rannels From: R. Carpenter Subject: Creation of 4'X 7' Banner Graphics for PV	4/21/93
20	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	4/23/93
21	To: L. Lewis From: Cleverdon/Crowell Subject: 20 Additional Copies of HGP EIS Mailing List Update	4/29/93
22	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	5/7/93
23	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	5/14/93
24	To: A. Hoffman From: Merriam Subject: 6 Copies of "Working with Congress" by Wm. G. Wells, Jr.	5/18/93
25	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	5/27/93
26	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	6/4/93
27	To: J. Galdo From: D. Cleverdon Subject: Assignments for OUT by BNF	6/11/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Preparation of Geothermal Program Annual Report Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic From: D. Diachok Subject: 1st Draft (3/9/93) of the Geothermal Energy R&D Program: APR for Fiscal Year 1992	3/9/93
2	To: A. Jelacic From: D. Diachok Subject: Final Draft (4/25/93) of the Geothermal Energy R&D Program: APR for Fiscal Year 1992	4/25/93
3	To: A. Jelacic From: D. Diachok Subject: Geothermal Program Review XI Project Summaries	4/27/93
4	To: Jelacic From: Diachok Subject: Geothermal Program Review XI Handout w/Bios & Agenda	4/27/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Publication of Geothermal Program Annual Report Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
DOCUMENT WAS NOT READY FOR PUBLICATION DURING THIS TIME PERIOD		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Compilation of Mailing List for Geothermal Technical and Programmatic Publications Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: T. Mock From: D. Diachok Subject: Transmittal of the Geothermal Division Mailing List on dBase	3/3/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Compilation of General Reference Books Concerning Legislation, Regulation, Development, Economics, and R&D Affecting the Geothermal Industry Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: H. Liebowitz From: D. Entingh Subject: Kalina Geothermal Economics Doc. Prep.	2/16/93
2	To: T. Mock From: D. Diachok Subject: Transition Team Briefing Package	2/26/93
3	To: T. Mock From: D. Diachok Subject: Annual Operating Plan Draft	3/1/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Logistical Planning and Preparation of Geothermal Program Review XI Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: Ted Mock, Allan Jelacic From: Darian Diachok Subject: Graphics for Geothermal Conference.	3/17/93
2	To: Ted Mock From: Darian Diachok Subject: Sample Poster for GRC Mtg 4/93	3/18/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5: Compilation of Documents Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic/R. LaSala From: Mary Anne Fernandez Subject: Geothermal (RIDs) Records Inventory Disposition Schedule (12/18/92)	12/18/92
2	To: A. Jelacic From: D. Diachok Subject: Science Bowl Questions	12/18/92
3	To: A. Jelacic From: D. Diachok Subject: Draft Interagency Geothermal Coordinating Council (IGCC) Report to Congress (1/14/93)	1/14/93
4	To: A. Jelacic From: M. Gaffen Subject: Saudi Annex III	2/19/93
5	To: S. Calvert From: D. Diachok Subject: Revision Interagency Geothermal Coordinating Council (IGCC) Report to Congress (2/19/93)	2/19/93
6	To: G. Hooper/S. Calvert From: D. Diachok Subject: Draft Interagency Geothermal Coordinating Council (IGCC) Report to Congress (3/26/93)	3/26/93
7	To: S. Calvert From: E. Easwaran Subject: Revision Interagency Geothermal Coordinating Council (IGCC) Report to Congress (4/16/93)	4/16/93
8	To: S. Calvert From: E. Easwaran Subject: Revision Interagency Geothermal Coordinating Council (IGCC) Report to Congress (5/3/93)	5/3/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5: Compilation of Budget Support Documentation Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic From: D. Cleverdon Subject: Status of Geothermal Funding Under Support Contract	3/1/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5: Compilation of Technical Briefings and Presentations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic From: D. Diachok Subject: HDR Briefing Package	1/13/93
2	To: A. Jelacic From: D. Diachok Subject: Geothermal Video Script	1/8/93
3	To: A. Jelacic From: D. Diachok Subject: Transition Team Briefing Package	1/8/93
4	To: T. Mock From: D. Entingh Subject: Geothermal Elec. System Labor Requirements	3/1/93
5	To: T. Mock From: D. Entingh Subject: Basis for Applying "BTU-Based" Energy Tax to Geothermal Elec. Systems	3/1/93
6	To: A. Jelacic From: D. Entingh Subject: Review of Annual Energy Outlook - 1993	3/1/93
7	To: A. Jelacic From: D. Diachok Subject: Rewrite of Geothermal Video Script	
8	To: T. Mock From: M. Gaffen Subject: Cost Analysis of All U.S. Geothermal Plants 1973-1992 Summary	3/29/93
9	To: A. Jelacic From: D. Diachok Subject: Transition Team Briefing Document Revisions	3/30/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Compilation of Legislative Materials Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS TIME PERIOD		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5: Compilation of Analyses and Evaluations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: T. Mock From: D. Entingh Subject: Comparison of Technology Characterization	1/15/93
2	To: A. Jelacic From: D. Entingh Subject: Review NEMS Geothermal Electric Components Design Report (CDR)	1/18/93
3	To: A. Jelacic From: D. Diachok Subject: R&D 100 Awards	2/20/93
4	To: A. Jelacic From: D. Entingh Subject: Technology Evolution: Rationale for Geothermal Electric Technologies	3/1/93
5	To: A. Jelacic From: D. Entingh Subject: Technology Characterization: Geothermal Flashed-Steam Electric - Draft II	3/19/93
6	To: A. Jelacic From: D. Entingh Subject: CE Technology Characterization for Geothermal Binary Electricity	3/23/93
7	To: A. Jelacic From: D. Entingh Subject: Revise CE Technology Characterization for Geothermal Heat Pumps	3/25/93
8	To: A. Jelacic From: D. Entingh Subject: Written review comments on draft OTA (Office of Technology Assessment - Report on Renewable Energy Technology: Utility Sector - Geothermal"	5/5/93
9	To: A. Jelacic From: D. Entingh Subject: Geothermal Jobs Fact Sheet - Draft	5/13/93
10	To: A. Jelacic From: D. Entingh Subject: Review NREL - Review of Geothermal Market Opportunities	5/14/93
11	To: T. Mock From: D. Entingh Subject: Draft Comments for House Q&A on Kalena Cycle Testimony	5/20/93
12	To: T. Mock From: D. Entingh Subject: GNP Price Deflator Values	5/24/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5: Compilation of Analyses and Evaluations Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
13	To: T. Mock/S. Calvert From: D. Entingh Subject: Employment Impacts of Geothermal Electric Projects	5/24/93
14	To: T. Mock/S. Calvert From: D. Entingh Subject: Fact Sheet - Labor Impacts on Geothermal Electric Projects	5/24/93
15	To: L. Pratsh/A. Jelacic From: D. Entingh Subject: EE Technology Characterization for Geothermal Heat Pumps	5/26/93
16	To: T. Mock From: D. Entingh Subject: Comparison of "Potential Impact of the Kalina Power Cycle on the U.S. Supply of Economic Geothermal Energy"	6/4/93
17	To: A. Jelacic From: D. Entingh Subject: Review of "Component Design Report for Geothermal Electric Submodule" (NEMS)	6/14/93
18	To: Mock/Jelacic From: D. Entingh Subject: Review of EIA Report on "Renewable Resources in the U.S. Electricity Supply"	6/16/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Preparation of Two Educational Posters on Geothermal Energy Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
Notebook w/compiled misc. information and drafts of the posters Note: This notebook was not delivered to DOE, it is for BNF information (The Final Posters were delivered with the 10/30/93 round of deliverables)		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Preparation of Document on Geothermal Technology for Foreign Markets Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS TIME PERIOD		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5: Geothermal Energy Digest Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: A. Jelacic From: D. Diachok Subject: Equipment & Services Digest (Draft w/GD Program Managers Inputs)	3/1/93
2	To: A. Jelacic From: D. Diachok Subject: Equipment & Services Digest (Faxes to industry for review and comments)	3/20/93
3	To: A. Jelacic From: D. Diachok Subject: Equipment & Services Digest (Spanish Translation Quotes)	3/25/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: First Draft T&D Decade of Accomplishments Report Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: Dietrich Roessler From: Jose Barcia Subject: Research and Development Projects, a summary tables of research and Transmission and Distribution report.	1/19/93
2	To: Dietrich Roessler From: Jose Barcia Subject: Draft - A Decade of Accomplishments report on involvement in T&D research and development.	1/19/93
3	To: Dietrich Roesler From: Jose Barcia Subject: Draft T&D - A Decade of Accomplishments Report (list of projects and status of projects to be included in the report)	2/16/93
4	To: Dietrich Roessler From: Jose Barcia Subject: Draft T&D - A Decade of Accomplishment Report (working draft for review prior to meeting to discuss report)	2/22/93
5	To: Dietrich Roessler From: Jose Barcia Subject: T&D - A Decade of Accomplishments Report (Mailed to John Stovall - Oak Ridge)	2/23/93
6	To: Dietrich Roessler From: Jose Barcia Subject: T&D A Decade of Accomplishments Report (Status Breakdown)	3/15/93
7	To: Dietrich Roessler From: Jose Barcia Subject: Final Draft T&D - A Decade of Accomplishments Report	3/18/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Revised Draft T&D Decade of Accomplishments Report Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: Dietrich Roessler From: Jose Barcia Subject: Draft - T&D Report on Decade of Accomplishments Report (dated: 4/27/93)	4/27/93
2	To: Dietrich Roessler From: Jose Barcia Subject: Interim Draft - T&D Report on Decade of Accomplishments Report (dated: 6/30/93)	6/30/93
3	To: Dietrich Roesler From: Jose Barcia Subject: Draft - T&D Report on Decade of Accomplishments Report (dated: 7/1/93)	7/1/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Final T&D Decade of Accomplishments Report Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
Note: This report was completed and is listed with the deliverables for 10/30/93		

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Documentation and Background Material Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: F. Collins From: J. Barcia Subject: Revision of District Heating & Cooling "Decade of Accomplishments" (25 copies delivered)	1/14/93
2	To: F. Collins From: J. Barcia Subject: Revision of District Heating & Cooling "Decade of Accomplishments" (5 copies delivered)	1/14/93
3	To: F. Collins From: J. Barcia Subject: District Space Heating with Geothermal Resources	3/1/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Information, Organization and Response Material Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
1	To: F. Collins From: J. Barcia Subject: District Heating & Cooling - Decade of Accomplishments Report (50 copies delivered)	2/26/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6: Compilation of Materials Relating to Proposed Legislation Deliverable due date: 6/19/93		
ITEM	DELIVERABLE	DATE
NO WORK WAS PERFORMED ON THIS TASK DURING THIS TIME PERIOD		

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4 thru 4A: NES Status Reports Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
NES Status Reports: Due dates: 12/29/93; 1/26/93; 2/23/93; 3/30/93, 4/27/93. These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4 thru 4A: Revised Planning Calendar Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Revised Planning Calendar: Due date: 1/14/93. These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4 thru 4A: Compilation of Document Reviews and Preparation Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Revised, dated 6/29/93)	6/25/93
2	To: Cathy Short From: Mary Anne Fernandez Subject: Conservation and Renewable Energy Technologies for Utilities	6/30/93
3	To: Joe Galdo From: Rob Merriam Subject: Revised RET Incentives Memo to Include Accelerated Cost Recovery for RETs	7/12/93
4	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 7/13/93)	7/13/93
5	To: Allan Hoffman/Joe Galdo From: Dan Cleverdon/Rob Merriam Subject: Review Integrated Environmental Policy Plan for the Dutch Energy Distribution Sector	7/16/93
6	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 7/19/93)	7/19/93
7	To: Joe Galdo From: Rob Merriam/Rob Carpenter Subject: Estimated Cost of Producing Slides	7/20/93
8	To: Joe Galdo From: Dan Cleverdon Subject: O. Hohmeyer Articles on "Cost of Renewable Technologies in Germany"	7/22/93
9	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 7/26/93)	7/26/93
10	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 8/2/93)	8/2/93
11	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 8/9/93)	8/9/93
12	To: Allan Hoffman/Joe Galdo From: Dan Cleverdon Subject: Memo: On Weekly Reports	8/10/93
13	To: Allan Hoffman/Joe Galdo From: Dan Cleverdon Subject: Review of Gas Industry RD&D Funding Recommendations	8/12/93
14	To: Allan Hoffman/Joe Galdo From: Dan Cleverdon Subject: Revised Memo on Weekly Report Submissions	8/12/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4 thru 4A: Compilation of Document Reviews and Preparation Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
15	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (8/16/93)	8/16/93
16	To: Allan Hoffman From: Mary Anne Fernandez Subject: Individual Development Plan (IDP)	8/17/93
17	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 8/23/93)	8/23/93
18	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 8/30/93)	8/30/93
19	To: Joe Galdo From: Dan Cleverdon Subject: Updated Weekly Report - OUT	8/30/93
20	To: Joe Galdo From: Dan Cleverdon Subject: Addendum to Weekly Report - OUT	8/30/93
21	To: Allan Hoffman From: Dan Cleverdon/J. Fisher Subject: Discussion on Restructuring OUT	8/30/93
22	To: Allan Hoffman From: Dan Cleverdon Subject: 10 Additional Copies of the River Town Video Tape	9/2/93
23	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 9/3/93)	9/3/93
24	To: Allan Hoffman From: Dan Cleverdon Subject: Utility Industry Fact Sheets	9/3/93
25	To: Joe Galdo From: Dan Cleverdon Subject: Weekly Report - OUT (Dated 9/13/93)	9/13/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4 thru 4A: Compilation of Spring Planning Documentation Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Compilation of Spring Planning Documentation: Due date: 6/18/93		
NO WORK WAS GIVEN TO BNF TO BE PERFORMED ON THIS TASK.		

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4 thru 4A: Compilation of Budget Documentation Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Dan Alpert From: Rob Merriam Subject: IRB (FY95) Tables	6/18/93
2	To: Gloria Elliott From: Rob Merriam Subject: FY94 House/Senate/Conference Appropriation Committee Side-by-Side Comparisons	7/6/93
3	To: Gloria Elliott From: Rob Merriam Subject: IRB (FY95) Notebooks	7/6/93
4	To: Joe Galdo From: Dan Cleverdon Subject: Spending and Funds Memorandum	9/10/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4 thru 4A: Compilation of Technical Briefings and Presentations Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Joe Galdo From: Dan Cleverdon Subject: Review of GAO Testimony on CRADAs	6/23/93
2	To: Joe Galdo From: Rob Merriam & Rob Carpenter Subject: Slides for Presentation to Food and Energy Industry Association	7/15/93
3	To: Lloyd Lewis From: Dan Cleverdon/Mary Anne Fernandez Subject: NEPA Compliance Briefing (hard copies done)	7/26/93
4	To: Allan Hoffman/Dan Alpert From: Rob Merriam/Rob Carpenter Subject: Overview Briefing - OUT	8/17/93
5	To: Cathy Short From: Mary Anne Fernandez Subject: OUT - International Program Data Summaries	8/17/93
6	To: Lloyd Lewis From: Dan Cleverdon Subject: NEPA Compliance Briefing (Viewgraphs done)	9/8/93
7	To: Kurt Klunder From: Rob Merriam Subject: Presentations sent to Dave Chamberlain @ DOE Boston Support Office	9/8/93
8	To: Dan Alpert From: Rob Merriam Subject: Estimates of Annual REPI Payments to Public Utilities (Graphs)	9/9/93
9	To: Allan Hoffman From: Rob Merriam Subject: Briefing: Opportunities for Renewable Energy Technologies - The Viewpoint of the Clinton Administration	9/13/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4 thru 4A: Compilation of Legislative Reports Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Joe Galdo From: Rob Merriam Subject: Energy Legislation Summaries	7/30/93
2	To: Joe Galdo From: Rob Merriam Subject: Legislative Summaries	8/5/93
3	To: Gloria Elliott From: Rob Merriam Subject: FY94 Approp. Committee Side-by-side (2nd Draft)	8/5/93
4	To: Joe Galdo From: Rob Merriam Subject: Revised Legislative Summaries (8/26/93)	8/24/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038 TASK 4 thru 4A: Compilation of Planning Support Materials Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 6/18/93)	6/18/93
2	To: Lloyd Lewis From: Dan Cleverdon Subject: HGP-EIS Mailing List (Revisions)	6/24/93
3	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 6/25/93)	6/25/93
4	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 7/2/93)	7/2/93
5	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 7/9/93)	7/9/93
6	To: Joe Galdo From: Dan Cleverdon Subject: Summaries of Periodicals (Dated 7/23/93)	7/21/93
7	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 7/23/93)	7/23/93
8	To: Lloyd Lewis From: Mary Anne Fernandez Subject: HGP-EIS Mail List	7/29/93
9	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 7/30/93)	7/30/93
10	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 8/6/93)	8/6/93
11	To: Joe Galdo From: Dan Cleverdon Subject: Review of Periodicals (Dated 8/13/93)	8/13/93
12	To: Joe Galdo From: Dan Cleverdon Subject: Review of Periodicals (Dated 8/20/93)	8/20/93
13	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 8/27/93)	8/27/93
14	To: Allan Hoffman From: Dan Cleverdon Subject: List of Utilities in 9 Midwestern Flood States	8/30/93
15	To: Joe Galdo From: Dan Cleverdon Subject: Review of Periodicals (Dated 8/30/93)	8/30/93
16	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (Dated 9/3/93)	9/3/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4 thru 4A: Compilation of Planning Support Materials Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
17	To: Joe Galdo From: Dan Cleverdon Subject: Review of Periodicals (Dated 9/3/93)	9/3/93
18	To: Dan Alpert From: Rob Merriam Subject: Graph of REPI Estimates	9/3/93
19	To: Joe Galdo From: Dan Cleverdon Subject: Assignments of OUT by BNF (9/10/93)	9/10/93
20	To: Joe Galdo From: Dan Cleverdon Subject: Uncompleted Assignments of OUT by BNF (Dated 9/17/93)	9/17/93

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 4B: Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
TASK 4B: <ul style="list-style-type: none">• Delegation of Authority Task Force Report: Due 10/8/93• State-by-State Data Base: Due 10/8/93• Technology Fact Sheets: Due 10/8/93• UNESCO Solar Summit Technical Papers: Due 10/20/93		
1	To: Dan Ancona From: Jose Barcia Subject: Delegation of Authority Task Force Report	10/8/93
2	To: Joe Galdo From: Joe Fisher Subject: State-by-State Data Base (Previously Submitted - but copies are attached)	10/8/93
3	To: Joe Galdo From: Joe Fisher Subject: Technology Fact Sheets (Previously Submitted - but copies are attached)	10/8/93
4	To: Allan Hoffman & Dave Lombard From: Joe Fisher Subject: UNESCO Solar Summit Technical Papers (copies of reports turned into A. Hoffman & D. Lombard) BNF copy can be found in the BNF Resource Library	10/29/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Preparation of Geothermal Program Annual Report Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Preparation of Geothermal Program Annual Report: Due date: 3/1/93		
These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS DELIVERED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Compilation of Mailing List for Geothermal Technical and Programmatic Publications Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Compilation of Mailing List for Geothermal Technical and Programmatic Publications Due date: 12/31/92		
These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Compilation of General Reference Books Concerning Legislation, Regulations, Development, Economics and R&D Affecting the Geothermal Industry Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Compilation of General Reference Books Concerning Legislation, regulations, development, economics, and R&D affecting the geothermal industry. Due date: 1/15/93		
These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5 thru 5B: Logistical Planning and Preparation of Geothermal Program Review XI Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	Geothermal Program Review XI: (Proceedings) "Geothermal Energy - The Environmentally Responsible Energy Technology for the Nineties"	9/14/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5 thru 5B: Compilation of Documents Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: John Mock From: Mike Gaffen Subject: Information & Reports on Government Taxation/Subsidies for Geothermal Facilities	8/20/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5 thru 5B: Compilation of Budget Support Documentation Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: Allan Jelacic From: Dan Cleverdon/Darian Diachok Subject: Status of Geothermal Task Funding (Dated 7/21/93)	7/21/93
2	To: Allan Jelacic From: Dan Cleverdon/Darian Diachok Subject: Status of Geothermal Task Funding (Dated 8/2/93)	8/2/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Compilation of Technical Briefings and Presentations Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Compilation of Technical Briefings and Presentations: Due date: 6/17/93. These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS DELIVERED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Compilation of Legislation Materials Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Compilation of Legislation Materials Due date: 6/17/93. These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 5 thru 5B: Preparation of Document on Geothermal Technology for Foreign Markets Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
Preparation of Document on Geothermal Technology for Foreign Markets Due Date: 9/1/93		
NO WORK WAS GIVEN TO BNF TO BE PERFORMED ON THIS TASK.		

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5 thru 5B: Compilation of Analyses and Evaluations Deliverable due date: 9/17/93		
ITEM	DELIVERABLE	DATE
1	To: John Mock/Stan Calvert From: Dan Entingh Subject: Niches for Geothermal Energy in the Distributed Utility of the Future	6/29/93
2	To: Allan Jelacic From: Dan Entingh Subject: Comments and Geothermal Facilities in Hawaii Geothermal EIS Preliminary Project Description	7/9/93
3	To: Allan Jelacic From: Dan Entingh Subject: Analysis Framework for Geothermal Division Programmatic Research Objectives	7/20/93
4	To: Allan Jelacic From: Dan Entingh Subject: Proposed Analysis of Impacts of Objectives of the Geothermal Division	7/30/93
5	To: Allan Jelacic From: Mike Gaffen Subject: Chronological Review of MOU on Energy Cooperation DOE/Saudi Arabia	8/9/93
6	To: Allan Jelacic From: Dan Entingh Subject: Comments on Hot Dry Rock Technology Characterization (TC)	8/9/93
7	To: Allan Jelacic From: Dan Entingh Subject: Technology Characterization, Geothermal Flashed Steam Electric	8/17/93
8	To: Allan Jelacic From: Dan Entingh Subject: Technology Characterization, Geothermal Binary Electric	8/17/93
9	To: Allan Jelacic From: Dan Entingh Subject: List of Changes made to Flash and Binary Technology Characterizations, in Drafts of 8/17/93.	8/19/93

OFFICE OF RENEWABLE ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038 TASK 5C: Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
TASK 5C: <ul style="list-style-type: none">• Geothermal Program Annual Report: Due 10/9/93• Geothermal Digest: Due 10/5/93• Geothermal Posters: Due 7/30/93		
1	To: Stan Calvert/Allan Jelacic From: Eyob Easwaran Subject: Geothermal Program Annual Report & Diskettes	9/27/93
2	To: Allan Jelacic From: Eyob Easwaran Subject: Geothermal Posters & Bernoulli disk	9/93
3	To: Allan Jelacic From: Eyob Easwaran Subject: Geothermal Digest & Diskettes	10/8/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6 thru 6B: Final Draft T&D Report Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
1	To: D. Roesler From: Jose Barcia Subject: Final Draft: Transmission & Distribution - A Decade of Accomplishments Report	6/18/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038 TASK 6 thru 6B: Final T&D Report Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
1	To: D. Roesler From: Jose Barica Subject: Final Report: Transmission & Distribution - A Decade of Accomplishments Report	9/17/93

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038		
TASK 6 thru 6B: Compilation of Documentation and Background Material Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
Compilation of Documentation and Background Material Due date: 6/17/93. These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038		
TASK 6 thru 6B: Compilation of Information, Organization and Response Material Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
Compilation of Information, Organization and Response Material: Due date: 1/15/93 These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF ENERGY MANAGEMENT CONTRACT NO.: DE-AC01-91CE35038		
TASK 6 thru 6B: Compilation of Materials Relating to Proposed Legislation Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
Compilation of Materials Relating to Proposed Legislation: Due date: 6/17/93 These reports were previously submitted w/the deliverables for the time period: 12/18/92 thru 6/17/93.		
NO WORK WAS PERFORMED ON THIS TASK DURING THIS DELIVERABLE TIME PERIOD.		

OFFICE OF SOLAR ENERGY CONVERSION CONTRACT NO.: DE-AC01-91CE35038		
TASK 7 thru 7B: Deliverable due date: 10/30/93		
ITEM	DELIVERABLE	DATE
TASK 7, 7A & 7B: <ul style="list-style-type: none">• OSEC Technology Wall Exhibit: Due 4/16/93• Report: Utility PV DSM Projects: Due 10/17/93• Compilation of Legislative Support and Analysis Materials related to EAct Initiatives: Due 10/30/93		
1	To: R. Annan From: R. Carpenter Subject: Wall Exhibit done and mounted in the OSEC hallway	4/93
2	To: Jim Rannels From: Dan Cleverdon Subject: Report: Utility PV DSM Projects	10/12/93
3	Legislative Support and Analysis Materials related to EAct Initiatives Note: All EAct information was delivered with Task 4-4B.	None

OFFICE OF UTILITY TECHNOLOGIES CONTRACT NO.: DE-AC01-91CE35038		
TASK 8 thru 8A: Deliverable due date: 7/30/93		
ITEM	DELIVERABLE	DATE
TASK 8 & 8A: <ul style="list-style-type: none">● Draft Report: "Management Applications and Requirements for the EE LAN: Due 7/16/93● Final Report: "Management Applications and Requirements for the EE LAN: Due 7/30/93 (no final report done waiting for DOE comments)		
1	To: Joe Galdo From: Ken Boras (BCS) Subject: Draft Report: "Management Applications and Requirements for the EE LAN:	7/28/93
2	Subject: Final Report: "Management Applications and Requirements for the EE LAN: NOT COMPLETED WAITING COMMENTS FROM DOE	N/A

DATE

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