

ENVIRONMENTAL PROTECTION
AGENCY

ROCKY MOUNTAIN PRAIRE REGION

REGION VIII

FY 77 COMPREHENSIVE

ENERGY ENVIRONMENT PROGRAM

ACCOMPLISHMENT PLAN

MAY 1976

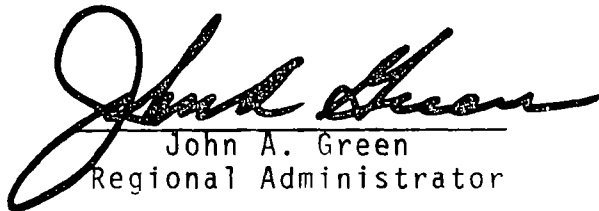
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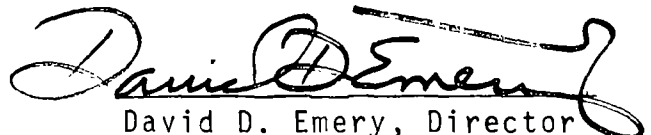
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COMPREHENSIVE ENERGY-ENVIRONMENT PROGRAM
ACCOMPLISHMENT PLAN

MAY 1976

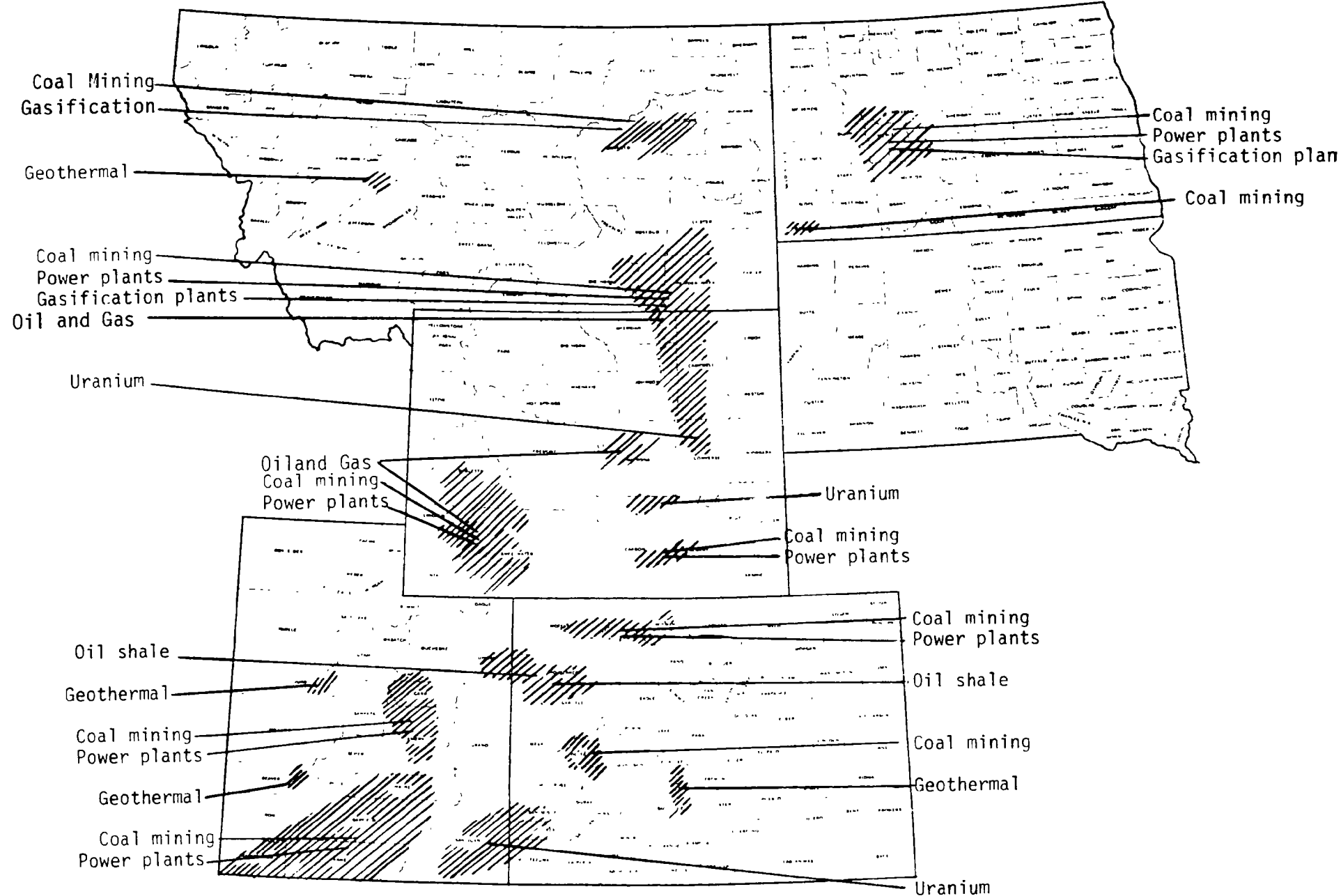

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Revised June 10, 1976



MAJOR ENERGY ACTIVITIES, REGION VIII

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NARRATIVE OVERVIEW

I. Introduction

Evolution of the Program:

FY'77 will be the fourth year that Region VIII has mounted a formal energy-environment program as part of the Region's overall posture of preventing significant environmental impacts before they occur. In FY'74 the Region initiated a Northern Great Plains Resources Program effort which was supported by overtarget resources amounting to seven positions and \$875,000. The energy program was expanded in FY'75 to address region-wide energy developmental activities and to focus priority attention on the environmental impacts from coal and oil shale activities. During FY'75, the Region VIII Northern Great Plains Resources Program effort was integrated into the Comprehensive Regional Energy Program.

The FY'75 Comprehensive Energy Program received overtarget support of 14 positions and some \$2.5 million. To direct implementation of the FY'75 program, the Office of Energy Activities was established as a staff office to the Regional Administrator in July 1974. The FY'76 program continued the FY'75 activities and overtarget support consisted of the 14 positions and \$1.5 million. The FY'77 Accomplishment Plan is a further continuation of the FY'74, '75 and '76 Accomplishment Plans.

Region VIII Energy Resources Activities

One-half of the nation's coal reserves, forty percent of the economically recoverable uranium reserves, and all commercially feasible oil shale resources are located in Region VIII. Development of other energy sources may also have significant environmental impacts. These include oil and gas, "tight" gas, geothermal, tar sands, solar, and hydroelectricity. Pressures to develop these resources are accelerating due to national policies and programs aimed at achieving independence from international energy source constraints in the face of declining domestic oil and gas production and increasing energy demands. Governmental and industrial initiatives to develop these resources are occurring on a major scale. It is especially important to note that the Federal government controls the majority of the energy fuels in the Region. Thus, the practical experience of Federal planning and regulation of energy resources development will occur in Region VIII.

In order to establish the environmental data base and the management and control processes necessary for the orderly and environmentally sound development of the Region's energy resources, the Region VIII energy-environment program is aligned with the national priorities set forth by the Administration to achieve energy independence. These national priorities for increasing energy supplies include:

- (1) accelerated development of new technologies for production of sythetic fuels, namely gasification and liquefaction of coal and production of oil from oil shale;
- (2) expansion of nuclear-fueled electrical generating capacity;
- (3) intensive utilization of coal for industries and utilities;
- (4) enhanced oil and gas recovery;
- (5) increased attention to solar technologies; and
- (6) development of geothermal resources.

Synthetic fuels production receives major attention in the Region VIII program. Region VIII is potentially the center of commercial activity to convert coal to synthetic natural gas and liquids. Nearly all of the national oil shale developmental activities are in Region VIII including the Federal Prototype Oil Shale Leasing Program and private sector operations.

Mining and conversion of coal to electricity constitutes much of the major development at this time and consequently is the subject of much of the current controversy and environment-development conflict in the Region. Steam electric generating capacity in Region VIII is projected to increase from an existing level of about 7,500 megawatts to about 30,000 megawatts in 1985, a threefold increase -- primarily for export from the Region. Major efforts of the Regional energy-environment program are directed towards defining the environmental impacts of mining and conversion of coal by utilities and developing mechanisms and controls to mitigate the impacts.

II. Fundamentals of the Program

Goals:

Three major goals provide the framework in which the Energy-Environment Program is formulated. These goals are:

- (1) To provide administrative, planning and technical guidance to EPA programs.
- (2) To have strong participation in the intergovernmental resource management processes.
- (3) To maximize the use of energy-environment information.

Strategy

In order to effectively utilize the fiscal and personnel resources available, priorities have been established to provide a focus for the Regional efforts. Primary fuels priorities are coal and oil shale. Secondary priority is placed on oil and gas, uranium, and geothermal with minimal effort towards solar. To limit the areal coverage, nine high priority energy impact areas have been identified. As a key feature of the Regional strategy, AQMA and 208 plans are being formulated for these high priority areas. The target areas have been defined as multi-county areas whose boundaries are generally consistent with the boundaries of regional planning authorities. In addition to the nine areas where 208 and AQMA planning is underway, the assessment for the need of an air quality maintenance plan is underway for another area which may be subjected to potential air problems if a major power generating facility is constructed.

In addition to the 208 and AQMA planning activities, solid wastes, noise and drinking water considerations are being addressed as part of the total environmental planning effort. Special attention has been given to energy program-208 planning relationships. The program is structured so that these activities are complementary. The program also assesses region-wide impacts in an activity designed to tie together the nine target areas and to address broad geographical and atmospheric impacts.

The Program has, during the past fiscal year, developed a partnership role in the Federal management of the National energy program, principally through leadership provided in the Oil Shale Prototype Program, through technical involvement in geothermal activities, and through development of an environmentally responsible Federal Coal Leasing Program. The Energy Program thus provides benefits to EPA that reach far beyond the geographical boundaries of Region VIII. With, in particular, the finalization of coal operating regulations, the Program is advancing to an implementation stage where early assessment of energy initiatives will be critical to the success of the agency.

Monitoring and technical investigations activities are designed to support regional planning and regulatory program needs. First priority is assigned to projects supportive of AQMA-208 plan formulation. A major thrust of the technical effort has been to develop the information base and the regional expertise and specialization needed for evaluating the environmental considerations of energy exploration, extraction, conversion and use. As a result, Region VIII has established technical expertise in the emerging industrial technologies of oil shale processing and coal gasification. Monitoring and technical investigations are oriented to provide the data needed to describe baseline conditions of environmental quality, prediction of environmental impacts and evaluation of abatement and control options. Energy monies are used to supplement the State monitoring networks and after "energy stations" are established they are operated as part of the overall state-wide ambient monitoring networks. Energy-funded monitoring is expected to terminate after three to five years of data collection and stations should then be absorbed into state programs, if still needed. Most of the extramural monitoring and technical investigations needs are related to coal development as most of the oil shale needs are met by drawing on data derived from the Federal Prototype Oil Shale Leasing Program.

The program continues to emphasize the Federal, State, local and Tribal partnership in environmental management. The thrust of this relationship focuses on the role of the states, regional planning agencies, communities, and Indian tribes in environmental management. The program design projects the importance of a strong EPA leadership role in intergovernmental activities. A major emphasis is on the formulation of management processes and procedures for communicating environmental concerns and information to these governmental entities and to integrate the decision-making activities of the appropriate resource managers. A second major emphasis is on the establishment of environmental management authorities on Indian Reservations that are being impacted by energy development on or adjacent to the Reservations.

Maximum utilization of the EPA investment in other energy activities is a fundamental part of the regional strategy. The Energy-Environment Program helps to tie together the EPA effort in Region VIII which totals nearly \$20 million. Added to the four million dollars of FY'75 and '76 projects presently underway in Region VIII are a four and one-half million dollar 208 program in priority energy areas, plus some eleven million dollars of ORD-sponsored projects being conducted in the Region. Region VIII has taken a lead in integrating research, planning, and regional management activities.

A fundamental premise of the program is that utilization of energy-environment data and information by all levels of government to support policy making and implementing decisions is of the utmost importance if the full benefits of governmental energy-environment program investments are to be realized. In order to provide the decision makers with the information base necessary to review alternatives and estimate consequences of different development and management options, it is necessary to develop and implement improved mechanisms and procedures to transfer information in suitable formats to meet the wide-ranging needs of various users. A major initiative will begin with this program to interpret, analyze and disseminate the information gathered during the first three years of the program.

III. The FY'77 Program

The FY'77 Program will strengthen the establishment of an EPA role in the management of the region's energy resources. The FY'77 plan continues to emphasize a balanced program incorporating environmental monitoring, technical investigations, evaluation of control technologies, impact predictions, environmental planning to avoid and prevent pollution and nurturing of processes and institutional arrangements for environmental management (planning and regulations) of energy activities. In the ever-important Federal sector of government, the FY'77 program is designed to provide a strong EPA role with the Departments of the Interior and Agriculture in the management of the national coal resource, an increasingly meaningful and similar role in the development of uranium resources, a more active role in the geothermal exploration activities on Federal and State lands, and a strengthened role in siting energy conversion facilities. The objective of this increasing emphasis on a strong EPA presence in the management of national energy resources is protection of the environment through accurate identification of environmental problems prior to their occurrence and insured application of pollution control technologies to prevent such problems. The early involvement of EPA provides additional insurance that the Nation may meet its energy supply goals.

The trend of the Energy Program has been toward a national involvement in energy development inasmuch as the program activities have direct application to energy development questions outside the geographical boundaries of an administrative region. The FY'77 Program will increase liaison with national energy programs such as those conducted by EPA's Office of Policy Planning and Analysis and thus, the Program serves as a principal source of expertise to EPA Headquarters. This trend has been complemented by the increasing emphasis on transfer of information through data interpretation and utilization. This is especially the case in the FY'77 effort where a major task will commence to accomplish this very important data management activity.

Objectives

Specific objectives of the FY'77 program follow:

- (1) To further develop a strong EPA role in the management of Federal energy resources by increased involvement in planning and overseeing development of Federally-owned energy resources.

- (2) To characterize baseline environmental conditions in energy impact areas and establish cause-effect relationships of change.
- (3) To develop guidance for effluent and emissions control technology and discharge criteria and regulations.
- (4) To maximize the use of energy-environment research activities to support regional programs.
- (5) To continue formulation of environmental plans in energy impact areas.
- (6) To improve Headquarters-interregional liaison.
- (7) To assure appropriate consideration of environmental goals in energy-related environmental impact statements through identification of required analyses.
- (8) To identify, recommend, and implement improvements in the Federal-State administrative and regulatory processes necessary to environmental protection from energy development.
- (9) To provide environmental guidance and direction to interagency energy-related advisory planning and technical committees.
- (10) To support greater state participation in energy-environment decisions.
- (11) To improve EPA-Indian cooperation in energy-environment activities and to develop environmental planning and regulatory capabilities for Indian lands.
- (12) To track the exploration, development, transportation and use of energy resources in Region VIII.
- (13) To implement an Information Transfer System to improve the collection and dissemination of energy-environment information.

IV. FY'77 Program Implementation

Resource Requirements

This Accomplishment Plan presents an overtarget request for continuation of the 14 overtarget positions and \$2.95 million for in-house and extramural activities. An additional four overtarget positions are requested to adequately carry out responsibilities dictated by the Federal Coal Leasing Program. Six positions and \$120,000 of within-ceiling resources are budgeted for direct support of the program. In addition, there are two regional overceiling positions included as a part of the program. An additional 19 workyears of within-ceiling ongoing regional program activity are projected to support the overall program in FY'77. The total workyears shown on the output forms relate only to those specific objectives and do not account for significant efforts in overall management and coordination, program planning and monitoring, intergovernmental activities, etc., and therefore, fall short of the total regional effort.

The FY'77 program requires a minimum of four additional professional positions to adequately carry out responsibilities dictated principally by the coal operating regulations (43 CFR 3041 and 30 CFR 211) published in May, 1976. These positions will be necessary to review proposed plans, operations, and proposed abandonment of lands affected by the development of Federal coal and other Federal energy resources. In order to insure that proper environmental safeguards are an integral part of national energy development, the program will work intimately with Federal and State planning and regulatory bodies in both regulation and compliance monitoring.

Of the \$2.95 million requested for FY'77, \$450,000 is slated for salaries and administrative support for the presently approved positions. An additional \$100,000 is requested for support of the four additional overtarget positions requested for the Federal Coal Leasing Program. The remaining funds are required to support extramural activities carried out through use of grants to state and local agencies, interagency agreements with other Federal agencies, and contracts for consultant services. Possible sources of funding support for extramural needs are identified in this report in an attempt to avoid the one-million dollar shortfall that occurred in FY'76. By suggesting possible sources, it is hoped that a much broader search for funding can be carried out as it is believed that opportunities exist for extramural activities to be supported by programs other than those of the Office of Research and Development.

The Energy Program requires a higher proportion of travel funds than many other programs since it is critical that we transfer information to State and local entities in a timely manner, that we understand the problems on the ground and that we obtain a comprehensive view of energy development gained through site-specific analyses and demonstrations. Thus, we must travel widely across the Region since energy development activities are occurring or are scheduled to occur in most all areas. The need to travel is compounded by the ever-increasing requirement to review specific mining plans submitted to Area Mining Supervisors, to review on-site operations for compliance, to review land planning documents and to review areas proposed for Federal actions related to leasing, mining, release from bond, conversion facilities as well as research sites. The total amount requested in support of the FY'77 program is \$57,100. Without such ability to respond to travel requirements, the program will not be effective.

Once again, it is requested that fiscal and personnel resources for support of the Program be established as a within-ceiling line item for FY'77. The Region VIII Energy-Environment Program is an established, continuing program, and therefore, should not be considered annually as an add-on feature of the Agency's program.

Regional Management

Overall direction and management of the Regional program is the responsibility of the Office of Energy Activities. Because the program is designed to achieve maximum integration of Energy-Environment Program activities into ongoing regional programs, and to avoid duplication of activities, appropriate operating divisions are involved with the administration of certain parts of the program, e.g., base-line monitoring projects are administered by the Surveillance and Analysis Division, air and water planning by the Air and Hazardous Materials and Water Divisions, respectively. This interdivisional approach provides for comprehensive, coordinated, and integrated environmental management utilizing EPA authorities, and programs for air, water (including drinking water), solid wastes, noise and radiation. Because the major part of the financial support has been derived from the Office of Research and Development, close coordination has been established with ORD organization components. Significant efforts are made to coordinate program activities with programs of State and other Federal agencies.

Of the fourteen energy overtarget positions presently allocated to the Region; ten positions are assigned to the Office of Energy Activities; two positions are assigned to the Air and Hazardous Materials Division for technical support and air quality maintenance planning; one position is assigned to the Water Division for support of energy-related 208 planning; and one position is assigned to the Management Division for administrative support.

It should be noted that this accomplishment plan identifies activities to be conducted during the FY'76-'77 transition quarter. However, all funding requests are for FY'77 only.

V. Highlights of FY'76 Accomplishments

A number of significant accomplishments were achieved during FY'76. These were due in part to completion of the staffing of the Office of Energy Activities which, in itself, was a major accomplishment. By bringing the staff up to the full allowance, the Office became much better prepared to respond to energy needs.

Energy-environment issues continued to be highly visible during the past year as typified by such nationally prominent issues as the proposed construction of the Kaiparowits power plant, formulation of the Federal Coal Leasing regulations, and proposed legislation for synthetic fuels development. In part, because of the information and expertise established through the Region VIII Energy-Environment Program, the Region was able to provide expert input and major direction to the national EPA response to these issues.

Region VIII also became extensively involved in international activities in FY'76 because of major energy developments in Canada along the Montana border. The proposed Cabin Creek Mining development along the North Fork of the Flathead River and construction of the Saskatchewan Power Corporation's coal-fired thermal electric plant along the East Fork of the Poplar River received national attention in both countries. Region VIII provided the primary guidance and direction to the Office of International Activities and the U.S. Department of State for analyzing environmental factors and was actively involved in bilateral United States-Canadian discussions and negotiations.

Analysis of proposed Federal actions through the NEPA process continued to be a principal means of providing environmental direction to energy initiatives during the formative stages. In FY'76 the Region reviewed fifteen draft and final environmental impact statements on various energy projects such as power plants, oil shale mining and production, coal mining, uranium mining and milling, oil and gas leases and electric transmission lines. Through the EIS process and negotiations with other Federal agencies, substantial modifications in these energy projects were made to minimize environmental degradation. Region VIII has established a working relationship with Federal resource agencies to provide early technical assistance on important energy proposals.

EPA, through Region VIII, continues to provide leadership on the Oil Shale Environmental Advisory Panel as a member of this Federal-State-Local group which is providing guidance and direction for the Federal Prototype Oil Shale Leasing

Program. Although economic uncertainties exist, lessees are proceeding on schedule with the preparation of detailed development plans. Some of the private sector initiatives have been delayed because of economic factors, but this delay is viewed by many as an opportunity for proper planning and environmental evaluation.

Formulation of environmental plans and management arrangements is well underway as the result of FY'75 and FY'76 initiatives. Phase I AQMA analyses have been nearly completed and Phase II activities will commence in those energy impact areas identified as needing further analyses and development of air quality management strategies. AQMA analyses for energy development areas have been made possible with financial assistance obtained as part of the Energy-Environment Program. Section 208 planning is proving to be an important means of achieving strong intergovernmental coordination and participation in energy-impact planning and as a vehicle for identifying local needs and incorporating local involvement. Although timing of deliverables remains a problem, the Energy Program is developing considerable data for use in the 208 planning process to establish the information and management capability necessary to minimize environmental degradation. Related planning and management efforts are underway to develop regional solid waste plans and community noise control ordinances.

In order to support the AQMA and 208 planning activities and other programmatic needs, a major part of the budget has been directed to expanding the data base necessary for analyses of energy impacts. Because of the availability of "energy funds", the air quality monitoring network was expanded by 36 stations, a 46 percent increase, in the energy-area network. Similarly, the surface water quality network was expanded by 39 stations, a 30 percent increase. Twelve meteorological monitoring stations were operated to establish data necessary for modeling air quality impacts. Nineteen special studies were initiated in FY'76 to further specify environmental baseline characteristics. Ten investigations were begun to define effluent and emission factors and to develop predictive capabilities necessary to evaluate environmental impacts.

Among the foremost accomplishments is the initiation of in-house and extramural activities to commence development of management systems to improve the utilization of data generated through the Energy Program. This action, along with efforts to establish a systematic means of tracking and identifying energy development in the Region, is an integral part of the overall Regional scheme to develop a management process to integrate intragency, intergovernmental, industrial, and public decision making activities.

OVERTARGET REQUEST

1. RPIO: R/A
 4. Allowance Holder 08

2. Date: May 28, 1976

3. Priority

*3 pos in R/D
 2 pos in Reg. Mgt.
 1 pos in A/C Air

5. Appropriation Abatement & Control
 Media Water Quality
 Subactivity 2BA644
State Prog., Regs,
& Guidelines

6. Ontarget Plan		7. Request		8. New Plan	
Pos.	\$000	Pos.	\$000	Pos.	\$000
6*	120	18	2,830	24	2,950

9. Additional Outputs to be Obtained

a. Type of Output

b. Level of Output

10. Reason for Overtarget Request

To implement the Region VIII FY '77 Comprehensive Energy-Environment Program at the FY'76 level, plus four positions to participate in the Federal Coal Leasing Program (see narrative).

* An additional 19 workyears of ongoing activities are directed to support of the Energy Program.

FY'77 FUNDING SUMMARY

<u>Baseline Monitoring</u>	\$650,000
Surface Water - Chemical	(200k)
Ground Water	(100k)
Air	(200k)
Meteorology	(150k)
<u>Technical Investigations</u>	\$660,000
KCLA Ranking Methodology	(55k)
Supply/Demand	(65k)
Ash Pond Seepage	(30k)
Surface Mine Discharges	(10k)
Sediment Yield	(25k)
Reclamation Inventory	(25k)
Rail Transportation Impacts	(55k)
Wastewater Facilities - Energy Conservation Potential	(35k)
Visibility Prediction	(50k)
Regional Air Quality Modeling	(50k)
Wastewater Treatment Costs	(75k)
Economic Impacts of Stream Flow Reduction	(50k)
Eutrophication	(15k)
Minimum Flows	(25k)
Water Quality Modeling	(20k)
Cold Water Modeling	(20k)
Hydrocarbon Characterization	(25k)
Radiological Monitoring	(30k)
<u>Program Development and Implementation</u>	\$1,090,000
Develop State Programs, Management Processes, and Institutional Structures	(600k)
Develop Environmental Programs, Management Processes, and Institutional Structures for Energy Impacted Indian Reservations	(100k)
Review Funding Options for State Assumption of Energy Monitoring Networks	(20k)
Preparation and Dissemination of Technical and Management Information	(120k)
Implement Energy Tracking System	(50k)
Implement Information Transfer System	(50k)
Support Solid Waste and Noise Planning and Management Activities	(120k)
Support Activities to Consult with DOI on Coal Leasing Regulations	(30k)
<u>Salaries and Administration</u>	<u>\$550,000*</u>
TOTAL	\$2,950,000

*Includes \$57,100 for travel funds, \$41,100 of which is within regional travel ceiling. The additional \$16,000 is for travel for the four additional positions requested to support the Federal Coal Leasing Program. If this is funded, the regional travel ceiling should be increased by \$16,000.

GOAL: To provide administrative, planning and technical guidance to EPA programs.

OBJECTIVE #1: To characterize baseline environmental conditions in energy impact areas and establish cause-effect relationships of change.

RATIONALE: Comprehensive environmental quality information is essential for the characterization of the existing environment. This can be achieved through collection and evaluation of existing environmental baseline data as it relates to the National goal to restore, maintain and enhance environmental quality. The monitoring activities are designed principally to support AQMA-208 plan formulation and certain international activities. The monitoring program will assist in defining baseline environmental quality, evaluating trends, identifying areas of non-attainment and areas of need of corrective action, predicting environmental degradation as a result of energy development and recommending changes in environmental standards.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Administer the FY'76 ambient environmental monitoring plan 								
- Surface water - chemical		.01	.05		.50*			work in progress
- Ground Water		.05*						work in progress
- Air		.02			.50*			Grants awarded 10/76
- Meteorology		.02		.05*				Contract awarded 10/1/76
- Measure background visibility in the Northern Great Plains to assess pre-development "baseline" air quality conditions.		.05		.05*	.10			Consultants interpretive report June 1977
<ul style="list-style-type: none"> ● Summarize existing ambient baseline data in appropriate reporting and display formats to describe present regional environmental characteristics 								Reports: Oct 1976
- Surface water - chemical		.02	.05		.25*			Jan 1977
- Ground water		.05	.02		.05			Apr 1977
- Air		.02		.10	.25*			July 1977
- Meteorology		.02		.10*	.15			

*Lead Responsibility

GOAL:

OBJECTIVE:

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> Define site-specific or localized existing environmental quality and cause-effect relationships of change in order to establish site specific and generic environmental management needs. Assist USF&WL to validate an instream needs cold water ecosystem model, Duchesne River, Utah. Determine the effects of flow changes on key ecosystem components in the Tongue River, Montana. Complete survey of aquatic-terrestrial components of the biological resource base in selected segments of the White River Basin, Colorado. 		.02 *	.05		.10			Interim Report- September 1976
		.02	.03		.10 *			Final U of MT Report October 1976
		.02 *	.02		.05			Co-op USBR/State F&G Report- October 1976

*Lead Responsibility

GOAL:

OBJECTIVE #1

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Determine the impact on the regional economy of reduced flow in the Green River.	\$ 50,000	.01	.05*					Develop Procurement Request - March 77 Submit to Headquarters - May 1977 Award - Sept 1977
- Examine trends toward eutrophication of stream systems in selected areas of North Dakota and Wyoming as a result of energy development.	\$15,000	.04*	.04					Develop Procurement Request - March 77 Submit to Headquarters - May 1977 Award - Sept 1977
- Identify and assess options available to insure that surface water flows are managed to include protection of water quality	\$25,000	.01	.05*					Develop Procurement Request - March 77 Submit to Headquarters - May 1977 Award - Sept 1977
- Apply the energy-related surface water quality model to predict water quality impacts in a selected energy subbasin in Yellowstone Drainage.	\$20,000	.01	.05*					Develop Procurement Request - March 77 Submit to Headquarters - May 1977 Award - Sept 1977
- Determine minimum flows required to protect aesthetic and aquatic life values in the Yampa River, Colorado		.05*	.02		.10			State Fish & Game Report - December 1976

*Lead Responsibility

GOAL:

OBJECTIVE 1:

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Determine the impacts of Canadian coal mining and power plant facilities on the flow regime, water quality and ecosystem of the Poplar River, Montana.	<u>1/</u>	.05 *	.05		.25			Final draft State Health Report-July 1977 - USGS data - July 1977 - Inputs to Dept. of State FIS, 1977
- Investigate impacts on U.S. air quality from Canadian Poplar River power plant.	<u>2/</u>	.05*		.05	.25			Air quality data-Aug. 77 Meteorological rpt. Aug. 77 Coal T.E. Analyses-Jan. 77 Visibility Rpt. Aug. 77 SO ₂ Effects Rpt. Jan 77
- Determine habitat requirements, fish distribution and locations of spawning and nursery areas in the East Poplar River, MT.		.04 *	.05		.20			State F&G Report-July 1977

1/ \$100,000 to supplement FY'76 funded effort anticipated from Congressional actions.

* Lead responsibility 2/ \$100,000 to initiate special studies anticipated from Congressional actions.

GOAL:

OBJECTIVE #1

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Continue field testing and refinement of model to evaluate the effects of reduced stream flow on cold water ecosystems.	\$20,000	.02	.02*					Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept 1977
- Identify and quantify specific hydrocarbon compounds in rural ambient air.	\$25,000	.01		.05*				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept 1977
- Develop, assess and implement a regional radiological monitoring network for surface water systems and an analytical capability to measure selected radioactive pollutants originating as a result of energy development.	\$30,000	.01	.01	.05*				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept. 1977
- Estimate visibility degradation on a site-specific and regional basis as a result of single point sources and an accumulation of sources.	\$50,000	.01		.05*				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept. 1977

*Lead Responsibility

GOAL:

OBJECTIVE #1

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Predict long range transport of pollutants (e.g., particulates, NO _x , SO ₂) in areas of complex terrain.	\$50,000	.01		.05*				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sep. 1977
- Determine the impacts of coal development activities in the Tongue River Reservoir, MT.		.05*	.01		.10			State Health Report- July 1977
- Determine water and sediment chemistry and biology of the San Juan River and San Juan Arm of Lake Powell		.05*	.01		.20			Las Vegas ERL Report- July 1977
- Determine the effects of energy development on the aquatic resource on two Upper Missouri Reservoir ecosystems.		.05*	.01		.20			Interim F&WL Report- July 1977
- Collect water quality data for N.F. Flathead River		.02*	.01		.10			Submit Interim Data to 208 agency - Oct. 1976.
● Examine alternative means of providing fiscal support to continue environmental monitoring programs in energy areas.	\$20,000	.10*	.01	.02	.02			Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award Contract - September 1977

*Lead Responsibility

GOAL:

OBJECTIVE:

RATIONALE:

(continuation of Objective 1)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> Establish and prioritize data needs and complete design of the FY'78 monitoring plan. Initiate discussion with states, USGS, etc., and follow through to complete preparation of contracts, grants, and IAGs for FY'78 monitoring plan. 		.05*	.05	.05	.20			FY'78 Monitoring Plan complete - June 1977 Administrative and technical documents complete - July 1977
<ul style="list-style-type: none"> - Surface water - chemical - Ground water - Air - Meteorology 	\$200,000 \$100,000 \$200,000 \$150,000	.01 .01* .01 .01	.05		.25*			
<ul style="list-style-type: none"> - Establish quality assurance criteria for data generating contracts 				.05	.25*			
<ul style="list-style-type: none"> - Assess the quality of that data being utilized in contracts established to evaluate existing data. 			.01		.05*			
<ul style="list-style-type: none"> - Include for new data generating contracts, minimum quality assurance requirements and perform necessary follow-up to insure that these quality assurance procedures are implemented. 			.01		.05*			

*Lead Responsibility

RATIONALE: Advances in energy resource development technology are dynamic processes moving forward in many areas. Advancements in environmental control technology, however, are not directly tied to advancements in industrial technology. To support development of technically feasible and cost effective source controls, discharge criteria and regulations must be developed in a timely manner. Guidance on a technical basis is essential. This guidance can be provided by initiating technical investigations and utilizing subsequent information to support development of effluent and emission regulations. Investigations activities are designed to support regional implementation planning and regulatory program needs.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Continue in-house evaluation of developments in process and environmental control technologies and stay abreast of state-of-the-art of emerging industrial technologies ● Initiate extramural FY'77 technical investigations to identify unique impacts in need of control, to provide source terms for models and to assist in development of BACT, BMP, regulations, etc. 		.50*						
- Develop a system to validate gross energy use rates and provide alternative future supply/demand scenarios	\$65,000	.04*	.02	.02				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept 1977
- Assess the rate and chemical impacts of seepage for ash and other water holding ponds.	\$30,000	.04*	.02	.02				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept 1977

*Lead Responsibility

GOAL:

OBJECTIVE:

RATIONALE:

(continuation of Objective 2)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Assess surface water discharges from existing coal mines and develop a system to monitor changes.	\$10,000	.04*	.01					Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept. 1977
- Assess the impacts of rail transportation of coal in terms of noise, dust, coal dust, disruption and assess economic alternatives to mitigating adverse impacts	\$55,000	.04*	.01	.02				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept. 1977
- Identify economically feasible available technology that can be used to achieve maximum energy efficiency in the operation and maintenance of wastewater treatment facilities.	\$35,000	.01	.05*	.01				Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept. 1977
- Perform an economic assessment of wastewater treatment in individual energy conversion processes, i.e., cost of treatment for reuse/discharge vs. total containment in water-short semi-arid west.	\$75,000	.01	.05*					Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award - Sept 1977

*Lead Responsibility

GOAL:

OBJECTIVE:

RATIONALE:

(continuation of Objective 2)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> • Complete FY'75 and FY'76 extramural projects - Determine air pollutant emissions from coal gasification and oil shale conversion facilities. - Determine impacts of surface coal mining activities on water quality at Gascoyne, ND. - Determine techniques to predict potential impacts on surface-mining of coal in the northern Yellowstone and Missouri River drainages of Montana. - Quantify the amount of flared gas and escaping pollutants from oil and gas wells in Utah and Colorado. - Determine and assess the reclamation potential of Western surface mines. - Develop soil loss evaluation guidelines 	\$25,000	.05*		.05	.01			Report - July 1976
		.02*	.01		.01			USGS Report - October 1976
		.05	.01		.01			Well location maps- October 1976 Meeting to discuss predictive techniques October 1976
		.05*		.05	.01			Consultant's report- November 1976
		.05*						USFS Report - Jan. 1977
		.05*						SCS Interim Report- Jan. 1977

*Lead Responsibility

GOAL:

OBJECTIVE #2

RATIONALE:

(continuation of Objective 2)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Determine the amount of trace elements in the fine particle size range that is being introduced into the atmosphere from the combustion of fossil fuels.		.05*		.05	.02			Consultant's Report - Jan 1977
- Quantify the particulate emissions from coal strip mining activities to assist in estimating regional and/or site-specific coal development impacts.		.05*		.05	.02			Consultant's Report- April 1977
- Develop a leasing, siting and operations guide for geothermal resource development planned or underway within Region VIII to identify expected environmental impacts, mitigating measures, and monitoring requirements.		.10 *						Consultant's Report- August 1977
- Develop a siting guide to aid administrators in decisions on the planning and regulatory procedures needed to mitigate environmental impacts from a uranium industry.		.10*						Consultant's report - Sept. 1977

*Lead Responsibility

GOAL:

OBJECTIVE #2

RATIONALE:

(continuation of Objective 2)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> - Develop a mechanism to better define the reclamation potential and reclamation inventory for western United States surface coal mining activities. - Develop predictive techniques and prevention control technologies for non-point sources in energy impacted areas. • Provide results of technical investigations for development of effluent and emissions regulations to Region VIII operating divisions, NERCs, and Headquarters. • Serve on selected effluent and emissions task forces to participate in the formulation of EPA effluent and emissions regulations for energy facilities as task forces are formed. 	\$25,000	.10*						Workbook - June 1977 Report - July 1977
		.05	.10*					Manual - Oct. 1976
		.10*						
		.20*				.05		

*Lead Responsibility

GOAL: To provide administrative, planning and technical guidance to EPA programs

OBJECTIVE:# 3 : To maximize the use of energy-environment research activities to support regional programs.

RATIONALE: In order to maximize the use of results obtained from research and development program efforts with respect to the environmental aspects of energy development, it is necessary to undertake appropriate activities to identify and monitor ongoing research and development programs and efforts. Several specific research and development projects relating to energy development in Region VIII and other parts of the country are currently underway. A definite knowledge regarding such projects would provide valuable input to regional programs and activities and also would guide technical investigations and planning related activities of the OEA.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none">● Identify, compile, and maintain a listing of EPA and others research activities of special interest to regional programs.● Make specific OEA staff assignments to monitor and evaluate selected research activities.● Transfer appropriate research findings into regional and extra-regional programs through the Regional Information Transfer System.		.25*	.05	.05				Semi-annual reports
		.15 *						
		.25 *						

* Lead responsibility

GOAL: To provide administrative and technical guidance to EPA programs.

OBJECTIVE #4: Continue formulation of environmental plans and establishment of management capabilities in energy impact areas.

RATIONALE: The Regional energy-environment planning program is designed to address both local and regional environmental impacts of energy development. Area-wide waste treatment management (208), Air Quality Maintenance Area (AQMA), solid waste, noise and drinking water plans are being developed for the nine high-priority energy impacted target areas. These plans will develop the regulatory and institutional framework for environmental management, including appropriate land use considerations. Most plans are scheduled for completion in FY'78. Collectively, these activities provide an opportunity for total environmental planning within the context of EPA authorities and programs.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Provide technical assistance to the Air and Hazardous Materials Division for new source and PSD reviews. - Provide new source reviews for power plants, oil shale facilities, coal gasification facilities, etc., for Utah. - Provide consultation on NSPS for coal gasification plants and oil shale retorts. - Assist in the review of PSDs. - Assist in development of action plans for non-attainment in AQCRs for power plants, etc. ● Develop AQMPs for energy impact areas that require a plan as identified from Phase I AQMA analysis. - Review Phase I analysis for energy impact designated areas. 								
		.15		.20*				
		.15		.10*				
		.10		.10*				
		.10		.10*				July 1976
		.10		.15*				Final Report - June 1976

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

(Continuation of Objective #4)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Review consultant's work plan for performing Phase II development.		.10		.15*				Work Plan - July 1976
- Provide consultation during plan development on energy sources emissions characterization.		.15		.20*				
- Assist with the development and analysis of alternative control strategies for AQMAS.		.15		.20*				
- Assist with selection of control strategy for AQMAS.		.15		.15*				
- Complete Phase II AQMP contract for developing AQMPs.		.10		.15*				Consultant's Final Report - Jan. 1978
• Develop 208 plans for nine energy impact areas.				.10				
- Monitor 208 planning activity.		.20	1.00*					Final 208 Plans Due in FY'78.
- Assure that 208 planning activities are coordinated with other planning activities for the areas, i.e., USGS plans, BLM MFPs, HUD 701s, etc.		.05	.10*					

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

Continuation of Objective #4.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Assist the Water Division to review contracts and work agreements between energy 208 planning agencies and consultants for consistency with OEA objectives.		.20*						Continuing Activity
- Provide 208 agencies with results of OEA initiated surface and ground water monitoring and environmental investigations for use in supplementing their monitoring programs.		.20	.10*					Continuing Activity
- Provide an inventory of existing and proposed energy developments to 208 planning agencies.		.10*						October 1976
- Provide estimates of quantity and quality of discharges from energy facilities to 208 planning agencies.		.20*	.05					January 1976
- Provide consultation to 208 agencies as to definition of BMP for non-point source mining and construction activities and BACT for point discharges from mines, power plants, coal gasification facilities, oil shale retorts, uranium mills, etc.		.50*	.05					Continuing Activity

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

continuation of Objective #4.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Review Step 1 facility plans in energy impacted areas for energy development considerations.		.05	.25*					
- Review alternative sub-plans for treatment and control for consistency with OEA objectives and assess environmental impacts of each.		.10	.05					
- Provide 208 planning agencies Federal, State, and local energy-environment legislation and regulations that may affect plan development.		.15*	.05					
- Review alternative environmental management plans and assess the environmental impacts of each.		.10	.10*					
- Provide a list of specific outputs with interim and final dates for all OEA projects.		.15*	.05					July 1976 December 1976 July 1977
● Participate in the state-wide 208 planning process to assist the states to address energy problems in non-designated areas.		.20	.25*					

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

Continuation of Objective #4.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Evaluate the capabilities and needs of water supply systems of 46 communities located in energy impact areas. 		.05	.10*					Consultants' report- October 1976
<ul style="list-style-type: none"> ● Develop comprehensive community noise control ordinances in energy impacted areas. 								
- Colorado		.02		.05*				Model Ordinances - July 1976
- Montana		.02		.05*				Model Ordinances - July 1976
- North Dakota		.02		.05*				Model Ordinances - July 1976
- Wyoming	\$20,000	.02		.05*				Award Grant - Oct. 77
<ul style="list-style-type: none"> ● Implement community noise control programs in selected communities 	\$20,000	.02		.05*				
<ul style="list-style-type: none"> ● Develop regional and community solid waste management plans for energy impacted areas. 								

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

Continuation of Objective #4.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Montana	\$20,000	.02	.01	.02*				Plan Due July 1976
- North Dakota		.02	.01	.02*				Plan Due July 1976
- Wyoming		.02	.01	.02*				Plan Due July 1977
- Colorado		.02	.01	.02*				Award Grant Oct. 76
- Utah	\$20,000	.02	.01	.02*				Plan Due Oct. 1977 Award Grant Oct. 76 Plan Due Oct. 1977
● Develop techniques to predict water and land impacts of energy development.								
- Identify and calibrate a steady state water quality systems model to predict impact of energy development on the quality of surface waters of the Yellowstone River, MT.		.05	.10*					Model Developed - October 1976 Symposium - Oct. 1976 Application of Model to Big Horn River - January 1977 Report - July 1977
- Identify and calibrate a steady state water quality systems model to predict impacts of energy development on the quality of surface waters of the Green River, WY.		.10	.15*					Model Developed - September 1977

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

(continuation of Objective #4)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Identify an air pollution model for use in the Region VIII area through modification of existing large space-scale air quality models.		.05		.10*				Report - Jan. 1977
- Develop economic impact projection models for the Fort Union Coal Region to assist in evaluating the social and economic effects of expanded coal mining and conversion in the Northern Great Plains Region.		.02	.02					Model Developed and Report - July 1976
• Evaluate alternative institutional arrangements for addressing primary and secondary impacts of energy development.								
- Identify environmentally related health impacts associated with living in "boom town" communities. Information to be used by state and local government to assess impacts of "boom town" growth.		.05	.05*					Consultant's Report Due - Oct. 1976
- Develop an action document for rural communities which addresses the myriad of community growth and environmental management problems related to the expanded development of energy resources in Region.		.10	.10*					Consultant's Report Due - Feb. 1977

*Lead Responsibility

GOAL:

OBJECTIVE #4:

RATIONALE:

Continuation of Objective #4.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
Identify the process and constraints of Federal comprehensive area-wide resource use planning. Case study is the Decker-Birney planning unit in Southeastern Montana.		.10*						Consultant's Report Due - Oct 1976

*Lead Responsibility

GOAL: To provide administrative, planning & technical guidance to EPA programs.

OBJECTIVE #5: To improve Headquarters-interregional liaison

RATIONALE: Personnel and administrative support are provided for the Energy-Environment Program by the Office of Planning and Management. Present financial support for extramural projects is primarily derived from the Office of Research and Development. Energy program activities are not limited to the ORD functions, but support and provide meaningful input to other programs. It is important to initiate new relationships and strengthen existing ties with Headquarters and Regional personnel, i.e., Office of Federal Activities, Office of Enforcement, Office of Planning and Management, Office of Water and Hazardous Materials, Office of Air and Waste Management, Office of Research and Development and Regional Administrators, so that broader based energy program utilization and support can be achieved.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> Establish improved communications mechanisms and schedule personal contacts as necessary <ul style="list-style-type: none"> Discuss FY'77 program w/Headquarters and other EPA Regional Offices (Branch Chiefs) Follow-up meetings with Headquarters & Regions (RA & Office Director) Establish mutually supportive relationships and strong Region VIII leadership role <ul style="list-style-type: none"> Solicit financial support for Energy-Environment Program activities. Provide regional input to ORD Program Planning, project site selection, project monitoring, etc. including interagency pass-through energy projects. 		.20 *						July 1976
		.10 *						September 1976
		.05 *			.05			
		.20 *						

*Lead Responsibility

GOAL:

OBJECTIVE: # 5

RATIONALE:

(continuation of Objective 5)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Provide regional input for EPA policy formulation and agency management decisions		.15 *						Continuing Activity
- Integrate Headquarters Research Labs and other Region's activities into Region VIII program		.15 *						Continuing Activity

* Lead responsibility

GOAL: To provide administrative, planning and technical guidance to EPA programs.

OBJECTIVE #6: To assure appropriate consideration of environmental goals in regulations and standards in energy-related environmental impact statements through identification of required analyses.

RATIONALE: Numerous environmental statements are being prepared to evaluate the effects of Federal energy development actions on environmental quality. Such developments could have a major influence on the environmental integrity of the project area as well as the region. It is essential that energy-related impact statements adequately reflect or consider energy development policies, goals, advanced control-process technologies, applicable environmental standards and planning objectives. OEA will provide specialized assistance and expertise to assure the identification, interpretation and integration of these components into the Regional EIS review process.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
• Provide expert review of environmental impact statements of other Federal agencies.		.75	1.60*	.20				
• Participate in preparation of EISs for new source discharge permits for energy sources.		.05	.20*	.10				
• Perform follow-up evaluations of energy-related EISs regarding the implementation of proposed mitigating measures.		.15	.10*	.10				
• Provide guidance to USDI Regional EISs for energy impacted areas.								
- Review outlines, preliminary drafts, etc.		.10	.15*	.10				9 Regional Assessments scheduled for completion by FY'78
• Develop guidance document for preparation of energy EISs.								
- Prepare guidance document for power plants.		.20*	.05	.05				October 1976
- Prepare guidance document for mining plans		.10*	.05	.05				22 USGS mining plans scheduled for start in FY'77.

*Lead Responsibility

GOAL:

OBJECTIVE # 5:

RATIONALE:

(continuation of Objective #6.)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
● Provide guidance to Dept. of State with preparation of EIS of U.S. impacts from Canadian Poplar River power plant.		.05*	.05	.05				

*Lead Responsibility

GOAL: To have strong participation in the intergovernmental resource management processes.

OBJECTIVE #1: To identify, recommend, and implement improvements in the Federal and State administrative and regulatory processes relative to environmental protection from energy development.

RATIONALE: Title Eight of the Energy Facility Planning and Development Act of 1975 calls for steps to reduce the complexities and time requirement of the Federal energy development review process and to promote greater coordination of the regulatory processes. This objective will identify EPA and state and local environmental agencies' roles and recommend procedures to expedite their review processes. This also provides for a review of the effectiveness of legal requirements, administrative procedures and enforcement response.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Review and evaluate legal requirements, administrative procedures and enforcement response and effectiveness of Federal, State and local governmental entities relative to laws, regulations, guidelines, policies, leases, permits, and licenses 		.20	.10	.10		.50*		
<ul style="list-style-type: none"> ● Review with the Federal Energy Administration their project to analyze the EPA administrative and regulatory processes. 		.05*						Meet with FEA January 1977
<ul style="list-style-type: none"> ● Develop recommendations to improve the administrative and regulatory processes of EPA and state and local environmental agencies. 		.15*	.10	.10				July 1977

*Lead Responsibility

GOAL: To have strong participation in the intergovernmental resource management processes.

OBJECTIVE #2: To provide environmental guidance and direction to interagency energy-related advisory, planning and technical committees.

RATIONALE: A number of international federal, state, and local interagency committees have been established to examine complex interdisciplinary environmental problems related to energy development initiatives. EPA needs to project a strong leadership role in these intergovernmental activities. To accomplish this, the Office of Energy Activities will provide guidance and direction to such committees relative to applicable control technologies, potential impacts, environmental standards, regulatory procedures, planning processes, and technical investigations. These objectives can be accomplished most effectively as a participant or chairman of selected regional, interregional and international committees. By participating on these groups, EPA can impact developmental planning processes with proper environmental considerations during the formative stages.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<u>OIL SHALE</u> • Participate on Oil Shale Environmental Advisory Panel (OSEAP) - Attend Panel Meetings - Serve on selected OSEAP workgroups - Provide technical consultation to Oil Shale Mining Supervisor - Review and evaluate progress and findings of prototype leasing program. - Review private sector oil shale research and development		.15*						Monthly (or as scheduled) As Assigned. Average one workgroup continuously.
		.10*						Continuing as needed
		.10*			.10			Continuing as needed
		.30*	.20	.30				Quarterly progress review, detailed development plan reviews.
		.05*	.05		.05			Continuing as needed

*Lead Responsibility

GOAL:

OBJECTIVE #2:

RATIONALE:

Continuation of Objective #2

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<u>GEOTHERMAL</u>								
● Participate on Geothermal Environmental Advisory Panel (GEAP)								
- Attend Panel Meetings		.05*						Semi-annually
- Serve on selected GEAP workgroups		.05*						As assigned
- Evaluate progress and findings of lease program		.05*	.05	.05	.05			Review annual prog- ress reports
<u>WATER RESOURCES COUNCIL</u>								
● Provide management direction to Yellow- stone Level B Study		.03	.10*					
● Provide expert review of energy factors of Yellowstone Level B, e.g., supply- demand, environmental impacts, water requirements		.15	.10*					Review 24 ad-hoc workgroup reports Field Draft report due Aug. 1977
● Complete annual report of energy-related environmental studies in Missouri River Basin in FY'76.		.05*						June 1977
● Serve as member on Missouri River Basin Commission Ad Hoc Power Planning Commit- tee		.10*						Attend quarterly meetings

*Lead Responsibility

GOAL:

OBJECTIVE #2:

RATIONALE:

Continuation of Objective #2.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
● Review Plan of Study, Upper Missouri Level B.		.05	.05*					P.O.S. due September 1977
<u>COLORADO RIVER STORAGE PROJECT</u>								
● Review Peaking Power Task Force Activities.		.05*	.02					Attend quarterly meetings - Environmental Quality Plan October 1977. Final Report - Oct 1977
<u>FEDERAL REGIONAL COUNCIL</u>								
● Participate on Impacts of Energy Resource Development Committee								
- Chair Environmental Impacts Subcommittee		.10*	.05		.05			Bi-monthly meeting
- Conduct conference on energy development regulatory processes		.10*						October 1976
<u>DENVER FEDERAL EXECUTIVE BOARD</u>								
● Participate on Energy & Environment Committee								

*Lead Responsibility

GOAL:

OBJECTIVE #2:

RATIONALE:

Continuation of Objective #2.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Chair Energy & Environment Subcommittee		.10*						Monthly Meetings
- Develop and present a series of re- search and special study meetings directed toward energy development, use and conservation and environmental issues.		.10*						Semi-annually
- Conduct an energy-environmental plann- ing conference.		.10*						Conference - Oct 1976
<u>ORD WESTERN ENERGY RESOURCE DEVELOPMENT COMMITTEE</u>								
• Attend sector meetings.		.05*						Semi-annually
• Serve on oil shale sub-group		.05*						
• Serve on monitoring sub-group		.05*						
<u>USDA SURFACE ENVIRONMENT & MINING</u>								
• Attend SEAM committee meetings		.05*						Quarterly
• Provide input to Energy Research Infor- mation System		.02*						Continuing Activity

*Lead Responsibility

GOAL:

OBJECTIVE #2:

RATIONALE:

Continuation of Objective #2.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<u>WESTERN ENERGY HYDROLOGY INFORMATION & ADVISORY GROUP</u> <ul style="list-style-type: none"> Coordinate and participate in group activities. 		.05*						Quarterly Meeting
<u>INTERNATIONAL ACTIVITIES</u> <ul style="list-style-type: none"> Continue to support IJC and State Dept. with evaluation of U.S.-Canadian alternatives for apportionment of Poplar River 		.15*	.02	.02	.05			Additional items identified in monitoring and EIS tasks.
<ul style="list-style-type: none"> Continue to support IJC, State Dept. and State of Montana with evaluation of air and water quality impacts from Canadian Poplar River Power Generating Project. 		.15*	.02	.05	.10			Additional items identified in monitoring and EIS tasks.
<ul style="list-style-type: none"> Provide technical review of proposals for Flathead River energy development (i.e., Cabin Creek Mine) to determine acceptable levels of control to protect U.S. air and water quality. 		.10*	.02	.02	.10			Additional items identified in monitoring and EIS tasks.

*Lead Responsibility

GOAL:

OBJECTIVE #2:

RATIONALE:

Continuation of Objective #2.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> Administer Polish Grants and integrate findings into Regional Program. 		.25*						Visits to Poland in Sept 76 and May 77. U.S. Visits by Polish Scientists in June 77. Project # 5-534-1 Complete - Sept 77 Project # 5-534-2 Complete - Sept 77

* Lead Responsibility

GOAL: To have strong participation in the intergovernmental resource management processes.

OBJECTIVE #3: To support greater state participation in energy-environment decisions.

RATIONALE: The Nation is looking to the Region VIII States where vast quantities of energy minerals are located, to play a greater role in meeting energy needs. The States desire to play a greater role in the formulation and development of national and regional policies relative to energy production and environmental protection. Most of EPA's programs are such that States have the basic responsibility for the setting of environmental standards and pollution abatement requirements. In order to more effectively integrate environmental considerations into resource management decisions, the States should improve interdepartmental institutional arrangements and management processes.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
• Visit states to review FY'77 Regional Energy Program and to identify interfaces for energy matters.		.05*						January 1977
• Participate in mid-year review of state program plans to see that energy-environment issues have been properly addressed.		.01*	.02	.02				March 1977
• Participate in annual program planning review to see that energy-environment activities are included in the FY'78 program plan.		.03*	.02	.02				June 1977
• Review state continuing planning processes to ensure that energy-environment issues will be addressed.		.05*		.01				June 1977
• Solicit needs of states for monitoring and technical assistance and information utilization		.05*	.01	.01	.05			Users/User needs reports due Sept. 1976

*Lead Responsibility

GOAL:

OBJECTIVE #3:

RATIONALE:

Continuation of Objective #3.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none">● Support establishment of state energy-environment programs, management processes and institutional structures to prioritize and examine energy-environment issues, formulate policies and plans, and coordinate state interdepartmental activities and decisions.● Continue liaison with Western Governor's Regional Energy Policy Office.● Improve liaison with Federation of Rocky Mountain States● Improve communications and technical assistance with the North Dakota Regional Environmental Assessment Program.	\$600,000	.10*	.02	.01				Grants to States - January 1977
		.05*						
		.01*						
		.05*	.01	.01				

*Lead Responsibility

GOAL: To have strong participation in the intergovernmental resource management processes.

OBJECTIVE #4: To further develop a strong EPA role in the management of Federal energy resources by increased involvement in planning and overseeing development of Federally-owned energy resources.

RATIONALE: The Department of Interior has promulgated regulations to control strip mining of Federal coal under the Federal Coal Leasing Program. Existing regulations set forth specific control measures and provide qualitative environmental criteria for ensuring that reclamation can be attained. Another concern is that coal leases comply fully with State air and water quality standards. The regulations provide for DOI consultation with EPA through leasing and operations. Participation in the Leasing Program will allow EPA to impact the process with environmental considerations during pre-mining and operational and abandonment stages.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> ● Participate in integrative assessment of Federal coal lease areas <ul style="list-style-type: none"> - Assist in process of designating lands unsuitable for mining. Review MFPs** for areas offered for leasing. Participate in EMARS*** and EMRIA**** - Assist in ranking KCLAs***** ● Implement an EPA role in planning and regulating coal mining activities. <ul style="list-style-type: none"> - Support activities to consult with DOI at the time of coal mining plan approval and release of bonds for reclamation - Review mining plans; inspect proposed sites; consult with states regarding compliance. - Inspect coal mine sites for compliance with environmental protection requirements. 	 \$50,000 \$30,000 	 1.00* 0.10* .40* 2.00* .60*	 .01 .01 .01 .02 .02	 .01 .01 .01 .02				 Contract - Aug. 76 Preliminary ranking methodology Develop methodology to comparatively rank KCLAs***** Develop proposal - December 1976 Submit to Headquarters - Jan. 1977 Continuing Activity

*Lead Responsibility

**Management Framework Plan

***Energy Minerals Activity

****Energy Minerals Reclamation Inventory and Assessment

***** Known Coal Leasing Areas

GOAL:

OBJECTIVE #4:

RATIONALE:

(continuation of Objective #4)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
- Review required performance standards • Review coal leasing planning and regulatory mechanisms, i.e., EMARS, MFPs, EMRIA, National legislation, EPA Coal Leasing Task Force. - Evaluate impacts of environmental protection requirements: Alluvial valley floors Surface drainage Sedimentation Water quality		.20*	.01	.01				
		.50*	.05	.05				

*Lead Responsibility

GOAL: To have strong participation in the intergovernmental resource management processes.

OBJECTIVE #5: To improve EPA-Indian cooperation in energy-environment activities and to develop environmental planning and regulatory capabilities for Indian lands.

RATIONALE: Indian Tribes in the Region VIII area are owners of a substantial amount of natural resources. These tribes, as any other governmental entity that manages lands, are actively involved in making resource management decisions designed to utilize their land, water, and mineral holdings in an environmentally sound manner. This objective is supportive of the national EPA Indian Action Plan which is designed to facilitate Indian access to EPA offices and to increase awareness within EPA of the issues involved with implementation of environmental protection requirements on Indian lands.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
• Implement information exchange identified as part of the information transfer system design.		.03*						October 1976
• Sponsor a Regional conference for appropriate energy impact Tribal leaders to exchange identified responsibilities for regulation and management of the environment.		.03*	.05	.05	.02			December 1976
• Visit selected Indian Reservations impacted by energy development to identify an appropriate Region VIII response to Indian needs (Selected regional officials).		.07*	.02	.02	.02			3 - Jan 1977 3 - Apr 1977 3 - Jul 1977
• Provide technical assistance with establishment of monitoring networks and evaluation of impacts through AQMA-208 planning processes and other regional programs		.07*	.05	.05	.10			

*Lead Responsibility

GOAL:

OBJECTIVE #5:

RATIONALE:

(continuation of Objective #5)

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
• Support establishment of energy-environment programs, management processes and institutional structures for energy impacted Indian Reservations to examine and prioritize energy-environment issues and formulate policies and plans.	\$100,000	.10*	.05	.05	.03			Contracts and grants to Reservations.

*Lead Responsibility

GOAL: To maximize the use of energy-environment information

OBJECTIVE: # 1 To track the exploration, development, transportation and use of energy resources in Region VIII.

RATIONALE: Throughout the Region VIII area, numerous plans for the exploration, extraction, conversion, transportation, and use of energy resources are being formulated. A "Tracking System", designed to track development of these resources by monitoring the regulatory process, was completed in FY'76. Implementation and operation of the "tracking system" in FY'77 will assist in identifying energy development activities underway and the optimum points in the regulatory process for EPA involvement.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
• Complete construction of energy development activity inventory		.20 *						October 1976
• Establish Federal and State liaison necessary to implement system.		.15 *						November 1976
• Implement tracking system	40,000	.05 *						Purchase of Software Implement - Nov. 1976
• Monitor energy development activities		.10 *						Continuing
• Disseminate energy development status	10,000	.10 *						January, April and June, 1977
• Complete energy development activity maps for states and reservations		.15 *					.05	March 1977

* Lead responsibility

GOAL: To maximize the use of energy-environment information

OBJECTIVE: # 2 : To implement an Information Transfer System to improve the collection and dissemination of energy-environment information.

RATIONALE:

Utilization of energy-environment information and data by decision makers in the governmental, industrial and educational sectors will assist in efforts to bring about better coordination in energy-environment planning, administration and regulatory decision making processes. A request for proposals to design an information transfer system was issued in FY'76. This system will provide EPA Region VIII with an improved systematic procedure for handling inquiries and obtaining and disseminating energy-environment data and information to these decision makers.

TASKS	FUNDING REQUIRED	STAFF SUPPORT						KEY MILESTONES
		OEA	WATER	A&HM	S&A	ENF	MGMT	
<ul style="list-style-type: none"> • Complete Phase I, Information Transfer System. Identification of users and users needs <ul style="list-style-type: none"> - State Agencies - Energy 208s - Industry - Energy impacted communities - Energy impacted Indian Reservations • Award Phase II, Information Transfer System contract design • Complete preliminary design of system • Initiate system testing • Complete final design and implement system <ul style="list-style-type: none"> - Provide compilation, analysis and presentation of energy data through manual and computer-assisted analytical techniques 	 \$50,000 \$120,000	 .05 * .05 * .05 * .05 * .05 * .05 * .25 * .25* .30* .05*	 .05 .05 .05 .02	 .05 .02	 .05	 	 	 Reports - October 1976 October 1976 July 1977 August 1977 September 1977 Develop Procurement Request - March 1977 Submit to Headquarters - May 1977 Award Contract-Sep 77

*Lead Responsibility

DESCRIPTION OF FY'77 TECHNICAL INVESTIGATIONS PROJECTS

Regional energy-environment technical investigations are designed to support regional implementation planning and regulatory program needs. First priority is assigned to activities supportive of AQMA-208 plan formulation. These investigations also assist in developing the regional expertise and specialization needed to investigate the environmental considerations of energy exploration, extraction, conversion and use. Previous investigations have attempted to establish regional expertise in coal-fired electric generating facilities, uranium milling and processing and in the emerging industrial technologies of oil shale retorting, coal gasification and geothermal development. Our FY'77 technical investigations program is designed to refine our expertise in the above areas and to initiate investigations relating to supply/demand, environmental impacts of energy transportation systems and the economics of environmental control.

The technical investigations are arranged into three priority groupings. High priority projects are those activities that are essential to the continuation and success of the regional energy-environment program. The medium and low priority projects are important, but may be undertaken by other Agency program units or deferred for later consideration.

High Priority

1. Supply/Demand \$65,000

Energy demand and supply analysis of selected supply and use options pertinent to western energy fuels to enable tracking demands for those fuels as functions of varying economic and other constraints and promotional opportunities. Provide system to validate gross energy use rates and to provide alternative future demand/supply scenarios. Possible funding source - Office of Planning and Management, Policy Planning Division. This project will aid the Regional Office in the review of EISs and in commenting upon the need for energy resource development initiatives.

2. Ash Pond Seepage \$30,000

Assessment of the rate and chemical impacts of seepage for ash and other water holding ponds, associated by coal conversion plants, and uranium mills in terms of both the unsaturated and saturated zones. Possible funding source - OENI.

Performance of this project will allow decisions to be made relative to the potential impact of ash ponds upon community drinking water supplies if ground water is the source.

3. Surface Mine Discharges \$10,000

Compile and assess surface water discharges from existing coal mines. Develop system to monitor changes identified. Assess control guidelines for adequacy. Possible funding source - OEMI. This project will aid us in the determination of existing data to be used for development of future mining regulations

4. Sediment Yield \$25,000

Application of the results of an existing IAG with the SCS to potential mining areas. Estimates of soil loss and subsequent stream sedimentation for proposed mining activities may be made as a result of the methodology developed. Review of EISs and mining plans will be more meaningful and quantitative.

5. Reclamation Inventory \$25,000

Application of an existing effort to assess the reclamation potential of disturbed lands will be attempted. The project will allow the definition and assessment of potential reclamation success.

6. Rail Transportation Impacts \$55,000

Assess the impacts of rail transportation of coal through region in terms of noise, dust, coal dust, disruption of normal activities, and assess economic alternatives to mitigating adverse impacts. Possible funding source - OEMI. Because communities separate from the energy areas are being impacted by energy development and the mere point that they are in the area does not allow easy evaluation of impacts. This project will solve that problem.

7. Wastewater Facilities - Energy Conservation Potential \$35,000

Identify what available technology, which is economically feasible, can be used to achieve maximum energy efficiency in the operation and maintenance of wastewater treatment facilities. Are energy alternatives being addressed?

- How can energy conversion practices be incorporated into EPA construction grant program?
- What new technology/research is needed to improve the energy efficiency of wastewater treatment facilities?
- Gas production from micro-algae at a municipal wastewater treatment facility? Reasonable assumptions based on available technology indicate that 5% to 10% of a community's natural gas needs may be produced through one-pass fermentation of all available organic wastes such as sewage, refuse and animal manures. Possible funding source - Office of Water

7. Wastewater Facilities - Energy Conservation Potential (Cont'd)

and Hazardous Materials. This reconnaissance effort will provide the agency with information which may be coupled with its construction grants program which will allow the potential savings of energy resources.

8. Visibility Prediction \$50,000

Estimates of visibility degradation will be made on a site-specific and regional basis as a result of single point sources and an accumulation of sources. Consideration of relative importance of fine particles, gases, gas to particle conversions, and meteorological factors in visibility degradation will be emphasized. Possible funding source - OEMI. This program will use and apply the results of a current program to proposed facilities in order to predict visibility degradation.

9. Regional Air Quality Modeling \$50,000

Predictions of long distance (1,000 km) transport of non-reactive pollutants (e.g., particulates, NO_x , and SO_2) in areas of complex terrain will be made. This effort plus reliance upon past efforts will be utilized to map areas of concentrations for comparison against PSD increments. A second phase will look at reactive pollutants. Possible funding source - OEMI, Office of Air and Waste Management.

10. Wastewater Treatment Costs \$75,000

Economic assessment of wastewater treatment in individual energy conversion processes necessary to comply with existing or proposed regulations and water quality standards. Attention to cost of treatment as required for reuse/discharge as compared to total containment in the water-short semi-arid west. Possible funding source - Office of Water and Hazardous Materials.

11. Economic Impact of Stream Flow Reduction \$50,000

Determine the impact on the regional economy (input-output) of reduced flows in the Green River between Fontenelle and Flaming Gorge Dams. Will use existing economic models and biological and fishery data obtained from FY'75 and FY'76 technical investigations in the area. This project will provide the Regional Office and the 208 agency with a tool to assess the economic impacts of larger-scale transbasin diversions of water for energy development from the Green River to eastern Wyoming. Possible funding source - OEMI.

12. Eutrophication

Examination of trends toward eutrophication of stream systems in selected areas of North Dakota and Wyoming as a result of energy development. Possible funding source - OEMI. Potential mitigating measures such

12. Eutrophication (cont'd)

as flow augmentation may need to be defined in order to mitigate against impacts from low flows.

13. Minimum Flows for Water Quality \$20,000

Identify and assess options available to insure that surface water flows are managed to include protection of water quality. Possible funding source - OEMI. Development of the legal constraints will aid the preservation of existing aquatic ecosystems.

14. Water Quality Modeling \$20,000

Application of energy-related surface water quality model to predict water quality impacts in a selected energy-impacted subbasin in the Yellowstone drainage (follow-up to existing contract). Possible funding source - OEMI. This project will allow the Regional Office and the 208 agency to assess the potential water quality degradation from energy resource development or a tributary of the Yellowstone and to promulgate mitigating measures.

15. Cold Water Modeling \$20,000

Continuation of field testing model refinement phase of model to evaluate the effects of reduced stream flows on cold water ecosystems. Possible funding source - OEMI. Development of the cold water fisheries model will allow the evaluation of a minimum stream flow required to maintain a viable fishery.

16. Hydrocarbon Characterization \$25,000

Specific hydrocarbon compounds will be identified and quantified in rural ambient air. High levels of HC concentrations have been measured. Sources will be speculated. Possible funding source - OEMI. Culmination of this program will provide insight and guidance to the Regional Office on evaluation and review of proposed facilities being built in areas currently recording high hydrocarbon levels.

17. Radiological Monitoring \$30,000

Develop, assess, and implement a regional radiological monitoring network for surface water systems and an analytical capability to measure selected radioactive pollutants originating as a result of energy development including uranium, geothermal, coal, oil and gas. Possible funding source - OEMI.

18. Ranking \$50,000

Provide methodology to comparatively rank coal resource areas in terms of ability to mine where reclamation is attainable and assured and where other impacts are appropriate.

Medium Priority

1. Organic Analyses \$15,000

Identify complex organic compounds resulting from energy development and impacts of fates thereof in the hydrologic systems. Water quality degradation and impacts upon the ecosystem will be defined.

2. Environmental Quality Impacts of Gas to Particle Conversion \$40,000

Estimates of the mechanism and impacts involved in gaseous emissions effects on soils, vegetation, and water. Reaction kinetics and translocation studies will serve as major input. This project will define for us the extent of visibility degradation from gaseous emissions and could provide guidance for a regulatory policy.

3. Oil and Gas \$35,000

Amounts of gas flared in Region VIII will be quantified. Quality will be estimated. Economics of field gathering of gas will be investigated. Specific fields such as Rangely, Altamont-Bluebell, Williston, Wattenburg, and Casper area will be focused on. Information developed will be used to allow policy decisions to be made on requiring capture of flared gas and upon the air quality improvement from such policy.

4. NCRI Study \$25,000

Support for North Central Reservoir Investigations Team (USFWS) in conducting studies to characterize biological, chemical and physical conditions in energy impact areas in Fort Peck and Garrison Reservoirs (continuation of existing program). The effects of proposed energy development initiatives upon the aquatic ecosystem will be defined in order that the proper control measures may be required.

5. Drainage \$25,000

Evaluation of fluvial mechanisms extant in the coal and uranium resources regions of the Interior Western United States and determination of the state-of-the-art in drainage restoration across surface-mined areas.

- Describe geohydrologic and biologic interdependencies
- Identify "modeling" methods - mathematical - that describe systems (hydraulic, erosion) pre- and post-mining
- Identify control technologies, if any
- Investigate Belle Ayr South, Wyodak, Big Horn, Decker North, and Decker East

Use of this information will aid the Regional Office in the review of EISs and mining plans as well as providing a data base upon which to develop best management practices for mining.

6. Erosion \$50,000

Evaluate erosion processes in mined areas in terms of achieving long-term stability.

- Field sites - establish through State Reclamation Division and Water Quality entities. Erosion pin transects (Jack Schmidt, MT).

Performance of this long-term monitoring effort will provide the information required to assess the stability or instability of reclaimed areas and hence the actual and potential soil loss and stream sediment yield.

7. Post-Mining Hydrologic System \$25,000

USGS Started - Assess the post-mining hydrologic system of the Eastern Powder River (Belle Fourche) Basin under complete surface mining scenarios varied only to evaluate various options for control of drainage. Investigate various alternatives to maintain water requirements identified.

- Keefer, et.al., (USGS) - topography, precipitation, water balance
- Assess the political, economic, and legal feasibilities of developing a regional mining plan.

8. PSD Scenarios \$25,000

Develop PSD reclassification scenarios for energy impacted areas. The attitude of State and local people will be surveyed as to their preference for reclassification. An assessment of the economic and social impacts from such reclassifications will be made.

9. Lake Powell \$25,000

Effects of energy development initiatives on the biological integrity of the Escalante Arm of Lake Powell and greater Lake Powell ecosystems. Performance of this program will characterize the baseline aquatic conditions in the Escalante Arm and indicate critical indicator species to be used in assessing the impact of water withdrawals and runoff upon the aquatic ecosystem. Definition will allow development of mitigating measures.

10. Coal Spoils \$15,000

Investigate leachate from old coal spoils. Indications of Colstrip and Edna mines do not show decreasing concentrations with time as might be suspected. Impacts upon ground water may be more accurately assessed as a result of this project.

11. Water Quality Model Application \$20,000

Apply simple water quality model analyses to proposed coal mine sites. In conjunction with BLM and USGS. This project presents the opportunity for the application of a simple technique to evaluate water quality degradation from coal mining activities.

12. Minimum Flows \$25,000

Comparative evaluation, using field testing procedures, of various minimum stream flow methodologies for (1) a selected cold water ecosystem and (2) a selected warm water ecosystem. Use of this project will aid in the assessment of the widespread (Region-wide) applicability of the minimum flow models being developed.

13. Underground Injection \$50,000

To identify the specific types of energy development activities that could lead to ground water pollution, the activities that regulations should be developed to control underground injection and necessary control measures.

Low Priority

1. Bacteriological Impacts \$20,000

The magnitude, identity and pathogen nature of bacterial contamination of a aquifer(s) in a selected coal development area of North Dakota. The impacts of mining upon the bacteria and the subsequent impact upon water quality will be determined.

2. Oil and Gas/Water \$20,000

Assess the impacts and implications of water used or to be used to stimulate or enhance oil and gas recovery to include large-scale hydro-fracturing. Assess potential impacts of secondary, tertiary and stimulated recovery of oil and gas from existing investigations. Recommendations for environmental control measures will be developed.

3. Integrative Assessment \$25,000

Continue examination of comprehensive assessment (of impacts) techniques and apply to representative area. Application of ranking methodology will be made in order to assess total environmental impacts from energy resource development.

4. Rail Transportation Economics \$20,000

Develop methodology to determine relative economics of rail transport of coal including analysis of competition for rail and cars. An environmental assessment while reviewing EISs will be possible for the advantages and disadvantages of alternative modes of transportation.

5. Trace Element Efforts \$40,000

Effects of trace elements upon the ecosystem via air deposition and surface runoff will be studied. Metal uptake rates would be established. Use of these data will allow the determination of the need for trace element regulations.

6. Trace Metals

\$20,000

Conduct a trace metal study in mining area of the Upper Clarks Fork Basin. Potential mitigating measures in terms of NPDES permits or BMP will result.

DESCRIPTION OF PROGRAM DEVELOPMENT AND IMPLEMENTATION NEEDS

Program development and implementation needs activities are designed to achieve maximum integration of all program activities into a coordinated Federal-State-local-Tribal management partnership program to support policy making and implementation at all levels of government. The program provides for greater State and Indian involvement in energy-environment issues and encourages an increased coordinated, interdepartmental effort on the part of State governments, not only to meet environmental goals, but to assure effective expenditure of the monies that states will be receiving through severance taxes and bonus royalties.

1. Develop State Programs, Management Processes, and Institutional Structures \$600,000

The states of the Region would each receive \$100,000 to formulate and implement state energy-environment management processes. Elements of a state management process which would be addressed include establishment of a focal point for coordinating energy-environment activities, improved management of environmental aspects of energy resource management, coordination and integration of all executive department activities on energy-environment issues, development of a model mechanism or procedure to coordinate planning activities of individual state agencies.

2. Develop Programs, Management Processes, and Institutional Structures for Energy Impacted Indian Reservations \$100,000

Indian Tribes in the Region have a tremendous stake in the issues of energy development in and adjacent to the Indian Reservations. In the Northern Great Plains, Indian ownership of coal reserves probably amounts to tens of billions of tons. The preservation of the Reservation setting in which Indians live is of utmost concern to Indian Tribal members. They demand that their quality of life be retained with regard to air, land, social setting, and property rights. On March 6, 1975, Administrator Train approved an action plan for bettering EPA-Indian cooperation. This plan becomes even more important since Reservations make up a substantial percentage of the land area in the Region and State programs do not adequately involve the Reservations. Funds would be used to perform an extensive review of existing environmental quality on Reservations and existing environmental problems, to implement an educational program and information system to familiarize the Tribes with their rights and responsibilities insofar as environmental protection on Indian lands, to provide funds for planning and technical assistance, and to develop institutional structures to assure compliance with environmental standards.

The question arising from Indian water rights, energy resources on Indian lands, Tribal boundaries and Indian sovereignty assures that dealing with the Tribes is going to be an area of continuing regional and national concern. Region VIII can assume a lead role in developing expertise in dealing with environmental concerns on Indian lands.

3. Preparation and Dissemination of Technical and Management Information
\$120,000

Utilization of energy-environment data and information by all levels of government to support policy making and implementation decisions is of utmost importance if the full benefits of governmental energy-environment program investments are to be maximized. These funds would provide for compilation, analysis and presentation of energy data generated by the Regional Energy Program through use of manual and computer-assisted analytical techniques.

4. Implement Energy Tracking System
\$50,000

An energy development monitoring system designed to track the development of energy fuels in Region VIII will be completed in August 1976. The project was funded by OEMI with FY'75 funds. Funds are needed to implement the system, primarily to purchase hardware/software equipment and to develop the data base.

5. Implement Information Transfer System
\$50,000

A major effort for FY'77 is to develop a Regional Energy-Environment Information Transfer System. Some \$150,000 was committed to this effort. A preliminary design is scheduled for completion in August 1977. Funds are needed for the purchase of hardware/software equipment to initiate testing and implementation of the system.

6. Support Solid Waste and Noise Planning
\$120,000

Solid waste and noise control planning are an important part of the comprehensive energy-environment program to develop total environmental plans for energy impacted areas. Grants were provided to Montana and Wyoming in FY'76 to develop regional and local solid waste plans for energy impacted areas. Funds are needed to develop plans for impacted areas of Colorado and Utah. It is important that funds be provided this fiscal year if these plans are to be integrated with the 208 and AQMA planning efforts which are scheduled for completion in FY'78. FY'75 funds were provided to Colorado, Montana, and North Dakota to develop comprehensive community noise control programs in communities impacted by energy development. Additional funds are needed to implement these programs. In addition, funds are needed to initiate a program for Wyoming.

7. Support Activities to Consult with DOI on Coal Leasing Regulations
\$30,000

Provide for specialized measuring equipment, maps and specialized consulting services to participate in the DOI Coal Leasing Program.

INTERDIVISIONAL FUNCTIONAL RELATIONSHIPS FOR
REGION VIII ENERGY PROGRAM

Organizational Unit	Function
<u>Office of Energy Activities</u>	Regional focal point and clearing house for energy activities. Principal Advisor to Regional Administrator on energy matters. Coordinates and integrates Regional energy-related program activities. Develops and maintains inventory of present and projected energy developmental activities. With operating divisions identifies monitoring, technological, planning, legislative and regulatory needs. Formulates Regional comprehensive energy-environment program. Develops detailed work plans and monitors progress for the Regional energy program. Evaluates energy demand, supply and development considerations. Coordinates socio-economic analyses and projections for energy impact areas. Provides basic data to 201, 208, 303(e), AQMA, noise, drinking water and solid wastes planning. Coordinates Regional environmental planning and monitoring activities for energy impact areas. Provides professional planning staff assistance to Colorado West Area COG. Integrates activities of Headquarters, research labs, and other regions into Regional program.

INTERDIVISIONAL FUNCTIONAL RELATIONSHIPS FOR
REGION VIII ENERGY PROGRAM

Organizational Unit	Function
<u>Office of Energy Activities</u> (cont'd)	<p>Represents Region on Oil Shale Environmental Advisory Panel and provides advice to Area Oil Shale Mining Supervisor.</p> <p>Coordinates review of reports relating to oil shale lease tract development.</p> <p>Participates on energy-related interagency advisory committees.</p> <p>Review, prepare and disseminate information and data on energy activities, impacts, and management technology.</p> <p>Supports and coordinates energy-related technical investigations.</p> <p>Investigates impacts of energy exploration, extraction, and conversion technology and recommends control measures.</p> <p>Provide expert review of energy-related EISs.</p> <p>Provides technical review of NSPS for energy industries.</p> <p>Identifies energy research needs and pursues ORD support therefor.</p> <p>Coordinates energy R&D activities among NERCs and other Federal agencies.</p>
<u>Water Division</u>	<p>Regional lead for 208 planning activities in program target areas.</p> <p>Serves as Project Officers on selected water contracts.</p> <p>Regional lead for Water Resource Council Level B planning activities in energy areas.</p>

INTERDIVISIONAL FUNCTIONAL RELATIONSHIPS FOR
REGION VIII ENERGY PROGRAM

Organizational Unit	Function
<u>Water Division</u> (cont'd)	<p>Evaluates basin-wide salinity impacts and effects on downstream users.</p> <p>Predicts effects of development on water quality through modeling techniques.</p> <p>With Energy Office and S&A Division, identifies water monitoring needs and evaluates monitoring data.</p> <p>Coordinates energy-related EIS reviews.</p> <p>Coordinates Regional support for EIS preparation.</p> <p>Reviews adequacy of drinking water supplies for impacted communities.</p>
<u>Surveillance & Analysis Division</u>	<p>With Energy Office and Operating Divisions, evaluates data and develops monitoring plans.</p> <p>Prepares interagency agreements, grants documents, and other administrative mechanisms to implement monitoring program.</p> <p>Administers the water data collection program including biological investigations.</p> <p>Administers the air quality and meteorological data gathering and monitoring activities.</p> <p>Provides review, advice, information and assistance in establishing and implementing quality assurance provisions in data generating contracts and/or other monitoring efforts.</p> <p>Provides technical assistance to State and Federal agencies for design and implementation of monitoring systems.</p>

INTERDIVISIONAL FUNCTIONAL RELATIONSHIPS FOR
REGION VIII ENERGY PROGRAM

Organizational Unit	Function
<u>Surveillance & Analysis Div.</u> (cont'd)	Designs and conducts special field surveys and investigations. Responsible for data storage and retrieval operations. Provides graphical and statistical data displays and reports.
<u>Air & Hazardous Materials Div.</u>	Conducts attainment/maintenance analyses of designated potential problem areas and advises and assists the State agencies in developing the necessary SIP revisions. Regional lead for AQMA planning. Regional lead for compliance with significant deterioration regulations. Regional lead for indirect source regulations. With Energy Office and S&A Division identifies air monitoring needs and evaluates data. Provides technical assistance to State and Federal agencies for design of air monitoring systems. Coordinates collection and reduction of meteorological data from monitoring systems. Estimates ambient concentrations of airborne pollutants through the use of diffusion models. Coordinates energy-related reviews of compatibility with all applicable ambient and emissions limitations.

INTERDIVISIONAL FUNCTIONAL RELATIONSHIPS FOR
REGION VIII ENERGY PROGRAM

Organizational Unit	Function
<u>Air & Hazardous Materials Div.</u> (cont'd)	Evaluates radiological considerations of energy development. Assists states and local governments with development of solid waste management plans for impact areas. Evaluates and develops programs for noise control in impact areas. Reviews energy EISs.
<u>Enforcement Division</u>	Assures compliance of industrial and municipal permits in energy areas. Assists in developing BAT for oil shale and coal gasification and associated industries. Coordinates the NSPS and NESHAP effort.