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I. INTRODUCTION

In the Fall of 1987, Florida Power & Light Company (FPL) determined that, notwithstanding extensive corrective action programs and a substantial investment in supporting resources, performance at the Turkey Point facility remained unacceptable. This was reflected in problems identified by both FPL and the Nuclear Regulatory Commission (NRC). FPL concluded that it would be beneficial to contract with an outside consultant for a comprehensive, independent appraisal of activities at the facility. The Nuclear Regulatory Commission (NRC) subsequently confirmed FPL's commitment by Order EA 87-85 of October 19, 1987, which modified FPL's study outline in certain respects.

After evaluation of competitive proposals, FPL selected ENERCON Services, Inc. (ENERCON) to perform what has become known as the Independent Management Appraisal (IMA). ENERCON's proposal reflected knowledge of the nuclear industry, the special discipline required for the operation of nuclear power plants, familiarity with the NRC regulatory system, and a sensitivity to the behavioral aspects of successful performance and management of nuclear facilities. ENERCON prepared a program plan for the study which was subsequently reviewed and approved by FPL and the NRC. ENERCON's overall effort was conducted over a period of five and a half months between November, 1987 and April, 1988.

The appraisal effort, which included the use of surveys, document reviews, extensive interviews, and on-site observations, ultimately involved more than 8,000 professional person-hours. FPL's participation in the surveys and interviews as well as coordination and liaison with ENERCON involved approximately 3,000 professional person-hours.

FPL cooperated fully in ENERCON's review including the personal involvement of FPL's Chairman and Chief Executive Officer, President and Chief Operating Officer, Executive Vice President, and Senior Vice President-Nuclear, collectively meeting as FPL's Senior Level Review Board (SLRB).

ENERCON's appraisal team was supplemented by a Senior Evaluation Team (SET) which provided a valuable oversight function to the appraisal team, and which was used to periodically communicate project status, findings, and recommendations to the SLRB. The SET was comprised of ENERCON's Senior Vice President Jerry Martin (SET Chairman); former NRC Chairman Joseph Hendrie; William Cahill, Senior Vice President - Nuclear of Gulf States Utilities; Rear Admiral William Neel, USN (retired); and Ms. Wanda Myers, Executive Director of Behavioral Consultant Services.

Meetings between the SET and the SLRB gave FPL's senior management the opportunity to monitor ENERCON's progress, gain an understanding of ENERCON's findings and recommendations, and



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request clarification as necessary. The NRC's Region II Administrator or his deputy attended all but the first of four scheduled SET-SLRB meetings. The first meeting essentially dealt with administrative matters, with later meetings addressing issues of substance. NRC's attendance was pursuant to a protocol requiring prior notice to NRC of meetings of this type, as well as contemporaneous distribution of reports, and any drafts thereof, to both FPL and NRC. The final report was furnished to NRC and FPL on April 15, 1988, and formally docketed on April 18, 1988.

The NRC Office of Analysis and Evaluation of Operational Data (AEOD) thereafter performed an evaluation of the IMA and prepared a report (the "AEOD Report") containing a number of useful observations and recommendations which have been considered by FPL in the preparation of this response.

Due to the extensive nature of the IMA recommendations and the need for a thorough review and comprehensive response, FPL requested an extension to the 30-day response required by the Order. By letter dated May 11, 1988, the NRC granted a 45-day extension; a further extension to August 15, 1988 was granted (by letter dated July 1, 1988) in order to allow FPL to consider the comments and recommendations of the AEOD Report.

This document is FPL's response to the IMA and the recommendations in the AEOD Report. Section II of this document provides corporate management's perspective and an overall corporate response. Section III, FPL's Action Plan, provides FPL's response to each of the specific IMA recommendations and certain AEOD observations. Section IV provides FPL's response to the recommendations in the AEOD Report, and Section V is the conclusion.

[illegible]

II. CORPORATE OVERVIEW

FPL senior corporate management has studied the final IMA report and is satisfied with the comprehensiveness of the appraisal. It clearly meets FPL's objectives in initiating the study and the requirements confirmed by the NRC's Order of October 19, 1987. The appraisal was intended to identify areas in which, by implementing ENERCON's broadly based recommendations, significant improvements could be realized both at Turkey Point and the corporate nuclear support staff. FPL believes that ENERCON's multi-disciplinary approach to the appraisal, including the use of experienced nuclear professionals, former regulatory officials, and behavioral specialists, has identified the root causes of many problems as well as opportunities for improvement within FPL's nuclear organization. This conclusion is further supported by the candid discussions between the SET and the SLRB, the information subsequently disclosed in the IMA Team's discussions with the SET and other supporting information, some of which was specifically highlighted in the AEOD Report. In this connection, FPL has also found the observations and recommendations of the AEOD Report to be constructive and useful.

Although ENERCON identified no issues which immediately affect the safety of plant operations, the IMA report did identify several plant and corporate functions that require substantial

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improvement. Senior corporate management generally concurs with these findings and realizes that the performance of Turkey Point must be substantially improved. As indicated below, FPL has already completed or initiated senior corporate and plant management changes which are critical to successfully addressing the concerns embodied in the report's recommendations.

The appointment of a new Senior Vice President-Nuclear, became effective February 1, 1988. He has a proven record of success as a plant manager, Vice President, and President and Chief Executive Officer of a nuclear utility and two years as a Group Vice President of the Institute of Nuclear Power Operations.

A new Turkey Point Plant Manager reported for duty on May 9, 1988. He has approximately sixteen years of experience in the nuclear field and has held comparable positions at another nuclear utility. His strong technical and managerial background will complement the management skills of the Site Vice President.

A new Turkey Point Operations Superintendent, formerly the Operations Supervisor at St. Lucie, was appointed on November 16, 1987. His experience and management skills receive favorable comment in the IMA report.. Both corporate and plant management believe that under

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his leadership, accountabilities within the Operations Department will be clearly defined, and that past "attitude" and "culture" problems in Operations referred to in the IMA and the AEOD Report will be eliminated. Positive changes have already been made in the Operations Department; further improvements are expected, because the new Superintendent clearly recognizes the importance of the Operations Department's primacy in setting the priorities for all the other activities necessary to support plant operations.

A new Security Supervisor was appointed on May 23, 1988, to provide the necessary day-to-day supervision of Turkey Point site security activities. He has eight years of nuclear security experience of which the most recent three years were at an operating nuclear plant site which has been recognized as having a successful security program. He is a Certified Protection Professional and has both Bachelor and Master of Science degrees in Criminal Justice.

A new corporate position, Manager Nuclear Security, has been established in the Nuclear Energy Department to develop nuclear security policy and to monitor program implementation at both Turkey Point and St. Lucie.

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The individual who has been selected for this position has over ten years nuclear security experience and was responsible for developing the current St. Lucie nuclear security program. Through this expertise and a close interaction with plant security management, the required improvements in the nuclear security program will be achieved and consistent security practices at both plants will be ensured.

In recognition of the need to improve maintenance performance the position of Assistant Maintenance Superintendent has been created at Turkey Point. The Assistant will provide counsel and guidance in current industry maintenance practices. The person selected to fill this position has fifteen years of experience in nuclear plant maintenance supervision and related engineering responsibilities. For the last two years he has been a Senior Maintenance Evaluator for INPO.

The corporate nuclear organization has also been modified. The two Site Vice Presidents and the Corporate Director of Quality Assurance now report directly to the Senior Vice President-Nuclear. The line position of Vice President-Nuclear Operations has been abolished, and in its place, FPL has created the new staff position of Vice President-Nuclear Energy,



who is responsible for corporate licensing, training, engineering, maintenance and other nuclear energy services. (e.g., health physics, chemistry, and emergency planning). This position is filled on an acting basis by an experienced nuclear manager who served for six years in the naval nuclear program and thirteen years in nuclear management positions with FPL at St. Lucie and in the corporate nuclear organization.

Even before the IMA report was issued, senior corporate management had decided to improve offsite engineering and onsite technical support of FPL's nuclear facilities. This is being done as a matter of high priority. Responsibility for nuclear plant engineering support is being moved to the Nuclear Energy Department. Senior corporate management believes this change will resolve an internal "culture" conflict by clearly separating fossil-plant engineering from nuclear-plant engineering.

A new position of Director of Nuclear Engineering has been created, reporting to the Vice President-Nuclear Energy. The individual appointed to this position has 15 years of experience in the nuclear field in addition to several years in the U. S. Navy nuclear program. He spent 14 years with a major engineering organization in










a variety of management positions; including Chief, Mechanical and Nuclear Engineering, where he had technical and administrative responsibility for the management of 350 staff and project engineers. He is responsible for managing the design engineering efforts for both Turkey Point and St. Lucie.

With respect to Turkey Point, the roles of the corporate engineering group and the site Technical Department are also being evaluated to determine the need for further organizational changes to better serve plant needs through improved corporate-site communications and reduction of paperwork.

The objective of these personnel and organizational changes and additions is to strengthen the corporate and site organizations with experienced personnel, to improve opportunities to develop and communicate corporate and site goals and, generally, to encourage a "culture" aimed at meeting high standards of safety, quality, performance, and personal accountability.

Senior corporate management generally agrees with the IMA's "critical" recommendations which involve an identification of the experience and skill requirements (the "job requirements") that must be met by the individuals filling key management positions at the nuclear sites. FPL recognized that this recommendation

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should be extended to key management positions in the corporate staff; the AEOD Report also recommended such an extension. This process is in the final stages for 35 positions, and evaluation of the incumbents is underway, as described in the Action Plan. Several personnel changes are in process, and others may be necessary. In some positions where personnel may not possess all necessary job requirements, it may be possible to support the incumbents with individuals (either permanent or temporary) who have a proven record of success in the particular area of nuclear operations and/or support. However, as noted in the Action Plan (Section 5.1.1) compensatory measures will not be acceptable as a permanent solution. Accordingly, incumbents in management positions who do not possess requisite skills and experience and, whom it is felt, cannot be trained to meet such requirements are being replaced.

Senior corporate management is also in general agreement that achievement of goals at Turkey Point requires greater stability in key positions. Accordingly, FPL has suspended Turkey Point rotational assignments within the Nuclear Energy Department's management rotation program, and made permanent several temporary personnel assignments at Turkey Point. Critical corporate staff positions are not subject to rotation.

It is also important to minimize external demands on the Turkey Point staff (i.e., from the corporate nuclear staff and from

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outside FPL). Recognizing that the public safety functions entrusted by law to the NRC cannot be "negotiated", FPL will explore with the Commission, as well as NUMARC, INPO, and other organizations external to FPL, what can be done to better structure the demands on Turkey Point personnel to facilitate their ability to concentrate on resolving present, high priority problems. Senior corporate management will also provide additional resources in those areas where such resources can contribute to improvements in the performance of Turkey Point, especially in the maintenance, training, technical support and operations disciplines. Senior corporate management believes that through these measures, and by improving resource management, significant improvements at Turkey Point are achievable within a reasonable time frame.

In the area of regulatory interface, senior corporate management will take steps to consolidate and unify the licensing functions in order to improve the overall effectiveness of the licensing organization, as well as to enhance open, candid communication with NRC Headquarters, Regional staffs, and Site Resident Inspectors.

In the interest of improving overall plant reliability, FPL concurs with the IMA observation that it may be necessary to accept lower plant availability at Turkey Point in the near term. This change in operating philosophy has already been adopted.

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The AEOD Report highlights the potential significance of such a change on maintenance practices and, more generally, in fostering improvements in corporate and site "culture". The IMA has underscored the importance of clearly restating this policy and assuring that FPL's commitment to real quality improvement is understood by the entire nuclear organization.

While most of the IMA recommendations focus on Turkey Point, they also reflect a commensurate need for improved leadership and increased involvement on the part of corporate management in many of the enumerated areas. This is in addition to the central role of corporate nuclear management in articulating corporate nuclear goals and in assuring that these goals are communicated effectively and understood by the entire nuclear organization. As a means of achieving this objective, the Senior Vice President-Nuclear has directed all levels of Nuclear Energy Department management to maintain a high level of "visibility" (i.e., physical presence) at the sites, in order to stimulate discussions of corporate and plant goals and expectations, and to provide regular on-the-spot feedback on the acceptability of plant performance.

Senior FPL management is aware of the AEOD's views concerning the extent to which corporate "overmanagement" of Turkey Point, however well intentioned, may have contributed to problems at the site. FPL believes that this concern is best addressed by

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establishing, in consultation with site management, systematic, comprehensive goals, performance measures and especially specific accountabilities, tracking progress very closely, and providing regular feedback. Accordingly, revised Corporate staff and Turkey Point goals, indicators, and targets are being established. They have been aligned with, and implement, the company-wide nuclear goals. More detailed department goals are being established, accompanied by accountability statements which, taken together, establish identifiable responsibilities for meeting targets to which personnel can relate in everyday activities. Progress will be carefully monitored by appropriate levels of FPL management from first line supervision to the senior executives of the Corporation using meaningful performance measures. Milestones will be identified and schedules will be reviewed to determine if improvement is progressing at an acceptable rate. Additional changes will be made, as required, to achieve the necessary substantive results. Management also will be reviewing the implementation of corporate personnel policies and procedures at the plant, including performance appraisals, promotion practices and discipline policy, to assure that they are having a positive affect on performance.

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III. FPL ACTION PLAN

The IMA report contains four sets of recommendations. In order of priority, they are,

1. Critical Recommendations.
2. Strategic Recommendations
3. Essential Recommendations
4. Important Recommendations

Within these classifications there are more specific recommendations. The IMA indicates, however, the order of specific recommendations within the groupings does not denote any priority relative to importance or timing of implementation.

FPL's response to each specific recommendation includes, 1) a RECOMMENDATION section (ENERCON's recommendation statement); 2) a DISCUSSION/ANALYSIS section (explanation and detail about what actions have been taken or are planned to be taken, including the basis for the actions); and 3) a SCHEDULE for taking action.

FPL has either completed or initiated action in response to many of the specific recommendations, while other recommendations require additional analysis and time for implementation. In cases where further action is required, a schedule for the action

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is included. Although FPL's responses address specific recommendations, as required by the Order, they have been formulated with the underlying issues in mind, as reflected in the sections of the IMA devoted to root cause analyses. They also reflect consideration of much of the information collected and used by ENERCON in formulating the recommendations as well as the valuable insights and recommendations of the AEOD Report.

FPL's responses, to the extent practicable, avoid the creation of major new programs. FPL agrees with ENERCON that an excess of such programs may dilute management attention and slow the resolution of known problems. Rather, the approach is to screen existing programs, prioritize the key items, and apply the necessary resources and specific corrective actions called for in the IMA and its supporting data to enhance Turkey Point operations.

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RECOMMENDATION 5.1.1: DEFINE JOB REQUIREMENTS AND MATCH THEM WITH SKILLED PEOPLE WHO HAVE PROVEN TRACK RECORDS. FPL Corporate and Plant Management have demonstrated a strong desire to improve plant performance. To achieve this performance improvement, the management team must consist of personnel with demonstrated successful line management experience in their respective positions. Such direct and successful experience will assure that the management team has a basis for comparing Turkey Point practices with previously encountered successful practice and to recognize the need for any necessary corrective action. In addition, personnel added for specific positions must be sufficiently experienced to make an immediate contribution.

Plant management must define the experience and skill requirements for each position and must fill the positions with experienced people who match the required skills.

DISCUSSION/ANALYSIS: This critical recommendation focuses on plant management positions. However, corporate management believes that, as a first step, it is necessary to identify those positions in the entire Nuclear Energy Department (Turkey Point, St. Lucie, and Corporate Staff), for which specific experience and skill requirements must be established. Positions which comprise the management team and also address the specific ENERCON recommendations have been identified as follows:

CORPORATE

1. Senior Vice President - Nuclear
2. Vice President - Nuclear Energy
3. Executive Assistant
4. Director Quality Assurance
5. Director Nuclear Licensing
6. Director Nuclear Engineering
7. Manager Nuclear Services

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8. Manager Nuclear Training
9. Manager Nuclear Maintenance
10. Manager Nuclear Security

TURKEY POINT AND ST. LUCIE

11. Site Vice President
12. Plant Manager
13. Operations Superintendent
14. Maintenance Superintendent
15. Assistant Maintenance Superintendent (Turkey Point)
16. Training Superintendent
17. Technical Supervisor
18. Services Manager
19. Site Project Manager
20. Onsite Engineering Project Manager (Turkey Point)
21. Assistant Superintendent Electrical Maintenance
22. Assistant Superintendent Mechanical Maintenance
23. Chemistry Supervisor
24. Health Physics Supervisor
25. Instrument & Control Supervisor
26. Operations Supervisor
27. Reactor Engineering Supervisor
28. Quality Control Supervisor
29. Assistant Superintendent Preventive Maintenance
30. Safety Engineering Group Chairman (Turkey Point)
31. Plant Supervisor - Nuclear/Nuclear Plant Supervisor

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- 32. Operations Support Supervisor (Turkey Point)
- 33. System Engineer
- 34. Security Supervisor
- 35. Security Shift Supervisor (Turkey Point)

The second step is to define the experience and skill requirements for these positions. The purpose of this effort is to analyze the requirements of the positions and to assure that these requirements are specified in the job descriptions. Job descriptions are being revised for the positions listed above to include experience and skill requirements. Position descriptions will include the organizational relationships of each job and its principal accountabilities (including basic challenges of the job and degree of problem solving required), and will take into account attributes such as education, licenses, experience, technical, managerial and inter-personal skills.

The revised job descriptions will be used to evaluate the incumbents against the requirements. The objective is to ensure that incumbents have necessary relevant experience, prior successful performance, and potential for growth. The same process will be utilized to evaluate candidates as vacancies arise in any of the above positions, or as new management team positions are created.

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In cases where incumbents do not meet the revised job descriptions, management will appoint a replacement or consider compensatory measures. For example, management might assign an assistant to the incumbent so that their combined talents satisfy the experience and skill requirements of the position. Management could also increase the level of direct supervision of the incumbent and monitor performance very carefully while the incumbent gains the required skills and experience. However, compensatory measures will not be accepted on other than a temporary basis. If these compensatory measures do not result in the incumbent's attaining the required level of skill as demonstrated by performance, management will replace the incumbent.

In addition to the above, FPL has taken action at Turkey Point to address the five specific examples of key positions identified in the IMA which require personnel with proven track records. These positions are discussed in Recommendations 5.1.1.a through 5.1.1.e.

SCHEDULE: Job descriptions, incorporating skill and experience requirements for the 35 identified positions, are in the final stages of review. The evaluations of the incumbents will be completed by September 15, 1988.

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RECOMMENDATION 5.1.1.a: PLANT MANAGER. The current Plant Manager is being moved to another position in the FPL organization. His replacement must have a strong and successful operations background in order to understand the role of the plant operations and contribute immediately to improving the performance of Turkey Point. It is also necessary that the new Plant Manager have several years of successful line management experience in the commercial nuclear industry.

DISCUSSION/ANALYSIS: FPL has hired Mr. James Cross, as the new Plant Manager - Turkey Point. Mr. Cross has approximately 16 years experience in the nuclear field, including positions as Assistant Plant Superintendent, Assistant Plant Manager-Operations, Nuclear Station General Manager, and Site Director at an operating nuclear plant site. He has a "proven track record" of success in nuclear operations management.

Mr. Cross receives strong support in Operations from Mr. L. W. Pearce as the new Turkey Point Operations Superintendent. Mr. Pearce has demonstrated his proficiency as the Operations Supervisor at St. Lucie. His influence is already apparent, and recognized by the IMA in the relatively short period since he assumed his responsibilities at Turkey Point.

In addition to establishing the key role of Operations in setting priorities for all supporting activities at Turkey Point, Mr. Pearce with the support of Mr. Cross, is taking steps to address the "passive culture" referred to in the AEOD Report through coaching of PS-Ns; further training of the Operations staff, especially in handling the slowly evolving off-normal conditions

referred to by AEOD; by clearly establishing the accountability of the PS-Ns for interpretation of Technical Specifications and equipping them for this task through further training; and by encouraging shift team building for each operations crew.

SCHEDULE: Mr. Cross joined FPL on May 9, 1988, and assumed the position of Plant Manager on June 9, 1988. Mr. Pearce joined the Turkey Point staff in November, 1987.

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RECOMMENDATION 5.1.1.b: SECURITY PERSONNEL. Five new FPL Security positions have been approved to provide an FPL security person on each shift. The new personnel must have the knowledge and experience necessary to handle problems that may arise. Selection of these personnel is critical and FPL must take the time necessary to hire qualified people.

DISCUSSION/ANALYSIS: FPL has taken steps to enhance the overall effectiveness of the nuclear security program, at both the corporate and plant site level. A new Turkey Point Security Supervisor, Mr. Arthur Cummings, was appointed on May 23, 1988. Mr. Cummings has eight years of nuclear security experience, of which the most recent three were at an operating nuclear plant site which has been recognized as having a successful security program. He has an AS, BS, and MS in Criminal Justice and is a Certified Protection Professional. Mr. Cummings has the requisite qualifications for supervising Turkey Point's day-to-day security activities, and his background will help to improve the planning and implementation of the Turkey Point security program.

In addition to appointing a new Security Supervisor, as noted by the IMA report, five new FPL security positions have been authorized to provide on-shift management overview of Turkey Point Security operations. The individuals filling these new positions will have the skills, knowledge, and experience necessary to handle properly the security problems as they arise.

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A new temporary position of Plant Security Project Manager has been established to provide a management overview of the activities surrounding the security system upgrade tasks currently identified in the integrated schedule. Mr. Mike Crisler has been appointed to this position. Mr. Crisler is familiar with the overall FPL organization and has the project management experience and communications skills necessary to coordinate the many diverse activities associated with the upgrade.

As an additional enhancement, a new corporate position, Manager Nuclear Security, has been established in the Nuclear Energy Department to develop nuclear security policy and to monitor program implementation at both Turkey Point and St. Lucie. This position is filled by Mr. John West, who has extensive security experience at St. Lucie Nuclear Plant and prior military security experience. The Security Plans and corporate security matters pertaining to the nuclear sites are being coordinated through Mr. West.

Performance indicators have been developed and are being tracked to verify that the above changes are, in fact, improving security performance. Indicators being tracked on a monthly basis include:

1. Security Incident Reports
2. Man Loading

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3. Average Overtime per Man Week
4. Personnel Turnover
5. Loggable and Reportable Events
 - a. Equipment Related Events
 - b. Personnel Related Events
6. Task Certifications

The AEOD Report identified several security issues that were not fully described in the IMA. With respect to the overtime issue, the average weekly overtime for contract security officers for the first half of 1988 has been reduced substantially from 1987 overtime rates by increasing security force manning levels. However, installation of the new security system over the next several years will increase requirements for compensatory posts and overtime. The new Plant Security Supervisor is currently evaluating the contract security force organization, task assignments, and schedules to determine if organizational enhancements can be made to help control overtime for contract security officers during this period.

Contract security force turnover appears to be trending downward. Contract security force turnover at Turkey Point during 1987 was over 40%. Through June 1988 the turnover was less than 16%, or an annualized rate of approximately 32%. The control of overtime, increase in security awareness among plant employees

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and improved security facilities should all contribute to a lower security contractor turnover rate in the future.

SCHEDULE: At the present time three of the five new security positions have been filled and background checks are underway for the individuals selected for the other two positions. All five of these personnel have the requisite skills, knowledge, and successful past performance record. FPL expects to fill the remaining two positions by September 1, 1988, pending completion of security checks.

Installation of security system upgrades (for example, improvements in the security computer system, the intrusion detection system, vital barriers, and the entrance facility) has been scheduled for completion during 1991.

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RECOMMENDATION 5.1.1.c: SYSTEM ENGINEER.

In the process of replacing contracted personnel who are system engineers with FPL employees every effort should be made to select experienced engineers. Since there are not a large number of skilled system engineers available, it may be necessary to select engineers with excellent track records and train them as system engineers. In either case, selection of people willing to accept the responsibility of this key position is essential. System engineering supervision should also have demonstrated success in providing plant technical support and directly related system engineering experience.

DISCUSSION/ANALYSIS: FPL will enhance the "system engineer" concept at Turkey Point, in which a single qualified engineer has responsibility for the comprehensive understanding, configuration control, and performance of a particular system. At the present time 18 engineers at Turkey Point (7 FPL employees and 11 contractors) are performing system engineering duties. The most important systems have been assigned to FPL system engineers, and all system engineers (FPL or contractor) are supervised by FPL Lead Engineers.

System engineers and their supervision are among the positions for which new job descriptions, incorporating skill and experience requirements, are being prepared. These job descriptions will be used to evaluate candidates to fill system engineer and system engineer supervisory positions at Turkey Point with FPL employees, and to evaluate the FPL incumbents. Contractors are being replaced with FPL system engineers, although some contractors may be retained temporarily in an advisory capacity. Design engineering will provide qualified FPL

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candidates as appropriate to support the plant system engineering function.

The final number of FPL system engineers will be determined based on the selection of systems that will be managed under the system engineering concept. As necessary, FPL engineers who have excellent performance records, and are willing to accept the responsibility of this position, will be selected and trained as system engineers.

System engineer supervision will have nuclear power plant system engineering or related experience at operating plants, and also successful experience in providing plant technical support.

Further details about the implementation of the system engineer concept are contained in the response to Recommendation 5.3.5.

SCHEDULE: Replacing contract personnel with experienced, FPL system engineers is currently in progress, and the targeted completion is mid-1989.

The selection of systems that will be managed under the system engineering concept will be completed by August 31, 1988, and the final number of FPL system engineers will be determined by September 15, 1988.

一、二、三、四、五、六、七、八、九、十、十一、十二、十三、十四、十五、十六、十七、十八、十九、二十、二十一、二十二、二十三、二十四、二十五、二十六、二十七、二十八、二十九、三十、三十一、三十二、三十三、三十四、三十五、三十六、三十七、三十八、三十九、四十、四十一、四十二、四十三、四十四、四十五、四十六、四十七、四十八、四十九、五十、五十一、五十二、五十三、五十四、五十五、五十六、五十七、五十八、五十九、六十、六十一、六十二、六十三、六十四、六十五、六十六、六十七、六十八、六十九、七十、七十一、七十二、七十三、七十四、七十五、七十六、七十七、七十八、七十九、八十、八十一、八十二、八十三、八十四、八十五、八十六、八十七、八十八、八十九、九十、九十一、九十二、九十三、九十四、九十五、九十六、九十七、九十八、九十九、一百。

RECOMMENDATION 5.1.1.d: TRAINING STAFF. The recently appointed Training Superintendent has excellent operations experience. This experience is valuable to help training personnel understand the needs of one of their primary customers, operations. However, the Training Superintendent lacks training management experience. The credentials of his staff should be carefully evaluated to assure that sufficient, successful training experience exists to provide the required expertise. If not, a person(s) with the necessary experience should be assigned to the Training Department to provide the Superintendent with the required training experience and expertise.

DISCUSSION/ANALYSIS: The Training Department's performance at Turkey Point needs to be improved in the areas of (1) manager qualifications, (2) instructor qualifications, (3) training material updates, (4) communication between FPL training organizations, (5) simulator capabilities, (6) support of the non-licensed operator (NLO) and hot license operator programs, and (7) goals and accountabilities. To accomplish this, the management of the Training Department has been restructured, student complements have been increased, training material updates have been expedited, and management oversight and monitoring have been increased. Further details are given below. These actions, coupled with actions described in response to IMA recommendation 5.3.9, and the revised management organization of the Nuclear Energy Department, should resolve the broader concerns about training identified in the AEOD Report, including the concerns about maintenance training.

1. Manager Qualifications

The incumbent Training Superintendent has approximately 18 years of operations and operations management experience at Turkey

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Point and, with monitoring and guidance by senior plant management, should be able to obtain the necessary training management experience. To ensure the Training Department will be properly managed in the interim, the credentials of the Training Department management team have been reviewed. This team is comprised of the Training Superintendent, the Assistant Superintendent, the Maintenance/ Specialty Training Supervisor, the Training Support Supervisor, and the Simulator Supervisor. The management team collectively has 48 years of nuclear power plant experience, 23 years of training experience, 6 years Navy nuclear experience, and two individuals who hold a Senior Reactor Operator license. It appears that this management team presently has the requisite skills and experience. Their experience is as follows:

The Assistant Superintendent is on loan through December 31, 1988, from the Institute of Nuclear Power Operations (INPO). He is a Vocational Education doctoral candidate and has seven years experience at INPO supporting the implementation of performance-based training in the nuclear industry. He has participated in 36 INPO Accreditation Team visits and has performed two plant evaluations and 58 training assistance visits for INPO.



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The Maintenance/Specialty Training Supervisor has a total of approximately 15 years experience in supervision and training, including approximately 5 years experience supervising the development and implementation of performance-based training programs for maintenance craft personnel, chemistry technicians, and health physics personnel. These programs are accredited by INPO. He has completed INPO's Training System Development Course and has been influential in developing FPL's Systems Approach to Training (SAT) model.

The Training Support Supervisor has a Ph.D. in Vocational Education and Special Education. He has many years of industrial experience, including analyzing, designing, and developing performance-based training programs. He has been at Turkey Point for three years, of which the past 19 months have been as an FPL employee.

The Simulator Training Supervisor has 14 years of power plant experience of which 11 are at Turkey Point. He has been licensed for approximately eight years and has held an active SRO license for the past four years. He has four years experience in operations training as the Lead Licensed Operator Instructor, Lead Licensed



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Operator Requalification Instructor, and Licensed Operator Coordinator with responsibility for all licensed operator and STA classroom, simulator, and in-plant training. He has recently been assigned the position of Simulator Training Supervisor with responsibility for simulator instruction.

This Training Department team appears to have the skills necessary to manage the Department, as well as to implement the on-going training program upgrade (training modules, qualification of instructors, resource management, etc.). Training performance indicators have been created to verify that the Training Department performance continues to improve, and thus validate management's present view of the qualifications of the training team. Two examples of improving performance which are encouraging are: (1) an increasing SRO pass rate, and (2) successful results during a recent INPO evaluation of simulator performance. The performance of the site training department will, however, be closely monitored by both corporate and site management.

Turkey Point plant management must become more involved in the day to day operation of the Training Department. This will be accomplished by the utilization of training feedback sessions with the Training Superintendent, students, and training personnel to review the current training program content, quality

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and delivery. It is also recognized that plant management is responsible for ensuring that the students receive adequate training that provides them with the knowledge to perform their intended job functions in accordance with site procedures in a quality and professional manner.

The following additional actions will be taken to increase plant management involvement in training:

The Site Vice President, Plant Manager, Operations Superintendent or Operations Supervisor will be in attendance during final simulator examinations. They will participate in the simulator critique and will emphasize professional conduct, clear communication, and high standards of performance. They will also critique the ability of the students to apply technical knowledge of the plant, technical specifications, and EOPs in the operations of the simulator.

Management will also provide feedback to the Training Department as to its conduct of simulator examinations and the thoroughness and quality of critiques.

Each initial license operator candidate will be required to appear before a management board prior to being allowed to take the initial NRC RO or SRO license examination. This

board will determine the technical knowledge, attitude and ability of the candidate to perform under pressure.

2. Instructor Qualifications

Turkey Point has, since 1987, made extensive use of experienced contract instructors to support plant training needs. This was necessary because the qualifications of the existing in-house training staff were being upgraded at the same time student population was increasing. Contractors were selected on the basis of the following criteria: prior PWR experience; previous SRO license or NRC certification; and experience as classroom trainers and/or simulator instructors. FPL is moving towards staffing its training organization with instructors who are FPL employees. The qualifications of selected, experienced FPL training instructors will be upgraded.

3. Training Material Updates

Training materials need to be updated to reflect current plant design and procedures. To correct this situation, specific System Descriptions have been assigned to various instructors who will be held accountable for insuring that System Descriptions in training materials reflect current plant design. System Description updates will be completed prior to utilizing the descriptions for the next operator class. In addition, the following actions are being taken:

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Plant operator training materials will be upgraded by improving texts, lesson plans and exams, and will be completed by December 15, 1988.

The training document, "Job Performance Measures" will be upgraded based on approved plant procedures by December 15, 1988.

A tracking system is in place to monitor plant and procedure changes to ensure they are incorporated into appropriate training materials. Specific accountabilities have been established for tracking the changes to keep training material current.

The AEOD Report noted an IMA team concern regarding implementation of the INPO accredited training program. The IMA team has advised FPL that this initial concern was not substantiated. Turkey Point training management recently reviewed the implementation status of the INPO accredited training programs, and found that the programs, both initial and continuing, were being satisfactorily implemented with the exception of Chemistry Technicians Continuing Training. Chemistry Technician Continuing Training was implemented in June 1988 and is scheduled monthly through the balance of 1988.

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The chemistry staff is being increased. While these positions are being filled, qualified temporary contract personnel will be hired. This will allow the incumbent chemistry personnel to attend scheduled classes.

4. Communication Between FPL Training Organizations

Improvements in communication between FPL training organizations are discussed in response to IMA recommendation 5.3.9.

5. Simulator Capabilities

Notwithstanding certain differences between the simulator and the Turkey Point Plant, it was recognized that use of the Turkey Point simulator would be a major training enhancement over a generic simulator. Experience with the simulator to date has resulted in positive feedback from plant management and the students, as was further evidenced during a recent INPO Evaluation. However, because differences still exist between the simulator and the plant, FPL is taking an aggressive approach to identifying and correcting them to assure simulator certification by December 1989.

6. Support of Operator Training Programs

The following actions have been taken to improve operator training programs:

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Additional non-licensed and licensed classes are scheduled to begin in the last quarter of 1988. These classes will increase the number of trainees by approximately 45 trainees.

The operator training entry level POSS requirement is being reviewed to determine if changes are necessary to lower the trainee dropout rate.

The initial non-licensed operator program was essentially three non-sequential training programs. The academic/fundamental portion was presented through a self-study method that was found to be inadequate to support student needs. To correct this deficiency, the three separate programs have been combined to form a sequential 83-week program. The program enhancements include 29 weeks of classroom training in academic/fundamental principles which is designed to reduce the attrition rate due to insufficient knowledge of these principles.

These corrective actions will be monitored by the Plant Manager and Training Superintendent to assure that the Turkey Point operator complement is filled in a timely manner with qualified personnel.



7. Goals and Accountabilities

To ensure the continued improvement of the training organization, the Training Superintendent and Department Heads will be held accountable for meeting the following goals:

Increase the number of FPL instructors holding SRO licenses to at least 80% by 1992.

Maintain at least 80% passing rate for each NRC initial license exam attempt.

Maintain at least 80% passing rate for each SRO upgrade exam attempt.

Maintain at least 90% first attempt passing rate for each NRC requalification exam.

Maintain at least 85% attendance rate for the remaining training courses.

Periodic meetings will be held between the Plant Manager and Training Department personnel to review goal accomplishments and establish corrective measures in areas where goals are not being met. Corrective actions may include programmatic changes and additional resources, if necessary, to meet stated goals.

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The primary role of the corporate training staff is to support the site training staffs. Corporate management has defined that role with respect to its interaction with the two site training staffs. The function and responsibilities of the corporate training staff are clearly defined in the implementing procedure required by the Nuclear Energy Department policy. The procedure describes the methodology to be utilized to accomplish the corporate training mission, and the accountability for meeting corporate management's expectations. The Manager Nuclear Training is accountable for attaining the goals identified in the implementing procedure.

Monthly meetings between the Senior Vice President-Nuclear, the Vice President-Nuclear Energy, and the Corporate Manager Nuclear Training will be held to review progress toward achieving department goals and to establish countermeasures in areas where goals are not being achieved. Corrective actions will include programmatic changes and/or additional resources as necessary to achieve stated goals.

SCHEDULE: The training document, "Job Performance Measures" will be upgraded by December 15, 1988. Additional operations training instructors are projected to be licensed by December 1992. System Description updates will be completed and incorporated in training manuals prior to their use. The corporate training staff implementing procedure has been

approved. The monthly training meetings between the Senior Vice President-Nuclear, the Vice President-Nuclear Energy, and the Manager Nuclear Training will commence in September 1988.

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RECOMMENDATION 5.1.1.e: TECHNICAL SUPPORT MANAGEMENT. The onsite PPE Engineering Manager at Turkey Point is scheduled for a management development rotation. The replacement for this position should have a background of successful plant engineering. Similarly, any management positions which become open in the [Technical Support Group] must be filled with candidates who have successful experience in providing onsite technical support for a nuclear power plant.

When persons with the required nuclear industry and managerial experience are not available within FPL, the needed experience should be brought in from the outside.

DISCUSSION/ANALYSIS: At the time the IMA was conducted at Turkey Point, the onsite Engineering Project Manager position was a management rotational assignment. Mr. Steven Hale was appointed to this position on August 8, 1988. Mr. Hale meets the draft job description for this position described in Recommendation 5.1.1. He will not be subject to management development rotation for at least two years.

The position of Technical Supervisor, has been filled with an individual who has a B.S., M.S., and Ph.D. in Nuclear Engineering Sciences, and three years experience as a professor of nuclear engineering. In addition, he has eleven years of nuclear experience at FPL, including core design responsibilities, SRO certification, and assignment at Turkey Point as Senior Technical Advisor to the Plant Manager. This individual will be evaluated against the job description as described in Recommendation 5.1.1.

As management positions become open in the Technical Department in the future, FPL will fill them with individuals who have

successful experience in providing onsite technical support for an operating nuclear power plant. If necessary, contract personnel will be employed temporarily while qualified full-time FPL employees are being recruited.

SCHEDULE: The replacement for the onsite Engineering Project Manager has been appointed.

The evaluation of the incumbent Technical Supervisor will be completed by September 15, 1988.

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RECOMMENDATION 5.1.2: SUSPEND THE MANAGEMENT DEVELOPMENT PROGRAM ROTATIONS FOR AT LEAST TWO YEARS. Once the Turkey Point Management Team is in place, it is necessary to maintain a stable organization to develop teamwork and accountability and to ensure that the managers take a long term view of the performance of their organization. A major step in achieving a stable management team is the suspension for at least two years of the corporate management development rotation program at Turkey Point.

DISCUSSION/ANALYSIS: Senior corporate management agrees with the IMA that stability, continuity, accountability, and teamwork are essential for the Turkey Point management team to be successful. Therefore, effective April 15, 1988, senior corporate management suspended management development rotations at Turkey Point for department heads and above for approximately two years. The ten corporate management positions identified in response to Recommendation 5.1.1 are not subject to management development rotation. The policy does not, however, preclude promotions or other transfers that may be necessary to properly conduct the operation of Turkey Point. Consideration will also be given to suspending such rotations for those corporate staff positions which may be of particular importance to achieving improvement at Turkey Point.

When plant performance has improved and stabilized, corporate and plant management will review progress to determine when a management development rotation program may be reinstated at Turkey Point. Should the decision be made to reinstate the program, it will be done in a controlled manner to limit the number of management positions on rotation.

SCHEDULE: A decision on whether to reinstate the management rotation program at Turkey Point will be made after the end of the two-year suspension period and only following definitive and continuing plant performance improvement.

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RECOMMENDATION 5.2.1: ESTABLISH MORE MEANINGFUL SITE GOALS.
The IMA team recommends that Turkey Point management evaluate the current site goals to assure that the proper messages are conveyed to the Turkey Point work force. It is recommended that the Site Lead Team indicators which have been selected be re-examined to assure that they are necessary and sufficient to achieve the needed focus at Turkey Point.

The IMA Team believes that there are areas of special emphasis and more meaningful, broader goals which management should consider in its review of Turkey Point goals. Some of the currently defined plant indicators are, in fact, measures of these goals. The following items are offered as examples of these higher level goals:

1. Continuing safe operation.
2. Achieving quality work performance.
3. Achieving high plant reliability.
4. Reducing the number of plant changes.
5. Improving the plant/NRC relationship.
6. Improving the physical condition of the plant.
7. Achieving effective outage management.
8. Increased plant-wide emphasis on security.

DISCUSSION/ANALYSIS: FPL has expanded the response to this recommendation to include Nuclear Energy staff goals as well as Turkey Point site goals. The AEOD Report recommended that this recommendation be applied to corporate goals. As a basic framework, FPL's corporate goals are to operate its nuclear units in a manner which:

- (1) protects the public health and safety and promotes public confidence in nuclear power;



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- (2) results in reliable and efficient electric generation,
and
- (3) assures the health and safety of its employees,
particularly with respect to radiological exposure.

These general goals are reflected in plans which are coordinated by the Senior Vice President-Nuclear and which are implemented throughout each level of the nuclear organization (i.e. corporate nuclear staff, sites). Progress in achieving these goals, as reflected in a set of performance indicators, is reviewed at a monthly meeting with the President of FPL.

In order to ensure that improvements are being pursued, consistent with corporate goals the following Turkey Point site goals and indicators have been approved by senior corporate management:

<u>GOAL</u>	<u>INDICATORS</u>
Improve Nuclear Safety	NRC Violations LCO Hours at Power LERs Security Incident Reports
Improve Unit Reliability	Unplanned Days Off-line Unplanned Shutdowns per Operating Month Mean Time Between Failure

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Improve Personnel Safety

Personnel Radiation Exposure

Personnel Contamination

Lost Time Accidents

Contaminated Area

Targets have been selected for each of the indicators. The indicators are tracked monthly, and the target values will be evaluated annually and adjusted as necessary in response to past performance and corporate direction.

In addition to the aforementioned site goals and indicators, the Site Vice President has instructed the site managers and superintendents to establish goals for their respective organizations to support the site goals. These site departmental goals will be stated and integrated in a manner which will be understandable, easily communicated, and tailored to each department's role in achieving the site goals. These departmental goals and indicators will be communicated by appropriate plant supervisory personnel to assure that they are conveyed in a manner consistent with the plant goals.

Site departmental goals are in the process of being selected and developed. Examples of these are as follows:

- Reduce number of Security Incident Reports
- Reduce Emergency Diesel Generator unavailability

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- Reduce control room deficiencies
- Reduce PWO backlog
- Reduce the number of plant changes/modifications

Indicators and targets will be selected for all goals. Personnel accountable for achieving each departmental goal will be identified. The departmental indicators will be monitored by plant management. Indicators not within target will be discussed with accountable personnel and during staff meetings, in order to develop and implement countermeasures to bring the indicator back within control.

In parallel with the new Turkey Point goals/indicators, the Nuclear Energy staff has revised the Nuclear Energy Department Policy (Appendix A), clarifying and communicating the mission of the Nuclear Energy staff. This mission is primarily plant support, but also includes elements such as proactive problem/issue resolution, technical consultation, policy formulation, strategic planning, technology transfer, and cost and overall management control).

The Nuclear Energy Department Policy gives general guidance to the Nuclear Energy staff, and requires development of detailed procedures to implement the policy. The implementing procedures include the mission and accountabilities of the staff groups as well as projects and activities in support of site goals and will

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be approved by the Senior Vice President-Nuclear. Examples of staff projects that are on-going or under consideration, and which support Turkey Point site goals, include the following:

- Assist in reduction of Turkey Point maintenance backlog
- Assist in upgrade of Turkey Point security system
- Develop a corporate policy on relationship with the NRC
- Analyze critical equipment and component failures to enhance reliability
- Obtain approval of new Turkey Point Technical Specifications

A followup review of the complete goal/indicator hierarchy will be performed to ensure that Nuclear Energy staff accountabilities/activities and site goals/indicators at the various managerial levels are aligned properly. This will be done under the supervision of the Senior Vice President-Nuclear.

SCHEDULE: The Turkey Point goals/indicators, and departmental goals/indicators in support of the overall site goals/indicators are in effect. The Nuclear Energy Department Policy and implementing procedures (and associated staff accountabilities and projects/activities) have been approved.

The followup review of the complete goal/indicator hierarchy will be completed by September 1, 1988. The review may lead to modifications of selected goals/indicators to ensure they are properly aligned.

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RECOMMENDATION 5.2.2: EFFECTIVELY COMMUNICATE GOALS TO PLANT PERSONNEL.

The IMA Team recommends that Turkey Point Management effectively communicate the plant goals to the entire organization. Such communication is the first step required to allow organizations and personnel to define their performance indicators (goals) to support the plant goals. This communication can be accomplished by a combination of processes.

The meetings of the site vice president with the plant staff should be used to emphatically articulate the specific goals of the plant, indicate that each group and person has an important role in achieving those goals and set forth a near-term schedule, e.g. two months, for each organization to develop its supporting goals.

The line management and supervision are key to the goal setting and communication process and must be involved very early. Line management must understand and agree to the goals. The plant goals must be devolved into goals for each organization which are meaningful to the personnel within the specific organization.

An effective means of communicating the goals is for management to conduct plant walk-throughs and meet face-to-face with the work force. Such meetings can demonstrate management's strong support of the goals and give the workers an opportunity for discussion of the goals.

DISCUSSION/ANALYSIS: The response to this Recommendation has been expanded to include communication of corporate, as well as Turkey Point, goals. The AEOD Report also suggested such a broader application of this IMA recommendation. Subtier supporting goals are being established within each organization as described in the response to Recommendation 5.2.1.

A coordinated effort by the plant staff and the FPL Corporate Communication Department is being initiated to communicate corporate, site, and departmental goals to the plant. The Senior Vice President-Nuclear will periodically meet with site staff to

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address both corporate and site goals. The Turkey Point Site Vice-President has instructed Turkey Point managers, superintendents, and department heads to conduct periodic meetings (initially as often as every other week) to discuss and explain to site personnel the site goals and the departmental goals that support the site goals. . During these meetings, the managers, superintendents, and department heads will discuss the progress as well as any problems encountered in attaining those goals. Particular emphasis will be placed on the individual employee's role in this effort. Plant management will obtain feedback on the effectiveness of these efforts by communicating with the site personnel during their management walk-throughs and "huddle groups" (meetings of management with small groups of workers), safety meetings, and other meetings.

The goals and indicators in Recommendation 5.2.1 are also being disseminated to plant personnel via the Turkey Point newsletter "To the Point." The newsletter will periodically carry articles pertaining to goals to help the work force understand them better. In addition, goals will be disseminated via the site television network.

To assure the effective implementation of site and corporate goals, and understanding of the individual employee's specific contribution toward achieving these goals, first line supervisors are developing written descriptions of their routine work,

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selecting indicators for the desired level of performance, and developing feedback loops to monitor their routine work activities.

The Nuclear Energy Department Policy discussed in Recommendation 5.2.1 includes guidance on communications and individual interactions. Specific guidance for Nuclear Energy staff personnel is included in departmental implementing procedures. These procedures identify accountabilities, projects/activities, and performance measures/indicators for achieving corporate staff goals. The goals are being communicated in meetings and informal discussions with the Nuclear Energy staff by the Senior Vice President-Nuclear and/or the Vice President-Nuclear Energy. Progress in achieving these goals will be monitored by the Senior Vice President-Nuclear, the Vice President-Nuclear Energy, or their designees. Feedback will be provided to the individuals accountable for achieving assigned goals.

SCHEDULE: Communication of corporate and Turkey Point goals is underway.

Implementing Procedures for each Nuclear Energy Staff group have been approved.

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RECOMMENDATION 5.2.3: MATCH WORKLOAD TO RESOURCES. The IMA Team recommends that Turkey Point Site Management re-evaluate all improvement programs and plant changes. These should be carefully examined to select only those that are essential to the achievement of the site goals. The essential improvements must then be prioritized and scheduled such that they can be accomplished using the current plant resources. Because of the impact of changes on many aspects of the plant, there is a limit to the number of changes which can be managed effectively.

DISCUSSION/ANALYSIS Numerous improvement programs have been initiated at Turkey Point. Taken separately, most of these are beneficial. However, considered in the aggregate, they have tended to divert resources from the correction of identified problems because they have not been effectively prioritized. The result has been a level of commitment and change that strains resources and diffuses corrective action.

The workload/resource mismatch at Turkey Point, in significant part, resulted from commitments made without a full recognition of the resources necessary to accomplish the work by the committed due date. Corporate and Turkey Point management recognize the importance of correcting this mismatch. Therefore, Turkey Point improvement programs and plant change activities will be reviewed to determine those which are most important to the attainment of site goals (including site departmental goals) and/or meeting regulatory requirements.

As a first step, the Turkey Point staff reviewed all Requests for Technical Assistance (RTAs). As a result of this review, RTAs were either cancelled, or, if valid, were transferred to

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Requests for Engineering Assistance (REAs) or other established systems.

As the next step, Turkey Point will review REAs, Requests for Cost Estimate (RCEs), Engineering Design Packages, and Plant Change/Modification Packages (PC/Ms), as well as other proposed plant changes and improvement programs, to eliminate those items which are not essential to support site goals or regulatory requirements. When the review is completed, the essential programs/changes will be prioritized, planned, and scheduled taking into account necessary corporate and plant resources. The resulting schedules will be examined to determine whether the timing of required improvements is acceptable considering site and corporate goals or regulatory requirements. Additional resources will be obtained as required if specific changes or programs need to be accelerated.

The IMA report indicates that an excessive amount of line management resources is devoted to attending various meetings. The Plant Manager is reviewing the demands imposed on his subordinates due to meetings and is taking action to eliminate meetings and/or limit attendance at meetings as appropriate.

SCHEDULE: The reevaluation and prioritization of plant improvement programs and plant changes, is scheduled for completion by October 1, 1988. Actions bearing on programs based

on regulatory requirements will be reviewed with the NRC staff,
prior to implementation.

RECOMMENDATION 5.2.3.1: IMPROVE THE USE OF CTRAC AND THE
INTEGRATED SCHEDULE.

DISCUSSION/ANALYSIS: Refer to Recommendations 5.2.3.1.a and
5.2.3.1.b.

SCHEDULE: Refer to Recommendations 5.2.3.1.a and 5.2.3.1.b.

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RECOMMENDATION 5.2.3.1.a: IMPROVE THE USE OF CTRAC. The work associated with commitments identified in CTRAC should be prioritized consistent with other work activities rather than by due date. A clear commitment definition should be established and a method should be selected to screen the commitments entered into CTRAC and thus eliminate minor items which detract from the important issues. The method should include factors such as the level of effort required to close the commitment and whether the commitment is internal or external.

DISCUSSION/ANALYSIS: CTRAC has been used at Turkey Point to monitor many plant activities in addition to regulatory commitments, and responsibility for entering commitments and due dates on to the system has been diffuse. As a result, the system includes a number of types of commitments and is of limited effectiveness as a tool for prioritizing commitments in accordance with their relative importance.

To change this situation and make CTRAC a more efficient tool, a revised system is being developed for tracking regulatory and other commitments separately, with access to the separate tracking systems limited to personnel that have an identified need for such information. In particular, the Corporate Nuclear Licensing Department has the responsibility for identifying, entering, tracking, and closing out regulatory commitments on CTRAC. In the longer term, Nuclear Energy management will promulgate guidelines regarding the overall control and management of regulatory commitments.

SCHEDULE: CTRAC will be modified consistent with the above and will be in operation by September 15, 1988. The Nuclear Energy



guidelines on overall commitment control will be issued by
October 15, 1988.

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RECOMMENDATION 5.2.3.1.b:

IMPROVE THE USE OF THE INTEGRATED

SCHEDULE.

The Integrated Schedule (IS) is used to schedule plant changes which meet certain requirements. The current IS process does not consider the large fraction of available plant resources that are required for normal plant operations, special programs, or that are committed to tasks which do not meet the criteria for inclusion into the IS. These resource commitments must be included in the IS or considered in the development of resource constraints for the IS. Stringent criteria should be developed to preclude management overrides in the IS except in clearly urgent situations. The number of management overrides demonstrate that the IS prioritizing system should be reevaluated. In addition, consideration should be given to centralizing the responsibility for scheduling work and setting priorities.

DISCUSSION/ANALYSIS: The Turkey Point, IS Program is designed to integrate plant changes that are in response to NRC requirements with self-initiated FPL plant improvement changes.

The IS Program is intended to serve both as an internal scheduling device and a regulatory interface tool. It became part of the Turkey Point license by amendment late last year. Initial experience within this relatively short period has been less than satisfactory in terms of its effectiveness as a regulatory interface tool. The Technical Supervisor will initiate a study to identify and resolve the problems which have prevented the IS amendment from fully achieving its intended purposes.

SCHEDULE: The IS study will be initiated in September 1988 and completed by mid-November 1988.

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RECOMMENDATION 5.2.3.2: IMPROVEMENT PROGRAMS AND PLANT CHANGES PROPOSED BY EXTERNAL ORGANIZATIONS.

The negative impact of the resource mismatch presently affecting Turkey Point would be reduced by a more effective screening process prior to Turkey Point committing to the action. The IMA Team believes that Turkey Point has too often committed to programs which overtax or distract the management team from their line responsibilities.

DISCUSSION/ANALYSIS: FPL has expanded the review process used to screen prospective plant changes, to encompass proposed improvement programs from external as well as internal sources. Plant changes and improvement programs not essential to attaining site goals or meeting regulatory requirements will be eliminated. The essential plant changes and improvement programs will be prioritized, planned, and scheduled as described in the response to Recommendation 5.2.3.

Responsibility for controlling and prioritizing plant modifications is in the site Change Review Team (CRT) and Project Review Board (PRB). CRT membership consists of, as a minimum, the Configuration Control Supervisor, the Operations Supervisor, the Operations Support Supervisor, the Assistant Maintenance Superintendent, and the project sponsor. The CRT makes recommendations to the PRB based on consideration of such factors as nuclear safety, personnel safety, and regulatory requirements.

The PRB membership now consists of the Plant Manager, the Operations Superintendent, the Maintenance Superintendent, the Technical Supervisor, the Nuclear Services Manager, the onsite

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Engineering Project Manager, and the Site Project Manager. These changes were made to provide more direct participation in the modification process on the part of plant line management.

SCHEDULE: The revisions to the review process have been accomplished.

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RECOMMENDATION 5.2.3.3: INDIVIDUAL SPONSORSHIP OF PLANT CHANGES.
The IMA Team recommends that Turkey Point management enforce the practice that all proposed changes and modifications are sponsored by an individual along with the head of the department initiating the change.

DISCUSSION/ANALYSIS: The procedures governing plant changes will be revised to require the assignment of a sponsor and department head for each proposed plant change. The sponsoring department of a proposed plant change will be responsible to ensure that the change meets a well defined need. The sponsoring department will be accountable for monitoring the design, implementation, and schedule of the project. Engineering and Construction will be responsible for meeting their schedules and resource accountabilities.

SCHEDULE: The governing procedures will be revised by September 1, 1988.



RECOMMENDATION 5.2.4 REDUCE EXTERNAL DEMANDS ON TURKEY POINT.
Turkey Point has been responding to numerous demands on its resources from external organizations, such as corporate and Nuclear Energy Department management, the NRC and INPO. These organizations have not always been sensitive to the potential adverse impact that incremental programs, plant changes or schedule accelerations can have on the entire plant, its management and its support systems. Each change taken individually may be desirable, but often the aggregate of many programs can be counterproductive or detrimental to plant improvement and performance.

With the completion of this appraisal and recent NRC and INPO inspections, the IMA team believes that the significant issues at Turkey Point have been identified. Consistent with this, the IMA team recommends that organizations outside the plant recognize the need for Turkey Point to focus resources on solving the identified problems. Preparing for and responding to additional special inspections and evaluations would absorb critical resources which could be better utilized to correct known problems.

DISCUSSION/ANALYSIS: Nuclear Energy demands on plant resources are now limited by procedures developed pursuant to the Nuclear Energy Department Policy. The implementing procedures emphasize the need for limiting such external demands to those essential to meeting corporate staff goals and indicators and those site and corporate goals and indicators with which they are aligned.

The IMA also refers to the external demands imposed by NRC and other organizations. While recognizing that the public safety functions entrusted by law to the NRC cannot be "negotiated", FPL will explore with the Commission, as well as NUMARC, INPO and other external organizations, what can be done to better structure the demands on Turkey Point personnel to facilitate their concentration on solving the problems which appear to be of higher priority.



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The Vice President-Nuclear Energy will hold his staff accountable for limiting demands on the plant to those necessary for attaining corporate and site goals and meeting regulatory requirements.

SCHEDULE: The procedures which implement the Nuclear Energy Department Policy have been approved by the Senior Vice President-Nuclear.

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RECOMMENDATION 5.2.5: ESTABLISH PERFORMANCE MEASURES AND PROVIDE FEEDBACK.

Develop effective, written performance measures for each manager and work group, starting with the maintenance and operations groups. These measures must support the goals of the plant and those of the specific organization. These measures should include direct measures of performance, such as plant safety, quality of work, schedules and budget, as well as indirect measures, such as overtime and turnover. The measures must relate to the accomplishment of real work rather than just activity such as the processing of paperwork. Involving the employees in developing the performance measures and the action plans for achieving them can enhance teamwork.

Managers can enhance teamwork in natural work groups by reviewing performance reports and graphs during regular staff meetings and involving their employees in setting goals and developing action plans for achieving those goals. This process should be built into existing weekly meetings and should be kept to thirty minutes or less per week.

In light of the recent security performance at Turkey Point, the performance measures for each manager, superintendent, supervisor, and foreman must acknowledge that security is an important part of their personal and organizational responsibility. To support this, key plant managers should review the Security Plan to become more sensitive to the overall security program.

DISCUSSION/ANALYSIS: Performance measures or indicators for each manager and work group are being prepared. Managers are involving the employees in their work group in setting goals and developing action plans for achieving those goals. Development of performance measures for the site maintenance, operations and training organizations is being given high priority.

Performance indicators will be monitored and appropriate feedback given to the managers in staff meetings and performance appraisals so that effective corrective measures can be taken.

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The indicators will show each group's degree of success in meeting its own goals and the site goals.

Performance measures at Turkey Point will reflect the importance of security as a part of supervisory accountability. In addition, plant supervision will be required to become familiar with the requirements of the Security Plan.

Performance measures for the Nuclear Energy staff will be developed from the Nuclear Energy Department policy statement, implementing procedures, and individual job accountabilities. Indicators will be selected and monitored which reflect the staff role in supporting the activities and goals of the nuclear sites.

The Site Vice Presidents and the Vice President-Nuclear Energy are accountable for overall attainment of performance standards and goals. They will meet periodically with the Senior Vice President-Nuclear to assess progress toward meeting site and corporate goals and to plan corrective measures in the event that progress is not satisfactory.

SCHEDULE: A schedule for the issuance of written performance measures will be developed after completion of job descriptions as described under Recommendation 5.1.1.

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RECOMMENDATION 5.3.1: MANAGEMENT WALK-THROUGHS. Managers and supervisors must be in a position to ensure that work force activities relate to plant goals and priorities. Walk-throughs afford the opportunity to provide immediate and specific on-the-job coaching, to correct deficient performance, and to praise excellent performance. The walk-throughs can also provide management with direct input on the physical condition of the plant and the efforts to eliminate compensatory measures required of operators.

DISCUSSION/ANALYSIS: FPL recognizes the necessity for management to be involved with plant activities on a daily basis. The routine visibility and contact of management with the work force is of extreme importance. Implementation of many of the recommendations adopted and/or described in this response should allow more time and opportunity for plant management to conduct frequent and meaningful walk-throughs. These walk-throughs, will provide opportunities for coaching, positive feedback, and on the spot correction of performance problems.

The frequency of walk-throughs and the area covered may be varied from time to time. At the present, in addition to informal unscheduled walk-throughs, the following more structured management walk-throughs are being conducted:

- The Plant Manager's Weekly Tour - assigns accountability to the cognizant Superintendent for a specific area to inspect material condition, housekeeping, etc.
- Monthly Safety System Management Walkdowns-

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conducted by appropriate Department Heads to examine system alignment and material condition.

- System of the Week - a walkdown of the targeted system by the system engineer, and a review by a multi-disciplinary team, including supervisors, that focuses on the identification and correction of chronic problems and deficiencies. The System of the Week program will remain in effect as a method to aid in focusing and coordinating efforts to reduce the PWO backlog until the site scheduling organization is fully functioning.

To further focus management walk-throughs, the Plant Manager will identify key items to be observed monthly, based upon several considerations, including:

- Recurring equipment performance problems
- Material condition concerns
- Regulatory concerns
- Compensatory measures required of operators

The visibility of corporate management is also an important factor in helping the Turkey Point work force understand how their activities relate to plant operations and the accomplishment of higher level site and corporate goals. Therefore, corporate management and staff will spend more time at

the site observing plant activities, interacting with plant management and staff, and generally providing direct feedback from corporate management on the acceptability of plant performance.

SCHEDULE: The management walk-throughs described above are in effect and on-going.

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RECOMMENDATION 5.3.2: UPGRADE THE PHYSICAL CONDITION OF THE PLANT.

The IMA Team recommends that management continue to emphasize actions to upgrade the physical condition of the plant, especially in those areas where deficient equipment requires that the operators take compensatory measures. The NLO's and LO's should identify those items which require compensatory measures, e.g. manual operation of functions designed to be automatic, and instrumentation out of service or calibration. Because Turkey Point operators have become accustomed to "working around" deficient equipment, support from MOS personnel or operators from St. Lucie may be very helpful in this identification. Once the needs are identified, operations management must prioritize those needs. Maintenance, PPE, TSG and other plant organizations should then be fully supportive of the priorities set by operations. The management walk-throughs, including those by the Site Vice President and plant managers, should focus on the progress made in repairing the equipment.

DISCUSSION/ANALYSIS: The following actions have been, or are being implemented to upgrade the material condition of Turkey Point:

- The Operations Superintendent has directed the LOs and NLOs to identify deficient plant conditions and out-of-service equipment that have led to compensatory measures. Additional electronic terminals to process work orders have been installed in field locations to provide ready access by NLOs and LOs. This will allow for direct entry by the work order originator and will provide verification to the originator of the acceptance of submitted work orders.
- A scheduling department within the Operations Department is being established. This new

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department will be assigned responsibility for maintaining a daily work list for the plant. Each shift PS-N will monitor the work list for completion on his shift. The performance indicator will be the percent completion of the worklist on each shift. The Turkey Point Plant Manager is responsible for ensuring that the Operations Department takes the lead in prioritizing these activities, and that the Maintenance Department, the Technical Department, and other plant organizations operate in a way consonant with an operations-centered philosophy.

- The "system of the week" concept has been functioning as an Operations-driven look at work orders on a specific system with the intent of focusing and coordinating the effort to reduce the PWO backlog. It will remain in effect until the function becomes part of the routine activity of the Operations scheduling organization. Factored in are high priority deficiencies, automatic equipment that is operating in a manual mode, and multiple work orders to be worked within an LCO. The performance indicator is the ratio of work orders for the system before and after the week.
- The Outage Manager will report to the Operations Scheduling Department discussed above. This will

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ensure that Operations also significantly influences the priorities for scheduling outage work. The performance indicator will be percent completion of the Outage work list.

As noted above, site management will monitor plant material condition during walk-throughs. From a corporate standpoint, monitoring the improvement in plant material condition is a prime accountability of the Senior Vice President-Nuclear.

SCHEDULE: Activities needed to implement this recommendation will be completed by August 31, 1988.

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RECOMMENDATION 5.3.3: CORPORATE MANAGEMENT ACCEPTANCE OF LOWER SHORT-TERM AVAILABILITY. During the next two to three years, while the upgrade of the equipment is being accomplished, FPL Corporate Management must accept lower, realistic availability goals. The temporarily reduced availability goals will allow for longer or more frequent outages. Once the equipment is upgraded, the plant should be able to achieve the higher goals for long term availability which are normally appropriate for FPL plants.

DISCUSSION/ANALYSIS: FPL corporate management has recognized the need to accept lower short-term availability. This is necessary to upgrade the material condition of the plant and to shift the focus to reliability. FPL also recognizes the importance of ensuring that this message is communicated throughout the nuclear organization. Many actions taken in the past few years have reduced availability in the interests of increasing safety and reliability. Full understanding of these goals had not, however, been communicated throughout the nuclear organization. This will be corrected by including this message among the goals being communicated as described under Recommendation 5.2.2; in discussions during the management walk-throughs discussed in the response to Recommendation 5.3.1; and in various plant and corporate meetings.

Consistent with this shift in emphasis, the next refueling and overhaul outage is being planned differently from previous outages. The prior approach was to define a critical path duration, and schedule the work that could be fit into that duration. The upcoming outage is being developed by examining

each system and defining what work in addition to the normal overhaul is required to obtain reliable performance.

SCHEDULE: Communication of goals is an ongoing activity.

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RECOMMENDATION 5.3.4: ACCEPT PERSONAL RESPONSIBILITY FOR PROBLEM SOLUTION. As part of the effort to increase the sense of ownership by the Turkey Point personnel, the Project Team recommends that each identified equipment problem at Turkey Point be assigned to one person. This person would be lowest level individual who could reasonably be expected to achieve resolution. He or she would be responsible to assure that the problem is resolved in a timely manner. This person would define the proper priority of the problem with line management, would involve only those parties who are required for the resolution, and would escalate to management any conflicts in schedules or resources which the worker is unable to resolve. This recommendation is intended to help produce a change of attitude at Turkey Point, i.e., increased accountability. It is not intended to create new positions, procedures or additional paperwork.

DISCUSSION/ANALYSIS: Responses to other sections address establishment of responsibility for problem solution. The accountabilities for Plant Changes are described in Section 5.2.3.3. The redirection of maintenance performance and accountabilities is outlined in Section 5.3.7. The responsibilities of Operations in assuring the acceptability of plant material condition are discussed in Section 5.3.2. The elimination of RTA's is described in Section 5.2.3.2. Accountabilities of the Training Department, the Nuclear Energy Staff, and the System Engineer are outlined in Sections 5.1.1.d, 5.2.2, and 5.3.5, respectively. Collectively, these and other measures discussed in this response represent important steps toward achieving accountability within the entire organization.

SCHEDULE: Refer to Recommendations 5.1.1.d, 5.2.2, 5.2.3.2, 5.2.3.3, 5.3.2, 5.3.5 and 5.3.7.

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RECOMMENDATION 5.3.5: IMPROVE SYSTEM ENGINEERING EFFECTIVENESS.

The IMA Team recommends that Turkey Point management improve the system engineer effectiveness by the following actions:

1. Provide support and direction to system engineers and recognize that the system engineer's role is vital to improved plant performance. Management must hold the system engineer accountable for system performance. The system engineer must have approval authority for any changes proposed on his or her systems.
2. Complete the staffing plans to replace the contractor personnel and to fill the new positions with FPL employees.
3. Define the skills and experience required in the system engineering group and hire or transfer personnel that have the needed skills and experience.
4. Develop and implement a system engineer training program.
5. Revise program procedures as necessary to require the system engineer's active involvement in activities affecting their systems, such as PC/Ms, procedure changes, PWOs, etc.

DISCUSSION/ANALYSIS: Corporate and plant management support the enhancement of Turkey Point's system engineering concept and will provide the resources necessary to replace the contract system engineers with permanent FPL employees. The implementation of this concept involves:

- the effort undertaken in response to Recommendation 5.1.1 to identify the experience and skill requirements for various nuclear management and staff positions,
- the selection of applicable systems that will be managed under the system engineering concept,

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- the assignment or hiring of new FPL system engineers,
- the establishment of training programs for the new system engineers,
- the issuance of procedures which outline reliability engineering activities as described in Recommendation 5.4.6, and
- the gradual phase-out of contractor personnel that are currently responsible for many system-related activities.

As discussed in Recommendation 5.1.1.c, there are 18 system engineers at Turkey Point at the present time, of whom seven are FPL personnel. FPL is in the process of replacing the contract personnel with permanent FPL employees. FPL will hire experienced system engineers or, train as system engineers, FPL employees who have demonstrated excellent engineering performance. In the case of the latter, FPL would arrange for the training of candidate system engineers, including development of training programs, as necessary.

Training for system engineers will include, among other subjects, reliability engineering techniques, plant familiarization, interactions between systems and root cause analysis. Primary responsibility and accountability for the successful development and implementation of these training programs will be with the

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plant training staff, with support from the corporate training staff.

Procedures will be revised to require the involvement of the system engineers in activities affecting their systems, such as plant changes (PC/Ms), procedure changes, system maintenance, operability assessments and root cause analyses. In general, the authority of the system engineers will be significantly broadened. The primary focus of the system engineers will be to improve system reliability as described in Recommendation 5.4.6, while reducing the paperwork necessary to call on their resources. The system engineers will have the lead role in the analysis of the root cause of equipment failures. The current plant root cause analysis activities will be reviewed and systematized into an overall plant root cause analysis program, with clearer definition of the types of plant events requiring root cause analysis and individual responsibilities for performing such analyses.

Indicators and goals will be established for each system that is assigned to a system engineer. Indicators to be considered for such use include system availability, and numbers of LCOs and LERs attributable to a system problem. Progress toward meeting system goals will be monitored to provide feedback to management on the success of the program.

SCHEDULE: Revised procedures and a training program to implement the system engineering concept will be available by December 1988.

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RECOMMENDATION 5.3.6: CONTROL OVERTIME. The IMA Team recommends that site management immediately initiate an action to control overtime. Such action should require supervisory approval of overtime in advance and should also require management justification of overtime beyond minimal levels. The policy should require management to budget overtime and to be held accountable for adherence to that budget. The IMA team believes that additional staff may be a solution in a very few specific cases, e.g. operations and health physics. However, the most appropriate solution is better management, improved prioritization of work and better utilization of the current work force. In order to avoid severe employee morale problems, due to the fact high overtime pay appears to have become the norm, it may be necessary to implement overtime reduction measures in a phased manner.

DISCUSSION/ANALYSIS: The Site Vice President issued a memorandum on May 20, 1988, requiring each manager, department head, and supervisor to review the overtime being worked in his respective area on a weekly basis prior to authorizing future overtime. The amount of previous overtime worked, the individual's effectiveness and other alternatives available must be considered before authorizing overtime. A process to control overtime has been established, requiring the approval of overtime by the Department Head, and real-time feedback on overtime worked, such that excessive overtime can be detected and corrected. As overtime is brought under tighter control, the impact on plant resources will be examined and proper adjustments (including additional personnel, if necessary) will be made.

Planned overtime forecasts will be prepared monthly by each department and reviewed by the superintendent. Monthly lists of actual overtime expended will be prepared by the Services Manager and distributed to each level of management. On an annual basis,

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superintendents will be required to budget and manage an overtime plan. Superintendents who authorize and manage overtime activities will be accountable for overtime control. Progress in attaining overtime goals will be monitored by the Site Vice President who will meet periodically with accountable personnel to review their performance in implementing this program. The goal for 1989 is to reduce overtime by 20% of the 1988 rate. An additional 10% reduction in each of the succeeding two years is targeted. The long term goal for the overtime level at Turkey Point plant is 12%.

The AEOD Report referenced an IMA concern regarding overtime in the Chemistry and Health Physics Departments. Staffing increases have been approved for both of these Departments. While this additional staff is being recruited, contractors are being hired for the Chemistry Department as an interim measure.

The Health Physics Department has been authorized to hire additional staff, the majority of whom will be replacements for contractor personnel. The replacement of contractor personnel with FPL employees will relieve the overtime burden since only the permanent FPL employee Radiation Protection Technicians are permitted to work overtime.

SCHEDULE: The expanded program to control and track employee overtime will be put into effect by September 30, 1988.



RECOMMENDATION 5.3.7: IMPROVE MAINTENANCE PERFORMANCE.

Improvement of the performance of the maintenance organization is essential to Turkey Point. In addition to being responsive to the needs of operations, this improvement should include improving the PWO process and continuing the actions underway to increase the experience level of I&C support.

The IMA Team recommends that, where appropriate, more technical resources be applied to the planning phase of the PWO package development. Also, organizational changes should be made to improve the scheduling, planning and coordination between maintenance and operations. We recommend that qualified personnel be assigned to the planning phase of the PWO preparation, to assist in the execution of the technical requirements and to approve the final PWO package. They should also be assigned responsibility to analyze tasks to the specific activity level so that the tasks can be coordinated with other maintenance disciplines supporting or working (on other PWOs) on the same system or component. We further recommend that consideration be given to requiring the use of modern job planning techniques (i.e., PERT, CPM or other network analysis and resource scheduling tools). During PWO package preparation, the planners should be required to assess the impact of the work on security and to coordinate with Security when appropriate.

The IMA Team recommends that the Plant Manager closely monitor the effectiveness of the efforts underway to improve the experience level of the I&C maintenance group.

DISCUSSION/ANALYSIS: The maintenance performance at Turkey Point (including mechanical, electrical and I&C maintenance) needs to be improved in areas of material condition, PWO backlog, Control Room deficiencies, and maintenance procedures. To successfully accomplish this the Maintenance Superintendent is being assigned an assistant with a proven industry track record and familiarity with maintenance practices being used in the nuclear industry. His responsibility will be to develop programmatic changes which have been proven successful at other nuclear facilities.

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Particular emphasis is being placed on programs and practices involving work planning, root cause determination, procedure development and individual accountability. To increase the efficiency of maintenance planning, each maintenance crew will be assigned a specific planner. Among the planner's duties will be the conduct of field walkdowns, evaluation of equipment failure history, and interface with maintenance engineers to determine root cause. The planner will provide information to the foremen to assist them in conducting briefings prior to work being performed for complicated Plant Work Orders (PWOs), and maintaining rigorous compliance with the PWOs. In this connection, the AEOD Report referenced a statement by IMA team members that maintenance technician training records were not used in making job assignments. To facilitate the use of on-the-job-training and classroom training records in maintenance work assignments, computerized training records will be made more accessible to field supervisors.

The AEOD Report also referenced a concern of IMA team personnel regarding the level of experience of the existing staff of maintenance planners. Work package planning is now being performed by personnel with maintenance experience and system coordination is being performed by personnel with strong computer skills.

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The Nuclear Job Planning System (NJPS) (electronic work order and machinery history) was not designed to provide the equipment failure information needed to support root cause analysis. The system will be enhanced to facilitate root cause and historical diagnostic capabilities. Additionally, to improve on data records, the maintenance engineers will be required to review selected completed work orders to ensure that adequate equipment failure history is provided. These enhancements to NJPS will provide the predictive tools needed by the planner to efficiently and accurately plan for maintenance work. As equipment failure history is accumulated, it will be utilized to plan daily maintenance activities in a more efficient manner. To support this approach to maintenance planning, additional training will be provided to the maintenance planners on changes to the PWO process, techniques of root cause analysis and plant specific system operation. To support these improvements at Turkey Point, the following additional resources will be provided:

- Six planners (one on midnight and one on peak shift per dept.)
- Two I&C day crew planners
- One midnight shift maintenance coordinator
- One peak shift maintenance coordinator

If these measures and the other management changes described in this section do not result in an appreciable decrease in the

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maintenance backlog, further resources will be added to meet maintenance goals.

The number of control room deficiencies at Turkey Point is too large and must be reduced. To accomplish this task, a Control Room Deficiency Team composed of I&C maintenance engineers and design engineers has been established. The purpose of this team's effort is to systematically eliminate repeat Control Room deficiencies by identifying and correcting the root causes. Progress in this area will be monitored by tracking the number of outstanding Control Room deficiencies.

The Plant Manager will be responsible for the actions taken to maintain the I&C Department personnel complement and increase its experience level. This will be accomplished by ensuring that new, non-FPL candidates have a two year degree, or equivalent, with five years applicable experience, and by hiring additional I&C personnel in anticipation of attrition resulting from transfers to nuclear operator training classes. In addition, the I&C technicians will attend a scheduled ten week course until all I&C personnel have received appropriate initial training.

To better support the maintenance of security equipment, dedicated I&C support is being provided to resolve security equipment problems. This dedicated I&C support may increase or decrease depending on the security system demands. To assure

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compliance with security requirements during maintenance activities, maintenance planners will be responsible for identifying maintenance activities that may impact on security, and for requesting appropriate review by the security department.

The AEOD Report referenced statements by IMA team members regarding problems with post-maintenance testing (PMT). The Turkey Point PMT program has been cited by INPO as a good practice and is the subject of assistance requests by other utilities. Problems with PMT have centered around field coordination between various departments, and operational delays associated with outages, where process flow or pressure is required prior to signoff. Changes are being made to the PMT procedure to address these issues. The AEOD Report also questioned the effectiveness of the Analytically Based Preventive Maintenance (ABPM) program. The effectiveness of the ABPM program is being increased through procedural changes and increased management attention to performance of preventive maintenance (PM) in accordance with schedules.

Many of the departmental maintenance instructions are being converted to procedures approved by the Plant Nuclear Safety Committee. In the process, work controls are being improved, the technical bases for maintenance activities are being reviewed and the number of general maintenance instructions and procedures is being reduced. These changes are expected to result in improved

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compliance with procedures by maintenance personnel and increased ABPM program effectiveness.

A scheduling department is being established within the Operations Department to prioritize maintenance activities according to their relative importance to safe, reliable operations. The PS-Ns will monitor the progress in completing work scheduled for their respective shifts. Maintenance is being held accountable to work the scheduled activities as directed by operations management. Network analysis planning systems will be employed in setting schedules for large or complicated maintenance activities. As the scheduling department becomes fully operational, its activities will encompass the function of the "system of the week" program as a method to coordinate efforts to reduce the backlog of PWOs.

To instill specific accountability in the maintenance organization, each Maintenance Department Head will be accountable to accomplish the following 1988 goals and indicators for his specific department:

- Reduce corrective maintenance backlog by 15% of the January 1988 value
- Increase PM/CM ratio by 10% of the May 1988 value
- Reduce overtime for craft and supervisors by 20% of the 1987 average level

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Monthly meetings will be held between the Plant Manager and maintenance personnel to review goal accomplishments and establish corrective measures in areas where goals are not being met. Corrective measures may include programmatic changes and additional resources, as necessary, to meet stated goals.

The responsibilities of the corporate maintenance staff (primarily activities in support of site maintenance goals) are defined in the implementing maintenance procedure required by the Nuclear Energy Department policy. The procedure identifies the mission, and accountabilities associated with meeting corporate staff maintenance goals. The Manager Nuclear Maintenance is accountable for attaining the goals enumerated in the implementing procedure.

Regular meetings between the Senior Vice President-Nuclear and/or the Vice President-Nuclear Energy and the accountable manager will be conducted to review progress in meeting corporate staff maintenance goals and to identify corrective action(s) in areas where goals are not being met. If found necessary to meet maintenance goals, additional measures will be taken, such as programmatic changes and/or additional resources.

SCHEDULE: The Assistant Maintenance Superintendent is scheduled to report in late August 1988.



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The Plant Work Order (PWO) process is being improved as described above in the DISCUSSION/ANALYSIS section. The programmatic maintenance changes (e.g., enhancement of the Nuclear Job Planning System, acquisition of additional maintenance planners/coordinators, improvements in maintenance training, trending of specific maintenance indicators, improvements in scheduling) have begun, and will be completed by the end of 1988.

Meetings with accountable site and Nuclear Energy staff personnel to review progress toward achieving maintenance goals will be initiated by September 15, 1988.

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RECOMMENDATION 5.3.8: ACHIEVE A BETTER RELATIONSHIP WITH THE NRC. The IMA Team recommends that Turkey Point emphasize actions to achieve a better relationship with the NRC. These actions include:

1. A corporate policy on achieving an excellent relationship with the NRC should be promulgated.
2. Establish a better working relationship with the NRC Resident Inspector at the Plant Manager level. This should include regular and routine interaction at an informal level between senior plant management and the NRC Resident Inspector.
3. Improve the effectiveness of the licensing and regulatory compliance support for Turkey Point.
4. The Regulation and Compliance Group and Licensing must work closely with other NED organizations, especially Security, to be proactive with the NRC Inspectors.

DISCUSSION/ANALYSIS: The AEOD Report emphasizes that the high level of NRC attention to Turkey Point is due to FPL's performance and not to poor relations between FPL and the NRC. FPL concludes that the AEOD is correct. It remains necessary, however, to enhance FPL's ability to interact with the NRC, as well as to improve the effectiveness of licensing and regulatory support for Turkey Point. Presently, several FPL organizations interact in the regulatory process, which sometimes leads to conflicting perspectives and inconsistent regulatory support. Corporate management has therefore concluded that a comprehensive review of licensing and regulatory support organizations is necessary to address the issues enumerated in this recommendation.

SCHEDULE: The review process is scheduled for completion by October 1, 1988. Initiation of improvements will commence at that time.



RECOMMENDATION 5.3.9: NUCLEAR ENERGY DEPARTMENT (NED) STAFF MUST ACCEPT RESPONSIBILITY FOR KNOWLEDGE TRANSFER WITHIN FPL.

The IMA Team recommends that the NED Staff at Juno Beach play a more effective role in assuring that successful practices, lessons learned and knowledge at one FPL nuclear site are transferred to the other.

The mechanics of this transfer should vary depending on the specific discipline. Each party must have definite responsibilities if the transfer of knowledge is to be successful. The NED staff must be the catalyst and facilitator while each of the plants must be eager to learn from and to help the other. All of NED (Juno Beach, St. Lucie and Turkey Point) needs to develop a team spirit conducive to the successful exchange of knowledge and lessons learned. In those disciplines where the corporate staff does not have sufficient in-plant experience, the personnel must learn the plant's needs and understand them. This will require time at the plant sites. Understanding the plant needs is key to being able to assist the plants.

NED Management should assure that this transfer of knowledge between St. Lucie and Turkey Point actually takes place. Where the transfer does not occur, NED management should take the necessary action to change personnel or responsibilities.

This transfer of knowledge can be accomplished entirely within the current organization and programs. The IMA Team is not recommending a new program, new organization or the additional transfer of personnel. Rather, the recommendation is that the NED staff organizations which already have the visibility and organizational position become accountable to accomplish this essential goal.

DISCUSSION/ANALYSIS: A Nuclear Energy Department procedure (Appendix B), addressing the transfer of information, was approved on June 14, 1988. This procedure identifies the responsibility of each discipline within the Nuclear Energy staff to identify new technology and good practices within their respective areas that should be considered for adoption at the plants. This includes transfer of knowledge between the sites as well as the identification and transfer of knowledge obtained from other industry experience. The procedure also addresses



follow-up to assure proper implementation and management involvement in the process.

The AEOD Report referenced an IMA concern regarding the transfer of training information and assistance. Consistent with the procedure described above, and in order to facilitate the transfer of knowledge and good practices between sites, training management at Turkey Point and St. Lucie, with the assistance of the corporate training staff, will conduct quarterly meetings to discuss current issues, the quality of training materials and simulator training (including the conduct of post-exercise critiques). The meetings will also encompass discussion of concepts and programs which have proven successful at other plants. The results of the meetings will be documented, and action items will be tracked and closed out by plant management and monitored by the corporate training staff.

SCHEDULE: The procedure has been approved, and its effectiveness will be monitored on a continuing basis by the Senior Vice President-Nuclear and/or the Vice President-Nuclear Energy. The first quarterly training meeting will be held during the third quarter of 1988.

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RECOMMENDATION 5.4.1: EXPEDITE APPROVAL OF THE NEW TECHNICAL SPECIFICATIONS. The IMA Team recommends that both FPL and NRC management review the current schedule for completion of the development and negotiation of the new Plant Technical Specifications, and make every effort to accelerate completion.

DISCUSSION/ANALYSIS: FPL and the NRC staff are in the process of finalizing a new set of Technical Specifications. It is presently estimated that the new Technical Specifications will be issued in 1989.

The PS-Ns are accountable for proper Technical Specification interpretation at Turkey Point, including equipment operability determinations. Interpretation of the current Technical Specifications is complicated by the fact that they do not contain detailed guidance of the type provided in the proposed Technical Specifications. As a result, the licensed operators have been encouraged, where possible, to consult with plant supervision regarding complex interpretations. The AEOD Report referenced an internal operating order requiring joint interpretations of Technical Specifications. That order has been withdrawn, and the licensed operators have been reminded of their responsibility for proper interpretation of the Technical Specifications, and the continuing availability of plant supervision for consultation.

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To strengthen the ability of PS-Ns to interpret the Technical Specifications currently in effect, they will be required to complete additional class training on procedure O-ADM-021 "Technical Specification Implementation Procedure," including previous interpretation history and administrative controls. This training will improve the ability of the PS-Ns to interpret Technical Specifications, as recommended by the AEOD Report.

To support the PS-Ns in carrying out their responsibilities for interpreting and assuring compliance with the new Technical Specifications when they are issued, all PS-Ns will be required to complete a training program on the new Technical Specifications. This training program will include, among other things, the basis for the new Technical Specifications and differences between the old Technical Specifications and the new ones. The PS-Ns will be tested upon completion of the training program to demonstrate their ability to make the appropriate interpretations and to assure compliance.

SCHEDULE: Training on O-ADM-021 will be completed by November 30, 1988. The new training program will be developed, and the PS-Ns will have completed the training program, prior to implementation of the new Technical Specifications.

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RECOMMENDATION 5.4.2: EMPHASIZE QUALITY. Plant management should indicate the importance of quality by: (1) setting plant and organizational goals to improve quality, (2) emphasizing quality during management walk-throughs and meetings, (3) providing more visible support to QA/QC and (4) making better use of data supplied by them. They should also use the QA/QC organization to assist in performance monitoring, especially in surveillance of operations and maintenance activities. In addition Turkey Point management can make more effective use of QA audits and trending to minimize recurring problems.

DISCUSSION/ANALYSIS: Plant management will follow through on this recommendation by increasing the emphasis on, and attention to, quality programs and will improve the utilization of the Quality Assurance (QA) and Quality Control (QC) organizations. More visible support for the QA/QC organizations is reflected in:

- Emphasizing quality during daily activities, work meetings, and plant walk-throughs.
- Increasing QC participation in the Plant Nuclear Safety Committee (PNSC).
- Discussing QA/QC data during plant management meetings to assess work practices and take any corrective action necessary to correct deficiencies.
- Increased QC field performance monitoring, particularly in the area of operations and maintenance activities.
- Utilizing QA audits and QC inspection results to focus plant management attention on recurring problems, in order to eliminate their root cause(s).

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On a monthly basis, the Turkey Point QA Superintendent will provide the Site Vice President, the Plant Manager, and the various accountable department heads, as well as the corporate Director of Quality Assurance, updated information relating to key trends and other indicators of quality program status. The corporate Director of Quality Assurance will also provide this information to the Senior Vice President-Nuclear.

The site and corporate management teams will utilize this information as one source of input to prioritize work and to allocate resources, and will increase monitoring of QA/QC performance in areas that show adverse trends, recurring problems, or are the subject of significant generic industry or regulatory concerns.

Quality will be emphasized within the Turkey Point organization through communication of site goals as discussed in Recommendation 5.2.2, and in the management walk-throughs discussed in Recommendation 5.3.1.

SCHEDULE: Implementation of this recommendation has been initiated and is an ongoing effort, which will be modified as needed to respond to trends and results.

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RECOMMENDATION 5.4.3: IMPROVE ENGINEERING SUPPORT. Organizational changes should be made to improve the engineering support. Nuclear plant engineering should be organized within NED. The organization should be streamlined to provide effective functional, administrative and technical control in the line organization. An additional organizational recommendation is to consolidate the root cause analysis and system reliability engineering into the Technical Support Group (TSG).

In addition to the training for TSG system engineers discussed in section 5.3.5, Power Plant Engineering should also provide additional training for its engineers. This training should include items such as system engineering, root cause analysis and the conduct of safety evaluations.

DISCUSSION/ANALYSIS: FPL is transferring the nuclear engineering functions of the Power Plant Engineering Department to the Nuclear Energy Department. Efforts are underway to design the organizational structure of the nuclear engineering function. Among the matters to be resolved is the relationship of the plant Technical Department to the new nuclear engineering organization. In addition, these changes are designed to eliminate the "culture conflict" inherent in having both nuclear and fossil engineering within a single organization and to ensure that the engineering organization provides improved support to meet plant needs.

The AEOD Report referenced a potential IMA concern regarding control of engineering contractor performance. The new Director of Nuclear Engineering will be responsible for reviewing the procedures for control of engineering contractors and for developing a plan for a formal assessment of engineering contractor performance. Evaluation criteria that will be

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considered for use in the performance assessment include quality, schedule, budget, regulatory interface, communications and responsiveness. Along with the comments on individual contractor design change packages and FPL Quality Assurance audits, the performance assessment will be used to provide periodic, formal feedback to the contractors.

FPL will develop and implement design engineering training programs to include subjects such as system and reliability engineering, root cause analysis, and the performance and documentation of safety evaluations. Root cause analysis and system reliability engineering are discussed further under Recommendation 5.4.6. Training of System Engineers is discussed under Recommendation 5.3.5.

SCHEDULE: The organizational changes to include the nuclear plant engineering function within the Nuclear Energy Department are expected to be made by September 1, 1988. Training required for design engineering will be determined by December 1, 1988 and implementation will begin in 1989.

The plan for formal performance assessments of engineering contractor performance will be completed by September 30, 1988.

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RECOMMENDATION 5.4.4: STREAMLINE THE TECHNICAL SUPPORT PAPERWORK PROCESS. The paperwork burden must be reduced to allow the engineers time to do actual system engineering. Personnel throughout the organization should be urged to interact through more personal contact rather than through writing letters or memoranda. JPE Action Items should be restricted to important issues.

The RTA process should be eliminated. The important aspects of the RTA process relating to design changes should be combined with the REA process such that anyone can initiate an REA. The system engineer should be the first level of review. Other procedures should be revised, as necessary, to redefine the process flow of issues previously dealt with by an RTA. The system engineer must review and approve changes to their systems prior to implementation.

DISCUSSION/ANALYSIS: Implementation of the recommendations dealing with system engineers (see Recommendation 5.3.5) and the integration of the nuclear engineering function into the Nuclear Energy Department, should greatly enhance the "personal contact" philosophy and allow the engineers to concentrate more effectively on the performance of actual engineering activities, rather than on the associated paperwork.

The RTA process has been eliminated. The backlog of RTAs was dispositioned as described in the response to Recommendation 5.2.3.2.

In addition, a review of engineering paperwork processes at the corporate staff level will be conducted to determine those changes that can be made. The goal is to assure that technical support is focused on satisfying real operational needs rather than administrative requirements.

SCHEDULE: The corporate engineering paperwork review will be completed within 3 months following reorganization of Nuclear Engineering within the Nuclear Energy Department.

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RECOMMENDATION 5.4.5: IMPROVE PLANT INFORMATION SYSTEMS. The IMA Team recommends that NED consider increasing the emphasis on and accelerating the implementation of the current NIMS project. NIMS will provide additional definition of the information systems needs of the NED.

The IMA Team also recommends that the current "Design Basis Reconstitution" project be completed for the initial group of systems selected, including the validation phase in which the updated design basis is verified against the as-built configuration of the selected systems. This validation phase will verify that the systems can perform their functions as required by the reconstituted design basis. In addition, the IMA Team recommends that Turkey Point consider extending the design basis reconstitution effort to include the balance of the nuclear safety related systems and other systems important to safety. In order to ensure maintenance of, and compliance with, the updated design basis the PC/M procedures should be revised to require that the specific portions of the design basis affected by a change be itemized in the PC/M package and discussed in the attendant safety evaluation.

The IMA Team recommends that the Piping and Instrumentation Drawings and the Elementary Wiring Diagrams update and utilization programs currently underway continue to receive sufficient manpower and budgetary support so that they may be completed. Once updated/redrawn, the new drawings (P&ID and EWD) should be added to the Plant Operating Drawing list so that they are kept current by the existing PC/M drawing update process. Specific action plans must be identified and implemented to deal with the current large backlog (approximately 4,000 drawings) of discrepant drawings. Prioritization of the process to ensure critical drawings are updated first is necessary. Additionally, procedures need to be reviewed/revised to ensure that potential drawing changes or document revisions created by any means are properly processed and incorporated.

DISCUSSION/ANALYSIS:

The recommendation to accelerate development and implementation of management information systems is under consideration. This is an interdepartmental effort to enhance the information systems which support the nuclear plants. The project team has developed a conceptual approach for an integrated nuclear information management system and implementation is in progress.

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Implementation, in part, depends upon newly introduced data base technology and computer aided development tools. Therefore, a firm schedule for completion has not been determined.

The Integrated Schedule provides for completion of the present design basis reconstitution program, including the validation phase, in mid-1989. A schedule for extension of the program to other systems will be established by early 1989, taking into account the selection of systems and other relevant considerations. FPL also plans to maintain the design basis as a controlled document, with appropriate portions being incorporated into the updated FSAR.

The updating of drawings, including P&IDs and EWDs and correction of discrepant drawings, is an important task at Turkey Point. The Nuclear Engineering Department will have responsibility for managing the effort to eliminate the backlog of drawing revisions and improving the process to insure more timely updating of drawings in the future. A corrective action plan has been developed which includes the following:

- a) The assignment of ongoing, overall responsibility for managing the effort to the Manager of Nuclear Engineering Support Services in the new Nuclear Engineering Department.

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- b) The assignment of additional resources to eliminate the backlog of revisions to be incorporated into the drawings. This work will proceed based on a prioritization of the drawings according to their relative importance to the safe and reliable operation and maintenance of the plant.
- c) Development and implementation of changes to the process to enable updating of the drawings in a shorter time frame.
- d) Separation of electrical & I&C drawings into unit specific drawings.
- e) Development and implementation of a single procedure that covers the entire "as built" drawing update process. The procedure will integrate the activities of the multiple organizations (e.g. operations, engineering) that have a role in the "as built" drawing update process.

SCHEDULE: The individual to be responsible for managing the drawing update activities has been designated, and will assume those responsibilities in September 1988. The changes to the process for updating drawings and the interdepartmental procedure for as-built drawing updating will be developed and implemented within one month after the Fall 1988 Unit 4 outage.



RECOMMENDATION 5.4.6: IMPROVE RELIABILITY ENGINEERING AND ROOT CAUSE ANALYSIS. A concerted and definitive approach to reliability engineering and root cause analysis should be developed and integrated into the organizational structure and programs at Turkey Point. Particular emphasis should be given to preventing and analyzing critical component failures and failures resulting in LCOs, shutdowns, or affecting plant availability. The results of root cause analysis should be incorporated into the PWO process. Also, root cause analysis should be part of the normal problem solving process.

The reliability of a particular system must be the responsibility of a specific individual who can devote the time necessary and, using the information sources available, prescribe the appropriate preventive measures (operational, maintenance, or design) to maximize system reliability and prevent operator errors. Personnel responsible for system reliability must be cognizant of all the information sources available and must use that information to improve system performance. The IMA Team recommends that the reliability engineering and root cause analysis be centralized in the TSG. Training in reliability engineering and root cause analysis techniques should be provided as part of the system engineer training program.

Performance trending, failure trending and critical component failure analysis should all incorporate measures for triggering the performance of reliability reviews and root cause analysis. Event Response Teams have recently been used, with some success, to perform such evaluations for failures which have significant plant impact.

The Analytically Based Preventative Maintenance program has recently been initiated (approximately 1 1/2 years ago) and places emphasis on increasing component reliability through predictive maintenance and preventive maintenance. This group should coordinate with the TSG to provide adequate system (and component) reliability engineering efforts.

DISCUSSION/ANALYSIS: The concept of vesting responsibility for the reliability of a particular system in a specific individual will be accomplished through the changes and expansion of the system engineering function described under Recommendation 5.3.5. Trending of system performance, utilization of reliability techniques including Nuclear Plant Reliability Data System (NPRDS) data, the elimination of repetitive failures via

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effective root cause analyses, and responsibility for the configuration of the system comprise the primary focus of system engineering. System Engineers at Turkey Point are assigned to the Technical Department.

In House Event (IHE) analyses and trending, Licensee Event Reports (LER), and the administration of the Event Response Team (ERT) all address significant occurrences, their root causes, and countermeasures. These functions will be the responsibility of the Technical Department.

Root cause analysis within the Maintenance organization is discussed under Recommendation 5.3.7. The Turkey Point PWO procedure will be reviewed to assure that the recording of equipment failure information is properly reflected in the PWO process to aid in root cause analysis. In addition to the maintenance engineer's analysis of PWO's, and NJPS tracking of root causes referenced in Recommendation 5.3.7, the predictive and preventative maintenance functions within the Analytically Based Preventative Maintenance Program (ABPM) will enhance the Maintenance organization's reliability and root cause analysis capability. This treatment of PWO's and plant component failures, in a way which highlights reliability engineering across similar plant components, is intended to address repetitive or predictable component failures.

The Technical Department's system approach to reliability and event-based analyses, combined with the Maintenance Department's component approach to preventative maintenance, comprehensively addresses reliability engineering and root cause analyses.

SCHEDULE: The PWO procedure will be reviewed by August 31, 1988, to assure that the recording of equipment failure information is properly reflected in the PWO process.

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IV. AEOD REPORT RECOMMENDATIONS

The AEOD Report contains eleven recommendations and includes, in the course of its analyses, discussion of a number of more specific IMA and NRC concerns. This section of the FPL Action Plan responds to the eleven NRC recommendations of the AEOD Report. Many of the more specific IMA and NRC concerns referenced in the AEOD Report are discussed within the discussion and analyses of the IMA recommendations. In addition, as recommended by the AEOD Report, and discussed further below, FPL is obtaining additional information from ENERCON regarding the issues identified by the IMA team in the course of its review. FPL will evaluate the need for additional corrective actions upon review of this additional information.

RECOMMENDATION 1: The handouts for the last three SET meetings should be obtained by FPL and reviewed with the assistance of ENERCON so that FPL can gain a full understanding of the overall performance issues identified by the IMA report (see Section 3.1).

DISCUSSION/ANALYSIS: FPL has obtained the handouts for the last three SET meetings and reviewed them with the assistance of ENERCON. This review contributed to a better understanding of the overall performance issues identified by the IMA report and the discussion of those issues in the AEOD Report. The FPL responses to the IMA recommendations address the information obtained from the review of those handouts, as well as from FPL's review of the IMA report and the AEOD Report.

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RECOMMENDATION 2: The performance problems and low level contributing causes that were identified by the IMA team, but not documented in the report, should be obtained to enhance FPL's understanding of the root causes and ability to carry out timely corrective actions. Examples include: the computerized performance problem data base, problems with the use of engineering contractors, training weaknesses and programmatic weaknesses identified in maintenance (see Sections 3.1 and 3.2).

DISCUSSION/ANALYSIS: FPL has arranged with the IMA team to obtain its records of performance problems and low level contributing causes that were identified by the IMA team, but not documented in the IMA report. The ENERCON records regarding Operations and Maintenance have been received and are under review by FPL. The remaining records are scheduled to be delivered within the next few weeks, and review of them will begin promptly after receipt.

Although all of the relevant IMA records have not been reviewed as of this date, meetings have been held between FPL and ENERCON representatives to discuss these matters. On the basis of these discussions FPL is reasonably assured that it understands the root causes identified by ENERCON and the underlying information utilized by ENERCON to identify the root causes. The corrective actions described in this response to the IMA report appear to address the root causes identified by the IMA team. Additional corrective action deemed necessary subsequent to further review of ENERCON records, if any, will be undertaken as on a timely basis.

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RECOMMENDATION 3: The IMA recommendations related to leadership and management should be applied to the corporate officers and managers responsible for the plant line management performance and important supporting roles (see Sections 3.1, 3.2, and 3.3).

DISCUSSION/ANALYSIS: FPL's responses to the IMA recommendations related to leadership and management (Corporate Overview and Recommendations 5.1.1

(a-e)) address the role of corporate officers and managers responsible for plant line management and corporate support.

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RECOMMENDATION 4: Site management should determine and implement the corrective actions necessary, such as enhanced training to improve operator response to slowly evolving off-normal plant conditions (see Section 3.2).

DISCUSSION/ANALYSIS: The responses to the IMA recommendations and the Corporate Overview describe a number of actions that are being taken to improve operator performance, including response to slowly evolving off-normal events. These actions include the appointment of a new Operations Superintendent who is taking steps to address the "passive culture" referred to by the AEOD Report as well as assuring that the Operations Department recognizes and fulfills its responsibility to set priorities for the activities necessary to support plant operations (Recommendation 5.1.1.a). Other actions include the upgrading of the Training Staff, as described in the response to IMA Recommendation 5.1.1.d; the actions to reduce burdens on the Operators described in the responses to IMA Recommendations 5.3.2 (Upgrade Plant Material Condition), 5.3.6 (Reduce Overtime) and 5.3.7 (Improve Maintenance Performance); and the actions to improve the establishment, communication and accountability for meeting goals described in the responses to IMA Recommendations 5.2.1, 5.2.2, 5.2.5 and 5.3.1.

RECOMMENDATION 5: FPL should determine and implement the corrective actions necessary to improve corporate and site training departments and enhance the site training department performance (see Section 3.2).

DISCUSSION/ANALYSIS: Corrective actions to improve the corporate and site training departments and to enhance the site training department performance are described in the response to IMA Recommendation 5.1.1.d. The performance of both the corporate and site training departments also will be improved through the actions described in the responses to IMA Recommendations 5.2.1 and 5.2.2 (improved definition and communication of goals); and the actions in response to IMA recommendation 5.3.9 (transfer of knowledge within FPL).

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RECOMMENDATION 6: The new Turkey Point management team should consider the full extent of the workload of an accelerated improvement program in addition to normal plant operation in evaluating the need for additional resources (see Sections 3.2 and 3.3).

DISCUSSION/ANALYSIS: FPL believes that the actions described in response to the IMA recommendations will achieve accelerated improvement and, at the same time, provide a sound basis for long term management of Turkey Point. Senior corporate management will closely monitor progress at Turkey Point to evaluate the effectiveness of the corrective actions and the possible need for further actions, including additional resources in those areas where such resources could contribute to accelerated improvement.

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RECOMMENDATION 7: Additional management support and assistance (e.g., shift team building for operations and support crews) should be provided to enhance near-term operator performance (Section 3.3).

DISCUSSION/ANALYSIS: Corrective actions to achieve improved near-term operator performance are described throughout this response, including the responses to IMA Recommendations 5.1.1.a, 5.2.1, 5.2.2 and 5.4.1. These corrective actions include the efforts of the new Plant Manager and the Operations Superintendent to encourage team building for operations and support crews, as described under Recommendation 5.1.1.a.

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RECOMMENDATION 8: Until the PS-Ns have demonstrated the leadership and "ownership" qualities necessary to change the current plant culture, FPL should consider continuation of the current MOS Program (see Section 3.3).

DISCUSSION/ANALYSIS: FPL will continue the Management-on-Shift (MOS) program until FPL senior management is satisfied with the success of the efforts to change the "attitude" and "culture" in the Turkey Point operations staff. These efforts are receiving particularly high priority, principally because FPL believes that the desirable transition to more complete reliance on the PS-Ns requires that they clearly demonstrate the leadership and sense of ownership referred to by AEOD. In accordance with EA 87-85, prior to terminating the MOS program, FPL will provide written justification for the termination to the Region II Administrator.

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RECOMMENDATION 9: Site management should determine and implement the corrective actions necessary to improve the ability of the licensed operators to correctly interpret technical specifications. In addition, corrective actions should be developed to establish the operator's accountability for equipment operability determinations (see Section 3.3).

DISCUSSION/ANALYSIS: Actions to improve the ability of licensed operators to correctly interpret technical specifications and operating procedures in effect pending issuance of the revised technical specifications, are discussed in the responses to several of the IMA Recommendations, including 5.1.1.a, 5.1.1.d and 5.4.1. Corrective actions that most directly address increased operator's accountability for equipment operability determinations are described in the responses to IMA Recommendations 5.1.1.a, 5.2.2, and 5.4.1.

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RECOMMENDATION 10: FPL should develop corrective actions in sufficient detail and monitor their implementation to assure that the specific deficiencies and causes associated with each of the IMA recommendations are effectively addressed (see Section 3.3).

DISCUSSION/ANALYSIS: The corrective actions developed by FPL are described in this Action Plan and further detailed in various procedures and other implementing documents. As stated in response to AEOD Recommendation 2, to assure that the specific deficiencies and causes associated with each IMA recommendation are effectively addressed, FPL has reviewed the recommendations with ENERCON and is obtaining the IMA records that identify these deficiencies and their apparent causes. These records will be reviewed to assure that the FPL corrective actions are adequate and properly controlled.

Progress in the implementation of corrective actions will be monitored using the performance measures and indicators discussed in response to IMA Recommendations 5.2.1 and 5.2.5, as well as direct observation during management walk-throughs (See Recommendation 5.3.1) and periodic meetings with plant and corporate staff personnel (See Recommendations 5.2.2 and 5.4.2).

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RECOMMENDATION 11: FPL should extend the IMA recommendation concerning the establishment of effective performance measures to include corporate level and site level measures which indicate the overall success of the implemented corrective actions, including those actions implemented for the organization culture and climate issues (see Section 3.3).

DISCUSSION/ANALYSIS As described in the response to IMA Recommendation 5.2.5, the performance measures being established include corporate level and site level measures which will indicate the overall success of the implemented corrective actions. These measures are designed to provide a sound basis for judging whether the actions to change the "culture" and "climate" are succeeding.

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V. CONCLUSION

FPL believes the action being taken in response to ENERCON's recommendations, and the AEOD Report, together with corrective actions already implemented, will lead to significantly improved performance within the corporate nuclear staff and at Turkey Point.

The commitments reflected in the responses to the IMA and NRC recommendations are made by, and reflect the position of, FPL's senior corporate management, which has reviewed the IMA and AEOD reports and this response.



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APPENDIX A

POLICY OF THE NUCLEAR ENERGY DEPARTMENT

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POLICY OF THE NUCLEAR ENERGY DEPARTMENT

Florida Power & Light Company has had direct involvement in the nuclear industry (construction and operation of nuclear power plants) for a period exceeding 20 years. This involvement has grown such that FPL currently operates four nuclear units located at two separate sites. This physical separation in facilities has been a key factor in the evolution to an organizational structure which places needed accountabilities at the nuclear sites under the Site Vice Presidents. This decentralized management allows decisions, planning, and resource utilization to be vested with the management closest to plant operations.

While this structure is needed to enhance efficient plant operations and support safety, there are certain functions that are appropriate to retain with centralized accountability. These functions are primarily policy making, system development and maintenance, strategic planning, intra-department and inter-utility transfer of information, and certain management controls. Both Nuclear Energy Department corporate management and plant management report to the same corporate officer within Nuclear Energy. Therefore, the corporate and plant managements are complementary members of the same team.

The purpose of this organization policy statement is to provide general guidance in these complementary roles. This policy statement is not intended to be all inclusive. The true means to success for the Nuclear Energy Department is through the firm desire of all individuals to work as a team in concert to achieve department goals.

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Objectives

1. To define organizational roles and responsibilities;
2. To define management expectations for communications and teamwork among individuals and organizational units, and
3. To emphasize and identify the accountability for recurring activities while acknowledging the need for flexibility.

Organizational Roles and Responsibilities

Every organization must define the general responsibilities and accountabilities of its functional units so that routine roles and their expectations are known. The following defines these general organizational roles and responsibilities.

Plant Staff

The personnel operating and maintaining the nuclear plants have custody of the Company's very valuable and vital power plant assets. As custodians of this valuable resource, these personnel incur great responsibility and have on-going accountability. These personnel are responsible for the safe, reliable, and efficient operation of the nuclear units. Furthermore, they are responsible for compliance with complex nuclear regulations and Plant Technical Specifications. Plant personnel are also responsible and accountable for implementing Company, department, and plant management policies, procedures, and directives.

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In their daily work, plant personnel will frequently encounter problems very difficult and complex. These personnel must be capable of routinely addressing the majority of these problems. They should seek off-site assistance in instances where unique expertise exists off-site, additional support is needed, or other organizational arrangements dictate off-site involvement.

While the primary role of the plant personnel is to operate and maintain the nuclear power plant, there are instances when they need to provide necessary information to the corporate staff in support of Company goals. Such instances should be those in which it is most efficient for the plant personnel to provide information as opposed to staff responding independently.

To meet these very significant responsibilities, it is incumbent upon plant management to provide programs for training and development of the site personnel. It is further plant management's responsibility to maintain a high level of morale and high degree of motivation.

Despite the effort of day-to-day operation, plant management must also perform necessary short term and strategic long term planning.

Corporate Staff

The primary responsibility of the Corporate staff is to provide support and assistance to the corporate management and the plant management in the achievement of corporate, department, and site goals. The Corporate staff is responsible for development of departmental practices and procedures that implement the Nuclear Energy Department Policy.

At times, Corporate staff must interact with site management and personnel to obtain needed information requested by Corporate management, and in the development of policies or programs. In fulfilling this role the staff will interact with plant management in the development of recommendations, some of which may require plant implementation. If agreement cannot be attained with respect to a recommendation, Corporate management will direct the resolution process. Through interaction and exchange, resulting systems and programs will promote consistent practices between plants in order to improve the overall operation of the nuclear units in keeping with corporate, department, and site goals. The Corporate staff assists management by maintaining the developed systems and programs that compliment effective management of the four nuclear units. While consistency is a highly desired goal, it is also recognized that there will be instances where plant uniqueness makes absolute consistency impractical or inadvisable.

Staff personnel act as an extension of Corporate Management through their support and monitoring of plant activities.

The staff aids management by handling details and allowing management to focus attention where required thus enhancing management's overall effectiveness. When staff individuals are representing management or the plant, either internal to the Company or externally, they must remain within the management assigned bounds. In addition, management also relies on the staff to provide timely and effective technical consultation.

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The staff provides services to the nuclear sites where economics or technical expertise make it appropriate. With plant acknowledgement, the staff may be assigned responsibilities that are normally regarded as line responsibility. In such cases, it will be clearly communicated that the staff is responsible for the performance of the activity under line management direction. Technical consultation, including performance of work at the site, is another area where the staff provides a service to the nuclear sites. The staff shall provide support of this type to the plants as well as assisting the plants in resolution of significant issues/problems. The staff shall look for emerging issues/problems and help the plant in taking early action to resolve them before they become significant problems. As a natural outcome of their activities, the staff shall routinely visit the sites, interacting with their plant counterparts.

The staff shall process information received by the department and transfer this information to the plants in a clear and usable manner. Staff processing of information, prior to transmittal to the plants, is intended to distill large amounts of information to a significantly smaller and useful amount. Thus, staff can relieve the plant of this burden. The staff shall also reduce the plants burden of attending certain meetings by utilizing effective, routine, and typically on-site communications with their plant counterparts, eliminating unnecessary meetings.

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Communications and Teamwork

Effective communications that transfer information to enhance the organization's performance are a necessity. Organizational lines define the normal and regular communication channels. However, other frequent communications among departmental members up and down the organization and between locations are necessary.

It is the policy of the Nuclear Energy Department that interactive communications be conducted at the counterpart level and on-site where possible in order to enhance the spirit of cooperation.

No team can function at maximum efficiency without team members demonstrating a mutual respect and understanding for each other. The Nuclear Energy Department expects its members to embrace this spirit of teamwork in their day to day activities in achieving departmental and corporate objectives.

Plant Accountabilities.

1. Operate and maintain the nuclear units.
2. Interface with the regulatory agencies, as required.
3. Conduct performance monitoring, surveillance testing, and appropriate preventive, predictive and corrective maintenance.
4. Implement the policies/programs/directives of the corporation, department, and plant. This includes making recommendations and providing feedback on these policies/programs/directives where appropriate.

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5. Implement program changes that improve safety and operability of the plant.
6. Plan, schedule and implement refueling and other necessary maintenance outages.
7. Plan and implement equipment replacement projects, and plant changes or modifications.
8. Prepare a 5 year operational plan which includes a forecast of budget expenditures and personnel loadings.
9. Properly train personnel to perform their functions in a responsible and safe manner.
10. Provide necessary information to corporate management.
11. Provide input/representation on industry group activities, attend meetings as appropriate, provide summary reports and recommendations to Nuclear Energy Department management.

Corporate Staff Accountabilities

1. Prepare for corporate management approval, procedures necessary to support the Nuclear Energy Department Policy.
2. Prepare policy and guidance documents for corporate management approval (such as QA Manual, Fitness for Duty Manual, Nuclear Training Manual, NJPS Manual, Health Physics Manual, Chemistry Parameters Manual, Human Performance Evaluation System, Recommended Practices, and Letters of Instruction).
3. Review plant activities as requested by corporate management (through such programs as Health Physics, Operations, Non-Radiological Environmental reviews, Chemistry Reviews, Training Reviews, Budget Reviews, QA Audits and Assessments, and Fitness for Duty Program).

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4. Effect transfer of information between plants, including industry experience and technology innovations.
5. Perform anticipatory planning on generic issues (as in Steam Generator Longevity Program, Plant Aging Program, Operator Degree Program, reviews of proposed NRC regulations, spent fuel storage and disposal reviews, and preparation of multiple year budgets).
6. Provide technical advice and information to plant and corporate management as requested.
7. Develop and maintain systems (such as Maintenance Management System, Performance Monitoring Reporting, Operating Experience Program, Budgeting methods and Succession Planning).
8. Review industry reports and summarize for corporate and plant management.
9. Perform specifically assigned services (such as steam generator eddy current testing, ISI management, personnel dosimetry, metallurgical analyses and technical consultation; e.g. health physics, chemistry, radioactive waste, turbine generator, reactor internals, metallurgy, NDE specialties).
10. Provide additional support to plants where resources or technical requirements make it appropriate.
11. Provide Company representation on industry groups (such as the Steam Generator Owners Group Technical Advisory Committee, EPRI committees, ASME committees, regulatory issue working groups, NSSS Owner Groups, INPO committees, etc.) Attend meetings as appropriate, and provide summary reports and recommendations to Nuclear Energy Department management.



12. Conduct the corporate level interface with outside agencies such as the NRC, INPO, and FEMA. Results of interfaces will be communicated to plant management.

NOTE: The listing of plant and staff accountabilities above are not intended to be all inclusive. They are listed for the purpose of helping establish distinction of responsibilities between plant and corporate staffs, and identify special accountabilities of corporate staff.

W. F. Conway 6/8/88
W. F. Conway
Senior Vice President-Nuclear.

APPENDIX B

ADMINISTRATIVE PROCEDURE JNE-AP-001

TRANSFER OF KNOWLEDGE TO FPL NUCLEAR SITES

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**1.0 APPROVAL**

PREPARED BY:

B. A. Klein
W. A. KLEIN

APPROVED BY:

J. J. Kelly
VICE PRESIDENT - NUCLEAR ENERGY

APPROVED BY:

W. K. Kury
SENIOR VICE PRESIDENT - NUCLEAR**2.0 PURPOSE**

This procedure provides a method for transferring information regarding replication of good practices/strengths including new technology to the sites, for follow-up to ensure that the issue is brought to closure, and that appropriate feedback is provided to nuclear management.

3.0 SCOPE

The scope of this procedure applies to the technology and good practices which are within the effectiveness areas of the Nuclear Energy Staff. It includes transfer of knowledge between the sites as well as from industry to the sites.

4.0 RESPONSIBILITIES

- 4.1 Staff Members have responsibility for identifying and recommending good practices/strengths for replication.
- 4.2 The staff first level manager is responsible for approving recommended good practices/strengths for replication. The Manager is also responsible for scheduling and conducting functional review meetings with appropriate plant and staff members at least semiannually. Meetings should be held at plant sites. (Functional review meetings are conducted periodically with each site and the staff to discuss activities and issues in a particular area, e.g., Health Physics, Chemistry, Maintenance).
- 4.3 The Vice President - Nuclear Energy has overall responsibility for ensuring that good practices/strengths are identified for replication at FPL nuclear sites.
- 4.4 The Site Vice Presidents are responsible for ensuring that good practices/strengths which are recommended for replication are dispositioned and implemented where appropriate.
- 4.5 The Senior Vice President - Nuclear is responsible for ultimate disposition of non-implementation of recommendations for replication of good practices/strengths.



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5.0 PROCEDURE

5.1 Nuclear Energy staff members shall identify good practices/strengths including new technology by the following:

- a) On-site presence through frequent visits to each site
- b) visits should be supplemented by frequent communications with site counterparts
- c) functional meetings which include good practices/strengths as an agenda item
- d) staff reviews/assessments of specific activities or functional areas
- e) feedback of operating experience, involvement with industry groups, e.g., ASME, EPRI, CEOG, etc.; and interface with other utilities.

5.2 When a specific site good practice/strength is identified for replication, the staff member will discuss the replication with the appropriate plant department head to obtain his perspective. With the approval of the staff first level manager, the information should then be presented to the cognizant department head at the other site for replication. When the good practice/strength is from industry it should be presented to the site(s) after approval by the staff first level manager.

5.3 The staff member should discuss the issue with the cognizant department management and a face to face presentation of the information should be employed unless otherwise agreed upon.

5.4 The staff member charged with transfer of the good practice/strength information should help with the implementation. Where appropriate, he may solicit help from the plant where the good practice/strength was identified.

5.5 The staff first level manager shall maintain a log of the recommended good practices/strengths showing status.

5.6 The staff member will follow the implementation and provide documented feedback regarding the status of final replication to site and staff Vice Presidents. In those instances where the implementation of the good practice/strength is unresolved, the issue will be referred to the Senior Vice President - Nuclear via the management chain for ultimate disposition.

6.0 RECORDS

None

7.0 REFERENCES

7.1 LOI re: Trip reports, dated November 1, 1982

7.2 Interoffice memo from C. O. Woody: Nuclear Energy Meetings, dated September 3, 1986

