



VOLUME 3  
 TECHNICAL AND MANAGEMENT PROPOSAL

Submitted to:

U.S. NUCLEAR REGULATORY COMMISSION

in Response to

RFP No. RS-NRR-90-030

TECHNICAL ASSISTANCE FOR CLOSEOUT OF NUCLEAR POWER PLANT  
 LICENSING ACTIONS AND RELATED ISSUES

Submitted by:

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April 5, 1990



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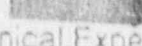


  
 PROPOSAL TO  
 PROVIDE TECHNICAL ASSISTANCE FOR  
 CLOSEOUT OF NUCLEAR POWER PLANT  
 LICENSING ACTIONS AND RELATED ISSUES

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ATTACHMENTS

A. Summary of Former NRC Employees

B. Resumes

[REDACTED]

PROPOSAL TO  
PROVIDE TECHNICAL ASSISTANCE FOR  
CLOSEOUT OF NUCLEAR POWER PLANT  
LICENSING ACTIONS AND RELATED ISSUES

1.0 INTRODUCTION

SCIENTECH, Inc. is a nuclear engineering and management services company located in Rockville, Maryland, near the U.S. Nuclear regulatory Commission (NRC) Headquarters. Our experienced staff is capable of fulfilling the requirements described in the statement of work. Our technical and management approach to this effort will ensure high productivity, flexibility, and efficiency in providing the desired support to the NRC. The key features of our abilities and approach to meeting the NRC's objectives are listed below:

- High quality expert support to the NRC through the leadership of senior Project Leaders who have NRC licensing or regional inspection experience
- Sufficient staff in the Rockville office to provide [REDACTED] if requested by the NRC staff [REDACTED]
- An additional pool of nuclear plant technical experts who have previously worked closely with (or as part of) the NRC staff, who have a thorough understanding of the licensing process, and who strongly support the NRC's statutory responsibility to protect public health and safety
- A flexible project organization and management approach to meet task requirements on schedule and within budget
- A staff that, at both the professional and support levels, has an in-depth knowledge of data base development and maintenance, including broad experience in several major data bases
- [REDACTED] support
- Experience in producing comprehensive, high-quality technical reports that satisfy NRC in-house regulatory requirements and stand up to external scrutiny
- [REDACTED] resources to provide additional support if needed

Other strengths of SCIENTECH personnel include extensive experience in [REDACTED] which could provide insights

[REDACTED]

into priorities relative to safety significance. We also have the ability to evaluate independently issues for [REDACTED] and to produce comprehensive assessments for those tasks involving more than status collection activities. Thus, we believe that SCIENTECH's staff is particularly well suited for this effort, and SCIENTECH is prepared to provide the technical and administrative support immediately upon contract award, or as may be required, using teams of experienced professionals.

This proposal addresses each of the evaluation criteria listed in Section M of the Request for Proposal (RFP) as well as the minimum requirements listed in Section L.13.e. A Proposal Requirements Locator (RFP to Proposal) is provided as Table 1-1 to aid the reader in locating the specific sections of the proposal that address the particular criteria and requirements. Section 2 describes SCIENTECH's understanding of the NRC statutory responsibilities, including the identification of safety issues and requirements, and how those requirements are tracked and brought to closure. Section 3 presents our proposed organizational structure for this project and the management plan for carrying out the work. Section 4 describes the qualifications of the SCIENTECH project managers [REDACTED] and technical experts who will perform the various project tasks, and Section 5 presents our knowledge and experience with large computer data bases and describes our capability and experience in developing data base reports.

TABLE 1-1

<u>REQUIREMENTS AND EVALUATION CRITERIA LOCATOR</u>		<u>LOCATION IN RFP</u>	<u>LOCATION IN PROPOSAL</u>
1.	Understanding of regulatory and technical aspects, and work to be performed	L.13e-1, p. 72, M.3-1, p. 76	2, 4.1, 4.3, 5.0
2.	Ability to extract and compile data from computer tracking systems and document retrieval systems; experience with the production of major technical reports	L.13e-2, p. 72, M.3-2, p. 76	3.3, 4.3, 5.0
3.	Interpretations, requirements, or assumptions made	L.13e-3, p. 72	4.0
4.	Team members' knowledge, experience, and ability to cover the listed technical areas	L.13e-4, p. 72, M.3-3a, p. 76	3.1, 4.0
5.	Identification of Project Manager and other key personnel; statement of percentage of time currently committed to other projects over course of contract	L.13e-5, p. 72	3.2, 4.0 Figure 3-1
6.	Submittal of resumes for all professional personnel.	L.13e-6, p. 72	Attachment E
7.	List of sources of personnel required for contract, noting those persons employed at time of award, and describing type of commitment	L.13e-7, p. 73	4.0, Attachment A, Table 3-2
8.	Explanation of need for consultant services, if any; list of proposed consultants, their services, related experiences, and eligibility to perform contract work.	L.13e-8, p. 73	3.2, 4.0, Attachment E Table 3-2
9.	List of proposed subcontractors, if any; description of work to be performed by subcontractors	L.13e-9, p. 73	No other companies involved.
10.	Selection of Project Manager and Team Leaders <ul style="list-style-type: none"> <li>• Ability to manage projects</li> <li>• Dedication to quality assurance</li> <li>• Experience in efficient management</li> </ul>	L.13e-10, p. 73; M.3-3b, p. 77	4.1

- ██████████
- |     |  |                                     |                 |
|-----|--|-------------------------------------|-----------------|
| 11. | System for monitoring and reporting status and cost-controlling information; management controls used to preclude contract cost growth | L.13e-11,<br>p. 73;<br>M.3-4, p. 77 | 3.3.3,<br>3.3.4 |
| 12. | List of any commitments with other organizations for the same or similar effort  | L.13e-12,<br>p. 73                  | 3.3.5,<br>4.3   |



## 2.0 NRC STATUTORY RESPONSIBILITIES

This section of the proposal addresses our understanding of the regulatory and technical aspects of the NRC's statutory responsibilities that form the basis for the safety issue management processes. In this section, we describe the work that is performed by the NRC staff in identifying, reviewing, closing out, and tracking open action items. Examples of issues are discussed in order to indicate our awareness of their complexity. Potential problems associated with the NRC tracking process are also discussed, and characteristics that make SCIENTECH uniquely qualified for this project are identified.

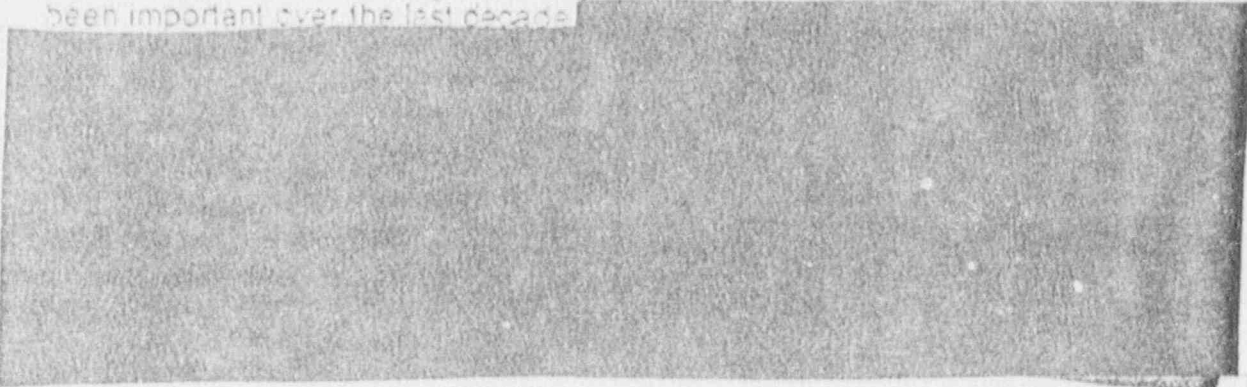
### 2.1 Public Health and Safety

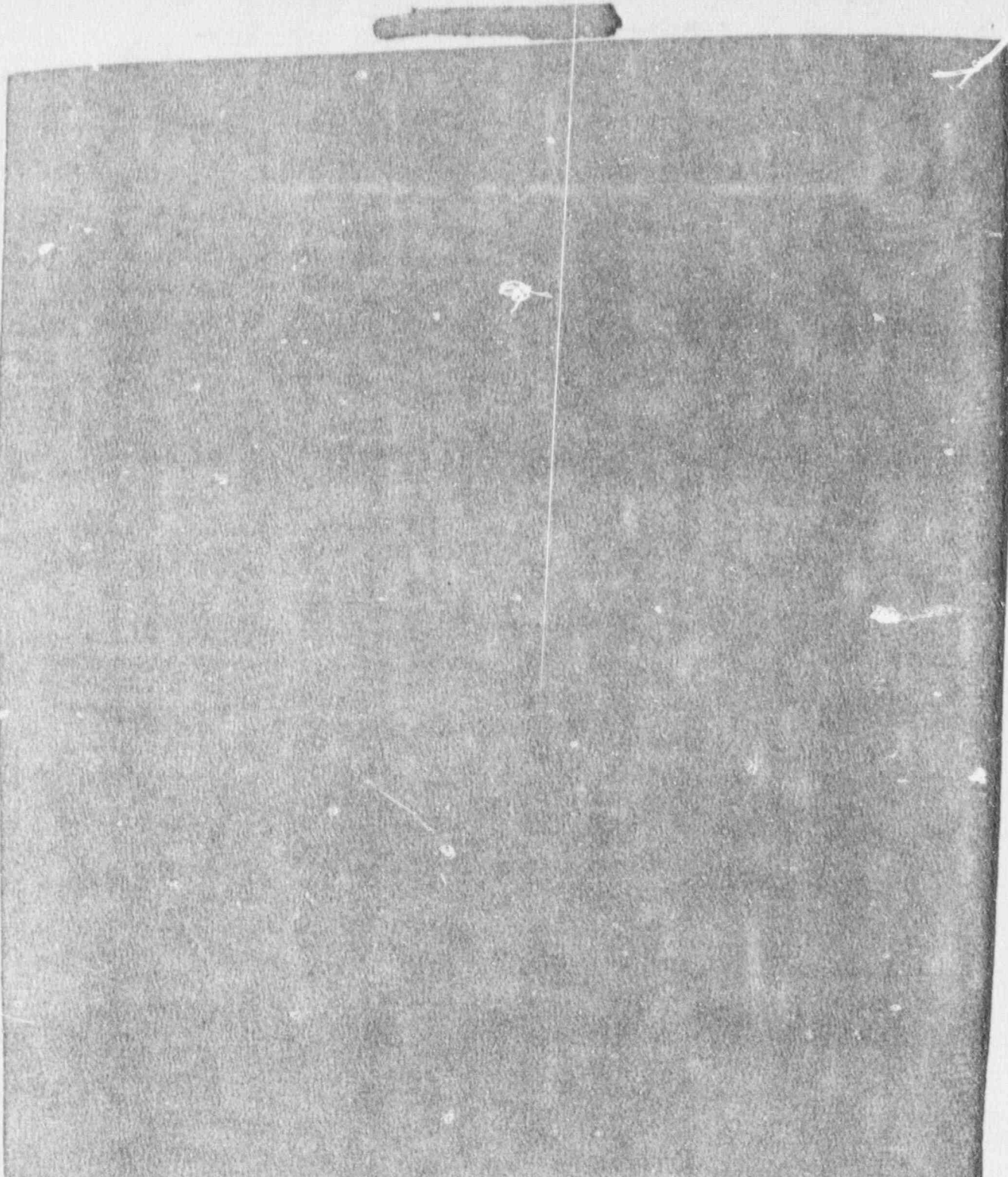
The primary responsibility of the NRC is to provide reasonable assurance that the health and safety of the public and the environment are not subjected to undue risk due to the operation of licensed nuclear facilities. The requirements that licensees must meet to achieve this objective are provided in Title 10 of the Code of Federal Regulations (10 CFR) along with other supporting documents, such as the Standard Review Plan and Regulatory Guides.

To execute this responsibility, the NRC staff reviews the health, safety, and the environmental aspects of license applications formally submitted by utilities. The reviews are formally documented in safety evaluation reports and environmental impact statements. Through its inspection program and other independent assessments, the NRC staff continues to assure that the health and safety of the public is adequately protected throughout the life of the plant. Any safety issues that arise during these inspections and assessments are formally tracked until they are fully resolved and the solutions are implemented. The NRC staff is also responsible for maintaining a record of how safety issues are resolved and solutions are implemented.

It is our experience that, where a safety issue has not been resolved readily, either the issue requires further definition or the licensee is reluctant to make additional changes to the plant. In either case, the actual implementation of corrective actions by licensees can take several years. Where corrective actions have not been completed, it is necessary for the NRC/NRR Management Information and Program Assessment Group to identify areas for additional follow-up and final disposition.

SCIENTECH has a working knowledge of many of the safety issues which have been important over the last decade.





## 2.2 Identification of Safety Issues

There are several NRC source documents that identify safety issues and the required corrective actions by licensees. These documents include Orders, Generic Letters, Inspection and Enforcement Bulletins, and other generic issuances. Many of the safety issues were originally identified as a result of technical research, plant inspections and testing, or came to the attention of the NRC as a result of incidents that occurred at nuclear facilities. Some safety

[REDACTED]

issues resulted in hardware or procedural changes, while others produced changes in technical specifications or license conditions. In some cases, licensees have obtained exemptions from safety regulations based on the particular plant or system designs. Thus, the corrective actions taken were varied, as the managers of particular units implemented unique solutions. As noted above, the fire at Browns Ferry led to major revisions in fire protection regulations and extensive fire protection improvements at nuclear plants during the 1980s. The improvements or actions taken in response to the new regulations (Appendix R) covered a wide range of potentially satisfactory responses.

[REDACTED] both on the part of the licensee in responding to the requirements and on the part of the NRC staff in enforcing the requirements.

In addition to industry-wide safety issues, there are issues specific to groups of plants due to plant type (PWR/BWR) or special features such as containments. Therefore, some generic problems are limited in their applicability.

Frequently, a new problem emerges at a single plant. Orders typically are issued for the plant if a safety issue requiring immediate attention has been identified, and other plants where the problem may exist are alerted by the NRC through appropriate levels of documentation regarding the nature of the problem, its applicability, and the specific corrective actions required by the NRC. For example, IE Bulletins may be issued to describe a safety-related event that has occurred at a facility and for which certain actions are required of other licensees to assure that the identified safety concern does not occur elsewhere. Generic Letters are issued to licensees to obtain additional information for assessing a potential safety problem or to give better definition to a new requirement that results from such NRC assessments. Other forms of generic issuances can also be used to define actions required of licensees.

### 2.3 Tracking the Status of Safety Issues

The NRC has an existing data base on the National Institute of Health (NIH) main frame computer. The data base contains information related to all licensing actions associated with licensed facilities, including the identification of an action or issue, whether it is a generic issue, the date it was identified as an issue, when the licensee responded, when the NRC staff completed its review of any generic aspects (as well as plant-specific aspects), the licensee's implementation date, and the NRC staff's verification date.

The data base is used for several tracking systems. One of the tracking systems, the Safety Issues Management System (SIMS), is used to keep track of all safety issues associated with nuclear power plants. Besides those issues previously mentioned, the data base includes the TMI Action Plan Items in NUREG-0737, Unresolved Safety Issues (USIs), and Generic Issues (GIs). Input to the data base can be provided from various NRC sources, including the USI and GI Task Managers, the Licensing Project Managers specific facilities, and the Regional Project Inspectors.

SCIEN TECH employees are all experienced in working with computerized data bases [REDACTED]

[REDACTED] as will be needed for various aspects of the proposed project.

#### 2.4 Problems With the NRC Tracking System

The primary problem with the NRC tracking system for licensing actions is [REDACTED]

[REDACTED] The inaccuracy of some of the information in the data base is due to [REDACTED]

Other factors further complicate the NRC's ability to produce and maintain the licensing action data base. For example, the need to [REDACTED]

[REDACTED] Inspections by NRC Headquarters teams may later determine that [REDACTED]

[REDACTED] Thus, the documentation on which the data are based may not [REDACTED]

#### 2.5 Licensee Response and NRC Closeout of Safety Issues

The NRC staff uses an established process for ultimate resolution of an issue, usually on a plant-specific basis. The first step in the closure process is submission of the licensee's response to the requested actions. Some licensees are consistently more responsive than others in meeting the intent of NRC licensing requirements. Other licensees are adequately responsive in some areas but not in others. Thus, some responses will be submitted much later than others, and some will reflect more effort than others.

The NRC staff reviews responses from licensees to determine the acceptability of the overall issue resolution as well as the proposed schedule for completing the supporting activities (e.g., procedural changes, training, procurement, or plant modifications). The NRC often uses contractors to assist in the review of these responses. The NRC staff then documents its review and approval of the plans in a formal safety evaluation, and the licensee proceeds to complete the approved actions. After implementation is complete, the NRC inspection staff concludes the process by verifying the implementation status for each applicable licensee through inspections, which are documented in inspection reports. Because open items frequently remain following an inspection, the process may require further iterations, including additional inspections and

[REDACTED]  
documentation. Thus, the data [REDACTED]  
[REDACTED]

## 2.6 SCIENTECH's Approach to Meeting Contract Objectives

SCIENTECH's ability to deal with such complexities is shown by the examples of some of our previous and ongoing projects, provided in Section 4.3. Based on our experience in dealing with nuclear safety issues and the NRC, we have identified the necessary resources and [REDACTED] in the Statement of Work. We will further refine our approach for the specific tasks assigned.

The objective of the contract is to obtain expert technical services to assist the NRC in establishing the actual status of particular licensing issues at each of the affected nuclear power plants and in documenting that status in an appropriate manner. The NRC Contracting Officer will identify the specific issues for which assistance will be required by use of Task Orders. The degree of assistance will vary from task to task. Some Task Orders may only involve compilation of data, i.e., accepting information as correct and preparing a report. Other Task Orders may involve a complete audit of the information associated with the licensing action or issue to assure that the individual actions are closed.

We believe the NRC also has the objective of [REDACTED] although this is not specifically stated in the RFP. SCIENTECH is in the best possible position to accomplish this objective for the following reasons.

- SCIENTECH employees [REDACTED] This provides the [REDACTED] needed to produce and refine the necessary documentation in the shortest possible time.
- SCIENTECH's Rockville office is located less than 5 minutes from NRC Headquarters.
- We have recently been involved in the review of NRC requirements to support development of the NRC's license renewal program.

SCIENTECH will approach each of the tasks assigned under this contract by performing the applicable steps listed in the RFP on page 11. It is expected that NRC Project Managers already have some of the missing information. In some cases, however, it may be more efficient [REDACTED]  
[REDACTED]

Verification of the accuracy of new information and the information already in the issue data base can be accomplished by [REDACTED]  
[REDACTED]

In

[REDACTED]

some tasks, it may be necessary to assess [REDACTED] and determine if [REDACTED] have occurred.

The SCIENTECH team members proposed for this project have the necessary understanding of NRC statutory responsibilities and an appreciation for the complexity of the technical and administrative environments, and can accomplish the work efficiently. Team members have extensive [REDACTED] [REDACTED] Section 3 outlines our plan for organizing personnel and managing the work to meet the NRC objectives.

2-28

### 3.0 MANAGEMENT PLAN

This section describes how SCIENTECH proposes to organize its resources and manage its staff to effectively carry out the requirements of the statement of work in the RFP and in the individual task orders. Our major strengths are [REDACTED] the proper [REDACTED] will produce the best results possible for this project. The [REDACTED] appear to be ideal for this effort.

#### 3.1 SCIENTECH Organization and Rockville Facilities

The structure of SCIENTECH's corporate management supports the efficient management and review of technical services projects. SCIENTECH project managers assigned to the Rockville offices report directly to the manager of the Rockville office, Dr. Roger Mattson, who is also the corporate Vice President. Direct access to the Vice President promotes responsiveness and accountability on the part of project managers for projects. Dr. Mattson will provide direct corporate management oversight of SCIENTECH's work during this project.

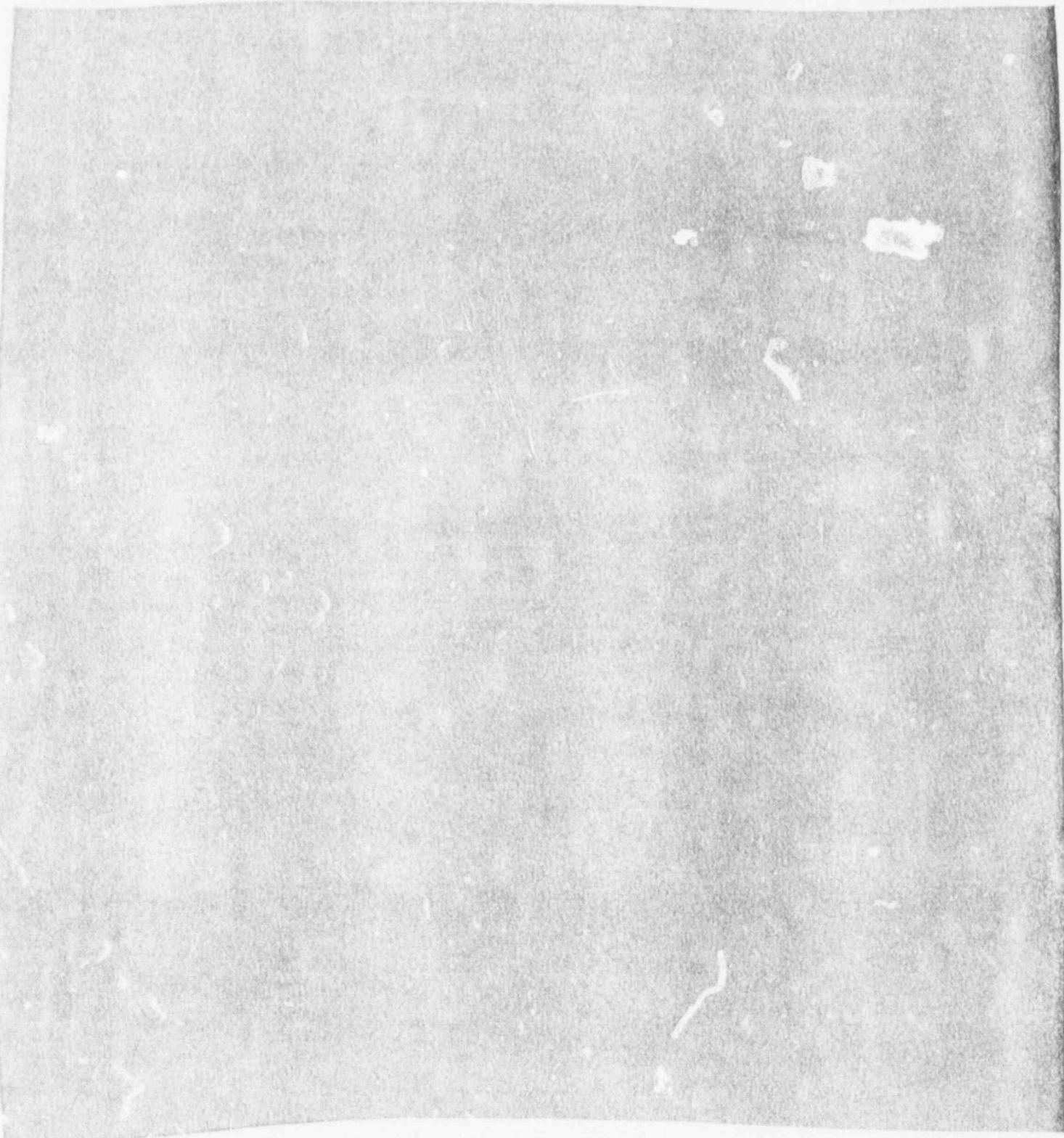
SCIENTECH maintains a full-time staff of more than 40 professional and administrative employees in the Washington, DC area. The majority of these employees are assigned to our offices in Rockville, Maryland, which is just five minutes away from the NRC headquarters. This office is staffed 5 days a week, and personnel [REDACTED]. In addition to the professional staff, the office has a support staff of secretarial, editorial, and administrative personnel who assist in the efficient completion of tasks.

The Rockville office is equipped with [REDACTED]

#### 3.2 Team Composition

Under the supervision of Dr. Mattson, SCIENTECH will provide a professional staff to support NRC's effort to identify, resolve, document, and close out licensee safety issues. This staff will be organized [REDACTED]. Because the individual tasks will require a broad understanding of NRC policy, organization, regulatory procedures, and technical issues, we have selected our [REDACTED] managers [REDACTED]. Although [REDACTED] are former NRC employees, there is no conflict of interest as they have not provided any significant consulting services to licensees since leaving the NRC.

Even though [REDACTED] and to provide flexibility in the event that [REDACTED]



ORGANIZATION  
FIGURE 3-1



[REDACTED]

provides additional advantages. The organization and membership [REDACTED] are shown in Table 3-1. Additional technical expertise is available from other full-time and part-time SCIENTECH employees, as shown in Table 3-2.

TABLE 3-1

Core Team Organization



Technical Experts

(See Table 3-2)

Vince Panciera is the administrative Project Manager in overall charge of the project and responsible for day-to-day supervision and coordination. Mr. Panciera will also [REDACTED] He [REDACTED] (Dom Vassallo and Leon Beratan) have been selected on the basis of their past experience as members of the NRC staff.

Vince Panciera has developed [REDACTED] He was a licensing reviewer and a supervisor in technical branches of the Office of Nuclear Reactor Regulation, and he served in supervisory and management positions in the NRC's Regional Office in Atlanta.

Dom Vassallo has held licensing management positions within the Office of Nuclear Reactor Regulation. In these positions, he gained an in-depth knowledge of NRC [REDACTED] His experience includes [REDACTED]

Leon Beratan held various supervisory and management positions at AEC/NRC Headquarters and in the Regional Office in Atlanta. While in the Regional Office, he [REDACTED] Mr. Beratan was responsible for the development of [REDACTED] when he was a manager in the Office of Standards Development.

TABLE 3-2  
TECHNICAL  
EXPERTS

Chemical Engineering
Civil/Structural Engineering
Software Engineering
Electrical Engineering
Electronics & IC Engineering
Emergency Preparedness
Health Physics
Fire Prot./Safe SD Analysis
Maintenance
Metallurgical Engineering
Mechanical Engineering
Nuclear Engineering
QA/QC Engineering

TABLE 3-2  
TECHNICAL  
EXPERTS

(Continued)

Chemical Engineering

Civil/Structural Engineering

Software Engineering

Electrical Engineering

Electronics & IC Engineering

Emergency Preparedness

Health Physics

Fire Prot./Safe SD Analysis

Maintenance

Metallurgical Engineering

Mechanical Engineering

Nuclear Engineering

QA/QC Engineering

[REDACTED]

Each team will include a [REDACTED]

These members will perform the [REDACTED]

[REDACTED] will be responsible for producing the final report in accordance with NRC guidelines. The experience and assignments for [REDACTED] are summarized in Section 4.

SCIENTECH has several other employees with significant regulatory experience based on their NRC employment, so [REDACTED]

support the [REDACTED] To [REDACTED]

[REDACTED] with additional technical expertise. If necessary, we can obtain the additional expertise of [REDACTED]

[REDACTED] Table 3-2 provides a chart of the full-time SCIENTECH employees and the associate technical experts specifically identified to support this project in technical areas. Complete resumes of all personnel mentioned in this proposal are provided in Attachment B.

Since it is clearly in the interest of the NRC to use [REDACTED]

[REDACTED] As indicated in Table 3-2, we have [REDACTED]

[REDACTED] for a specific task.

### 3.3 Method of Approach

SCIENTECH's approach will conform to the general steps in the RFP and will be tailored to the individual task. Our proposed team organization also provides the flexibility needed to achieve an efficient program and produce the needed documentation and data base support. We have effective [REDACTED] which will be important in managing this project.

#### 3.3.1 Project Management

The Project Manager will provide administrative coordination and a single point of contact for the NRC Project Officer. The Project Leaders of the proposed SCIENTECH teams are experienced in the planning, scheduling, and direction of technical projects, and they will have the day-to-day responsibility of interacting with the NRC staff regarding the technical details of the specific task.

SCIENTECH has developed internal [REDACTED]

[REDACTED] Project management [REDACTED]

[REDACTED] more easily perform the following tasks.

- Plan and analyze projects that involve multiple tasks by using [redacted]
- Prepare easily understood project [redacted] which are useful in identifying and resolving problems of time, resources, and costs
- Determine [redacted] from the project plan or task order at any point during the project performance
- Anticipate and avoid common project problems
- Evaluate the effects of any changes [redacted] unforeseen project developments
- Track and report the status of [redacted]

The combination of experienced project managers [redacted] and appropriate [redacted] as led to consistent project success by SCIENTECH.

Since more than one task order may be in effect at a time, SCIENTECH proposes to assign a single Project Manager (Vince Panciera) for overall coordination of the [redacted] teams. It will be the Project Manager's responsibility to initiate team assignments and identify [redacted]. He will ensure proper coordination of tasks and assign additional resources as needed to meet schedules. Upon receiving a specific task order from the NRC, the Project Manager will [redacted] coordinating with the NRC on the preferred approach and schedule.

This effort will require a joint meeting with the NRC early in the project, at which time the team will also discuss potential problem areas and reach agreement regarding the expected deliverables. Once the project is started, the team will begin [redacted]

[redacted] This is especially important for tasks involving [redacted]

Data sheets will be double-checked for reasonableness, accuracy, and currency in accordance with [redacted]. The draft results of each task will be documented in a summary report and presented to the NRC for comment, and will be revised as needed. Upon final validation of the results by the NRC, the NRC data base will be updated and the final technical report prepared. This report will be issued as a NUREG/CR when appropriate.

### 3.3.2 Assurance of Completion

SCIENTECH is fully capable of completing the requirements of this contract while fulfilling other commitments. SCIENTECH has become a moderate-sized company of over 120 people in six cities. Approximately three fourths of SCIENTECH personnel are experienced engineers. No individuals are proposed based on resume alone; all of the personnel proposed for project leadership

These specific employees, and others if necessary, will be available to perform the work as needed to assure completion of each task assignment. For data collection at Regional Offices, we will

### 3.3.3 Program Review and Control

Particular attention will be given to efficient project control. A variety of technical and administrative variations are expected to cause each task to be significantly different from the others, requiring close coordination with the NRC staff. SCIENTECH has assigned a single point of contact (the Project Manager) for program review and control. However, the NRC staff

We propose that the Project Leader prepare a listing This will enhance communications between the NRC staff and the Project Leader, and will afford the NRC staff an opportunity for where necessary. When more than one task is in progress will facilitate coordination among the teams.

Vince Pandiera, the overall Project Manager, will ensure continuing task coordination among the teams and with NRC/NRR counterparts and will be responsible for augmenting teams as needed to meet schedules. At the conclusion of each task, he will

information that can be applied. The NRC feedback and will be consistent with such factors as the

### 3.3.4 Project Cost Controls

SCIENTECH is committed to providing quality services on schedule and within budget. This commitment is driven internally by our

Each month SCIENTECH project managers for each project. This helps project managers focus on cost controls and more

[REDACTED]  
accurately project the appropriate level of required resources. A monthly [REDACTED] allows early identification and elimination of avoidable increases in contract costs.

[REDACTED] SCIEN  
TECH uses to support NRC and other government agency contracts. [REDACTED] by a certified public accounting firm that specialized in auditing and assisting government contractors. The system, which provides accurate and timely job-cost and financial information, is designed to [REDACTED]

The system provides a high level of integrity in the handling and tracking of [REDACTED]

[REDACTED] Supporting schedules that identify [REDACTED] are available. Schedules providing a detailed description of [REDACTED] are also available. Individual job status reports detailing the [REDACTED] are also provided on a current and cumulative basis. In addition [REDACTED] reporting capabilities. The SCIEN  
TECH accounting system has been audited and meets government requirements for tracking costs under a cost-reimbursement contract.

In addition to the accounting information which is vital to contract administration, project management often requires [REDACTED] SCIEN  
TECH is familiar with the need for the project manager to [REDACTED] closely for some projects. SCIEN  
TECH project managers [REDACTED] when necessary. This control function is aided by the use of [REDACTED]

[REDACTED] SCIEN  
TECH project managers are experienced in effectively managing [REDACTED]

SCIEN  
TECH has had a number of contracts with the NRC. Our company is dedicated to providing long-term, reliable engineering services to the NRC and has a record of excellent performance on NRC contracts. We encourage the selection panel for this procurement to contact persons in the NRC who are knowledgeable of our past performance in controlling costs, meeting schedules, and delivering quality products for NRC contracts. (See Section 4.3).

### 3.3.5 Commitments for Similar Work

SCIENTECH is not currently committed to work that is the same or similar as that proposed. No conflicts of interest appear to be possible in this regard as the proposed project is largely administrative and unique to the NRC, the members of the core teams have not performed significant amounts of work on behalf of licensees, and SCIENTECH does not routinely assist licensees in matters before the NRC.



## 4.0 STAFF QUALIFICATIONS AND AVAILABILITY

This section identifies the various members of the proposed teams. The Project Leaders [REDACTED] have the necessary qualifications and are available to perform the work required by this project. With the assignment of [REDACTED]

[REDACTED] we have provided sufficient flexibility for this project. The project is likely to require this staffing strategy, as the workload will fluctuate according to the evolving needs of the NRC.

The full-time efforts of [REDACTED]

[REDACTED] It is SCIENTECH's policy to meet or exceed the expectations of its clients, and we have additional resources [REDACTED] to meet any contingency.

All of the people identified below as Project Leaders [REDACTED] are currently employed by SCIENTECH. The technical experts who will be available to [REDACTED] are listed in Table 3-2; these individuals are either full-time SCIENTECH employees or associates with whom we have formal arrangements.

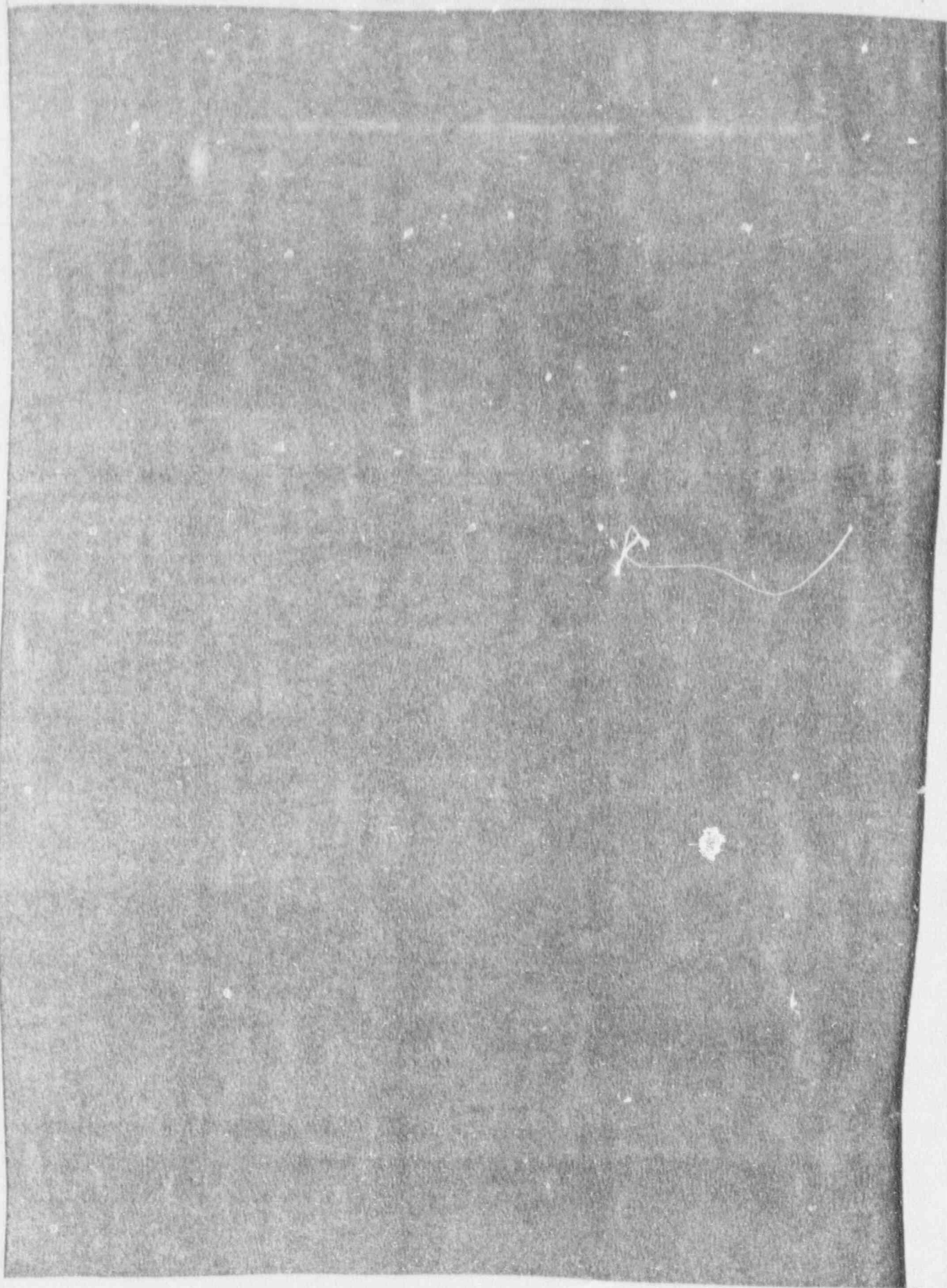
Additional information on staff qualifications is in Section 4.3, where summaries of related SCIENTECH projects are provided, including [REDACTED]

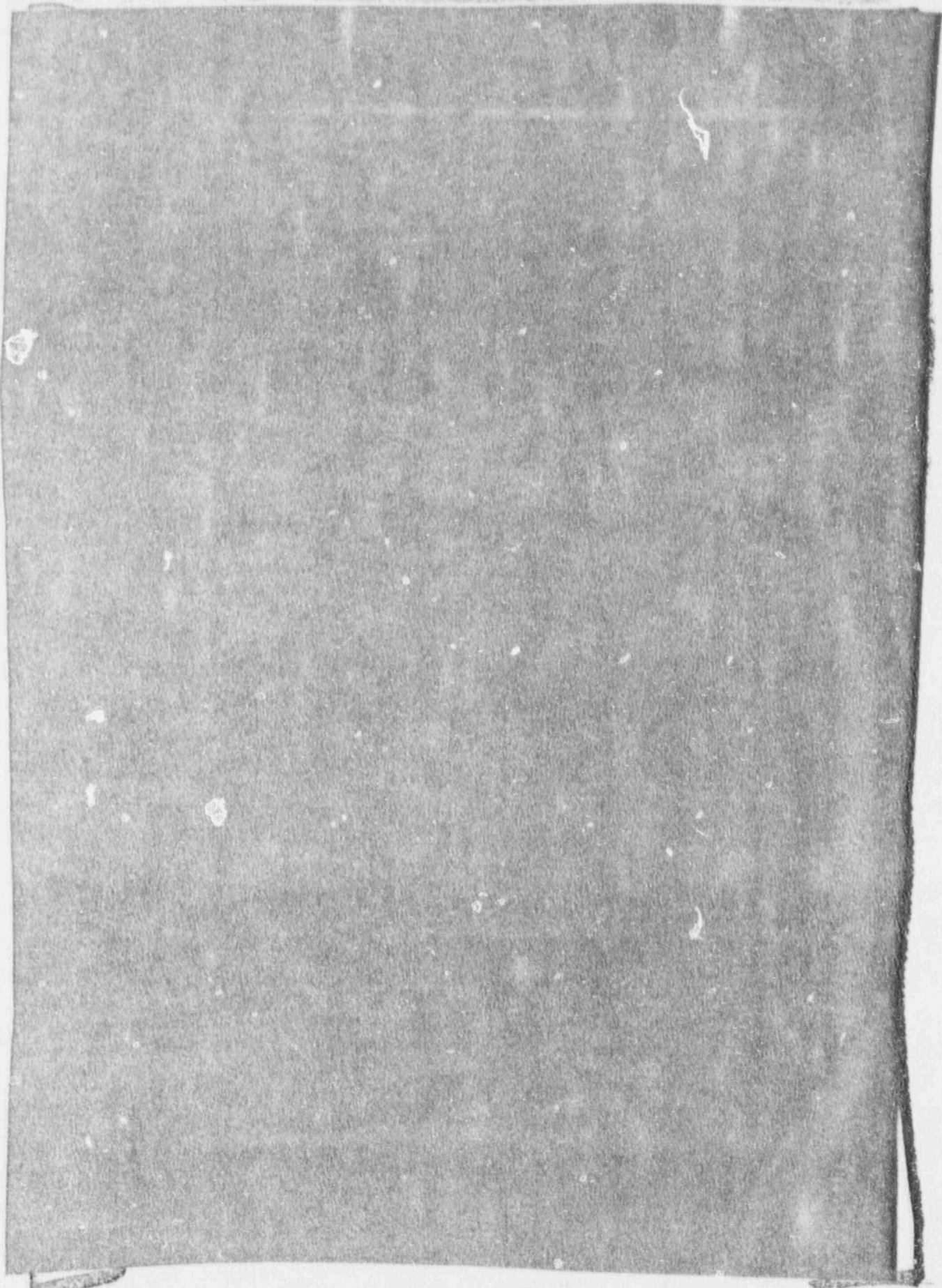
### 4.1 [REDACTED] Experience

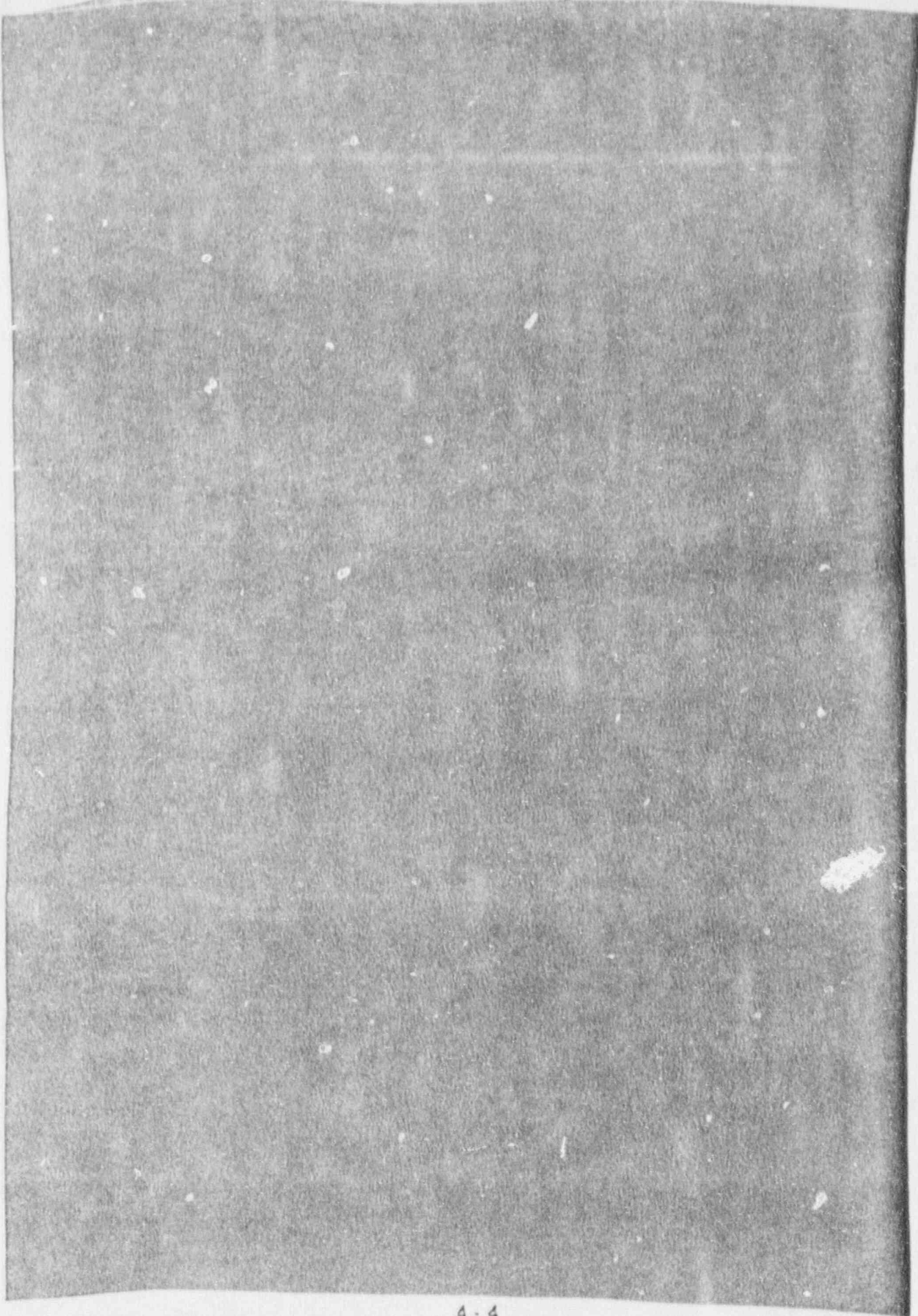
The experience [REDACTED] summarized in this section. We believe that each of these teams contains the proper mix of people with the capabilities necessary to accomplish the tasks in this project in a manner that will be cost-effective and timely. Depending on the actual task required by the NRC and the associated complexity and level of effort involved, appropriate modifications to these assignments may be required. Again, it is our intention to provide whatever flexibility is desired by the NRC.

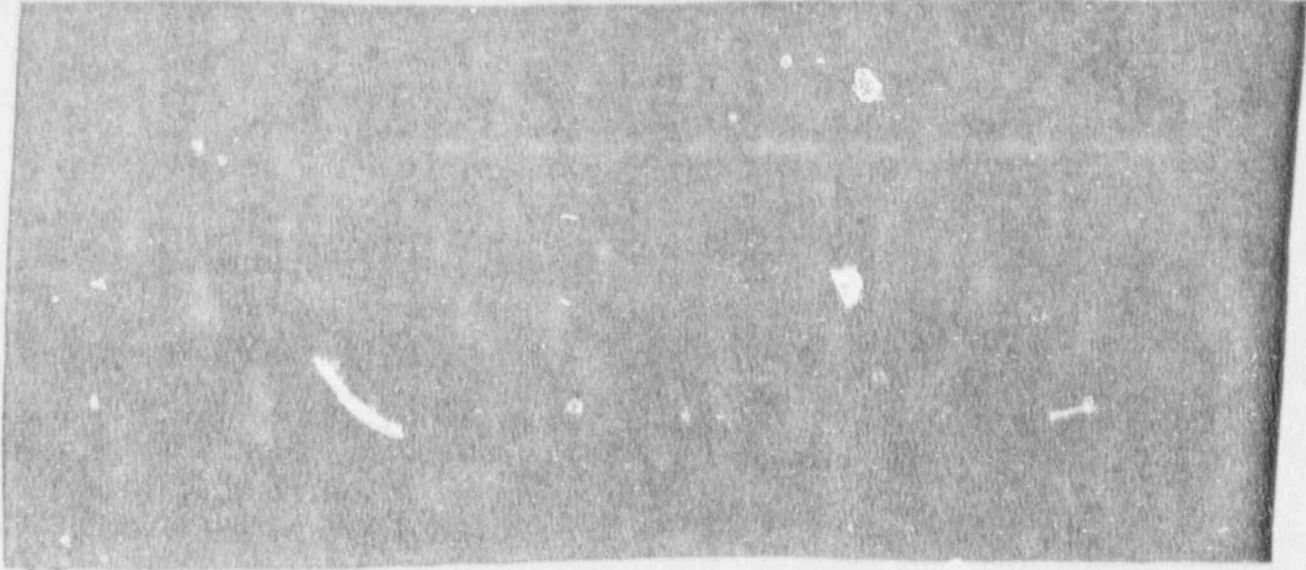
#### 4.1.1 [REDACTED]

[REDACTED]









#### 4.2 Technical Experts

SCIENTECH has a pool of both full-time employees and part-time associates available, encompassing the full range of technical disciplines sought by the NRC. An overview of qualifications is provided in Table 3-2, and resumes for all individuals are provided in Attachment B. Additionally, this pool of experts has the necessary experience with NRC activities to provide

The selected individuals from the pool of experts will provide the following:

- [redacted] licensee actions taken in response to NRC-imposed requirements
- Recommendations for [redacted] in those instances where licensee actions have not been closed out
- Expert testimony on problems, issues, and allegations at public hearings and other similar events

In developing Table 3-2, SCIENTECH purposely limited the number of individuals [redacted]. Additionally, no individual [redacted]

[redacted] These restrictions were imposed to provide a clear and concise picture of SCIENTECH's capabilities relative to the statement of work.

The disciplines listed in Table 3-2 are the same as those specified in the RFP. [redacted] these disciplines, SCIENTECH believes that [redacted]

[redacted]

[REDACTED]

SCIENTECH has [REDACTED] SCIENTECH's overall corporate experience in working with the NRC is discussed in Section 4.3.1.

#### 4.3 Corporate Experience with Regulatory Work

SCIENTECH has consistently supported the NRC rather than licensees on regulatory and safety matters, so little potential exists for conflicts of interest through our participation in this project. We also have the regulatory experience and perspective to stay the required distance from licensees for participation in the NRC nuclear plant oversight role.

In addition to management and regulatory experience in ensuring public health and safety, SCIENTECH has significant [REDACTED] expertise. We believe that such hands-on capabilities provide us with [REDACTED] for contingencies that might arise during this project. It is also necessary for the contractor to be familiar with NRC data bases and to be able to produce both data base input and formal reports. Again, we believe that SCIENTECH has this expertise, primarily as a result of previous and ongoing projects.

Individuals have participated in major NRC efforts such as the wide range of activities associated with the accident at TMI-2. For example, Roger Maltson [REDACTED]

[REDACTED] As the manager of SCIENTECH's Rockville office, he will provide corporate oversight and will be available to provide his insights regarding [REDACTED] issues. Please refer to Attachment B for complete resumes.

SCIENTECH has already completed a number of projects for the NRC. Many of these projects have required a regulatory perspective or independence from licensees and operators of nuclear plants and facilities. Likewise, many of the technical associates with whom we contract have minimal potential for problems with regard to conflicts of interest. The following section provides summaries of previous and current SCIENTECH projects for the NRC.

##### 4.3.1 NRC Projects

- Nuclear Plant Data Bank - Data Management System  
Contract No.: NRC-04-85-125  
Period of Performance: 10/85 - 10/89  
Technical Contact: H. Tovmassian (301) 492-3562  
Contract Administrator: Helen Hagey (301) 492-9449

**Summary:** SCIENTECH was awarded a Small Business Innovative Research (SBIR) contract to support the NRC's Nuclear Plant Data Bank (NPDB) project. SCIENTECH's responsibility was to create a data base for storage of TRAC input data and to coordinate the collection of qualified plant data. As a result, SCIENTECH developed the source code for the Plant Data Management System (PDMS), a PC-based and graphics supported data base.

- **Nuclear Regulatory Research Prioritization**

Contract No.: RES-87-089

Period of Performance: 9/30/87 - 11/15/88

Technical Contact: Jim Pittman (301) 492-3746

Contract Administrator: Helen Hagey (301) 492-5449

**Summary:** SCIENTECH assisted the NRC Office of Nuclear Regulatory Research (RES) with the development and implementation of a methodology to assign priorities to research activities. The research prioritization methodology provides an assessment of NRC research based on current information about each research activity, the strategic goals of the agency, and expert judgment as to how the research contributes to the needs of the agency. A strength of the methodology is that the results of the prioritization are both quantitative and qualitative. The quantitative results facilitate analysis of the overall results; the qualitative results ensure that the rationale behind the priorities is not obscured by numbers.

The tools provided by the research prioritization methodology include a data base presentation of the results. Using this data base, NRC managers can analyze the results of the prioritization to determine how best to allocate research funds to ensure that the agency continues to meet its public health and safety mission. Contract Deliverable: NUREG-1319, Prioritization of Research Activities

- **Recommendations for License Renewal Policy**

Contract No.: NRC-03-85-051, Mod. 10

Period of Performance: 1/88 - 6/88

Technical Contact: Don Cleary (301) 492-3936

Contract Administrator: Joyce Fields (301) 492-7530

**Summary:** SCIENTECH assisted the NRC Office of Nuclear Regulatory Research (RES) in initial policy and regulatory development for commercial nuclear plant license renewal. The primary product of the contract was a license renewal data base, based on the NRC Standard Review Plan, that allowed examination of the interrelations between technical areas and regulatory documentation.

- **NRC License Renewal Rulemaking**  
Contract No.: NRC-04-88-095  
Period of Performance: 9/88 - Present (ongoing to 1991)  
Technical Contact: Don Cleary (301) 492-3936  
Contract Administrator: Patricia A. Brennan (301) 492-4733

**Summary:** SCIENTECH supported the NRC by preparing regulatory analysis for the proposed rulemaking on license renewal for nuclear power plants, concentrating on procedural issues and the relationship of the rulemaking to other NRC licensing requirements. A comprehensive data base was developed using the NRC Standard Review Plan to identify regulatory interrelationships. SCIENTECH organized and analyzed public comments submitted in response to an advance notice of proposed rulemaking published by the NRC. SCIENTECH will take the lead role in identifying the form and content of regulatory guidance needed to support the rule. SCIENTECH will support the NRC staff in a series of public meetings following the issuance of the proposed rule. Public comments in response to the proposed rule will be analyzed. SCIENTECH will support the NRC in revisions to the proposed rule and in briefings on the final rule before the ACRS and the Commission.

- **10 CFR Part 20 - Radiation Protection Requirements**  
Contract Number: RS-RES-88-096  
Period of Performance: 7/88 - 9/88  
Technical Contact: Harold Peterson (301) 492-3640  
Contract Administrator: Helen Hagey (301) 592-9449

**Summary:** Technical assistance was provided in identifying implementation guidance needed for a major revision of the basic radiation protection standards contained in 10 CFR 20. Approximately 100 NRC Regulatory Guides were reviewed against the provisions of the proposed major revision of the Part 20 rule. This review identified several new Regulatory Guides on topics not addressed in the existing Part 20 rule. In addition, the review identified major and minor revisions required for a number of existing Guides. The results of this review were used to estimate the magnitude of the implementation effort for the new rule.

- **10 CFR Part 20 Implementation - Radiation Protection**  
Contract Number: RFP-RS-RES-89-067  
Period of Performance: 7/89 - present  
Technical Contact: Harold Peterson (301) 492-3640  
Contract Administrator: Anita Hughes (301) 492-8353



**Summary:** Technical assistance is being provided to the NRC staff in preparing regulatory guidance for implementation of the revised 10 CFR 20 rule on basic radiation protection standards for NRC licensees. Both new guidance and appropriate modifications to existing guidance are being developed to achieve a coherent and comprehensive presentation of the expected implementation of the rule. Technical information is being developed to support the regulatory positions in the Regulatory Guides; logistical support is being provided to coordinate and track all contractor and NRC staff work effort; and technical assistance will be provided in internal NRC reviews of the guidance prior to its issuance for public comment. A Technical Task Report will be issued in September 1990.

• **Accident Management for Nuclear Power Plants**

Contract No.: NRC-04-89-049

Period of Performance: 4/89 - ongoing

Technical Contact: Norman Lauben (301) 492-3573

Contract Administrator: Joyce Fields (301) 492-7530

**Summary:** SCIENTECH provides analyses and recommendations on courses of action in the technical aspects of managing potentially severe accidents in nuclear power plants. The NRC can use this information to carry out its oversight and regulatory functions in this area. SCIENTECH assembles the body of technical information related to severe accidents and accident management, examines the conclusions previously drawn from this information to determine if they meet the unique needs of accident management, and recommends technical approaches for accident management. A systems engineering approach is being used to integrate the aspects of accident management. Decision analysis techniques are used to optimize approaches for responding to severe accidents.

• **CONTEMPT - Containment Analysis for Nuclear Plants**

Contract Number: DR-87-DO820

Period of Performance: 5/87 - 1/89

Technical Contact: Chet Poslusny (301) 492-6435

Contract Administrator: Debbie Runion (301) 492-7610

**Summary:** SCIENTECH developed the Boiling Water Reactor (BWR) containment coding for a PC version of the CONTEMPT Code using FORTRAN to develop analytical models. This code was developed to meet the 640K memory limitation of a PC.

• **Steam Line Overfill Issues for Pressurized Water Reactors**

Contract Number: NRC-04-87-398

Period of Performance: 6/24/87 - 12/31/89

Technical Contact: Al Notafrancesco

Contract Administrator: Paul J. Edgeworth (301) 492-8353

**Summary:** Generic Issue 135 (GI-135), Steam Generator and Steam Line Overfill, was initiated in 1986 to integrate all current generic issue activities on steam generator and steam line integrity. Four tasks were defined to determine the actions, if any, required to resolve GI-135. These tasks include the following.

1. Assessment of the adequacy of eddy current testing for use as an inspection standard
2. Review of studies on Steam Generator Tube Rupture (SGTR) and proposal of specific modifications to Standard Review Plan (SRP) Section 15.6.3
3. Reassessment of pending, low priority subissues in GI-135 that were formerly handled in GI-67, Steam Generator Staff Actions, for potential inclusion in an integrated resolution
4. Review of the effects of water hammer, overfill, and water carryover in secondary and connecting systems including a proposal for mitigating strategies

SCIENTECH prepared a technical findings report documenting its review of the tasks and available literature pertaining to GI-135.

• **Reactor Coolant Pump Seal Integrity**

Contract Number: NRC-04-87-397

Period of Performance: 3/2/87 - 12/31/89

Technical Contact: Khalid Shaukat (301) 492-3934

Contract Administrator: Paul Edgeworth (301) 492 7125

**Summary:** Reactor Coolant Pumps (RCPs) contain multiple stages of mechanical seals to limit the leakage of pressurized coolant from the reactor coolant system to the containment. These seals have the potential to leak, and a few have degraded and even failed, resulting in a small-break Loss of Coolant Accident (LOCA). As a result, "Reactor Coolant Pump Seal Failure," Generic Issue 23 (GI-23), was established by the NRC to address these safety concerns. SCIENTECH is assisting the NRC in the resolution of GI-23 by performing engineering evaluations in conjunction with Brookhaven

National Laboratory. SCIENTECH has also performed rigorous cost-benefit and regulatory analyses on the proposed resolution of GI-23 in accordance with NUREG/CR-3568 and 10 CFR 50.109.

The results of SCIENTECH's efforts are presented in NUREG/CR-5167, "Cost-Benefit Analysis for Generic Issue 23, Reactor Coolant Pump Seal Failures" and "SCIE-23-89, "Regulatory/Backfit Analysis for Generic Issue 23, Reactor Coolant Pump Seal Failures."

#### 4.3.2 Other Related Projects

SCIENTECH has worked on a number of regulatory projects for the government and other contractors, including some work for national laboratories. We believe that these projects demonstrate a broad corporate familiarity with complex nuclear issues. This familiarity should be of value in the proposed effort, as it provides an industry-wide perspective for some of the most difficult tasks and may allow identification of additional expertise and resources that would be useful. These projects are summarized below.

##### • SISPO Technical Support Project

Client: U.S. Department of Energy Idaho Operations Office  
Contract No.: DE-AC07-88ID 12805  
Period of Performance: 10/1/88 - 12/31/89  
Technical Contact: Ronald D. Peterson (208) 526-1168  
Contract Administrator: Connie Osborne (208) 526-1309

**Summary:** DOE has established the Special Isotope Separation Project Office (SISPO) to technically and administratively manage the design and construction of the SIS facilities. SISPO is responsible for performing the required environmental, safety, and safeguard reviews in accordance with DOE safety, environmental, and security standards and regulations and for providing SIS project management in accordance with DOE Order 4700.1, "Project Management System," for a Major System Acquisition (MSA). SCIENTECH provides SISPO with engineering, project management, project control, and other support services as required.

SCIENTECH's Idaho office provides SISPO with management and engineering support for functional and detailed design reviews to assure that the designs support, and are limited to, mission objectives; fall within the required cost, schedule and technical baseline envelope; meet legal and industrial requirements; and comply with DOE safety, environmental, security and quality assurance standards and regulations. SCIENTECH also provides project management and project control support to SISPO for the management of the SIS

Project as a Major System Acquisition and for control of the SIS Project contractors using the Cost Schedule Control Systems Criteria (CSCSC), as contained in DOE Order 4700.1.

• **Nuclear Plant Data Bank**

Client: Los Alamos National Laboratory (LANL)  
Contract Number: 9-X55-M4065-10  
Period of Performance: 10/85 - 10/89  
Technical Contact: Jay W. Spore (505) 667-2125  
Contract Administrator: Barbara Holder (505) 667-6081

Summary: SCIENTECH provided LANL with technical support services in three areas. The first area addressed aspects of computer analysis of fission reactor safety experiments, including comparison analysis of thermal-hydraulic experiments, computer code assessment using comparison with experimental data, and mathematical modeling of thermal-hydraulic processes. The second area addressed aspects of fission reactor safety analysis, including reactor accident delineation and mathematical modeling of reactor components and thermal-hydraulic processes. The third area addressed aspects of reactor safety and safeguards for the launch, early ascent, and reentry of nuclear power sources that may be launched into space including accident scenario analysis, explosion analysis of liquid or solid propellants, and structural and fragment impact analysis in response to explosions initiated from the propellant tanks.

• **Loss of Coolant Accident Regulation (Appendix K) for Nuclear Power Plants**

Client: Los Alamos National Laboratory (LANL)  
Contract Number: 9-X5H-0506R-1  
Period of Performance: 8/27/87 - 5/31/88  
Technical Contact: Dr. Paul Pan (505) 667-6766  
Contract Administrator: James R. Jefferis (505) 667-5331

Summary: SCIENTECH provided review assistance to LANL to determine which Westinghouse models met the Appendix K requirements, to identify inadequacies and/or nonconservatism of the models, and to determine the need for additional experimental or simulation data based on the Westinghouse sensitivity topical report.

• **TRAC 12.1 Thermal Hydraulic Analysis for Nuclear Plants**

Client: Los Alamos National Laboratory (LANL)  
Contract Number: 9-X5H-2716M-1  
Period of Performance: 10/85 - 10/89  
Technical Contact: J. Spore (505) 667-2125  
Contract Administrator: Jeanette Esparza (505) 667-5331

**Summary:** SCIENTECH identified and documented differences between the constitutive relationships published in TRAC 12.1 documentation and the actual constitutive relationships that exist in the code. For each relationship, SCIENTECH provided the following to LANL.

- Correlation name, use, and references
- Experimental data range and range of acceptable use
- Range of anticipated TRAC use
- Implementation in TRAC
- Observations and documentation disparities

• **Workshops for Advanced Light Water Reactors**

Client: Brookhaven National Laboratory (BNL)  
Contract Number: 402124-S  
Period of Performance: 5/88 - present  
Technical Contact: Trevor Pratt (516) 282-2630  
Contract Administrator: Connie Angilella (516) 282-3432

**Summary:** The NRC assessed the impact of severe accidents and the Commission's Severe Accident Policy on the licensing reviews for advanced light water reactors, with the assistance of BNL and other contractors. SCIENTECH is assisting BNL in planning three workshops to examine crucial technical issues related to licensing of advanced pressurized water reactors. Included in the technical issues are design changes to reduce the residual risk from severe accidents, improvements to the safe operability of the plants under anticipated operational occurrences, and resolution of safety questions raised on nuclear power plants currently in operation. SCIENTECH provides both technical and regulatory insight into the resolution of such technical issues. Deliverables: Draft Section on Appendix A of NUREG 1335 and Rules & Reg. Guides for ALWRs

• **EG&G Review of New Production Reactor Project**

Client: EG&G, Idaho  
Contract Number: C89-102303  
Period of Performance: 1989  
Technical Contact: Y.B. McLaughlin (208) 526-8224  
Contract Administrator: D.G. Vest (208) 526-1666

**Summary:** SCIENTECH provided an independent review of the Program Management Plan for a gas-cooled production

reactor to be built at the Idaho National Engineering Laboratory. SCIENTECH reviewed scheduling, management, funding, safety, design and construction aspects of the Program Management Plan for the Program Manager of EG&G, Idaho. SCIENTECH also advised EG&G on the adequacy of implementation of applicable DOE Orders.

## 5.0 LARGE COMPUTER DATA BASES AND REPORTS

SCIENTECH's professional and administrative staff members are all computer literate. Our Rockville office includes significant personal computer hardware and software for both IBM and Apple compatibility. In addition, SCIENTECH has been involved with larger systems and data bases used at the NRC and elsewhere. All information management resources required for this project are available at SCIENTECH. The following sections discuss our large-computer data base experience.

### 5.1 NRC Data Bases

The NRC data base on licensing actions is described briefly in Section 2.3. Another system dependent on this database is the Regulatory Information Tracking System (RITS), which is used to track all issues associated with each nuclear power plant (e.g., safety, environmental, and administrative issues). The NRC Project Manager initiates the tracking of issues by filling out a technical assignment control (TAC) form. This form identifies the date and source of the issue, the target date for resolution and the recommended review groups (or persons). After the data are initially entered into the data base, Project Managers have an opportunity to upgrade the status of each issue by editing a biweekly printout, generated from the data base, that shows the status of the open licensing issues.

Currently, all data entry is performed by the NRC's Office of Resource Management, using copies of the TAC forms and marked-up copies of the Project Manager's biweekly printout. However, there are plans under consideration for changing this system to allow the Project Managers to enter the data directly. This would be accomplished by providing a PC work station for each Project Manager (most of whom already have one), and connecting the PCs to the NIH computer by modem.

SCIENTECH developed a data base for the NRC Standard Review Plan (SRP), NUREG-0800, for the NRC Office of Regulatory Research. Each section of the SRP was examined to determine its applicability to the rulemaking for license renewal of commercial nuclear power plants. The data base enabled management to review each section's technical applicability, the desirability of review for license renewal, need for revision for license renewal, any additional documentation or research needed, and other factors.

SCIENTECH has also developed a NRC Issuance Data Base that contains a historical record of regulatory requirements issued by the NRC. The requirements have been categorized in the following manner: Generic Letters, I&E Bulletins, I&E Circulars, I&E Notices, Regulatory Guides, Standard Review Plan, and Technical Rules. The data base may be searched for specific issues.

Our staff has extensive experience utilizing the NRC's Public Document Room (PDR) Bibliographic Retrieval System (BRS). The BRS is a minicomputer

based system describing the documents in the facility. We have used this system to perform searches and to create special indices. Searches are performed by keyword searching or controlled title searching.

## 5.2 Other SCIENTECH Data Base Management Experience

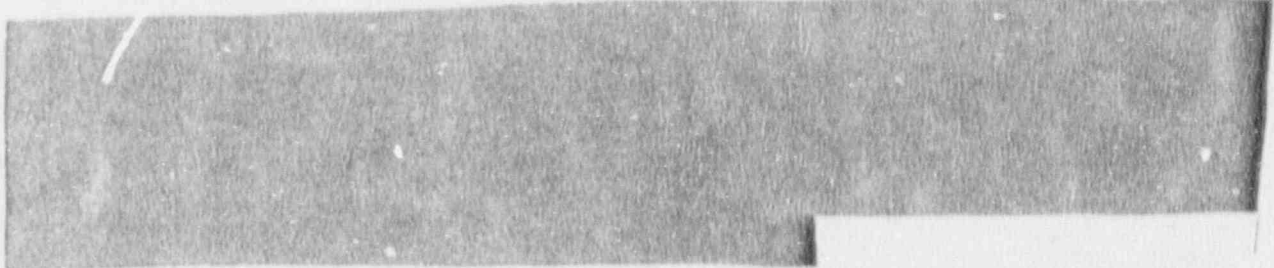
SCIENTECH has developed several large data base systems, and also has extensive experience using document retrieval systems developed by others. The following is a summary of our information management systems (IMS) experience (development and utilization of data base systems).

- We developed the Savannah River Site (SRS) Safety Issues Matrix. This data base contains findings about safety issues at the SRS. The information in this computer tracking system can be extracted and compiled for use in activities such as development of a Technical Safety Assessment Plan for the SRS facilities, the evaluation of improvement programs such as the Reactor Restart Program, Safety Oversight of the SRS Production Reactor, and Reactor Safety Improvement Plan. The data base can group the matrix elements by root cause, functional category, or adequacy of action taken to resolve adverse findings, thereby providing insight into the problems at SRS.
- SCIENTECH developed information management systems to support the creation and use of electronic documentation for military weapons systems manuals, operations and procedures manuals, and military specifications and standards.
- As the automatic data processing (ADP) support contractor for Fire Management Branch of the National Park Service, SCIENTECH maintains, operates, and continues the development of an information system linking more than 200 parks from Maine to Guam. This VAX-based system provides vital on-line information needed for the coordination of inter-agency fire-fighting activities during the fire season.
- SCIENTECH developed a project data access system (PDAS) for a large manufacturing company to manage product information over the life of the product.
- We are providing support in the design, development, and implementation of configuration management and record management systems for the DOE Office of New Production Reactors. These systems will handle programmatic and technical information associated with the development of new production reactors.



### 5.3 Information Management System Expertise

SCIENTECH has several people who are experienced in the design, development, and implementation of large, computer-based information management systems. These systems include a wide variety of environments, such as centralized and distributed data bases and local and wide area networks.



We have been involved in all aspects of information management, including developments in the following areas:



SCIENTECH has provided services for a wide scope of applications, including accident analysis, thermal-hydraulic analysis, reactor physics calculations, nuclear criticality analysis, and environmental assessments.

### 5.4 Experience in Report Preparation

SCIENTECH has experience preparing large technical reports, including publications for the NRC, as described in Section - 3. This work includes, writing, editing, and designing reports based on data bases that we developed.

SCIENTECH employees who previously worked for the NRC have experience preparing safety evaluation reports (SERs) in a number of areas, including



In addition, SCIENTECH personnel have served as project managers for SERs, assimilating the analyses of individual technical specialists.

During the past year, technical experts from the SCIENTECH Rockville offices led the team that performed the Criticality Safety Assessment at the Rocky Flats Plant when local officials and the public became concerned about the level of safety at that nuclear weapons facility. This work involved on-site investigations and compilation of data for technical assessment and presentation in the final report. Information regarding criticality infractions, obtained from over 500 documents, was entered into a data base. The data were analyzed statistically to identify [redacted] This served as a

focus for the resulting 213-page report. Input from the 11 team members was integrated into a report that was subsequently issued to state and local officials, the general public, and Congress. The report received extensive review and evaluation and, although the report covered activities back to the 1950s and involved a wide range of technical matters, it received no substantive criticism, even from the principal critics of the plant.

Also during the past year, SCIENTECH developed the Savannah River Site Safety Issues Matrix data base, which is part of the management process being used by Westinghouse to prepare for safe start-up of the plant's reactors. Information regarding findings and recommendations from numerous safety appraisals and reviews were entered into a data base for [REDACTED]

[REDACTED] SCIENTECH personnel then determined [REDACTED] taken to resolve the issues. The data base was also used to determine trends in the root causes. A two-volume report was produced based on the matrix. Additional safety and management lessons were learned from analysis of the data base, and the most critical issues were extracted for SCIENTECH to conduct a follow-up oversight evaluation of the contractor's dispositioning of issues important to safety.

Members of our staff have also provided technical editing services for Technical Safety Appraisals of contractor management at nuclear weapon facilities. These reports are prepared in the field under strict deadlines to support timely submission to Congress. This process of report generation includes multiple technical reviews, editing for grammatical accuracy, assimilation of about a dozen separate sections from different team members, elimination of redundancies, and correction of logical inaccuracies.

In summary, SCIENTECH has [REDACTED] capabilities. Our support staff is capable of performing [REDACTED]

ATTACHMENT A

SUMMARY OF FORMER NRC EMPLOYEES

The principal management team for this work will include former employees of the Nuclear Regulatory Commission (NRC). Additional technical assistance may be obtained from other former employees of the NRC. It is SCIENTECH's belief that the use of these former NRC employees is appropriate and is advantageous to the Government. None of the SCIENTECH employees who will be involved with this project left the NRC in order to participate in it, and all of them left at least two years ago. None of the core team members held management positions at the NRC or any other position which could be considered inappropriate for this work.

Several SCIENTECH <sup>these</sup> employees have provided consulting services to licensees. This ~~the~~ management personnel left the NRC in recent years and, since [redacted] members have [redacted] we believe that the potential for conflicts of interest is minimal. Until we receive details regarding the specific tasks, it is not possible to be more definitive. We have identified the availability of [redacted] allowing us the flexibility to nominate the appropriate personnel in response to the specific task order.

The most recent NRC positions held by our proposed project managers are listed below.

Roger Mattson was employed by the NRC from 1967 to 1984. He was the Director of the Systems Integration, Safety Technology, and Systems Safety Divisions in the Office of Nuclear Reactor Regulation, and participated in reviews of license applications and the resolution of generic safety issues [redacted]

[redacted] He will provide corporate oversight for this project.

Vince Pandiera was employed by the NRC from 1973 to 1987. He was the Deputy Director of the Division of Reactor Safety [redacted]

[redacted] He will serve as overall Project Manager and is Project Leader for Team 1.

Dom Vassallo was employed by the NRC from 1976 to 1988. He was the Nuclear Reactor Research Special Assistant for Accident Management and was Chief of the Facilities Operations Branch in Nuclear Reactor Regulation. [redacted]

[redacted] He is the Project Leader for Team 2.

Leon Beratan was employed by the NRC from 1970 to 1987. He was Special Assistant, Division of Engineering Safety in the Office of Nuclear Reactor Regulation.



*[Handwritten scribble]*

ATTACHMENT B

RESUMES

(Alphabetical Order)

~~DELETED~~

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