

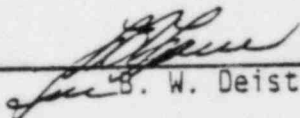
An Analysis and Evaluation of the Management of
Nuclear-Related Activities of the
Public Service Company of Colorado

Prepared for

Public Service Company
of Colorado

January 30, 1985

by



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SUMMARY AND CONCLUSIONS

The NUS Operating Services Corporation (NUSOSC) performed an extensive study of the management of nuclear-related activities within the Public Service Company of Colorado (PSC) to assist PSC in addressing concerns that were raised by the NRC in their assessment of the Fort St. Vrain (FSV) operation that was conducted in July 1984 and which was reported to PSC in the NRC preliminary report issued on October 16, 1984.

The NRC report covered several areas of plant activities, including Conduct of Operations. According to the NRC, the Conduct of Operations at FSV "contained weaknesses that could be the result of deficiencies in the Public Service Company of Colorado (PSC) operating philosophy." The NRC reported that the philosophy appears "to subscribe to less formality and less rigid control of operations in terms of the use of procedures, detail and verification addressed in the procedure, and adherence to the procedures than is common in other commercial nuclear power plants."

The investigation activities of NUSOSC confirmed the basic concerns that were identified by the NRC and, as a result of its investigations, NUSOSC developed a number of recommendations which, if aggressively implemented on a timely basis, should correct the identified weakness.

The NUSOSC investigation team concluded that a key contributing factor to the PSC management philosophy for FSV operations appeared to be the general attitude that the HTGR reactor concept was unique and that the many generic directions and regulations for operation and maintenance of commercial nuclear power plants did not apply. Contributors to this perception of problems include the post-TMI regulatory emphasis on water reactors, and the limited knowledge of and assistance available from outside groups regarding the HTGR. This is discussed further in Appendix A.

I INTRODUCTION

The Nuclear Regulatory Commission (NRC) conducted a special assessment of Fort St. Vrain (FSV) operations in July 1984. This special assessment was conducted by members of the Office of Nuclear Reactor Regulation and the Region IV Inspection and Enforcement group.

The NRC report concluded that PSC should "undertake initiatives that are designed to strengthen overall management control and that will improve plant operations." Further, the NRC stated that the PSC initiatives would "require an assessment of the root causes of operational problems and identification of broad-ranged corrective measures." The NRC stated that the assessment "should be performed by a third party consulting group, the scope and schedule for which must be determined prior to restart."

The NRC required that the work and report be done without consultation or influence from Public Service Company of Colorado. The report was to be submitted simultaneously to both Public Service Company of Colorado and the NRC, Region IV.

PSC requested that the NUS Operating Services Corporation (NUSOSC) review the NRC report and develop a plan of action and a proposal to address the NRC concerns. NUSOSC was subsequently contracted by PSC to provide consulting assistance for the assessment of nuclear management controls within PSC and at the Fort St. Vrain nuclear station.

II PURPOSE AND SCOPE

This report was developed by NUSOSC at the request of the PSC. It represents an analysis and evaluation of the management of nuclear-related activities within PSC. The report will be utilized by PSC to prepare a response to the NRC preliminary report issued on October 16, 1984.

The report contains five sections: 1) Conduct of Operations/Management, 2) Work Control Systems/Procedures, 3) Commitment Control, 4) Training/Retraining and 5) Organization and Staffing. Each section provides an introduction describing in general terms the areas examined followed by important observations of the NUSOSC Review Team. Each section concludes with a list of recommendations that the Review Team has submitted for consideration by PSC.

Activities associated with the assessment began on November 14, 1984 following a joint meeting of PSC, NRC and NUSOSC representatives in Arlington, Texas. The study was essentially completed on December 21, 1984 with the final analysis of data and report development beginning on December 27, 1984.

The scope of the study entailed approximately 2500 man-hours of labor with over 60 PSC people being interviewed. The study itself is described in Appendix B of the report

III AN ANALYSIS AND EVALUATION OF THE MANAGEMENT OF NUCLEAR-RELATED ACTIVITIES OF THE PUBLIC SERVICE COMPANY OF COLORADO

A. CONDUCT OF OPERATIONS/MANAGEMENT

1. Introduction

Conduct of Operations/Management focuses on issues such as identification of group and individual responsibilities, management philosophy, PSC attitudes toward procedures, compliance, intra- and inter-group communication, and leadership, as well as opinions and assessments of various PSC activities in these areas.

Other factors considered for this section include interfaces between various PSC and industry organizations, the diverse organizational units within PSC, the effectiveness of the organization, the roles of various levels of management and their reporting relationships, the alignment of various functional activities, the locations of the various groups, the knowledge levels of personnel involved and how PSC management viewed issues such as violations of regulations, management and supervisory skills, staffing levels and PSC/NRC relations.

The section contains observations ranging from PSC's need to deal systematically and firmly with the failure-to-follow-procedures problem to the isolationist attitude which is pervasive throughout the nuclear organization. It is the general consensus of the Review Team that the majority of the Fort St. Vrain problems stem from management's attitudes and philosophy.

2. Observations

- The Review Team concluded that no overall, concrete, effective management plan or philosophy regarding conduct of operations at FSV exists. Rather, it appears that outside stimuli are required before action is taken to correct problems and/or deficiencies.
- Management control is ambiguous, and communication within PSC appears to be nonsystematic and inefficient. Staff meetings are rarely held at all levels. Information regarding organizational changes, policy decisions, and events is not always disseminated at either the site or support locations.
- During interviews, it was learned that support personnel do not fully appreciate the requirements that must be met at the plant, and support personnel indicated that the plant staff do not adequately define what is expected of them. In addition, interviews with PSC supervisory personnel indicated that they often do not know what other work groups are doing or what the status is for important tasks that may impact their functional areas.
- Despite the long-standing problem with failure to follow procedures, PSC has not developed and implemented an effective, systematic program of cause identification and correction. There is a general reluctance to enforce discipline when necessary. Management is prone to acknowledge mistakes and errors as part of "human nature." A survey of the Senior Resident Inspector's Reports for 1981-1984 shows that there are about two violations per month on the average. The nature of most of these violations is failure to follow procedures.

2. Observations (continued)

- Quality control/quality assurance activities do not receive continuous, aggressive management attention and have resulted in problems regarding definition and control of safety-related material.
- The licensing single-point contact and the contributions or responsibilities of other PSC organizations with regard to licensing activities are not adequately defined.
- ✓ ● There does not exist a person with final authority to determine whether or not a design change should be accomplished.
- Personnel interviewed reported that plant departments or groups applied different policies for the same situations. Managers conceded that they knew that policies were applied differently even within their department, but they had not taken steps to correct these differences. Supervisors stated that they knew written policies existed, but in some instances they had not obtained copies (or felt that they did not have access to these policies).
- Most indications are that the nuclear organization of Public Service Company of Colorado is too narrowly focused on HTGR technology. There is little evidence of outside contact or learning. For example, there is minimal attendance at industry-wide functions or participation in standards committees. PSC is routinely asked to evaluate NRC light-water-reactor-based regulations in light of HTGR differences. Since no one in PSC has

2. Observations (continued)

extensive light water reactor experience, they tend to overlook similarities and parallels. (See Appendix A, HTGR considerations.)

- Persons interviewed displayed open antagonism toward the NRC, and for the most part either lack an appreciation of, or refuse to acknowledge, the NRC's position regarding the regulatory process.
- Managers and superintendents demonstrated a general lack of understanding regarding the conduct of plant tours and inspections. Most information obtained through interviews indicated that they generally looked for items that had previously been identified by either NRC or INPO. In addition, they had very little information about what their subordinates were inspecting during their tours and admitted to having very little or no control over these activities. Results of plant tours are not normally documented and reviewed to identify problem areas or practices to establish trends/rates of reoccurrence.
- Plant tours conducted by the Review Team revealed poor maintenance practices and problems with the plant. The problems included damaged plant equipment, damaged maintenance equipment, poor operational practices and potential personnel or equipment hazards. It should be noted that many people interviewed felt that they "could not keep ahead of the Resident Inspector" in identifying problems even though they collectively represent a much larger group.

3. Recommendations

A.1 The PSC nuclear organization should require that detailed mission and function statements (charters) be developed for each senior manager's group. These statements should be reviewed and agreed upon by the appropriate senior manager and then approved by the senior nuclear executive. The statements should be developed in such a manner as to be able to serve as guidance for the development of similar statements at the departmental and supervisory level. The statements, after approval, should become part of the nuclear policies and procedures manual for the senior nuclear executive.

A.2 The PSC nuclear organization should develop and implement an effective management planning system that encompasses the following basic elements.

- Define the overall management objectives (results to be achieved) for the conduct of nuclear activities.
- Identify the work that must be accomplished in order to achieve the objectives (referred to as critical performance areas).
- Group and assign work responsibilities to individual organizational units within the nuclear organization.
- Select critical objectives for each manager and prepare detailed and measurable action plans for achieving each of the critical objectives.

A.3 The PSC nuclear organization should implement a management skills development program.

3. Recommendations (continued)

- A.4 The nuclear organization should develop and maintain a program of annual and long-range schedules. The scheduling program should include, as a minimum, planned plant modifications, plant surveillances requiring shutdown, major maintenance activities and plant outages.
- A.5 Criteria for evaluation and prioritization of change notices should be developed. The combination of priority and scheduled start should be used by all nuclear groups involved to coordinate the preparation for construction of change notices. The criteria should specify one individual or position who has safety and design control authority for Fort St. Vrain. The work control group should function as an advisory body to this individual.
- A.6 A thorough and comprehensive review of procedures should be initiated as soon as possible. The review should be geared to identifying and correcting procedural deficiencies, overlaps and omissions. In addition, a detailed analysis of procedures which do not get followed should be conducted and the root causes for failure to follow procedures identified. Verbatim procedure compliance should be enforced.
- A.7 The Quality Assurance organization should be given additional emphasis and management attention.
- A.8 An effective tour program should be established. Problems found during tours should be summarized by type and location and a periodic report provided to all tour participants in order to increase visibility of plant problems to all levels of supervision and management.

3. Recommendations (continued)

A.9 Policies should be developed which require regular and frequent division, department, and group meetings.

A.10 PSC should take steps to allow its personnel to increase their awareness of events external to PSC. These steps could include increasing enrollment and attendance with industry groups, as well as subscribing to information services.

A.11 Visibility of senior personnel should be increased through plant visits, plant tours and attendance at staff meetings at all levels.

B. WORK CONTROL SYSTEMS/PROCEDURES

1. Introduction

This section addresses conditions varying from logistics and problems related to maintenance, to procedure matrices and design change notices for nuclear activities. Problems identified in this area ranged from outdoor storage of components to the lack of detailed planning.

2. Observations

- PSC has not developed an effective work control system. In addition, the programs for preventive maintenance and postmaintenance testing are inadequate. No ongoing engineering analysis is conducted to assess the effectiveness of the preventive maintenance program. Many work items do not have postmaintenance testing specified.
- The procedures for engineering activities are extremely complex. Over two dozen steps are required for a design change request and modification. Most of those steps are not performed for technical or regulatory reasons, but rather are efforts to bridge the gap between the user, the designer, and the constructor.
- No central maintenance facility exists. This often causes slowdown in completion of jobs when more than one discipline is involved. There is no effective coordination of maintenance activities and no central warehouse. Many jobs do not have required parts ordered until the individual responsible for maintenance has been assigned. Parts on hand have frequently required rework and considerable cleanup because they were inappropriately stored outdoors.

2. Observations (continued)

- The plant has had a high equipment failure rate, which in the opinion of some supervisors interviewed is attributable to a lack of, or inadequate, preventive maintenance. A large part of the plant work backlog consists of rework items.

- Level one procedures require approval from all of the organizations involved at Fort St. Vrain. In contrast, there is no requirement that lower level procedures be reviewed for interfaces with other organizations. As a result, they are not, and there is evidence that procedures contain conflicting requirements and responsibilities. Also, engineering procedures are exempt from the requirements of G-2 that provide administrative control of procedures.

- There are too many Corrective Action Requests (CARs) written. The CAR system is not being properly utilized. A corrective action system should be used to identify significant defects. The PSC system does not differentiate between the significant and the insignificant.

- There is no effective method for escalation of CARs to higher management. Many CARs stay open for years. Several 1982 items are still open, some with no recent correspondence to indicate that any action is being taken.

3. Recommendations

- B.1 Review the modification process, from initial request to final installation and test. Provide for the elimination of redundant reviews and approvals. Change the work procedures to make them as simple as possible.
- B.2 Establish a planning group to prepare jobs for work before their release to maintenance. Assign job coordination responsibilities to superintendents in charge of specific maintenance disciplines.
- B.3 Policies and procedures should be developed and implemented that establish the qualifications of planning and scheduling personnel and the required guidelines and criteria for planning and scheduling activities. Personnel currently involved in the planning and scheduling function should be upgraded through training and experience to the required criteria. Consideration should be given to the hiring of a qualified and experienced planning and scheduling manager.
- B.4 Develop a complete preventive maintenance program including engineering analysis and feedback. Routinely specify and conduct postmaintenance tests which ensure that the system or component meets its design intent.
- B.5 The "exclusion list" at FSV governing material access to the site must be reviewed and corrected.

3. Recommendations (continued)

B.6 Policies and procedures should be developed and implemented to improve the revision and control of drawings to support plant operations and maintenance.

B.7 Develop more explicit procedures and criteria for performing safety evaluations to meet 10CFR50.59.

B.8 Establish a separate system for CARs so that only significant items are called CARs, and give them proper management attention. The system should address priorities, schedules, reviews, etc. Other items presently carried as CARs can be handled in a similar system, if desired.

C. COMMITMENT CONTROL

1. Introduction

This section of the report covers the Review Team observations and recommendations regarding the process, methodology, and practices of PSC in the control of regulatory and nonregulatory commitments.

Problems identified in this section ranged from the use of the commitment log to the inadvertent dropping of past commitments from consideration.

2. Observations

- The second paragraph of PSC's letter transmitting its technical response to the NRC Generic Letter 83-28 implied that PSC did not agree that there was a need to protect HTGRs against ATWS events.

In addition, the PSC technical response ignored the fact that components might have vendors that are not the NSSS supplier, and therefore a complete FSV program should address more than the NSSS vendor.

- The Commitment Log, which serves as the primary tool for tracking commitments, does not define what should be on the log and is controlled in a fragmented manner. In addition, the contents and schedules associated with the Commitment Log are not properly communicated to responsible individuals for correct action.

2. Observations (continued)

- The control system does not prevent past commitments from being inadvertently dropped, and no meaningful statistical analysis of progress toward completion of commitments is performed or maintained by PSC.
- No controls exist for responses to commitments other than those requiring correspondence to NRC.
- The Review Team was told that the "Commitment Log" includes only requirements for government interactions, i.e., NRC, state, and county requirements. The PSC commitment to NUMARC/INPO was not being tracked on that system and consequently, the due date for meeting this commitment was not forwarded to the person responsible for response.

3. Recommendations

- C.1 Develop and implement policy regarding commitment control. Consider the following points as a minimum: accountability, measurable performance goals, requirements, priorities, and analysis.
- C.2 The methods used for internal review of regulatory correspondence should be improved and standardized with procedural guidance developed regarding use, basis, uniformity, and distribution.
- C.3 Reviews of regulatory documents must be undertaken on a conceptual basis to determine whether installed equipment, which is often different from that described by the NRC, might fall under the requirements or intent of a regulatory directive.

D. TRAINING/RETRAINING

1. Introduction

Training and retraining were examined at the site and support locations. Areas included both operator and nonoperator training.

2. Observations

- PSC has not adequately addressed the overall training needs and requirements of the nuclear organization, e.g., training for most nonlicensed staff is essentially nonexistent. In addition, the current personnel responsible for training activities in the nuclear organization do not have the requisite training and educational skills to plan, develop and implement effective training.
- Except for operations and maintenance personnel, there is no policy concerning minimum entry training. There is no retraining policy for personnel other than licensed personnel.
- Interviews with training personnel indicated that they do not fully understand the mechanics of instruction system design (ISD) or of accreditation requirements. Although the personnel exhibited a great deal of dedication and concern regarding accreditation, they are not optimistic that they will meet the projected schedule for accreditation.
- The Review Team considers the training program for initial licensing adequate but is of the opinion that retraining for licensed personnel is inadequate in that it does not provide for team training or for addressing training needs identified by on-shift performance and/or evaluation.

3. Recommendations

- D.1 A detailed manpower study should be performed to determine the resource requirements needed to thoroughly accredit the nuclear organization training.
- D.2 A training program should be developed for all personnel involved in nuclear-related activities at Fort St. Vrain. The training program should be structured against a job and task analysis conducted for the various positions.
- D.3 A formal evaluation should be performed to determine what training is required for a candidate prior to entry into a new job position. Each employee should be thoroughly trained and prepared for entry into the company through a comprehensive, introductory orientation program. The program should include job-specific requirements, departmental responsibilities and goals, and the nuclear organization.
- D.4 Training policies, procedures and methodologies should be developed that address the assessment of individual performance, the identification of individual training needs, and successful completion of training requirements.
- D.5 All site training activities should be consolidated under one person who will be responsible for all site-related training.
- D.6 The retraining program for licensed personnel should be modified to accommodate team training and incorporate training needs identified by on-shift performance and/or evaluation.

E. ORGANIZATION/STAFFING

1. Introduction

This section considers factors such as span of control, resource allocation, and reporting relationships.

Other factors of less significance are the logistics involved because of the physical separation between the Diamond Hill facility and Fort St. Vrain, wasted motion occurring because of duplication of effort, and failure to address issues in a timely fashion. In addition, information derived from the previous four sections was considered in the development of recommendations.

It is the Review Team's opinion that all appropriate functional areas have been identified and are included in either the PSC on-site or off-site nuclear groups. However, optimum organizational efficiency is difficult to realize within the constraints of the organization as it currently exists. A redundancy exists in assigned engineering functions such as site engineering, design engineering, results engineering, and plant engineering. The work activities and number of personnel involved do not support such a wide, diverse variety of engineering organizations. Therefore it is suggested that PSC consider a reorganization that would include Divisional/Departmental shifts with a resultant reallocation of resources and a modification of the division managers' reporting relationships. The organization recommended by the Review Team is in accordance with general nuclear industry practice and is illustrated in Figure 1.

2. Observations and Recommendations

E.1 PSC should augment the nuclear staff with trained personnel having experience in licensing, maintenance, scheduling, training, and planning.

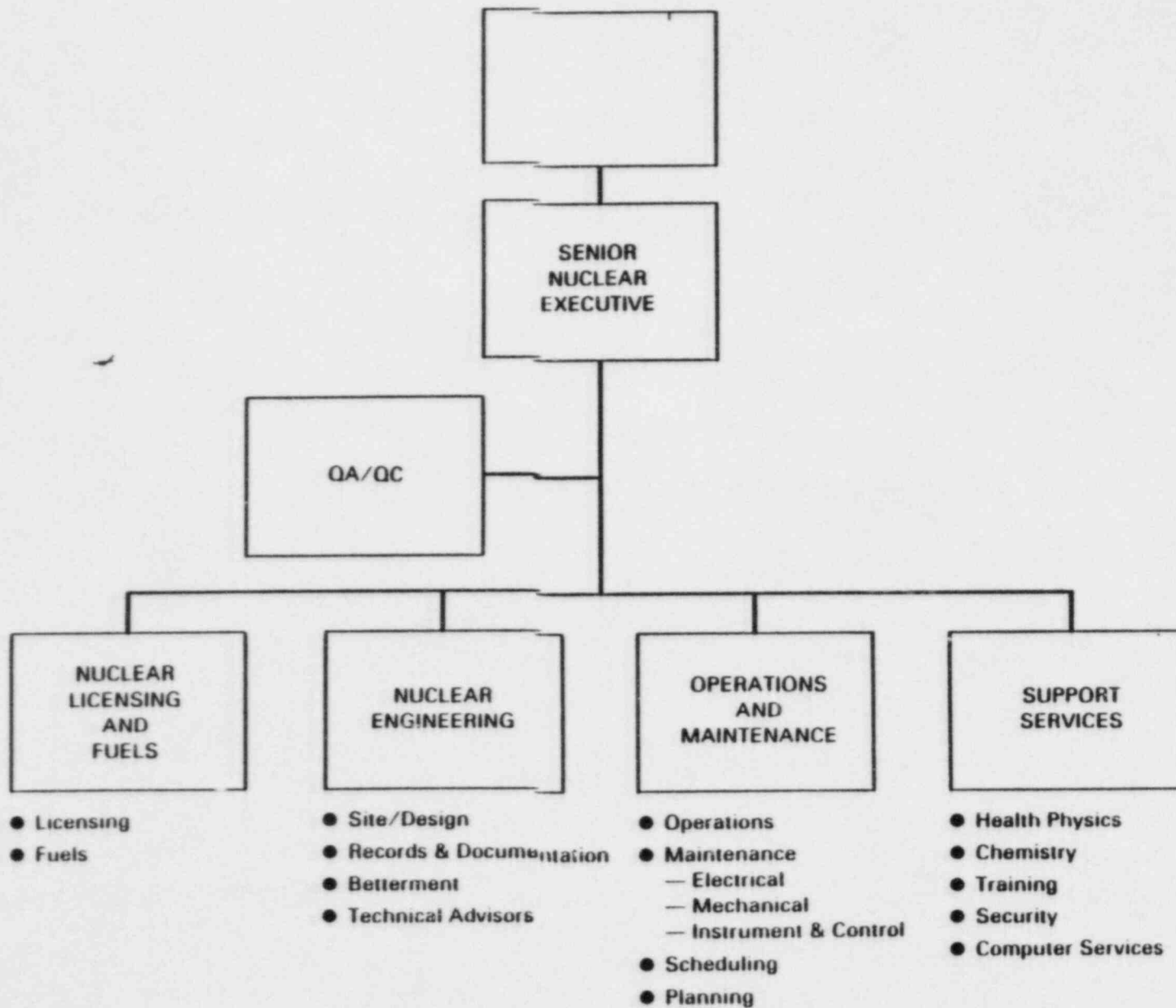


Figure 1. Recommended Organizational Changes

2. Observations and Recommendations (continued)

E.2 The Vice President, Electrical Production has four nuclear-related divisions reporting to him. Logistically, these divisions, when combined with fossil production responsibilities and committee involvements, result in a total of nine individuals reporting to this position. The Review Team is of the opinion that this position is overextended.

This overextension has resulted in reduced attention to detail and diluted involvement as a key decision maker. This results in a need for individual organizations to act independently, often out of synchronization with others.

Based on these considerations, it is recommended that PSC consolidate all nuclear-related operations under one senior nuclear executive whose responsibilities would be limited to nuclear activities. The consolidation should bring together all groups involved with operations, maintenance and support of the Fort St. Vrain Nuclear Power Station.

The senior nuclear executive position should be provided with full authority and management support to conduct nuclear-related business and operations.

The placement of this position should be such that it is organizationally capable of executing such authority. Consideration should be given to placing the senior nuclear executive under the President, PSC.

E.3 The present makeup of the licensing and nuclear fuels group (Office of the Executive Staff Assistant) and the QA/QC group appears adequate from an organizational

2. Observations and Recommendations (continued)

standpoint. However, it is the recommendation of the Review Team that these groups be managed from the FSV site.

E.4 It is recommended that all engineering and documentation functions be combined into one organization managed from the FSV site. Functional areas in "Nuclear Engineering" would include:

- Site Engineering (including Nuclear Design)
- Nuclear Engineering Records (and Nuclear Documentation Control)
- Nuclear Betterment Engineering (excluding I&C Maintenance Functions)
- Technical Advisers

The engineering group at FSV should be organized such that they may handle all small and medium projects (< \$1,000,000). All major projects should be handled by the Systems Engineering Division.

E.5 It is recommended that the Station Manager's organization be modified to absorb I&C maintenance work activities while relinquishing the engineering functions of Nuclear Betterment to "Nuclear Engineering" as discussed in the preceding paragraph. Further, the "shift supervisor-training" position should be transferred to the training organization. This arrangement will result in an "Operations & Maintenance" group devoted solely to the objective of operating and maintaining the plant.

2. Observations and Recommendations (continued)

Functional areas in "Station Operations and Maintenance" will include:

- Operations
- Maintenance
 - Electrical
 - Mechanical
 - Instrumentation & Control
- Scheduling
- Planning

E.6 The Review Team concluded that the functions of the Technical/Administrative Department are redundant to those of other organizations. Based on expanding "Nuclear Engineering" to include all engineering and documentation, it reduces this group to only security and computer services. Recommendations are to transfer these activities to "Support Services" and entirely dissolve the Technical/Administrative Department. "Support Services" would therefore be responsible for:

- Health Physics
- Chemistry
- Training
- Security
- Computer Services

APPENDIX A CRITIQUE OF HTGR CONSIDERATIONS

The Fort St. Vrain power reactor of Public Service Company of Colorado is a high-temperature, gas-cooled reactor (HTGR) and as such represents a unique facility in the United States. Since the project initiation, this plant has evolved from an experimental reactor to a demonstration plant and finally to a commercial power plant. The PSC staff assembled during construction of the plant had the primary goal of making the facility work. Apparently, because of design and equipment considerations, the emphasis of "making it work" lasted for several years and has only recently begun to be replaced by an "operating" attitude.

Since all other commercial power reactors in the United States are water-cooled, it is to be expected that regulatory concerns would be primarily directed toward this type of plant. In addition, regulatory action has been almost entirely focused on the "lessons learned" from the TMI accident, and the tremendous amount of subsequent correspondence that was directed toward licensees was almost totally concerned with water reactors. It appears that this regulatory emphasis has caused PSC to feel estranged and to have contributed to the development of attitudes that are not conducive to productive relations with the USNRC. In addition, water reactor concerns, combined with limited budgets, have apparently not allowed the NRC to acquire and train a complement of HTGR personnel. It is apparent that the perceived need to continually educate NRC personnel in gas reactor technology has added to the frustration of PSC personnel.

The Review Team is of the opinion that the uniqueness of the HTGR has contributed to the development of an inappropriate sense of isolation of Fort St. Vrain from the rest of the nuclear industry. PSC personnel have elected to minimize interaction with the rest of the industry by infrequent attendance at sponsored meetings or user groups because they feel such involvement would be of no benefit. They place little or no value on associating with water reactor groups. Only recently has this situation improved through interaction with INPO.

Because of this attitude the PSC staff has forgone adapting well-established programs, procedures, and methods developed over the years by the rest of the nuclear industry to deal with similar-type problems being faced by PSC.

Therefore, it is suggested that the above circumstances have contributed directly to the difficulties experienced at Fort St. Vrain over the past few years.

APPENDIX B PROJECT DESCRIPTION

1. General

The activities of NUSOSC in regard to the project were structured to specifically address the NRC requirements as specified in the NRC report. To that end, the effort was divided into units of work that addressed the areas identified by the NRC. Accordingly, NUSOSC incorporated appropriate data into the study from the following:

- Licensee event reports filed from January 1, 1982 to May 31, 1984
- 1982 and 1983 Systematic Assessment of Licensee Performance Board Reports
- Licensee response to Generic Letter 83-23
- Conduct of Operations
- Maintenance Practices

The project team was broken down into five groups: a management review team and individual teams for operations and maintenance, licensing, procedures, and training/administration.

The primary goal was to assess the status of nuclear management controls and evaluate the nuclear operating philosophy of the Public Service Company of Colorado. The assessment covered broad areas such as management involvement, operating "attitudes," plant operation, and communications.

The basic criteria that were used for the assessment were performance and objectives criteria similar to those established by INPO for corporate and plant evaluations.

2. Objectives and Criteria

The broad-based program objectives established for the project were to review and assess:

- Management Structure
- Management Practices/Attitudes
- Deficiencies Identified in Region IV Reports
- Deficiencies in Two Previous SALP Reports
- Operating Philosophy/Commitments
- Communications
- Training and Retraining Practices
- Work Control Systems/Procedures

These areas were condensed during the final project assessment phase into the final report format of five sections.

3. Initial Investigation and Work Plan Development

The investigation phase was initiated with the preparation of a detailed work plan for the investigation. The work plan was reviewed and approved by PSC and NRC. Verbal assignments were issued to the team which included areas of responsibility, specific topics, matters or items to be investigated, and documentation requirements.

4. Material Review Process

Material review was done on documents that reflect the NRC concerns and included the SALP Reports for 1982 and 1983, PSC's response to Generic Letter 82-38, and all INPO evaluations. In addition, documentation and PSC material related to the project were reviewed. They included procedure manuals, training manuals, construction work packages, corrective action requests, nonconformance reports, change notices, and procedures.

4. Material Review Process (continued)

Material was reviewed in an ongoing process throughout the project to assess the suitability and adequacy of the administrative, management, and technical control systems. In addition, the material review process provided the investigating team with information on management involvement in the performance of operations, maintenance, licensing and training.

5. Interview Process

The interview process represented the primary source of information for the overall project. The interview process was structured so as to gather information through questioning on the program objectives. Managers, supervisors and employees at both the plant and corporate locations were interviewed.

The interview process was structured and performed in accordance with a detailed schedule with over 60 PSC employees being interviewed. Most individuals were interviewed more than once. A total of 83 interviews were conducted.

6. Project Review

Project reviews were established to allow the investigating team to meet on a regularly scheduled basis to review the status of their activities and compare information. Project reviews were conducted daily. This process was augmented with reports covering input from the ongoing material review. The project review sessions had two primary objectives: (1) to maintain the investigating teams in synchronization and (2) to provide for a thorough, consistent approach for each successive review.

7. Project Assessment

Project assessment was the final information and documentation phase that provided input into the final report. Project assessment gathered and summarized information from the material review process and the interview process to identify observations and recommendations.

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OMSD #85-027
February 12, 1985

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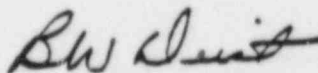
Dear Mr. Lee:

The purpose of this letter is to clarify certain aspects of the Analysis and Evaluation of the Management of Nuclear-Related Activities of the Public Service Company of Colorado.

Specifically, I wish to report that to the best of our knowledge and belief, neither myself nor any member of the review team observed or was cognizant of any activities or actions that were in violation of your license or federal regulations.

Sincerely,

NUS OPERATING SERVICES CORPORATION



B. W. Deist
General Manager
Operations Management Services

BWD:cw

cc: Mr. Larry Brey
Executive Staff Assistant

