

Official

FEB 08 1991

Docket No. 50-416
License No. NPF-29

Entergy Operations, Inc.
ATTN: Mr. W. T. Cottle, Vice President
Operations - Grand Gulf
P. O. Box 756
Port Gibson, MS 39150

Gentlemen:

SUBJECT: MEETING SUMMARY - GRAND GULF

This refers to the management meeting held at your request in the Region II Office on January 29, 1991. The purpose of the meeting was to discuss your self assessment of performance. A list of attendees, and a copy of the slides used in your presentation are enclosed. It is our opinion that the meeting was beneficial in that it provided a good understanding of the actions you have taken in response to our concerns.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any question concerning this matter, please contact us.

Sincerely,

(Original signed by LAReyes)

Luis A. Reyes, Director
Division of Reactor Projects

Enclosures:

1. List of Attendees
2. Licensee Handout (Slides)

cc w/encls:

T. H. Cloninger, Vice President
Engineering
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286

(cc w/encls continued - See page 2)

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(cc w/enc's cont'd)
C. R. Hutchinson, General Manager
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

M. J. Meisner, Director
Nuclear Licensing
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

Mr. Jim T. LeGros
Manager of Quality Assurance
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286

Mike Morre, Attorney General
Frank Spencer, Asst. Attorney General
State of Mississippi
P. O. Box 22947
Jackson, MS 39225

Gerald W. Muench
Vice President, Operations Support
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

Donald C. Hintz, Executive Vice
President & Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

R. B. McGehee, Esq.
Wise, Carter, Child, and Caraway
P. O. Box 651
Jackson, MS 39205

N. S. Reynolds, Esq.
Winston & Strawn
1400 L Street, NW - 12th Floor
Washington, D. C. 20005-3502

(cc w/enc's continued - See page 3)

FEB 08 1991

(cc w/encls cont'd)
Alton B. Cobb, M.D.
State Health Officer
State Board of Health
P. O. Box 1700
Jackson, MS 39205

The Honorable William J. Guste, Jr.
Attorney General
Department of Justice
State of Louisiana
P. O. Box 94005
Baton Rouge, LA 70804-9005

Office of the Governor
State of Mississippi
Jackson, MS 39201

Jack McMillan, Director
Division of Solid Waste Management
Mississippi Department of
Natural Resources
P. O. Box 10385
Jackson, MS 39209

President
Clairborne County Board
of Supervisors
Port Gibson, MS 39150

C. B. Hogg, Project Manager
Bechtel Power Corporation
P. O. Box 2166
Houston, TX 77252-2166

bcc w/encls:
L. Kintner, NRR
Document Control Desk
F. Cantrell, RII

NRC Resident Inspector
U.S. Nuclear Regulatory Commission
Route 2, Box 399
Port Gibson, MS 39150

RII:DRP
RW
RWright
02/8/91

RII:DRP
F
FCantrell
02/8/91

RII:DRP
D
DVerrelli
02/8/91

RII:DRP
EMerschhoff
02/ /91

ENCLOSURE 1

LIST OF ATTENDEES

Entergy Operations, Inc.

W. T. Cottle, Vice President Nuclear Operations
C. R. Hutchinson, General Manager
M. J. Meisner, Director, Nuclear Licensing
M. A. Dietrich, Director, Quality Programs
F. K. Mangan, Director, Plant Projects and Support
F. W. Titus, Director, Nuclear Plant Engineering
J. V. Parrish, Manager, Plant Operations

Nuclear Regulatory Commission

J. L. Milhoan, Deputy Regional Administrator, Region II (RII)
L. A. Reyes, Director, Division of Reactor Projects (DRP), RII
E. W. Merschoff, Deputy Director, DRP, RII
J. P. Stohr, Director, Division of Radiation Safety and Safeguards (DRSS), RII
A. F. Gibson, Director, Division of Reactor Safety (DRS), RII
T. A. Peebles, Chief, Operation Branch, DRS, RII
D. M. Verrelli, Chief, Reactor Projects Branch 1, DRP, RII
B. A. Boger, Director, Division of Reactor Projects-III, IV, V & Special
Projects, Office of Nuclear Reactor Regulation (NRR)
L. L. Kintner, Project Manager, NRR
F. S. Cantrell, Chief, Reactor Projects Section 1B, DRP, RII
H. O. Christensen, Chief, Reactor Projects Section 1A, DRP, RII
R. W. Wright, Project Engineer, DRP, RII
J. L. Mathis, Senior Resident Inspector - Grand Gulf, DRP, RII
G. A. Hallstrom, Reactor Inspector, DRS, RII
R. R. Marston, Radiation Specialist, DRSS, RII
M. T. Markley, Licensee Performance Evaluation Branch, NRR

**GRAND GULF
NUCLEAR STATION
1991 PRE-SALP MEETING**

Entergy Operations, Inc.
Grand Gulf Nuclear Station

1991 Pre-SALP Meeting
January 29, 1991

- o INTRODUCTION
 - 1. SALP period overview W. T. Cottle
Vice President,
Nuclear Operations
 - 2. Personnel error issues C. R. Hutchinson
General Manager
 - 3. Response to previous
SALP recommendations

- o FUNCTIONAL AREA PRESENTATIONS
 - 1. Plant Operations J. V. Parrish
Manager,
Plant Operations
 - 2. Radiological Controls J. V. Parrish
 - 3. Maintenance/Surveillance C. R. Hutchinson
 - 4. Security C. R. Hutchinson
 - 5. Emergency Preparedness F. K. Mangan
Director,
Plant Pjcts & Support
 - 6. Engineering/Technical Support F. W. Titus
Director,
Nuclear Plant Eng.

C. R. Hutchinson

J. V. Parrish
 - 7. Safety Assessment/
Quality Verification M. A. Dietrich
Director,
Quality Programs

M. J. Meisner
Director,
Nuclear Licensing

- o CLOSING REMARKS W. T. Cottle

**GGNS SALP PERIOD
OVERVIEW**

GGNS SALP PERIOD OVERVIEW

o Major Challenges

- Managing success
- World class performance

o Management Approach

- Critical self-assessment
- Fostering a safety culture
- Initiation of a self-sustaining improvement program (Total Quality)

o Results

- Strong performance in all SALP functional areas
- Effective, aggressive response to the major problem area - personnel errors

OVERVIEW STATION STRENGTHS

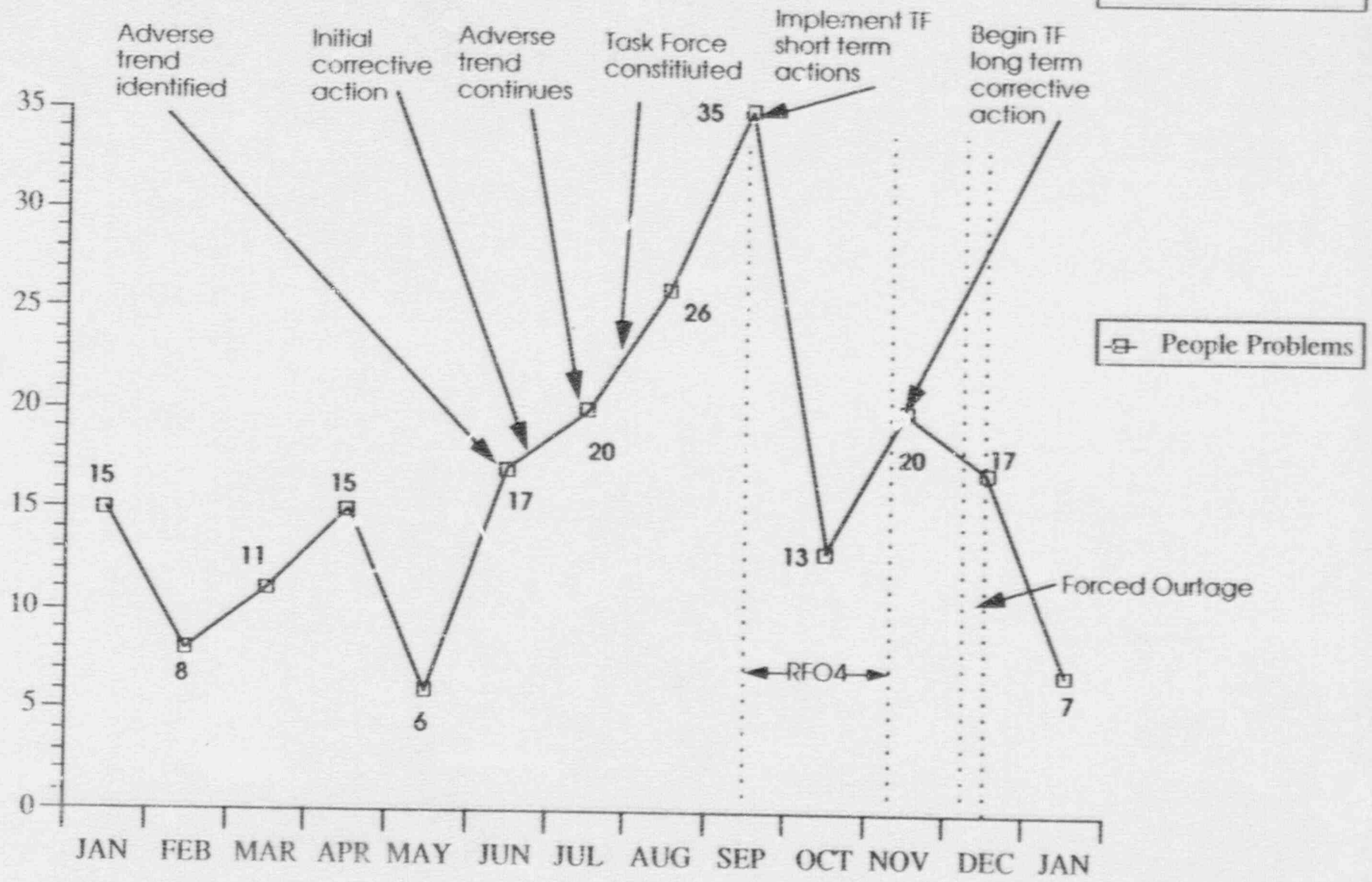
- o Strong safety culture based on conservative action, open communications, teamwork and accountability
- o Effective self-assessment
- o Active pursuit of improvement to already effective programs
- o Well-planned and well-managed outages
- o Strong corporate support
- o Materiel condition of the plant

OVERVIEW PERSONNEL ERRORS

- o Early identification - lower threshold (early July)**
- o Prompt communication and action (mid July)**
- o Recognition that unidentified cause(s) existed (August)**
- o Aggressive approach to isolate cause(s) (Sept-Oct)**
 - Task Force and outside consultants
 - Extensive interviews at all levels
 - Detailed review of past events
 - INPO assist visit
- o Major causes in management focus and communications**
- o Short-term (Oct.) and long-term (ongoing) corrective actions**

QDR's* 1/1/93 through 1/28/91

* Typical of personnel error trend



OVERVIEW

STATUS OF PREVIOUS SALP RECOMMENDATIONS

- o **Plant Operations**

- **Recommendation:** None

- o **Radiological Controls**

- **Recommendation:** Attention needed to reducing personnel contaminations
- **Status:** Personnel contamination rate (contaminations/1000 RWP manhours) reduced to .228 compared to 2.298 in 1989

o **Maintenance/Surveillance**

- **Recommendation:** Attention needed to maintaining systems "important to safety", e.g. PASS, Instrument Air (IA)
- **Status:** PASS/IA given essentially safety related status through tracking on daily planning report; massive upgrade to IA during RF04

o **Emergency Preparedness**

- **Recommendation:** Use initiating events for annual exercise different from recent drills; conduct a full accountability drill
- **Status:** 1990 annual scenario initiating events were substantially different from preceding exercises; full scale accountability drill during annual exercise accounted for 631 of 635 personnel within 30 minutes

- o **Security**
 - **Recommendation:** None
- o **Engineering/Technical Support**
 - **Recommendation:** None
- o **Safety Assessment/Quality Verification**
 - **Recommendation:** Attention needed to safety assessments
 - **Status:** 10CFR50.59 program upgraded; other safety assessments (e.g. license amendments) were critically reviewed

PLANT OPERATIONS

PLANT OPERATIONS STRENGTHS/ACHIEVEMENTS

- o Strong management emphasis on conduct of operations**
 - Conservative approach in decision-making
 - Continuous setting of expectations
- o Absence of significant plant events at power in 1990**
- o Quality of operations personnel and effectiveness of training demonstrated through response to several plant transients**
- o Automatic scrams during 1990 due largely to unrelated equipment failures - no scrams due to operations personnel error**

PLANT OPERATIONS STRENGTHS/ACHIEVEMENTS

- o **Operator achievements**
 - 100% pass rate on 1990 requal exam
 - 3 experienced operators received their degree; 8 others enrolled in degree program
 - Only one operator resignation
- o **Operations organizational achievements**
 - Established degreed engineer as 3rd SRO on shift
 - Enhanced shift engineer position
 - 12 hour, 6 shift rotation implemented
 - Distributed Operations experience throughout the site - six SRCs and two ROs to other departments

PLANT OPERATIONS STRENGTHS/ACHIEVEMENTS

c Plant/Programmatic initiatives

- Critical assessment of Operations in 1990
- Good progress on plant labeling program
- Temporary alteration reduction
- Human factors control room improvements
- Procedure upgrades, e.g., Loss of Instrument Air
- Improved computerized red tagging system

PLANT OPERATIONS

AREAS FOR IMPROVMENT

- o Rate of personnel errors (previously discussed)
- o Better define role of 3rd SRO on shift

**RADIOLOGICAL
CONTROLS**

RADIOLOGICAL CONTROLS
STRENGTHS/ACHIEVEMENTS

o Strong contamination controls

- Programmatic enhancements
- Enhance outage controls
- Contamination rate reduction down from 2.298 in 1989 to .228 in 1990 (contaminations/1000 RWP manhours)

o Continued ALARA innovations

- Programmatic enhancements
- Average monthly exposure down from 10.7 R in 1988 to 6.9 R in 1990

o Continued reduction in contamination areas

**RADIOLOGICAL CONTROLS
STRENGTHS/ACHIEVEMENTS**

- o **Significant facilities/equipment upgrades**
 - Whole body counter
 - New calibration facility
 - New ACM-100A/100AS (equipment friskers)
 - State-of-the-art PM-7 Portal Monitors
 - Installed Dositec Electronic Alarming Dosimetry System
 - Upgraded TLD processing system
 - Upgraded respiratory protection program
 - Health Physics laboratory renovations
 - New radwaste handling and reduction equipment

- o **6,000,000 manhours without a lost time accident**

RADIOLOGICAL CONTROLS

AREAS FOR IMPROVEMENT

- o Floor drain leakage led to increased resin waste
- o Methane production in condensate resins

RADIOLOGICAL CONTROLS

CHALLENGES/INITIATIVES

- o **Implementation of changes to 10CFR20**
- o **Sharing standardized equipment/procedures amongst Energy Operations facilities**

RADIOLOGICAL CONTROLS STRENGTHS/ACHIEVEMENTS

CHEMISTRY:

- o Plant Service Water and Circulatory Water Monitoring**
 - Scale PSW and Circ Water Test Facility
 - Intensive inspection and monitoring for effectiveness
 - Improved acid addition capability to Circ Water
 - Taprogge Ball Cleaning System

- o Standby Service Water Chemical Control**
 - Strong monitoring program led to enhanced control
 - Corrosion monitoring equipment installed

RADIOLOGICAL CONTROLS
STRENGTHS/ACHIEVEMENTS

- o **New clean lab/hot lab facilities**
- o **Post Accident Sampling System enhancements**
- o **Instrument Air sampling capability/program upgraded**

RADIOLOGICAL CONTROLS

AREAS FOR IMPROVEMENT

CHEMISTRY:

- o Chemistry process monitors**
 - Improve operability
 - Redesign condenser tube leak detection

- o Radwaste processing**
 - Liquid waste volume reduction
 - Water purity improvements
 - Condensate Cleanup System availability

RADIOLOGICAL CONTROLS

CHALLENGES/INITIATIVES

CHEMISTRY:

- o **Standby Service Water**

- Improve mixing
- More effective use of treatment chemicals

- o **Plant Service Water**

- Improve microbiological control
- Help reduce volume of high conductivity waste

**MAINTENANCE/
SURVEILLANCE**

MAINTENANCE/SURVEILLANCE STRENGTHS/ACHIEVEMENTS

- o Predictive maintenance program**
 - Formalized under Systems Engineering procedure
 - Includes trending procedure

- o Deficiency tagging program enhancements**
 - Continuous self-assessments and audits
 - 100% walkdown after RF04

MAINTENANCE/SURVEILLANCE STRENGTHS/ACHIEVEMENTS

- o Station Information Management System (SIMS)**
 - Has enhanced the Surveillance Program (no missed scheduled surveillances)
 - Automated scheduling eliminates human error
 - More information readily available for update/status reports

- o Maintenance Work Order (MWO) enhancements**
 - Better use of MWO activity logs
 - Independent Review Group
 - Improved efficiency through SIMS/Material Management Information System
 - Approximately 40% reduction in backlog from previous SALP period up to RF04

MAINTENANCE/SURVEILLANCE STRENGTHS/ACHIEVEMENTS

- o Maintenance management tracking and trending of key indicators**
- o Monthly Maintenance Performance Report**
 - Identifies trends to site management
 - Useful in controlling maintenance backlog
- o Strong vibration monitoring program**
- o Good plant materiel condition**
 - Housekeeping inspection
 - Continued painting program

MAINTENANCE/SURVEILLANCE

AREAS FOR IMPROVEMENT

- o Improve work order planning by each discipline**
- o Preventive Maintenance Program methodology and implementation can be inconsistent and ineffective**
 - Multi-discipline work group has been established to develop and implement a reliability centered approach to maintenance**
- o Continued maintenance backlog reduction**
- o Repetitive task reduction**
- o Reduction in maintenance personnel errors**

MAINTENANCE/SURVEILLANCE

CHALLENGES/INITIATIVES

- o **Reliability centered approach to maintenance**
- o **Development of an overall maintenance procedure**

SECURITY

SECURITY STRENGTHS/ACHIEVEMENTS

- o Significant hardware upgrades/achievements**
 - Four ITI model 85 Portal Explosive Detectors
 - Garrett Portable Metal Detectors at PAP
 - Microwave alarm system along north wall of Administration Building
 - Completed temporary upgrade of south perimeter
 - 99.9% availability for security computer system
- o Continued excellent off-site agency relationships**

SECURITY STRENGTHS/ACHIEVEMENTS

- o Strong commitment to continuing training, for instance:**
 - Response Team Training Seminar
 - Range/Instructor Safety School
 - NRA Police Firearms Instructor Development Course
 - Smith & Wesson Armory School (small arms academy)

- o Fitness for Duty Program**
 - New facility
 - Effective FFD training program
 - Strong management oversight and supervisory involvement
 - Achieved 100% random testing for 1990
 - Strong Medical Review Officer program

SECURITY

AREAS FOR IMPROVEMENT

- o Elimination of CCTV interruptions due to environmental conditions
- o Vital area door control

SECURITY

CHALLENGES/INITIATIVES

- o Reduction in the number of loggable events**
- o Completion of the south perimeter upgrade**
- o ALARA support through plan revisions or other means to reduce exposure**
- o Vital area analysis to fully develop and document the engineering basis for vital areas/equipment**

**EMERGENCY
PREPAREDNESS**

EMERGENCY PREPAREDNESS STRENGTHS/ACHIEVEMENTS

- o Accountability Drill during 1990 exercise**
 - Accounted for 635 people in 30 minutes
- o 1990 exercise scenario utilized substantially different initiating events than used in recent drills**
- o INPO Casualty Control Drill**
 - Three significant strengths (one, a Good Practice)
 - Three minor weaknesses
 - Scenario developed in-house

EMERGENCY PREPAREDNESS

STRENGTHS/ACHIEVEMENTS

- o Conducted EP Effectiveness Review in December, 1990**
 - Critique conducted to move well above and beyond "compliance"
 - Included four plants, INPO and GGNS
 - Action plans under development; key areas implemented
- o Effective handling of Port Gibson resolution to withdraw EP support**
- o Reestablished Region II EP meetings**

EMERGENCY PREPAREDNESS

STRENGTHS/ACHIEVEMENTS

- o Strong offsite agency working relationships
- o Local community relationship enhancements
- o Organizational/Personnel enhancements
 - Added SRO
 - New position to liaise with offsite agencies

EMERGENCY PREPAREDNESS

AREAS FOR IMPROVEMENT

- o **Exercise Scenario Development**
 - Future scenarios to be developed in-house
 - Increased management involvement in development
 - Initiate earlier coordination with Region II

EMERGENCY PREPAREDNESS

CHALLENGES/INITIATIVES

- o Emergency Preparedness Training upgrade**
- o Emergency Plan Procedure Upgrade**
- o Formalize standards of performance for the Emergency Response Organization**
- o Closer integration of EP activities with all GGNS departments**

Few emergency preparedness programs holding an NRC SALP rating of 1 would be considered candidates for assessment, but sometimes, even with a product that's good, "If you don't take a big step forward, you risk slipping back in the wrong direction."

Flo Mangan, director, plant projects & support at Grand Gulf, explained that in talking with managers throughout the plant about the effectiveness of the site's EP program, she and EP Manager Clem Morgan kept hearing key themes.

"Many saw EP as a necessary evil, something we do once or twice a year rather than something that is a part of our daily jobs. They felt that EP procedures could be easier to use, training could be more streamlined, and communications within and between organizations could be improved."

After wrestling with various ideas for assessing the program and bouncing their ideas off INPO senior evaluator Donna Miller, EP management arrived at a unique plan: assemble a diverse group of evaluators from the site, from ANO and Waterford 3, and from other U.S. nuclear plants outside the System. For one week this team, with more than 50 years combined EP experience but also representing backgrounds in plant operations, chemistry, HP, and other areas, would more precisely define problems then generate creative solutions for correcting them.

"This was much more difficult than it sounds, because the goal of the team is much more elusive than typical NRC or INPO evaluations," said Man-



A team of nuclear specialists from across the System and across the country spent the first week in December analyzing and improving the Grand Gulf EP plan.

Is our emergency plan effective?

Grand Gulf invites industry peers to engineer innovative suggestions for improving its emergency preparedness program.

gan. "The question here was not 'Do we comply with regulations or with procedures?' but 'How effective can our emergency preparedness be every day?'"

Pre-planning pays off

With the help of Miller at INPO, a team was put together that included Robert Drew, senior nuclear technical instructor at Beaver Valley Power Station; Craig Bamert, nuclear onsite EP administrator at Salem/Elope Creek Nuclear Generating Station; Stacy Bouchell, emergency planning coordinator at ANO; and Jack Lewis, onsite EP supervisor at Waterford 3. From Grand Gulf were Larry Temple, technical assistant to the general manager; Wayne Russell, operations assistant; and Greg Smith, chemistry superintendent and team leader for the review.

"In typical evaluations, the team searches out problem areas. In this case, we knew the issues; we wanted solid solutions. Also, we knew that in a one week visit, if they started with a blank page it could be overwhelming."

For each of the five broad categories identified for a more effective EP program, team members were paired by backgrounds and expertise and scheduled for interviews with various plant employees who could shed light on those areas of EP.

"These were frank discussions about strategic elements of EP. The team members emphasized honesty and confidentiality," Mangan said. After the first day and a half, the team was left to build its own interview schedule based on the opinions they were hearing up to that point.

"We also developed our own form

Mangan said they chose someone to lead the effort who was not a part of EP management so the review would be conducted as independently as possible.

Key to getting the assessment moving was a pre-package developed by EP representatives at Grand Gulf. "We wanted to focus the review,"

Mangan ex-

plained. "for data collection and reviewed plan documents to find recurring issues." Miller added. Each day the group generated a summary sheet with the help of Logistics Coordinator Brenda Elam, and they would build on these areas the next day.

"We ended up with so much data we had a hard time dividing it up in a way we could manage it," she said.

Smith agreed. "We began the week with an attitude of, 'The bigger, the better.' By the end of the week we began to realize that the simpler and more efficient the program is, the better off you'll be."

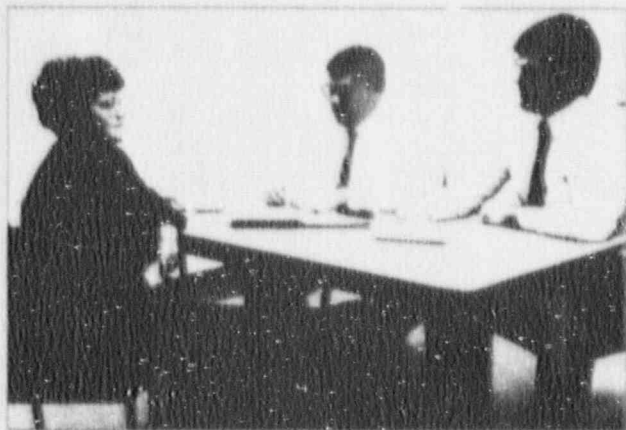
Volkswagen became the team's symbol of success

Reluctantly, the group adopted the Volkswagen as its symbol, a concept suggested by Bill Cottle, vice president, operations at Grand Gulf. Cottle suggested that the EP plan should be a Volkswagen among plans, not a Cadillac—something that would start every time and go from point A to point B without breaking down.

"This was something we struggled with at the beginning of the review, but as we got into it and saw how complicated it could become, we began to appreciate the beauty of simplicity."

Smith added that two factors helped keep the group focused and moving in the right direction. "First, the make-up of the team was great. With expertise that covered seven different areas in addition to EP, these people were not only very knowledgeable in the area we were addressing but also very understanding of the problems people go

(over)



Review team members worked in pairs to interview plant employees on their attitudes regarding the site EP program. Here, Flo Mangan discusses her opinions with Craig Banner of Salem/Hope Creek and Jack Lewis of Waterford 3. Leading the evaluation effort were Greg Smith, Grand Gulf chemistry superintendent, and Donna Miller, INPO senior evaluator in emergency planning.



through in trying to implement emergency preparedness."

In addition, several concepts from the Total Quality process were implemented into their work, which helped convince team members that they were accomplishing their objectives. "Although Total Quality was something that few of us had ever been introduced to, Steve Osborn, senior facilitator from Total Quality, acted as facilitator for our sessions and really kept us on track."

Smith said Osborn would remind the group throughout their meetings to consider the customer. "He would ask the 'What if?' questions and would encourage us to remember what product we as a team were expected to supply.

At the end of the week, that product was delivered in the form of a report to plant management. "Now it's up to them to take our ideas and decide how to use them, but I'm confident we'll see some real differences in the program over the next six months," said Smith.

Mangan added that site implementation teams will be formed to determine how to deal with the issues and suggestions made. "This is another example where the team make-up will have such a vital part in improvement." Mangan said resistance to change could be enormous if all the ideas had simply been the brainchild of the EP staff. "But by having representatives from Operations and other areas of Plant Staff in on the process, they'll become change agents in trying to get the ideas implemented."

The peer members of the team also felt they took a lot of good information away with them to use in their own programs. They pointed out that because the problems identified are seen

throughout the industry, this effort should have many positive spin-offs.

Regardless of the schedule and methods for incorporating the team's suggestions, Mangan said positive results are already being seen at Grand Gulf. "Emergency preparedness will be

"We began the week with an attitude of, 'The bigger, the better.' By the end of the week we began to realize that the simpler and more efficient the program is, the better off you'll be."

improved because people have given their opinions, have become more involved, and hopefully, are feeling ownership in the program, which is key to seeing EP at work every day." □

—Kelle Barfield
Editor

**ENGINEERING/
TECHNICAL SUPPORT**

ENGINEERING/TECHNICAL SUPPORT

STRENGTHS/ACHIEVEMENTS

CORPORATE ENGINEERING:

- o Continued improvement in technical depth and operational sensitivity as indicated by:**
 - 7 completed SRO certification in 1990
 - Electrical SSFI results
 - Self-identified problems

- o Thorough engineering evaluations**
 - Numerous self-identified problems
 - Strong safety evaluations

ENGINEERING/TECHNICAL SUPPORT

STRENGTHS/ACHIEVEMENTS

- o Timeliness of corrective action**
 - Outage support
 - Minor Change Program effective
 - Over 150 modification packages issued
 - Manageable backlog of work requests

- o Configuration Management Initiatives**
 - Strong as-built program
 - Completed instrument safety function review
 - Progress in setpoint calculation upgrades
 - Progress in electrical design calculation upgrades
 - Design calculation indexing upgraded

ENGINEERING/TECHNICAL SUPPORT

AREAS FOR IMPROVMENT

CORPORATE ENGINEERING:

- o Integrated scheduling of design modifications**
 - Continue to work closely with plant staff to improve project scoping, prioritization, approval and resource management
 - Allow more time for plant review/planning prior to outage

ENGINEERING/TECHNICAL SUPPORT

CHALLENGES/INITIATIVES

CORPORATE ENGINEERING:

- o Support major plant projects such as
- o Recirc pump shaft issue
- o Snubber Reduction Program
- o Wide Range Neutron Monitors
- o Security system upgrades
- o ATWS setpoint changes

ENGINEERING/TECHNICAL SUPPORT

CHALLENGES/INITIATIVES

- o Reroute floor drains**
- o SSW thermal performance**
- o Erosion/Corrosion Program**
- o Temp alteration reductions**
- o Continue configuration management enhancements**

ENGINEERING/TECHNICAL SUPPORT

STRENGTHS/ACHIEVEMENTS

PLANT ENGINEERING:

- o Demonstrated prompt prudent approach to corrective action decision-making**
- o Root cause analysis procedure and training implemented**

ENGINEERING/TECHNICAL SUPPORT

STRENGTHS/ACHIEVEMENTS

- o Significant organizational/programmatic enhancements**
 - Engineering Review Group fully staffed to provide control over multiple programs (e.g., RT, CDB, DCP/MCP)
 - Consolidation of major programs under a single supervisor (e.g., TCN, NCR)
 - Predictive maintenance program developed and proceduralized; trending procedure also implemented
 - Computer surveillance program enhanced engineer review timeliness
 - Implementation of a check valve maintenance program
 - Administration of the scram frequency reduction program
 - Vibration monitoring program improvements
 - Enhancements to the Instrument Air System programs and hardware

ENGINEERING/TECHNICAL SUPPORT

AREAS FOR IMPROVEMENT

PLANT ENGINEERING:

- o **Predictive and Preventive Maintenance Programs**
 - Although programs are good, improvements are needed in Thermography and Trending Programs
 - Continued efforts to establish a reliability centered approach to maintenance

ENGINEERING/TECHNICAL SUPPORT

CHALLENGES/INITIATIVES

PLANT ENGINEERING:

- o Enhancements to
 - Annunciators
 - Relief Valve Testing Program
 - MOV Testing
 - Backlog reduction of EER/DCP/CCRs
- o Snubber reduction
- o RF05 planning

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

OUTAGES:

- o Strong senior management oversight**
 - Managers of Maintenance and Operations provided continuous coverage as Outage Directors
 - Director NPE, Manager of Operational Analysis, Manager Projects and Manager of Training coordinated recovery on refueling floor
 - Senior Corporate Management provided necessary support to ensure upgraded facilities were available

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

- o Detailed outage preparation and scheduling, and site-wide involvement**
- o Conservative approach to safety system availability and decision-making**
- o Team Work**
 - Outage support provided by all departments
 - Can Do attitude contributed to quick recovery from refueling floor issues

ENGINEERING/TECHNICAL SUPPORT AREAS FOR IMPROVEMENT

OUTAGE:

- o Reduce the potential for personnel errors such as led to a loss of shutdown cooling
- o Lessons learned from RF03 were not completely factored into RF04
- o Contingency planning should be improved to better handle major issues such as refuel floor problems

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

TRAINING:

- o **Training Section Organization**
 - Previous SRO License in Training Manager position
 - Training Manager reports directly to site VP
 - Licensed SRO in new Technical Training Superintendent position
 - Consolidated Maintenance, HP/Chem, and Instructor Training programs under one position
 - Established accreditation coordinator position to ensure accreditation standards are maintained
 - RO Licensed supervisor over HP and Chemistry training

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

- o **Improved Training/Plant Interface**
 - Training Review Group participation
 - Post training feedback and annual supervisor survey
 - Training support of RF04 - 16,000 manhours
 - Plant personnel utilized as guest lecturers

- o **Simulator enhancements**
 - Simulator modeling upgrade
 - Human factors upgrade to match control room

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

- o Improved access to SRO training for non-operations personnel
 - 1990 SRO certification:
 - o 8 corporate engineering personnel
 - o Assistant Maintenance Manager
 - o Simulator Upgrade Project Engineer
 - o Supervisor Plant Licensing

ENGINEERING/TECHNICAL SUPPORT STRENGTHS/ACHIEVEMENTS

- 1991 Initial License Class and SRO Upgrade Class in progress:
 - o 5 corporate engineering personnel
 - o 2 plant engineering personnel
 - o 1 student from the Outage Group
 - o 1 student is the SMEPA Representative
 - o Plant Licensing Superintendent

- o **Maintaining INPO Accreditation**
 - Six programs achieved Second Round Accreditation on April 25, 1990

 - Six programs evaluated during Accreditation Team visit in September, 1990. National Nuclear Accrediting Board review scheduled in spring of 1991.

ENGINEERING/TECHNICAL SUPPORT AREAS FOR IMPROVEMENT

TRAINING:

- o **Simulator performance**
 - Complete Advanced Simulator Instructor Training
 - Continued emphasis in the areas of simulator performance critique
- o **Instructor training**
- o **Emergency Procedure training**

**SAFETY ASSESSMENT/
QUALITY VERIFICATION**

SAFETY ASSESSMENT/QUALITY VERIFICATION

STRENGTHS/ACHIEVEMENTS

MANAGEMENT/SAFETY CULTURE:

- o Addressed in overview

SAFETY ASSESSMENT/QUALITY VERIFICATION

STRENGTHS/ACHIEVEMENTS

QUALITY PROGRAMS:

o Strong Audit/Inspection Program

- Routine senior management involvement
- Performance based audits in addition to compliance feedback
- Activity Monitoring Program in addition to witness/hold points
- Conducts backshift monitoring
- "Real Time" trending program

SAFETY ASSESSMENT/QUALITY VERIFICATION

STRENGTHS/ACHIEVEMENTS

- o Conducts numerous requested assessments**
 - Chemistry
 - Corporate engineering
 - Licensing - 50.59 program
 - Fitness for Duty implementation
 - Operations - Control Room Design Review/Fire Doors
 - Training
 - Plant engineering

SAFETY ASSESSMENT/QUALITY VERIFICATION STRENGTHS/ACHIEVEMENTS

- o Strong Audit/Inspection Personnel**
 - 10 ASQC certified quality engineers; 7 ASQC certified quality auditors
 - Extensive experience in most areas of nuclear operations
 - Continual striving to upgrade technical methods

- o Continued commitment to safety system functional assessments**
 - High Pressure Core Spray scheduled for 1991
 - Standby Liquid Control (1988), Fuel Pool Cooling and Cleanup (1990)

- o Continued emphasis on resolving deficiencies**
 - MNCR procedure has been refined
 - MNCR backlog significantly reduced

SAFETY ASSESSMENT/QUALITY VERIFICATION

CHALLENGES/INITIATIVES

QUALITY PROGRAMS:

- o Development of in-house radiographic capabilities
- o Improved audit technique for Tech Spec audits

SAFETY ASSESSMENT/QUALITY VERIFICATION

STRENGTHS/ACHIEVEMENTS

NUCLEAR LICENSING:

- o 10CFR50.59 Program enhancements**
 - Addition of second qualified reviewer for screenings
 - Periodic assessment of screening effectiveness
 - 50.59 procedure changes require PSRC/SRC review

- o Emphasis on early proactive participation in resolving generic safety issues such as**
 - Shutdown risk
 - Tech Spec Improvement Program
 - Hydrogen control
 - Core stability
 - MOV testing
 - IPE and severe accidents

SAFETY ASSESSMENT/QUALITY VERIFICATION

STRENGTHS/ACHIEVEMENTS

- o Emphasis on high quality submittals**
 - strong technical background of licensing staff
 - close cooperation with appropriate departments
 - good root cause analysis and corrective actions

- o Management emphasis on open communications with the NRC**

SAFETY ASSESSMENT/QUALITY VERIFICATION

CHALLENGES/INITIATIVES

NUCLEAR LICENSING:

- o Clarification of "operational flexibility vs. safety" impression
- o Continuous improvement in 50.59 program