



POLICY ISSUE **(Notation Vote)**

December 5, 1985

SECY-85-388

For: The Commissioners

From: William J. Dircks
Executive Director for Operations

Subject: SPONSORSHIP OF A FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTER (FFRDC) FOR WASTE MANAGEMENT TECHNICAL ASSISTANCE AND RESEARCH

Purpose: To obtain Commission approval of NRC's sponsorship of an FFRDC to provide long-term technical assistance and research for the NRC's program under the Nuclear Waste Policy Act of 1982 (NWP). Commission approval is requested since this would be the first FFRDC sponsored by and dedicated to NRC. In this paper, the term "technical assistance" generally refers to the type of technical assistance contracted for and managed by the Office of Nuclear Material Safety and Safeguards (NMSS). It is the intent that any arrangement for an FFRDC for waste management also cover waste management research contracted for and managed by the Office of Nuclear Regulatory Research (RES).

Category: This paper covers a significant policy on obtaining technical assistance and research for activities under the NWP.

Issues: The long duration of the NWP developmental, pre-licensing, and licensing processes (estimated to be 20-25 years) poses special problems in two critical areas:

(1) Conflict of Interest. NRC's contractors are competing for and winning larger contracts from the Department of Energy's (DOE) Civilian Radioactive Waste Management program (licensee), creating a potential for conflict of interest (real or perceived).

(2) Continuity of Technical Assistance and Research. Federal Procurement Policy requirements (Federal Acquisition Regulation 17.204(e)) limit the contracting period of performance to five years. An assessment of the competitive market would be required at each five-year period, requiring possible re-competition. Long-term continuity in technical assistance and research is not assured.

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These special problems threaten the credibility and continuity of NRC's technical program, which in turn threatens NRC's ability to complete its three-year statutory requirement for licensing a high-level waste repository.

Summary:

Since DOE is the applicant in NRC's licensing hearings for a geologic repository system under the NWA, NRC must take action now to preclude conflict of interest situations involving its technical assistance and research contractors. Also, because of the long-term duration of NRC's regulatory responsibilities under the NWA, continuity in contractor technical expertise must be maintained. In order to both avoid contractor conflict of interest and provide the long-term continuity in technical expertise, the staff is recommending that NRC establish and solely sponsor its own dedicated FFRDC for waste management technical assistance and research. NMSS and RES would use the FFRDC when other contractor expertise is not available because of potential conflict of interest and where long-term continuity is essential.

The FFRDC would be established as a not-for-profit organization that would be free of control by any organization whose affiliations could give rise to conflict of interest. The process to establish an FFRDC would be in accordance with the Office of Federal Procurement Policy's (OFPP) established policies and procedures and would be through a competitive solicitation. The staff has met with representatives from OFPP, OMB's Office of the Budget, and the Office of Science and Technology Policy. All verbally supported the staff's recommendation to establish an FFRDC.

This would require some start-up and transition costs for an orderly phasing of contracts to the FFRDC. However, these can be accommodated within the resources already budgeted for work that would normally be performed in the private sector or at DOE National Laboratories.

It is requested that the Commission approve the proposal for sponsoring an FFRDC, to be called the "Center for Nuclear Waste Regulatory Analyses" (CNWRA), to avoid the potential for conflict of interest and to provide long-term continuity in technical expertise and that the Chairman grant approval to enter into a five-year contract for performance of this project.

Background:

Under the NWPA, NRC is responsible for licensing high-level waste storage and disposal facilities, which will be sited, constructed and operated by DOE. A critical path milestone of the NWPA is NRC's licensing proceeding for the first geologic repository, which must be completed within three years of receipt of DOE's license application. According to DOE's latest published estimates, a license application will be submitted to NRC for review in 1991.

From now until receipt of DOE's license application, NRC is implementing a "prelicensing" guidance and consultation program with DOE to assure that key issues will be identified and resolved as early as possible and that NRC's licensing needs are incorporated into the DOE program. In support of this program, NRC currently has numerous technical assistance and research contracts in the high-level waste (HLW) program with a variety of private sector contractors. Although not contracts in the legal context, NRC also has arrangements for work with some of the DOE National Laboratories. (Hereinafter the term "contractors" will denote both private sector contractors and National Laboratories.)

Due to the relative dominance of DOE's program budget for implementing the NWPA (e.g., \$500-800 million/year compared to NRC's annual technical assistance and research budget of less than \$15 million/year), several NRC contractors have also contracted or are bidding contracts with DOE in its nuclear waste program. To complicate matters further, affected States and Indian Tribes are receiving substantial grants from DOE for their participation in the program (\$24 million requested for FY86). Therefore, NRC, DOE and the affected States and Indian Tribes all offer programs for which the contractors can compete. Given the relative smallness of NRC's program budget, a significant portion of the contractors are opting for the more lucrative DOE contracts. (Enclosure 1 provides a listing of all primary contractors supporting the DOE high-level waste program; and Enclosure 2 provides a listing of all primary contractors supporting the NRC high-level waste technical assistance and research program. Asterisks indicate contractors performing concurrent work for NRC and DOE.)

Discussion:

The staff believes that the concurrent use of contractors by NRC and by any parties involved in the licensing hearing, as well as indirectly-involved parties (such as vendors to licensees) has a potential for organizational conflict of interest (real or perceived). According to the definition in 41 CFR 20-1.54, "organizational conflict of interest" means that:

...a relationship exists whereby a contractor or prospective contractor has present or planned interests related to the work to be performed under an NRC contract which: (1) may diminish its capacity to give impartial, technically sound, objective assistance and advice or may otherwise result in a biased work product, or (2) may result in its being given an unfair competitive advantage.

While both aspects of the definition (impartiality and unfair competitive advantage) are traditionally evaluated on a case-by-case basis for each contract, it is the impartiality aspect that may require a more generic approach to resolution. Based on previous NRC licensing cases, there is a substantial likelihood that a licensing board will apply a strict standard in evaluating conflicts of interest (see Enclosure 3). In addition, because of the contentious nature of the HLW program, intervenors can be expected to wait until the licensing proceeding -- when it would have its maximum effect -- to present conflict of interest charges. Unless NRC takes action now to assure its NWPA contractors will remain free from conflict of interest situations, expert testimony by NRC witnesses could be discounted or deemed biased by the licensing board, resulting in a delay in NRC's schedule for completing its license review.

A typical example of a conflict of interest problem would be a situation whereby a potential contractor may be requested to review technical positions that the same contractor may have developed for DOE. Such potential situations have already been identified by the staff, and key contracts have already been terminated, allowed to expire, or restricted because of the conflict of interest presented by the contractor's work for DOE. (Enclosure 2 also indicates those contractors that have had contracts terminated, allowed to expire, or restricted.)

The result of these conflict of interest situations is that NRC has lost some of its key contractor technical expertise, and action is required to preclude continued erosion in the future. This loss of expertise has been at

the expense of several years of NRC's training contractor employees and bringing them "up to speed" in the high-level waste program -- only to lose them to the more lucrative DOE contracts. Therefore, the NRC NWP program is faced with not only the potential for conflict of interest situations, but also the lack of long-term continuity in technical assistance and research as a result of actions taken to avoid conflict of interest. Given that NRC's responsibilities under NWP span for over twenty years (including licensing of the second geologic repository), continuity in technical expertise and a long-term institutional/corporate memory are as essential to the success of NRC's licensing program as is the need to avoid conflict of interest.

Over the past year and a half, the staff has examined various alternatives for avoiding conflict of interest situations, while maintaining continuity in technical assistance and research. Those alternatives included:

- requiring current NRC contractors to establish separate organizational/managerial schemes for NRC HLW work vs. HLW work for DOE, States, Tribes, and other involved parties;
- entering into an interagency agreement or co-sponsorship arrangement with another Government agency for the use of an existing National Laboratory or a Federally Funded Research and Development Center (FFRDC) that would agree not to perform HLW work for DOE, States, Tribes, and other involved parties;
- sponsoring our own dedicated FFRDC, which would be a not-for-profit organization free of control by any organization whose affiliations could give rise to conflict of interest and that would agree not to perform HLW work for DOE, States, Tribes, and other involved parties; and
- performing all technical work in-house with very limited technical assistance and research contracts to individuals or companies with no present conflict of interest.

A more detailed analysis of those alternatives is contained in Enclosure 4. Of those examined, the staff believes that the most practical alternative for avoiding

conflict of interest, while maintaining continuity of technical support, is the NRC's sponsorship of an FFRDC.

Although some start-up costs can be expected due to an orderly transition from contractors to the FFRDC, technical assistance and research costs would not be expected to be more than the traditional contracting costs since we anticipate using an organization that already has access to facilities and staff (e.g., no new facilities would be established). The policy and procedures for sponsoring an FFRDC are contained in Office of Federal Procurement Policy (OFPP) Letter 84-1, "Federally Funded Research and Development Centers" (April 4, 1984), Enclosure 5.

According to OFPP Policy Letter 84-1, one of the characteristics to be exhibited to qualify for FFRDC identification is that "the activity is brought into existence at the initiative of a Government agency or bureau to meet some special research or development need which, at the time, cannot be met as effectively by existing in-house or contractor resources." A long-term relationship is another criterion to be met before an activity is identified as an FFRDC. When FFRDC's are established, long-term Government relationships are encouraged in order to provide the continuity that will attract high quality personnel to the FFRDC. This relationship should be of a type to encourage the FFRDC to maintain currency in its field(s) of expertise, maintain its objectivity and independence, preserve its familiarity with the needs of its sponsor, and provide a quick response capability. NRC, as the primary sponsor, must undertake the responsibility to assure a reasonable continuity in the level of support to the FFRDC.

OFPP Policy Letter 84-1 delineates the following applicable criteria which should be met before an activity is identified as an FFRDC:

- Performs, analyzes, integrates, supports (non-financial) and/or manages basic research, applied research, and/or development.

- Performance of above functions is either upon the direct request of the Government or under a broad charter from the Government, but in either case the results are directly monitored by the Government.
- The majority of the activity's financial support (70% or more) is received from the Government with a single agency usually predominating in that financial support.
- The activity is operated, managed and/or administered by either a university or consortium of universities, other non-profit organization or industrial firm as an autonomous organization or as an identifiable separate operating unit of a parent organization.
- A long-term relationship evidenced by specific agreement exists or is expected to exist between the operator of the activity and the Government agency.

In addition to the OFPP criteria, existing FFRDC's have their own criteria, such as:

- Freedom from bias; no predilection for particular design, approach, hardware.
- Information needed at leading edge of science and technology.
- Need for diversified skills and specialists.

In view of the potential that an FFRDC could offer for the NRC's program under NWPA, the staff discussed the possibility of sponsoring an FFRDC with representatives from OMB's Office of Federal Procurement Policy and Office of Budget, and the Office of Science and Technology Policy (OSTP). All agreed that NRC's potential conflict of interest situation, as well as the need to maintain long-term continuity of technical support, qualified for the sponsorship of an FFRDC.

An initial item of concern under this alternative was the probability of finding qualified, multi-disciplined organizations interested in establishing an FFRDC of the small size that NRC would need (\$4-15 million/year). Most FFRDC's are sponsored by the Departments of Defense and Energy and have much larger dollar budgets. However, the staff has found that FFRDC's do currently exist with relatively small budgets (e.g., the Army sponsors a Division of the Rand Corporation for its Aroyo Project, which amounts to about \$3 million per year). Also, several large, multi-disciplined organizations have already indicated their interest in establishing an FFRDC of that size for the NRC's NWPA program. Based on the contacts made to date, the staff has concluded that a formal competition for the FFRDC would result in numerous qualified offerors.

Based on the staff's discussions with OMB and OSTP and the guidelines provided under OFPP Policy Letter 84-1, there are several steps that must be taken in order for NRC to obtain the sponsorship of an FFRDC. These steps are summarized below.

- 1) Ensure existing alternative sources (in-house and contractor) for satisfying agency requirements cannot effectively meet the special research needs of NRC.
- 2) The EDO determines that establishment/sponsorship of an FFRDC is necessary to satisfy special needs of NRC that cannot be satisfied effectively by other organizational resources.
- 3) NRC notifies the Office of Science and Technology Policy of its intent to establish an FFRDC (notification to include mission of the FFRDC, scope of activities to be performed, and agency assessment of existing alternative sources).

- 4) Place three notices ("Notices of Intent") over a 90-day period in the Commerce Business Daily and the Federal Register indicating NRC's intention to sponsor an FFRDC and the scope and nature of the effort to be performed by the FFRDC.
- 5) Issue a Request for Proposals at the end of the above 90-day period.
- 6) Based on evaluation of proposals, select the activity to be designated as an FFRDC.
- 7) Notify the National Science Foundation of the FFRDC designation.

The NRC notification letter to OSTP of the intent to establish an FFRDC and the "Notice of Intent" for publication in the Commerce Business Daily and the Federal Register are provided as Enclosures 6 and 7.

Enclosure 8 includes the Scope of Work for a five-year period. The term of a sponsoring agreement is limited by OFPP Policy Letter 84-1 to a period of five years. However, the agreement may be renewed upon completion by NRC of a comprehensive review of our use and need for the FFRDC. The agency retains the right to terminate the sponsoring arrangement with a given FFRDC.

Enclosure 9 includes the Memorandum of Understanding which will be signed by the Executive Director for Operations and the President of the FFRDC. The MOU documents the intent of both parties to maintain a long-term relationship (estimated to be 20-25 years).

The estimated funding* (\$K) for this requirement for the first five years is summarized below:

<u>FY1987</u>	<u>FY1988</u>	<u>FY1989</u>	<u>FY1990</u>	<u>FY1991</u>
4250	6000	6500	7500	7500

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*NOTE: The funding amount may increase by up to 50%, depending on program development and subject to appropriations availability.

Since the needs of the program in the outer years cannot be specifically defined at this time, it is uncertain whether these funding requirements will stabilize or increase.

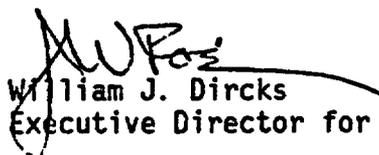
The Division of Contracts proposes to enter into a cost-reimbursement contract. Specific work to be performed will be accomplished under individual Task Orders to be issued by the Contracting Officer.

This project has been reviewed and approved by the Waste Management Review Group and the Senior Contract Review Board.

The Source Evaluation Panel and the Contracting Officer will consider the question of organizational conflicts of interest in accordance with NRC Policy stated in Subpart 20.1.54 of Title 41, Code of Federal Regulations, and will ensure that no organizational conflict of interest exists in the resultant contract award and subsequent long-term relationship with NRC's designated FFRDC, "Center for Nuclear Waste Regulatory Analyses."

Should members of your staff have questions regarding this procurement action, they may contact the following individuals: Joseph Bunting, NMSS (x74590), Paula Wade, NMSS (x74680) or Kathryn Davis, ADM (x27125). To comply with various provisions of the Federal Acquisition Regulation, which are directed toward safeguarding the procurement process, I request that all budget information concerning this project be regarded as confidential until after the contract is awarded.

Recommendation: I recommend that the Commission approve the proposal for sponsoring an FFRDC, to be called "Center for Nuclear Waste Regulatory Analyses" (CNWRA), to avoid the potential for conflict of interest and to provide long-term continuity in technical expertise and that the Chairman grant approval to enter into a five-year contract for performance of this project. Renewal of the sponsoring agreement will be subject to the results of a comprehensive review to be conducted in accordance with OFPP Policy Letter 84-1.


William J. Dircks
Executive Director for Operations

Enclosure: See Next Page

Enclosures:

- (1) Listing of DOE Contractors for HLW Program
- (2) Listing of NRC Contractors for HLW Program under NWPA
(indicating those supporting DOE's waste program)
- (3) Examples of Licensing Cases Involving Conflict of
Interest Issues
- (4) Summary of Staff's Analysis of Alternatives to
Alleviate Conflict of Interest
- (5) OFPP Policy Letter 84-1, "Federally Funded
Research and Development Centers"
- (6) Notification Letter to OSTP
- (7) Notice of Intent
- (8) 5-year Scope of Work
- (9) Proposed Memorandum of Understanding

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Friday, December 20, 1985.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Friday, December 13, 1985, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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ENCLOSURE 1

SUMMARY OF MAJOR DOE CONTRACTORS

DOE HEADQUARTERS: Weston

SALT REPOSITORY PROJECT OFFICE:

Primary Project Contractor: Battelle Memorial Institute *

National Laboratories: Argonne *
Brookhaven *
Los Alamos
Lawrence Berkeley *
Lawrence Livermore *
Oak Ridge *
Pacific Northwest

Other Prime Contractors: Corps of Engineers *
Decision Planning Corp.
Earth Technology Corp.
Grand Junction Operations, Bendix Field Eng.
Hanford Engineering Development Laboratory
Maxima Corp.
Parson-Redpath
Texas Bureau of Economic Geology
U. S. Geologic Survey
SAIC
Stone & Webster Engineering Corp.
Woodward-Clyde Consultants

NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS (TUFF):

Primary Project Contractor: None

National Laboratories: Lawrence Livermore *
Los Alamos
Sandia *

* Currently supporting NRC's high-level waste technical assistance and research program under NWPA.

Other Prime Contractors: EG&G, Idaho, Inc.
Fenix and Scisson
Holmes and Narver
Pan American Services
Reynolds Electric and Engineering, Inc.
SAIC
Wackenhut Services, Inc.
Westinghouse, Waste Technology Services Division
U. S. Geological Survey
University of Nevada

BASALT WASTE ISOLATION PROJECT:

Primary Project Contractor: Rockwell Hanford Operations
National Laboratories: Pacific Northwest (Battelle)
Other Prime Contractors: Morrison-Knudsen
Norcus
Raymond Kaiser Engineers
U. S. Geological Survey
University of Washington
Washington Department of Natural Resources
Westinghouse Hanford Company

SECOND REPOSITORY (CRYSTALLINE):

Primary Project Contractor: Battelle Memorial Institute *
National Laboratories: Argonne *
Lawrence Berkeley *
Lawrence Livermore *
Oak Ridge *
Pacific Northwest (Battelle)
Other Prime Contractors: AECL (Canada)
Maxima Corp.

* Currently supporting NRC's high-level waste technical assistance and research program under the NWPA.

ENCLOSURE 2

NRC NWPA HIGH-LEVEL WASTE CONTRACTORS

FY85 Contractors

Aerospace Corporation
Argonne National Laboratory *
Atomic Energy Commission, Australia
Battelle Memorial Institute (Columbus) *
Brookhaven National Laboratory *
Bureau of Mines * 2/
Corps of Engineers *
CorSTAR (formerly Teknekron)
Ebasco
Engineers International, Inc.
Geotrans * 1/
Lawrence Berkeley Laboratory *
Lawrence Livermore Laboratory *
Manufacturing Sciences, Inc.
National Bureau of Standards
National Science Foundation
SAIC * 1/
Oak Ridge National Laboratory *
Sandia National Laboratory * 2/
Savannah River Laboratory *
University of Arizona
University of Delaware
W. Bland, consultant
Weston Geophysical
Williams & Associates

FY84 Contractors Not Listed Above

Golder Associates * 1/

FY83 Contractors Not Listed Above

Pacific Northwest Laboratory *
Teknekron

* Contractors also performing work for DOE in its high-level waste program.
(Note: Some include DOE Subcontractors)

1/ Contractors that have been terminated (expired) because of conflict of interest.

2/ Contractors that have had NRC contracts restricted because of conflict of interest.

ENCLOSURE 3

LICENSING BOARD CASES INVOLVING
CONFLICT OF INTEREST ISSUES

Long Island Lighting Co. (Shoreham Unit 1), LBP-82-73, 16 NRC 974 (1982):

On June 24, 1982, the Board requested on the record (TR. 5348-5353, 5420-54) that Staff, LILCO, and any other party wishing to comment provide the Board with an assessment as to any conflict of interest problems which might exist because LILCO's contractor for its Shoreham probabilistic risk assessment (PRA), Science Application, Inc. (SAI), had also served as a subcontractor for the NRC staff on certain aspects of the Staff's systems interaction program (TR. 5350). As a part of this request, the Board asked the parties to comment not only upon whether the technical legal standards had been met, but also whether any questions of propriety or fairness were raised by SAI's participation as a witness in this proceeding on behalf of LILCO, after having performed certain work for the Staff, and whether any particular care was deemed appropriate to ensure the proper separation between LILCO's preparation of its application and the review of that application by the Staff (TR. 5350, 5421). Additionally, as the Board had only inadvertently learned of this situation, it asked the parties to provide it with some explanation as to why SAI's status as a contractor for the NRC, LILCO, and various other utilities had not been disclosed in either this proceeding or in any other proceeding in which SAI has apparently performed at least somewhat of a dual role (TR. 5321-5422).

This inquiry clearly implies that this Licensing Board did not intend to restrict its consideration of the conflict of interest issue merely to whether applicable procurement regulations had been satisfied, but instead intimated that a broader, stricter standard of conflict of interest may be utilized.

Other cases making reference to possible conflict of interest situations are:

Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-83-22, 17 NRC 608 (1983);

Union Electric Co. (Callaway Plant, Unit 1), LBP-82-109, 16 NRC 1826 (1982);

The Regents of the University of California (UCLA Research Reactor), LBP-82-99, 16 NRC 1541 (1982);

Letter Declining Review of ALAB-644, CLI-82-12A, 16 NRC 7 (1982); and

Maine Yankee Atomic Power Co. (Maine Yankee Atomic Power Station), DD-79-8, 9 NRC 740 (1979).

ENCLOSURE 4

SUMMARY OF STAFF ANALYSIS OF ALTERNATIVES TO
AVOID CONFLICT OF INTEREST SITUATIONS

Alternatives Considered by Staff

1. Require current NRC contractors to establish separate organizational/managerial schemes for NRC HLW work vs. HLW work for DOE, States, Tribes, and other involved parties.
2. Enter into an interagency agreement or co-sponsorship arrangement with another Government agency for the use of an existing National Laboratory or a Federally Funded Research and Development Center (FFRDC) that would agree not to perform HLW work for DOE, States, Tribes, and other involved parties.
3. Sponsor our own dedicated FFRDC, which would be a not-for-profit organization free of control by any organization whose affiliations could give rise to conflict of interest and that would agree not to perform HLW work for DOE, States, Tribes, and other involved parties.
4. Perform all technical work in-house with very limited technical assistance contracts to individuals or companies with no present conflict of interest.

Criteria for Evaluating Alternatives

- The degree to which the alternative eliminates potential conflict of interest charges during the NRC licensing proceeding.
- The ability for the alternative to provide long-term continuity in technical expertise (including the availability of expert witnesses during the licensing hearing).
- The degree to which the alternative provides for manageable implementation without significant delays in the program.
- The degree to which the alternative can be implemented within reasonable costs.

Summary of Staff Analysis for Each Alternative

1. Require current NRC contractors to establish separate organizational/managerial schemes for NRC HLW work vs. HLW work for DOE, States, Tribes, and other involved parties.

Pros

This alternative allows the staff to retain the present contractors and technical expertise that it has developed over the years. It allows ongoing work to continue without additional resources needed to break in a new contractor, and it provides maximum flexibility for the staff to use the best technical assistance contractors available.

Cons

This alternative provides only a small degree of improvement over the present conflict of interest problem. There is still the potential for real or perceived conflict of interest since the separate organizational/managerial schemes are still owned by the same parent organization. Also, during a licensing proceeding, expert witnesses from the same parent organization could be testifying for both NRC and DOE (or other parties). If the licensing board applies a strict standard in evaluating conflict of interest situations, the staff's burden to support its licensing position could be substantially increased.

Since the maximum period of a contract is only five years, this alternative does not provide the assurance needed for long-term commitments to NRC nor does it provide the assurance that expert witnesses will be available to testify in the licensing hearing a decade from now.

It is also uncertain as to what additional costs would be passed on to NRC as a result of our requiring separate organizational/managerial schemes.

2. Enter into an interagency agreement or co-sponsorship arrangement with another Government agency for the use of an existing National Laboratory or a Federally Funded Research and Development Center (FFRDC) that would agree not to perform HLW for DOE, States, Tribes, and other involved parties.

Pros

This alternative provides strong potential that conflict of interest charges during the NRC licensing proceeding will be eliminated since the organization would not be affiliated with DOE or other parties. It also provides a higher degree of long-term continuity in technical expertise than would commercial contractors because of the inherent nature of a Laboratory or FFRDC (e.g., their dedication to the Federal Government, multi-disciplined staff, and available facilities).

Cons

Since DOE is the licensee, all DOE-sponsored National Laboratories may be perceived to have a conflict of interest. Furthermore, we have discussed or investigated the work at all of those DOE National Laboratories indicated on the attached list and have determined that they also perform work for DOE's high-level waste program. Most non-DOE National Laboratories/FFRDC's are Defense-oriented. An interagency agreement or co-sponsorship with an agency such as DOD puts NRC's priorities secondary to those of the sponsoring agency. This situation has already been experienced by the staff in its initial attempt to acquire the Aerospace Corporation (an FFRDC sponsored by the Air Force Space Division) for long-term technical assistance. Not only did the Air Force attempt to place ceilings on the Aerospace resources that would be allotted to NRC, but after several years of obtaining technical assistance from Aerospace, the Air Force decided to expire all non-DOD contracts because of the increasing demands of the Air Force's Strategic Defense Initiative. Another risk inherent with an interagency agreement or co-sponsorship arrangement for an FFRDC is that the FFRDC is most likely to direct its "best people" to the sponsoring agency's activities rather than the activities of the secondary agency.

The long-term implementation of this alternative would be within reasonable costs (e.g., no more than the traditional technical assistance costs); however, there would be some additional start-up costs because of the need for an orderly transition period.

Current FFRDC's and Sponsors**Research Laboratories -**

Frederick Cancer Research Center
(HHS/NIH)

Cerro Tololo Inter-American
Observatory (NSF)

Kitt Peak National Observatory (NSF)
National Astronomy and Ionosphere
Center (NSF)

National Center for Atmospheric
Research (NSF)

National Radio Astronomy Observatory
(NSF)

Sacramento Peak Observatory (NSF)
Stanford Linear Accelerator Center

(DOE)

Fermi National Accelerator Laboratory
(DOE)

R&D Laboratories

Jet Propulsion Laboratory (NASA)

Ames Laboratory (DOE)

✓ Argonne National Laboratory (DOE)

Bettis Atomic Power Laboratory (DOE)

✓ Brookhaven National Laboratory (DOE)

✓ E.O. Lawrence Berkeley Laboratory
(DOE)

✓ E.O. Lawrence Livermore National
Laboratory (DOE)

✓ Hanford Engineering Development
Laboratory (DOE)

✓ Idaho National Engineering Laboratory
(DOE)

Knolls Atomic Power Laboratory (DOE)

✓ Los Alamos National Laboratory (DOE)

Oak Ridge Associated Universities
(DOE)

✓ Oak Ridge National Laboratory (DOE)

✓ Pacific Northwest Laboratory (DOE)
Princeton Plasma Physics Laboratory

(DOE)

✓ Sandia National Laboratories (DOE)

✓ Savannah River Laboratory (DOE)

Solar Energy Research Institute (DOE)

Energy Technology Engineering Center
(DOE)

Lincoln Laboratory (DOD/AF)

Study and Analysis Centers

Center for Naval Analyses (DOD/
NAVY)

Institute for Defense Analyses (DOD/
OSD)

Project Air Force (DOD/AF)

**System Engineering/System Integration
Centers**

Aerospac Corporation (DOD/AF)

C-1 Division of Mitre (DOD/AF)

Dated: April 4, 1984



indicate that DOE HLW program work is performed.

3. Sponsor our own dedicated FFRDC, which would be a not-for-profit organization free of control by any organization whose affiliations could give rise to conflict of interest and that would agree not to perform HLW work for DOE, States, Tribes, and other involved parties.

Pros

This alternative provides strong potential that conflict of interest charges during the NRC licensing proceeding will be eliminated since the organization would not be affiliated with DOE or other licensing parties. It also has a strong potential for long-term continuity in technical expertise since it would be solely dedicated to NRC. NRC's screening criteria for the FFRDC would include that the organization already have access to existing state-of-the-art facilities and multi-disciplined staff. Therefore, NRC would not have to incur the huge overhead costs that would be required if new facilities and complete staffs were to be developed. Several existing organizations have expressed an interest in establishing such an arrangement.

Cons

It may be difficult to find an organization that has all the technical expertise needed by the staff. However, it would not be difficult to find one which is strong in certain technical areas. If this alternative was chosen, the parent company would most likely have to build up its technical capability in certain areas. In order to assure that NRC gets the most qualified organization, the FFRDC would have to be competed. This would require at least an additional year to go through the procurement process (including internal agency approvals), while continuing to carry the existing contractors. Assuming a transition period once the FFRDC is in place, there would be additional start-up costs to allow an orderly transition of contracts to the FFRDC. The first three years of funding for the FFRDC take into account the transition period.

4. Perform all technical work in-house with very limited technical assistance contracts to individuals or companies with no present conflict of interest.

Pros

This alternative would provide better control of resources (staff, money and time) and would provide prompt, rapid turn-around on projects. It also provides the strongest potential for eliminating conflict of interest charges during the licensing hearing.

Cons

It is highly unlikely that OMB would support the additional staff needed to perform all technical work in-house, and there are no facilities available in-house for research and laboratory work. The past and present approach has been about 50% staff and 50% technical assistance. However, turnover of staff has been relatively high. Because of the competition for good people by contractors, we should expect to have a high turnover rate for exceptionally qualified and senior technical staff as long as contractors are offering premium salaries. Thus, long-term continuity is not assured.

Staff Recommendation

In evaluating the alternatives, the most important criteria were the potential for eliminating the conflict of interest problem and the assurance of long-term continuity in technical expertise. The delays and costs associated with their implementation were secondary in the evaluation (provided they were within reason).

Based on the staff's analyses of each of the alternatives, the NRC's sponsorship of its own dedicated FFRDC appeared to provide the maximum assurance of eliminating conflict of interest and providing long-term continuity. Therefore, the staff recommends that NRC undertake to sponsor its own dedicated FFRDC (in accordance with Office of Federal Procurement Policy Letter 84-1, "Federally Funded Research and Development Centers").

ENCLOSURE 5



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

OFFICE OF FEDERAL
PROCUREMENT
POLICY

APR 4 1984

OFPP POLICY LETTER 84-1

TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS

SUBJECT: Federally Funded Research and Development Centers

1. Purpose. This policy letter establishes Government-wide policies for the establishment, use, periodic review, and termination of the sponsorship of Federally Funded Research and Development Centers (FFRDCs).

2. Supersession. Memorandum from the Chairman to the Members of the Federal Council for Science and Technology, dated November 1, 1967, which set forth criteria for identification of FFRDCs and the requirement for a master Government listing of these centers, is superseded by this policy letter.

3. Authority. This policy letter is being issued pursuant to Sections 6(a), 6(d)(1) and 6(d)(8) of the Office of Federal Procurement Policy Act, as amended, 41 U.S.C. 405 (a), (d)(1) and (d)(8), which empower the Administrator of OFPP to prescribe Government-wide procurement policies and to complete action on the recommendations of the Commission on Government Procurement.

4. Background. The Departments of Energy, Defense, Health and Human Services, the National Aeronautics and Space Administration and the National Science Foundation currently sponsor a total of 34 FFRDCs. Non-sponsoring departments and agencies also utilize these FFRDCs. Federal funding of FFRDCs currently exceeds 4 billion dollars per year.

In 1967, a Government-wide policy for the identification and maintenance of a master listing of these FFRDCs was issued (reference paragraph 2 - Supersession). In 1972, the Commission on Government Procurement recommended that the Federal Government keep open the option to organize and use FFRDCs to satisfy needs that cannot be satisfied effectively by other organizational resources. The Commission also recommended that agency heads periodically review the continuing need for existing FFRDCs and approve any proposal for new FFRDCs, with specific attention paid to the method of ultimate termination of sponsorship. This policy letter is based on the executive branch consideration of the Commission's recommendations.

5. Definitions

a. Primary Sponsor — The executive agency which manages, administers or monitors overall use of the FFRDC.

b. Sponsor means an executive agency which funds and monitors specific work of a continuing nature with an FFRDC and is party to a sponsoring agreement. Multiple sponsorship of an FFRDC is possible so long as one agency agrees to act as the primary sponsor for administrative purposes.

c. Federally Funded Research and Development Center (FFRDC).

- (i) FFRDCs do not have a prescribed organizational structure. They can range from the traditional contractor-owned/contractor-operated or Government-owned/contractor-operated (GOCO) organizational structures to various degrees of contractor/Government control and ownership. In general, however, all of the following criteria should be met before an activity is identified as an FFRDC:
- (a) Performs, analyzes, integrates, supports (non-financial) and/or manages basic research, applied research, and/or development. (Activities primarily engaged in routine quality control and testing, routine service activities, production, mapping and surveys, and information dissemination, even though otherwise meeting the requirements of paragraph 5.c., are specifically excluded from FFRDC designation).
 - (b) Performance of the functions in 5.c.(1)(a) is either upon the direct request of the Government or under a broad charter from the Government, but in either case the results are directly monitored by the Government. However, the monitoring shall not be such as to create a personal services relationship, or to cause disruptions that are detrimental to the productivity and/or quality of the FFRDC's work.
 - (c) The majority of the activity's financial support (70% or more) is received from the Government with a single agency usually predominating in that financial support.
 - (d) In general, most or all of the facilities are owned by the Government or funded, under contract, by the Government.
 - (e) The activity is operated, managed and/or administered by either a university or consortium of universities, other non-profit organization or industrial firm as an autonomous organization or as an identifiable separate operating unit of a parent organization.
 - (f) A long term relationship evidenced by specific agreement exists or is expected to exist between the operator, manager, or administrator of the activity and its primary sponsor.

- (2) In addition to the above criteria, the relationship between the activity and the Government should exhibit the following characteristics in order to qualify for FFRDC identification:
- (a) The activity (organization and/or facilities) is brought into existence at the initiative of a Government agency or bureau to meet some special research or development need which, at the time, cannot be met as effectively by existing in-house or contractor resources.
 - (b) Work from other than a sponsoring agency is undertaken only to the extent permitted by the sponsoring agency and in accordance with the procedures of the sponsoring agency.
 - (c) The activity, whether the operator of its own or a Government-owned facility, has access, beyond that which is common to the normal contractual relationship, to Government and/or supplier data, employees, and facilities needed to discharge its responsibilities efficiently and effectively, whether the data is sensitive/proprietary or not.
 - (d) The primary sponsor undertakes the responsibility to assure a reasonable continuity in the level of support to the activity consistent with the agency's need for the activity and the terms of the sponsoring agreement.
 - (e) The activity is required to conduct its business in a responsible manner befitting its special relationship with the Government, to operate in the public interest free from organizational conflict of interest, and to disclose its affairs (as an FFRDC) to the primary sponsor.

6. Policy.

a. General. Agencies will rely, to the extent practicable, on existing in-house and contractor sources for satisfying their special research or development needs consistent with established procedures under The Economy Act of 1932 (31 USC 1535), other statutory authority or procurement/assistance regulations. A thorough assessment of existing alternative sources for meeting these needs is especially important prior to establishing an FFRDC. This Policy Letter does not apply to the performance of commercial activities. Performance of commercial activities is governed by OMB Circular No. A-76.

b. Establishment of an FFRDC. In establishing an FFRDC, the sponsoring agency shall ensure that:

- (1) Existing alternative sources for satisfying agency requirements cannot effectively meet the special research or development needs (6.a).
- (2) At least three notices are placed over a 90-day period in the Commerce Business Daily and The Federal Register indicating the agency's intention to sponsor an FFRDC and the scope and nature of the effort to be performed by the FFRDC.
- (3) There is sufficient Government expertise available to adequately and objectively evaluate the work to be performed by the FFRDC.
- (4) Controls are established to ensure that the costs of the services being provided to the Government are reasonable.
- (5) The responsibility for capitalization of the FFRDC has been defined in such a manner that ownership of assets may be readily and equitably determined upon termination of the FFRDC relationship with its sponsor(s).
- (6) The purpose, mission and general scope of effort of the FFRDC is stated clearly enough to enable differentiation between work which should be performed by the FFRDC and that which should be performed by a non-FFRDC.

c. Sponsoring Agreements. When FFRDCs are established, long-term Government relationships are encouraged in order to provide the continuity that will attract high quality personnel to the FFRDC. This relationship should be of a type to encourage the FFRDC to maintain currency in its field(s) of expertise, maintain its objectivity and independence, preserve its familiarity with the needs of its sponsor(s), and provide a quick response capability. A contract is the generally preferred instrument under which an FFRDC accomplishes effort for its sponsor(s). However, there may be instances where other legal instruments may be appropriate. A written agreement of sponsorship between the FFRDC and its sponsor or primary sponsor where more than one sponsor is involved may be used in addition to the contract or other legal instrument under which an FFRDC accomplishes effort. The specific content of a sponsoring agreement will vary depending on the situation. However, there are certain areas common to all situations that must be addressed. The following requirements must be addressed in either a contract, a sponsoring agreement or sponsoring agency's policies and procedures.

(1) Mandatory Requirements

- (a) A delineation of the purpose for which the FFRDC is being brought into being along with a description of its mission, general scope of effort envisioned to be performed, and the role the FFRDC is to have in accomplishment of the sponsoring agency's mission. This delineation must be consistent with the definition of an FFRDC set forth in paragraph 5.c(1)(a) and will be sufficiently descriptive so that work to be performed by the FFRDC can be determined to be within the purpose, mission and general scope of effort for which the FFRDC was established and differentiated from work which should be performed by a non-FFRDC. This delineation shall constitute the base against which changes in an existing FFRDC's purpose, mission or general scope of effort will be measured.
- (b) Provisions for the orderly termination or nonrenewal of the agreement, disposal of assets and settlement of liabilities. The term of the sponsoring agreement will not exceed five years but can be renewed, as a result of periodic review, in not to exceed five year increments.
- (c) A prohibition against the FFRDC competing with any non-FFRDC concern in response to a Federal agency formal Request For Proposal for other than the operation of an FFRDC. This prohibition is not required to be applied to any parent organization or other subsidiary of the parent organization in its non-FFRDC operations. However, sponsoring agencies may expand this prohibition as they determine necessary and appropriate.
- (d) A delineation of whether or not the FFRDC may accept work from other than the sponsor(s). If non-sponsor work can be accepted, a delineation of the procedures to be followed along with any limitations as to the clients (other Federal agencies, State or local governments, non-profit or profit organizations, etc.) from which work may be accepted. Limitations and procedures with respect to responding to requests for information as to an FFRDC's capabilities or qualifications are inherently a part of the "work for others" question and will be addressed by the sponsoring agency.

(2) Other Requirements As Appropriate

- (a) When cost type contracts are used, the sponsor(s) should identify any cost elements which will require advance agreement. Such items may be, but are not necessarily limited to, salary structure, depreciation, various indirect costs such as independent research and development or others as determined appropriate by the sponsor(s).
- (b) Where fees are determined by the sponsor(s) to be appropriate, considerations which will affect their negotiation should be identified. Such considerations may be, but are not necessarily limited to, weighted guidelines, risks, use of Government furnished property and facilities, needs or others as determined appropriate by the sponsor(s).

(c) Other provisions as determined appropriate by the sponsor(s).

d. Changing the Basic Scope of an Existing FFRDC's Sponsoring Agreement. In changing the purpose, mission and general scope of effort to be performed or role of an existing FFRDC as set forth in its sponsoring agreement (see 6.c.(1)(a)), the sponsoring agency shall make such changes consistent with its statutory authority and the requirements for establishing a new FFRDC as set forth in paragraph 6.b.

e. Use of the FFRDC by the Sponsor or Primary Sponsor in the Case of Multiple Agency Sponsorship. The sponsor, or primary sponsor in the case of multiple sponsorship, will ensure that all work it places with its FFRDC(s) is within the purpose, mission, and general scope of effort of the FFRDC (paragraph 6.c.) and in accordance with this Policy Letter. This includes work a sponsoring agency agrees to accept from a non-sponsoring Federal agency under the provisions of The Economy Act of 1932 (31 USC 1535) or other statutory authority. Sponsoring agencies must comply with applicable procurement or assistance statutes, policies and regulations for non-competitive actions before placing work which is outside the scope of the sponsor's contractual or sponsoring agreement with an FFRDC.

f. Use of an Existing FFRDC by a Non-Sponsoring Federal Agency. Non-sponsoring Federal agencies may use an FFRDC only if the terms of the FFRDC's sponsoring agreement or contract permit work from other than a sponsoring agency. Where use by a non-sponsor is permitted by the Sponsoring Agreement, the work must require the special relationship of an FFRDC as defined in paragraph 5.c. and either be treated as a direct procurement (action) or processed under The Economy Act of 1932 (31 USC 1535) or other statutory authority. Work processed under The Economy Act of 1932 (31 USC 1535) or other statutory authority must clearly fall within the purpose, mission and general scope of effort established by the sponsoring agency for the FFRDC (paragraph 6.c.). Processing under the Economy Act or other statutory authority is subject to agreement by the receiving agency. Non-sponsoring agencies must fully comply with procurement or assistance statutes, policies and regulations for non-competitive actions prior to placing work directly with a specific FFRDC. The FFRDC must comply with the procedures established by the sponsoring agency (paragraph 6.c.(1)(d)) before accepting work from a non-sponsoring Federal agency.

g. Use of an Existing FFRDC by Other Than a Federal Agency. Work from other than a Federal agency may be accepted only to the extent permitted by the sponsoring agency. The FFRDC must comply with the procedures established by the sponsoring agency (paragraph 6.c.(1)(d)) before accepting work from other than a Federal agency.

h. Consulting Services. Agencies sponsoring FFRDC work which constitutes consulting services, as defined by OMB Circular No. A-120, will comply with the provisions of that Circular.

i. Production/Manufacturing. FFRDCs will not be asked to perform quantity production and manufacturing work unless authorized by legislation. Such activities as breadboarding, modeling or other tasks inherent to R&D are permissible.

j. Periodic Review. Prior to renewal of a sponsoring agreement, agencies shall conduct a comprehensive review of their use and need for each FFRDC that they sponsor. Where multiple agency sponsorship exists this review will be a coordinated interagency effort. When the funding for an FFRDC is a specific line item within the sponsoring agency's budget, the comprehensive review may be done in conjunction with the budget process or the review may be done separately. The sponsoring agency(s) shall apprise other agencies who use the FFRDC of the scheduled review and afford them an opportunity to assume sponsorship in the event the current sponsorship is determined no longer appropriate. Final approval to continue or terminate an agency's sponsorship arrangement with a given FFRDC as a result of this review shall rest with the head of that sponsoring agency. The results of this review will be formally documented. The periodic review should include:

- (1) An examination of the agency's special technical needs and mission requirements to determine if and at what level they continue to exist.
- (2) Consideration of alternative sources to meet the agency's needs. Such consideration will include compliance with the Notice and Publication requirements of P.L. 98-72 (15 USC 637(e)) prior to renewal of the contract or Sponsoring Agreement unless otherwise exempted.
- (3) An assessment of the efficiency and effectiveness of the FFRDC in meeting the agency's needs.
- (4) An assessment of the adequacy of the FFRDC management in assuring a cost effective operation.
- (5) A determination that the guidelines of section 6 are being satisfied.

k. Termination or nonrenewal of an FFRDC Relationship. When a sponsor's need for the FFRDC no longer exists, the sponsorship may be transferred to one or more Government agencies, if appropriately justified. Otherwise it shall be phased out, the assets disposed of and all liabilities settled as provided by the terms and conditions of the sponsoring agreement.

7. Action Requirements.

a. Not later than September 30, 1984, each agency currently sponsoring an FFRDC will review the terms of its existing agreements with the FFRDCs for compliance with this policy letter. Where existing agreements do not comply with this policy letter the primary sponsor will develop a schedule to bring the agreements into compliance not later than the next contract renewal or five years from the effective date of this policy letter, whichever comes first.

b. Where the review required by 7.a. reveals that a clear statement of the purpose, mission and general scope of effort, as described in paragraph 6.b.(6) and 6.c.(1)(a), does not exist, the sponsoring agency shall ensure such a statement is developed not later than September 30, 1984.

c. The primary sponsor will notify the Office of Science and Technology Policy prior to designating any new organization as an FFRDC (paragraph 6.b.), changing the basic scope of effort of an existing FFRDC (paragraph 6.d.) or changing the status of an existing FFRDC (paragraph 6.k.).

d. The National Science Foundation will maintain a master Government list of FFRDCs based upon the definition in this Policy Letter.

e. FFRDCs will be identified by their primary sponsors who will provide information, including funding data, on the type of R&D being performed by the FFRDCs to the National Science Foundation upon their request for such information.

f. Each agency head is responsible for ensuring that the provisions of this policy are followed.

8. Effective Date. The Policy Letter is effective (60 days after publication in the Federal Register).

9. Implementation. Aspects of this policy letter requiring implementation will be covered by the Department of Defense, the General Services Administration and the National Aeronautics and Space Administration in the Federal Acquisition Regulation not later than 180 days from the date of this policy letter. Implementation will be written so as to be compatible with the requirements, as of the date of this policy letter, of FAR 17.6 "Management and Operating Contracts" when the arrangement with an FFRDC constitutes a management and operating contract.

10. Information Contact. All questions or inquiries about this policy letter should be submitted to the Office of Management and Budget, Office of Federal Procurement Policy, telephone (202) 395-6810.

11. Sunset Review Date. This policy letter will be reviewed no later than six years after its effective date for extension, modification, or rescission.


Donald B. Sowle
Administrator

ENCLOSURE 6



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENCLOSURE 6

Mr. James Ling
Office of Science and Technology Policy
Room 5005, New Executive Office Building
Washington, D. C. 20506

Dear Mr. Ling:

In accordance with paragraph 7c of the Office of Federal Procurement Policy Letter 84-1, April 4, 1984, notice is furnished of our intention to establish a Federally Funded Research and Development Center (FFRDC).

The FFRDC, to be called the Center for Nuclear Waste Regulatory Analyses, is to provide technical assistance and systems engineering to the Nuclear Regulatory Commission (NRC) in executing its responsibilities for licensing nuclear waste disposal and storage facilities under the Nuclear Waste Policy Act of 1982 (NWSA). The facilities to be licensed will be sited, constructed and operated by the Department of Energy (DOE). The long duration of NRC's pre-licensing and licensing responsibilities under the NWSA (estimated 20-25 years) poses specific problems:

- o Organizational Conflict of Interest: NRC's contractors are competing for and winning larger contracts from DOE's Office of Civilian Radioactive Waste Management program (the licensee), creating an organizational conflict of interest; and
- o Continuity of Technical Assistance: Federal Procurement Policy requirements limit the contracting period of performance to five years, requiring assessment of the competitive market and possible recompetition at each five-year interval. Given the relative dominance of DOE's waste management budget, compared to NRC's budget, long-term continuity in technical assistance is not assured nor is the availability of a long-term institutional memory.

These specific problems threaten the credibility and continuity of NRC's technical program, which may impact NRC's ability to complete its statutory requirement for licensing a high-level waste repository.

A thorough assessment of existing alternative sources or arrangements for meeting the special needs of NRC has been made. A summary of the alternatives explored and our assessment of those alternatives is furnished as Enclosure 1.

OSTP NOTIFICATION LTR

- 2 -

Based on our assessment, we determined that establishment of an FFRDC is the only practicable solution to meet our special needs for technical assistance free of any real or perceived conflict of interest with the long-term commitment and institutional memory necessary for the projected duration of the licensing process.

A description of the mission of the "Center for Nuclear Waste Regulatory Analyses," the general scope of effort envisioned to be performed, and the FFRDC's role in the accomplishment of our mission is furnished as Enclosure 2. Our needs for establishment of an FFRDC meet the criteria and characteristics outlined in Office of Federal Procurement Policy Letter 84-1. NRC will comply with the prescribed policy for identification and establishment of the FFRDC.

Sincerely,

William J. Dircks
Executive Director for Operations

Enclosures:
As stated

cc: Mr. Robert Cooper
Office of Federal Procurement Policy

OFC	:	:	:	:	:	:	:
NAME	:	:	:	:	:	:	:
DATE	:	:	:	:	:	:	:

ENCLOSURE 7

NOTICE OF INTENT

FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTER (FFRDC).

The U. S. Nuclear Regulatory Commission (NRC), in compliance with the procedures of OFPP Policy Letter No. 84-1, "Federally Funded Research and Development Centers" (April 4, 1984), announces its intention to establish an FFRDC, entitled "Center for Nuclear Waste Regulatory Analyses" (CNWRA), to provide technical assistance and research for the NRC in support of its responsibilities for licensing nuclear waste disposal and storage facilities under the Nuclear Waste Policy Act of 1982 (NWPA). Specific areas of application include geologic repositories, monitored retrievable storage facility (MRS), transportation, and other activities related to the storage and disposal of nuclear waste under the NWPA. Such technical assistance and research includes engineering and geotechnical analyses applied to repository and MRS design, waste form and package, geologic setting, transportation, environmental, and other activities related to a repository system; waste systems engineering; and special analytical evaluations.

The period of performance for CNWRA technical support to NRC is intended to be throughout the duration of NRC's waste management licensing responsibility (estimated 20-25 years). The period of performance for the contract to manage and operate CNWRA is for 5 years (to be renewed every 5 years, subject to comprehensive review). The level of effort for the first five years will build up from about 35 staff years during the first year to about 60 staff years during the fifth year and may increase by up to 50%, depending on program development and appropriations availability. ("Staff years" include members of the technical staff, administrative and clerical support.)

The NRC screening criteria for an FFRDC are: (1) no present or future contracts, grants, or other affiliation with the Department of Energy's nuclear waste program, current or potential NRC licensees, and vendors to NRC licensees; (2) operation of CNWRA as a not-for-profit organization free of control by organization whose affiliations could give rise to conflict of interest; (3) capability to provide long-term continuity in resources to NRC throughout the duration of its program under NWPA (20-25 years); (4) multi-disciplined staff; (5) access to existing facilities, e.g., state-of-the-art computational and experimental laboratories; (6) expertise in the areas of technical assistance and research identified in the first paragraph; and (7) capability to provide testimony by expert staff during NRC licensing hearings.

ENCLOSURE 8

STATEMENT OF WORK
For Operating The
CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

FIN D-1035

B&R 50-19-03-01

STATEMENT OF WORK FOR OPERATION OF THE
CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

1.0 Concept for Center for Nuclear Waste Regulatory Analyses (CNWRA) Support to NRC

1.1 Nuclear Waste Policy Act of 1982

The Nuclear Waste Policy Act of 1982 (NWP) sets forth the policy of the United States with regard to the management, storage and disposal of this nation's high-level radioactive waste from commercial and defense activities. The NWP charges the Department of Energy (DOE) as the lead Federal Agency to manage the siting, construction and operation of high-level waste management facilities, including geologic repositories, monitored retrievable storage facility, transportation of high-level waste, and any needed Federal interim storage. The Nuclear Regulatory Commission (NRC) is charged under the NWP as the Federal Agency which will regulate DOE's activities under Commission rules so as to assure protection of public health and safety and to meet the Environmental Protection Agency's applicable environmental standards. The NWP also sets forth specific institutional processes which involve State and Tribal participation throughout the program and involves long-term schedules that carry the program into the next century.

1.2 Need for Federally Funded R&D Center (FFRDC) Support to NRC

Within NRC, the Office of Nuclear Material Safety and Safeguards (NMSS) has programmatic lead for developing and executing the regulatory program for NWP waste management activities. The Office of Nuclear Regulatory Research (RES) provides programmatic support to NMSS by managing the research necessary to support NRC's regulatory program for waste management activities. NRC has a strong heritage of technically competent staff in nuclear regulation which it maintains today and has every intention of maintaining in the future. However, NRC recognizes the critical importance of its technical assistance and research program, which is obtained outside of NRC. Because of special circumstances surrounding NRC's need for technical assistance and research, NRC has established and solely sponsors the Center for Nuclear Waste Regulatory Analyses (CNWRA), an FFRDC, in accordance with OMB Office of Federal Procurement Policy Letter 84-1. The special circumstances necessitating an FFRDC are:

- o The Need to Avoid Conflict of Interest With Regard to NRC's Technical Assistance and Research Program

- 4 -- Many of NRC's contractors have also contracted or are bidding contracts with DOE in its nuclear waste program, as well as with other parties to NRC's licensing hearings. Because DOE is the applicant in NRC licensing hearings, and States and Tribes are parties, concurrent work by NRC contractors for either of the above could diminish the contractors' capacity to give impartial, technically sound, objective assistance and advice or may otherwise result in biased work products. This potential for conflict of interest could result in significant delays to NRC's licensing proceeding, which is a critical path milestone of the national waste management program.
- o The Need for Long-Term Continuity in Technical Assistance and Research
 - Because of the need to avoid conflict of interest situations, and because DOE's program budget for the NWPA is significantly larger than NRC's program budget, NRC has lost some of its essential technical expertise. Action is required to preclude continued erosion in the future. Given that NRC's responsibilities under NWPA span for over twenty years, continuity in technical expertise is essential to the success of NRC's licensing program.
- o The Multi-Disciplined Nature of the Waste Management Program
 - NRC needs the long-term technical assistance and research from an organization that is multi-disciplinary and flexible with respect to the exercise of each discipline. For example, NRC will need access to the following disciplines at various times and in various durations, depending on program priorities: geology, hydrology, materials science, geochemistry, civil engineering, structural mechanics, computer modeling, systems engineering, probabilistic risk assessment, environmental science, nuclear engineering, etc.

1.3 Commitments

The specific commitments between NRC and CNWRA are as follows:

- 1.3.1 CNWRA and NRC mutually commit to a long-term relationship for technical assistance and research throughout the period for which NRC has responsibilities under the NWPA.
- 1.3.2 CNWRA will provide long-term technical resources to NRC in support of its program under NWPA.
- 1.3.3 CNWRA will provide testimony by expert staff, as requested, during adjudicatory hearings before the Commission on regulatory programs covered in this Statement of Work.
- 1.3.4 NRC will provide CNWRA access to technical and programmatic materials and provide for access to NRC contractor and DOE facilities in support of systems engineering and technical review tasks.
- 1.3.5 NRC will keep CNWRA cognizant of all substantive staff and regulatory decisions on NWPA activities.
- 1.3.6 CNWRA will provide written positions, as requested by NRC, on major regulatory and programmatic issues in support of the NRC decision-making process.
- 1.3.7 CNWRA will consult with NRC prior to scheduling any meetings between CNWRA and DOE.

2.0 Scope of Work for CNWRA

CNWRA shall provide the necessary personnel, materials, facilities and other services to conduct technical assistance and research for the NRC related to activities under the NWPA (geologic repositories, monitored retrievable storage facility (MRS), transportation, and other related activities). The primary areas of technical assistance and research will include engineering and geotechnical analyses applied to geologic repository and MRS design, waste form and package, geologic setting, transportation, environmental, and other activities related to a repository system; waste systems engineering; and special analytical evaluations. CNWRA shall have access to facilities for conducting experimental studies, as requested, applied to the above areas.

While this Statement of Work defines broad areas in which CNWRA will be asked to participate, specific work will be performed in accordance with subsequent Task Orders, which will specify the technical efforts, products, schedules, and manpower and/or funding levels authorized by NRC. (See Section 3.0)

CNWRA will be requested to provide technical assistance and research for NRC in the following general areas:

2.1 Engineering and Geotechnical Analyses

2.1.1 Geologic Repository and MRS Design

Technical assistance and research under this area may include, but is not limited to, the review and evaluation of preliminary and final DOE facility designs; the review and evaluation of existing methodologies (models, codes and procedures) for assessing waste isolation system performance (including, but not limited to shaft sealing, borehole sealing, and other design characteristics); and independent development of selected methodologies, as necessary.

2.1.2 Waste Form and Package

Technical assistance and research under this area may include, but is not limited to, the review and evaluation of preliminary and final DOE designs (for both spent fuel and high-level waste); the review and evaluation of existing methodologies for assessing waste form and package performance (including, but not limited to, studies of corrosion and studies of thermal effects on waste canister, glass waste forms, and spent reactor fuel waste forms); and independent development of selected methodologies, as necessary.

2.1.3 Geologic Setting

Technical assistance and research under this area may include, but is not limited to, the review and evaluation of existing methodologies for predicting groundwater travel time and factors affecting radionuclide release to the environment for various geologic media over a ten thousand year period (e.g., geochemistry, geohydrology, rock mechanics, and long-term geologic processes); independent development of selected methodologies, as necessary; and the review and evaluation of DOE's site characterization plans for DOE's candidate repository sites.

2.1.4 Transportation, Environmental, and Other Related Activities

Technical assistance and research under this area may include, but is not limited to, environmental reviews, preparation of environmental impact statements and assessments, review of DOE's transportation plans and shipment cask designs, and review of topical reports and applications from industry on proposed alternative methods for at-reactor-site storage.

2.2 Waste Systems Engineering

Technical assistance and research under this area may include, but is not limited to, the review, evaluation and integration of performance assessment methodologies (e.g., models, codes, and procedures) for each repository component and, from that, the development of an overall licensing assessment methodology; studies in risk assessment and coupled effects; technical review of other contractor products and activities; assistance in work statement and proposal evaluations; and assistance in implementing waste management licensing information and issue management systems, using state-of-the-art computer technology.

2.3 Special Analytical Evaluations

Technical assistance and research under this area may include, but is not limited to, the review and evaluation of selected DOE plans and products; forecasting studies related to on-site spent fuel storage capacity; and studies related to financial arrangements for low-level radioactive waste site closure.

3.0 Contracting and Task Orders

Task Orders will be the contracting mechanism for the individual technical efforts under this Statement of Work. Task Orders will be prepared by NRC and mutually agreed upon by NRC and CNWRA as a means of initiating Tasks. Task Orders may be issued at any time during the period of performance. Revisions to Task Orders will be made when there are major changes in the program or activity or in responsibilities assigned to CNWRA. Changes in responsibilities may arise because of changes in program plans, priorities, or because of significant changes in CNWRA funding or manpower allocations. Revisions are prepared and coordinated in the same way as are the original Task Orders.

The designated official with authority to make contractual commitments for the NRC is the "Contracting Officer, Division of Contracts, Office of Administration."

4.0 Draft and Final Technical Reports

All draft and final technical reports delivered under this Statement of Work will be specified in the Task Orders. Final reports shall be presented in draft form to NRC for review. Within twenty (20) days following the submission of each draft report, CNWRA shall meet with the NRC Project Officer, upon his/her request, to discuss the document. The NRC Project Officer shall comment within 30 days after submission of each draft report; these comments shall be addressed in the final reports. Where formal final reports are requested and approved by NRC, the reports will be submitted in camera-ready copy for NRC publication to the NRC Division of Technical Information and Document Control, Office of Administration.

5.0 Period of Performance

In order to provide program continuity, NRC desires to use the contractor as the NRC FFRDC operator throughout the duration of the NRC program under NAWPA (estimated over twenty years). For contracting purposes, the period of performance covered by the work specified by this Statement of Work is a five-year period. The term of the contract may be renewed following conduct of a comprehensive review of the use and need for the CNWRA and will not exceed five-year increments. Program cost and schedules shall be updated by mutual consent annually by September 30 and shall address a moving five-year window. Each Task Order shall specify its own period of performance.

Attachment 1
to SOWFIVE-YEAR PROFILE
(Staff Years)*

<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u>	<u>FY91</u>
35	48	52	60	60

NOTE: Expect this to be the minimum and would not expect more than a 50% increase, depending on program development and appropriations availability.

*Staff years include members of the technical staff, administrative and clerical support.

ENCLOSURE 9

MEMORANDUM OF UNDERSTANDING BETWEEN
THE NUCLEAR REGULATORY COMMISSION AND
THE CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

Preamble

This memorandum sets forth the mutual policy of the U.S. Nuclear Regulatory Commission (NRC) and the Center for Nuclear Waste Regulatory Analyses (CNWRA) regarding the NRC's waste management program under the Nuclear Waste Policy Act of 1982 (NWPA).

The NWPA gives the NRC the responsibility to license the construction and operation of geologic repositories and other waste management systems to be developed by the Department of Energy (DOE) for the long-term storage and permanent disposal of high-level nuclear wastes. NRC needs to provide an independent determination that DOE's execution of its responsibilities is performed adequately to protect the public health and safety and the environment.

To effectively meet this responsibility, NRC is sponsoring a Federally Funded Research and Development Center (FFRDC) to provide long-term technical assistance and research in engineering and geotechnical analyses applied to geologic repository and monitored retrievable storage facility (MRS) design, waste form and package, geologic setting, transportation, environmental, and other activities related to a repository system;

waste systems engineering; and special analytical evaluations. An NRC-sponsored FFRDC is considered the best source of long-term technical assistance and research because of its broad technical capabilities, objectivity, and freedom from real or perceived conflict of interest with parties to the NRC licensing process.

Objectives

The NRC and CNWRA desire to maintain a long-term relationship throughout the period for which NRC has responsibilities under the NWPA (estimated to be 20-25 years). Long-term continuity of support and complete independence from DOE's nuclear waste program and other competing interests are recognized as essential to the success of NRC's program. A wide spectrum of interaction is required, ranging from technical assistance and research on discrete engineering problems, to expert testimony during NRC licensing hearings, systems engineering, and consultation on matters of policy. The parties hereby acknowledge that to achieve these goals they must establish and maintain a close working relationship characterized by a mutual spirit of

cooperation and candor. The undersigned parties shall confer not less than quarterly to assure that the objectives of this memorandum are being effectuated.

William J. Dircks
Executive Director for Operations

, President
Center for Nuclear Waste Regulatory
Analyses

Date: _____

Date: _____