

Review

A bimonthly publication of the Institute of Nuclear Power Operations

SEPTEMBER/OCTOBER 1996

IN THIS ISSUE

National Academy course
10-year anniversary

Outage review visits

INPO organizational
changes

Duane Arnold Energy Center

Proactive approach results in training improvements

"I certainly wouldn't want to go on probation again. But, in my opinion, our training programs have improved immensely as a result."

— Ron Minear

A few minutes before one o'clock on a Tuesday afternoon, the line and training managers and supervisors at the Duane Arnold Energy Center begin to gather in a conference room in the plant's training center. As they enter, John Franz, vice president, Nuclear, makes his way around the room, greeting each person with a hearty hello or a friendly slap on the back.

When everyone is seated, Franz opens his notebook, glances down at the afternoon's agenda and brings the meeting of the DAEC Training Council to order. Along with discussions on performance indicators and on-the-job training, today's meeting will highlight recent trips to Perry Nuclear Power Plant and Byron Station. The trip summaries are part of DAEC's steadfast commitment to continuously learn from other plants and to share this knowledge with others at the site.

But such learning from the industry, along with the presence of the line organization at the training center, wasn't always the rule of thumb at the single-unit 565-megawatt boiling water reactor located near Cedar Rapids, Iowa.

"Prior to the operations training programs going on probation, the involvement of line managers was minimal compared to their extensive involvement today," says Ron Minear, lead maintenance instructor.

The time Minear refers to predates August 25, 1994, the day the National Nuclear Accrediting Board placed the plant's operations training programs on probation. "I certainly wouldn't want to go on probation again," Minear says. "But, in my opinion, our training programs have improved immensely as a result."

While DAEC's management saw to it that accreditation of its operations training programs was renewed in February 1995, the plant didn't stop there. Armed with a proactive outlook, some valuable assistance from other nuclear plants and a tenacious determination to never again experience what Training Manager Keith Young calls "the pain of probation," DAEC set out to improve the quality of its technical training programs. The approach paid off. Not only did the plant enhance its technical training programs, it also changed the culture in line management ownership and involvement in training — and in June 1996, the Accrediting Board renewed accreditation for these programs.

Lessons learned

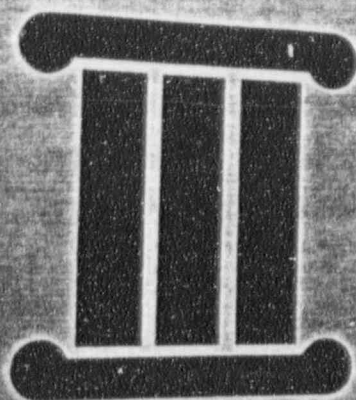
"We took the programmatic lessons learned from probation and applied them to our technical training programs," continues Young. Implementation required dramatic changes in attitude and the way DAEC personnel viewed training.

As part of the process, INPO's Jim Cantrell began a reverse loan assignment to the plant as training manager in October 1994. "What Jim brought to us was more than 10 years of INPO experience in evaluating training programs throughout the industry and serving on plant evaluation teams," says Young, who succeeded Cantrell as training manager in June 1996.

With Cantrell on board, DAEC developed a plan to upgrade its technical training programs. Comprehensive self-evaluations of each technical training program were conducted in early 1995. These evaluations confirmed many of the same weaknesses identified in the operations training programs. Project plans were then developed to enhance each technical training program. Task lists were updated, task analysis data was verified for existing tasks, and new tasks were analyzed. Learning objectives were enhanced based on the analysis results, and training materials — such as lesson plans, on-the-job training guides and examination questions — were improved.

continued on page 3

9611030114 961031
PDR ORG EPSINPO
PDR



NATIONAL
ACADEMY
FOR NUCLEAR
TRAINING

DUANE ARNOLD BRANCH



John Franz, vice president, Nuclear, at Duane Arnold Energy Center, believes training is the key to continued success.

Senior Nuclear Plant Management Course

Unique forum celebrates decade of success

They come from across the country and around the world. Four times a year, a handful of the nuclear industry's best meet at INPO headquarters in Atlanta to attend the National Academy for Nuclear Training's Senior Nuclear Plant Management Course.

Some 380 people have attended since the course began in October 1986. Nearly 80 percent of today's U.S. nuclear plant managers are course graduates.

"The key theme that runs through each and every course is the interaction between participants," says Ed Radkowski, senior evaluator at INPO and course coordinator. "People come to the course as strangers and walk away as friends. They develop lasting relationships that benefit them throughout their careers."

An "immersion experience"

The Senior Nuclear Plant Management Course is an intensive five-week professional development program built upon management, leadership and operational principles that stress safe and reliable plant operation. The course, which includes two weeks of classroom sessions at INPO, followed by two weeks of field activities and a final week at INPO, helps prepare people to perform effectively as plant managers. Industry mentors who are senior plant or higher-level management serve as advisors to the group. A different mentor attends each week; students are in the classroom to support

"It's an immersion experience," says George Houston, president and chief executive officer, Southern Nuclear Operating Company.

Houston has presented a session on management involvement in each of the 39 courses over the past 10 years.

"If you go to a one-week program, you never divorce yourself enough from your day-to-day routine for the program to really have a life-changing effect," Houston says. "By committing five weeks, you can concentrate and gain more than just an intellectual change—you can change your heart and soul."

The course's first two weeks include major case studies, a management perspective on nuclear industry problems and issues, and discussions about leadership principles and challenges. Participants visit the Nuclear Regulatory Commission to meet with commissioners and senior staff, and the Nuclear Energy Institute to discuss current industry issues.

Weeks three and four include visits to nuclear stations to observe station activities and simulator training. The visits include discussions with plant management and staff.

During the course's fifth week, participants review and discuss field activities, engage in additional case studies and meet with INPO senior management to discuss leadership and management issues. Participants also develop a "top 10" list of improvement ideas for their stations.

In addition to scheduled activities, participants gain much from informal



Graduates of the 39th Senior Nuclear Plant Management Course are, from left (standing): Henry H. Butterworth, plant operations manager, South Texas Project Electric Generating Station Unit 2; Robert G. Heisterman, maintenance manager, Turkey Point Nuclear Power Plant; Angus V. Farrell, generating units manager, Pickering B (Canada); William G. Golemond, shift operations manager, Comanche Peak Steam Electric Station; Richard T. Purcell, plant manager, Watts Bar Nuclear Plant; Chung, Wong Yong, deputy plant manager, Kori 1 and 2 (Korea); Jerry W. Campbell, assistant plant director, maintenance and radiation protection, Crystal River Unit 3; William W. Foster, manager, safety assurance, Oconee Nuclear Station; Michael A. Balduzzi, operations manager, Nine Mile Point Nuclear Station Unit 1; (seated) Steven K. Brinkman, manager, work planning and outage management, Millstone Nuclear Power Station Unit 2; and Leslie M. Hill, executive assistant to chief nuclear officer, New York Power Authority.

Industry mentors for the course were Joseph W. Donohue, director of site operations, Shearon Harris Nuclear Power Plant; David N. Morey III, vice president, Fortley project, Fortley Nuclear Plant; and J.V. Parrish, chief executive officer, Washington Public Power Supply System.

Beaver Valley Power Station. The plant had a reactor coolant pump motor tube oil water cooler leak similar to one we had dealt with about a year and a half ago. We sent them a copy of our root-cause analysis and offered any help they might need. I was willing to send my system engineer there to help if that's what they needed."

Course graduates also say the relationships they develop provide a group

Benefits stand test of time

The Senior Nuclear Plant Management Course is designed to help equip qualified individuals to perform successfully as plant managers. Al Blind, site vice president, Donald C. Cook Nuclear Plant, and a graduate of the third course in September 1987, says the course has done that and more.

"When I took the course, I was assistant plant manager," Blind says.

students are in the classroom to support discussions and lead evening study sessions and group interaction.

Sharing Training Experience Internationally

It's a classic example of an international exchange of industry experience. INPO and the National Academy for Nuclear Training have worked with Ontario Hydro to establish a course similar to the Senior Nuclear Plant Management Course, but coordinated by Ontario Hydro. Piloted in June 1996, Ontario Hydro's Senior Nuclear Plant Management Program uses the same intensive five-week format as the National Academy's course. Like its U.S. counterpart, the Canadian course emphasizes participant interaction.

To promote broad-based international experience, the course draws about half its participants from the United States and other international utilities, with the remaining course members coming from Ontario Hydro. Course facilitators and mentors are a mix of Canadian, U.S. and international representatives.

Ontario Hydro's course also shows its international flavor during the two weeks of plant visits. In addition to visiting plants in Canada, the June pilot group visited two plants in the United Kingdom and two in the United States. Plans for future courses include visits to nuclear units in France.

For more information, contact Pierre Tremblay, manager, Leadership and Management Training, Ontario Hydro, (905) 428-4033.

participants gain much from informal discussions about shared experiences.

"In the day-to-day operations of the plant, we're faced with some of the same problems," says Ted Sullivan, plant manager, Pilgrim Nuclear Power Station, and a March 1995 course graduate. "Getting together with peers and talking about these problems often helps us solve them."

Those relationships can continue to pay off long after the course is over. Some class members arrange periodic "class reunions" that meet on a regular basis. Many others continue to share information and experiences via phone or e-mail.

Sullivan says a contact he made at the course led to subsequent outage improvements at Pilgrim. "Dave Helwig, a vice president at PECO Energy Company, made a presentation in our course about outage successes at Linnetick. When I got back to Pilgrim, we put together a small team to work on one of the Linnetick outages for about five weeks. They brought back some great ideas that we incorporated at Pilgrim to help us in our outages. If I hadn't heard Dave's presentation, we probably wouldn't have done that."

Sudesh Ganbhir, engineering manager, Fort Calhoun Station, and a May 1996 graduate of the course, also recalls an example of how relationships established during the course continue to pay off. "Bob Bement of Arkansas Nuclear One was one of my classmates. He helped us in getting a replacement anti-rotation device for our reactor coolant pump during our forced outage this past summer."

"Also, I recently received a call from another classmate, Brian Tuitt at

tionships they develop provide a group of individuals with similar backgrounds and experiences a sounding board for discussion of tough plant issues.

"Sometimes things at a plant can get pretty intense, and you begin to lose your big picture perspective," says John McDonald, manager of system engineering, WNP-2, and a November 1995 course graduate. "I've found I can call one of the people in my class and get their opinions, and that's a stabilizing influence."

assistant plant manager," Blind says. "I later served as plant manager and was then promoted to vice president, so I've sort of passed through the roles. Now that I look back, I can understand how important the principles I learned in the course have been in my career. The things I learned in the course have served me well over time." ■

For more information, call Ed Rachorski, INPO, (770) 644-8788, rachorski@inpo.org.

Upcoming working meetings

Working meetings focus on specific operational issues and are small-group forums for sharing information among nuclear personnel with similar concerns. These meetings are held at INPO headquarters.

Engineering managers working meetings

November 14-15 System engineering/technical support
December 5-6 Design engineering

Engineering support working meeting

December 12-13 Auxiliary feedwater

Equipment performance working meeting

November 7-8 Electrical components

Maintenance managers working meeting

December 10-11 Maintenance issues

Outage managers working meetings

November 12-13 Outage management (BWR)
November 14-15 Outage management (PWR)

Upcoming workshops

The Operations Managers Workshop will be held November 13-14 at INPO headquarters. The theme is "High Performance Operations: The Core Business." INPO's annual CEO Conference will be held November 7-8 at the Renaissance Waverly Hotel.

Unique forum celebrates decade of success

They come from across the country and around the world. Four times a year, a handful of the nuclear industry's best meet at INPO headquarters in Atlanta to attend the National Academy for Nuclear Training's Senior Nuclear Plant Management Course.

Some 380 people have attended since the course began in October 1986. Nearly 80 percent of today's U.S. nuclear plant managers are course graduates.

"The key theme that runs through each and every course is the interaction between participants," says Ed Ruchowski, senior evaluator at INPO and course coordinator. "People come to the course as strangers and walk away as friends. They develop lasting relationships that benefit them throughout their careers."

An "immersion experience"

The Senior Nuclear Plant Management Course is an intensive five-week professional development program built upon management, leadership and operational principles that stress safe and reliable plant operation. The course, which includes two weeks of classroom sessions at INPO, followed by two weeks of field activities and a final week at INPO, helps prepare people to perform effectively as plant managers. Industry mentors who are senior plant or higher-level management serve as advisors to the group.

A different mentor attends each week. Students are in the classroom to support

"It's an immersion experience," says George Hairston, president and chief executive officer, Southern Nuclear Operating Company.

Hairston has presented a session on management involvement in each of the 39 courses over the past 10 years.

"If you go to a one-week program, you never divorce yourself enough from your day-to-day routine for the program to really have a life-changing effect," Hairston says. "By committing five weeks, you can concentrate and gain more than just an intellectual change—you can change your heart and soul."

The course's first two weeks include major case studies, a management perspective on nuclear industry problems and issues, and discussions about leadership principles and challenges. Participants visit the Nuclear Regulatory Commission to meet with commissioners and senior staff, and the Nuclear Energy Institute to discuss current industry issues.

Weeks three and four include visits to nuclear stations to observe station activities and simulator training. The visits include discussions with plant management and staff.

During the course's fifth week, participants review and discuss field activities, engage in additional case studies and meet with INPO senior management to discuss leadership and management issues. Participants also develop a "top 10" list of improvement ideas for their stations.

In addition to scheduled activities, participants gain much from informal



Graduates of the 35th Senior Nuclear Plant Management Course are, from left (standing): Henry H. Butterworth, plant operations manager, South Texas Project Electric Generating Station Unit 2; Robert G. Heisterman, nonreactor manager, Turkey Point Nuclear Power Plant; Angus V. Farrell, generating units manager, Pickering B (Canada); William G. Goldiamond, shift operations manager, Comanche Peak Steam Electric Station; Richard T. Purcell, plant manager, Watts Bar Nuclear Plant; Chung, Wong Yong, deputy plant manager, Kori 1 and 2 (Korea); Jerry W. Campbell, assistant plant director, maintenance and radiation protection, Crystal River Unit 3; William W. Foster, manager, safety assurance, Oconee Nuclear Station; Michael A. Balduzzi, operations manager, Nine Mile Point Nuclear Station Unit 1; (seated) Steven K. Brinkman, manager, work planning and outage management, Millstone Nuclear Power Station Unit 2; and Leslie M. Hill, executive assistant to chief nuclear officer, New York Power Authority.

Industry mentors for the course were Joseph W. Donohue, director of site operations, Shearon Harris Nuclear Power Plant; David M. Morey III, vice president, Fortley Nuclear Plant; and J. V. Parrish, chief executive officer, Washington Public Power Supply System.

Beaver Valley Power Station. The plant had a reactor coolant pump motor tube oil water cooler leak similar to one we had dealt with about a year and a half ago. We sent them a copy of our root-cause analysis and offered any help they might need. I was willing to send my system engineer there to help if that's what they needed."

Course graduates also say the relationships they develop provide a group

Benefits stand test of time

The Senior Nuclear Plant Management Course is designed to help equip qualified individuals to perform successfully as plant managers. Al Blinn, site vice president, Donald C. Cook Nuclear Plant, and a graduate of the third course in September 1987, says the course has done that and more.

"When I took the course, I was assistant plant manager," Blinn says.

A different mentor attends each week students are in the classroom to support discussions and lead evening study sessions and group interaction.

Sharing Training Experience Internationally

It's a classic example of an international exchange of industry experience. INPO and the National Academy for Nuclear Training have worked with Ontario Hydro to establish a course similar to the Senior Nuclear Plant Management Course, but coordinated by Ontario Hydro. Plotted in June 1996, Ontario Hydro's Senior Nuclear Plant Management Program uses the same intensive, five-week format as the National Academy's course. Like its U.S. counterpart, the Canadian course emphasizes participant interaction.

To promote broad-based international experience, the course draws about half its participants from the United States and other international utilities, with the remaining course members coming from Ontario Hydro. Course facilitators and mentors are a mix of Canadian, U.S. and international representatives. Ontario Hydro's course also shows its international flavor during the two weeks of plant visits. In addition to visiting plants in Canada, the June pilot group visited two plants in the United Kingdom and two in the United States. Plans for future courses include visits to nuclear units in France.

For more information, contact Pierre Tremblay, manager, leadership and Management Training, Ontario Hydro, (905) 428-4033.

In addition to scheduled activities, participants gain much from informal discussions about shared experiences. "In the day-to-day operations of the plant, we're faced with some of the same problems," says Ted Sullivan, plant manager, Pilgrim Nuclear Power Station, and a March 1995 course graduate. "Getting together with peers and talking about these problems often helps us solve them."

Those relationships can continue to pay off long after the course is over. Some class members arrange periodic "class reunions" that meet on a regular basis. Many others continue to share information and experiences via phone or e-mail.

Sullivan says a contact he made at the course led to subsequent outage improvements at Pilgrim. "Dave Helwig, a vice president at PECCO Energy Company, made a presentation in our course about outage successes at Limerick. When I got back to Pilgrim, we put together a small team to work on one of the Limerick outages for about five weeks. They brought back some great ideas that we incorporated at Pilgrim to help us in our outages. If I hadn't heard Dave's presentation, we probably wouldn't have done that."

Sudesh Gambhir, engineering manager, Fort Calhoun Station, and a May 1996 graduate of the course, also recalls an example of how relationships established during the course continue to pay off. "Bob Benient of Arkansas Nuclear One was one of my classmates. He helped us in getting a replacement anti-rotation device for our reactor coolant pump during our forced outage this past summer."

"Also, I recently received a call from another classmate, Brian Tuttle at

Course graduates also say the relationships they develop provide a group of industry pros with similar backgrounds and experiences a sounding board for discussing tough plant issues.

"Sometimes things at a plant can get pretty intense, and you begin to lose your big picture perspective," says John McDonald, manager of system engineering, WNP-2, and a November 1995 course graduate. "I've found I can call one of the people in my class and get their opinions, and that's a stabilizing influence."

When Ed Rader was INPO's first assistant plant manager, Rader says, "I later served as plant manager and was then promoted to vice president, so I've sort of passed through the roles. Now that I look back, I can understand how important the principles I learned in the course have been in my career. The things I learned in the course have served me well over time." ■

For more information, call Ed Rader, INPO, (770) 644-8788, radered@inpo.org.

Upcoming working meetings

Working meetings focus on specific operational issues and are small-group forums for sharing information among nuclear personnel with similar concerns. These meetings are held at INPO headquarters.

Engineering managers working meetings

November 14-15 System engineering/technical support
December 5-6 Design engineering

Engineering support working meeting

December 12-13 Auxiliary feedwater

Equipment performance working meeting

November 7-8 Electrical components

Maintenance managers working meeting

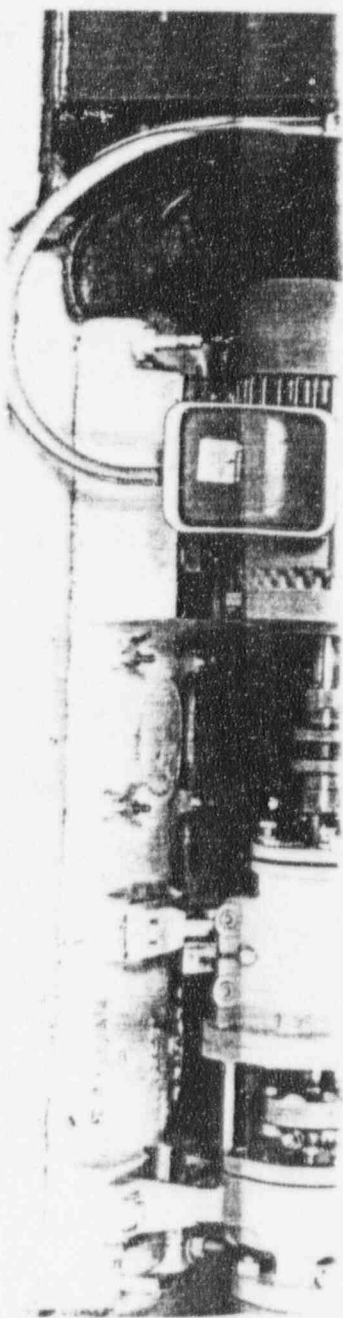
December 10-11 Maintenance issues

Outage managers working meetings

November 12-13 Outage management (BWR)
November 14-15 Outage management (PWR)

Upcoming workshops

The Operations Managers Workshop will be held November 13-14 at INPO headquarters. The theme is "High Performance Operations: The Core Business." INPO's annual CEO Conference will be held November 7-8 at the Renaissance Waverly Hotel.



Left: Francis Bogby, maintenance instructor, (standing) observes Dale Jensen, journeyman mechanic (left) and Patsy Kress, apprentice mechanic, repair a centrifugal pump in the DAEC training center. **Top:** Ron Minear, lead maintenance instructor (left) and Kurt Kress, technical training supervisor. **Middle:** Jim Cantrell, INPO reverse loan employee to DAEC. **Bottom:** Keith Young, training manager.

Duane Arnold Energy Center

continued from page 1

Coming together

Educating line managers and supervisors about a systematic approach to training was another important step the plant took. "We did a lot of one-on-one and small group discussions with the line managers," says Curt Kress, technical training supervisor. "We helped line managers understand the value of their ongoing involvement in training to enhance performance and avoid plant and personnel performance problems further down the road."

This involvement of line personnel fostered a new sense of ownership for training. "Managers and supervisors feel training belongs to them," says Bill Simmons, supervisor, instrument and control. "The mindset nowadays is 'I've given something of myself to training so I want to make sure training is effective.'"

IS&C technician Ron Jarrett adds, "There's no comparison between the way it is now and the way it was just a few years ago. Before, the plant went about its business and the training organization went about its business. There's been a dramatic improvement in communication between the two. Training and the plant aren't separate anymore. Now it's like a marriage."

Kress believes this marriage is a

successful union because the training organization has, in turn, developed a greater awareness of its role in the plant. "We in training did some soul-searching to change the way we thought of ourselves. We had to become more responsive to plant needs and become an avenue by which DAEC could run more safely, reliably and cost-effectively."

Changing attitudes

Plant personnel helped nurture this change in attitude by establishing numerous Plant Training Committees and the plantwide Training Council.

Established after operations training programs were placed on probation, Plant Training Committees are chaired by the line supervisor responsible for a particular training program. At committee meetings, a line supervisor, training instructor and program participants discuss recent activities in the plant and how training can improve the performance of these activities. The meetings also serve as a forum to evaluate how program participants apply to their jobs what they learned in training.

The Training Council, established in September 1994, reviews training activities for all training programs and reinforces management expectations. "The council has played a key role in opening the lines of communication

between the plant and training," says Franz, council chairman. Council members include the plant manager, training managers and all line managers and supervisors.

"Like others in the industry, DAEC faces the challenge of surviving in a competitive environment," Franz continues. "Training will help us achieve our goal of continuing to be successful in this environment."

The Training Council emphasizes sharing of information not only between DAEC plant and training staffs but also between DAEC and the rest of the industry. Council members who travel to other nuclear sites are expected to report back on any lessons learned.

"Our expectation is to self-evaluate," says Franz. "We continually self-assess after we come back from being on the road to see if there's an opportunity for us to make a change for the better."

Industry interaction

DAEC staff admits that being placed on probation was a wake-up call to get more involved in the industry. "We were isolated," says Young. "We just did our own thing, in a sense. Being on probation taught us that staying isolated is a recipe for trouble."

The plant broke its isolation by visiting other plants, serving as peers on INPO teams and attending industry

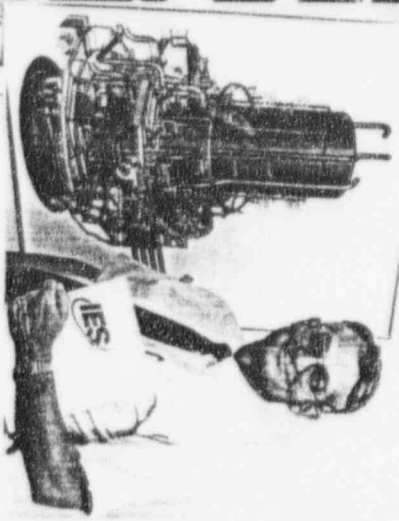
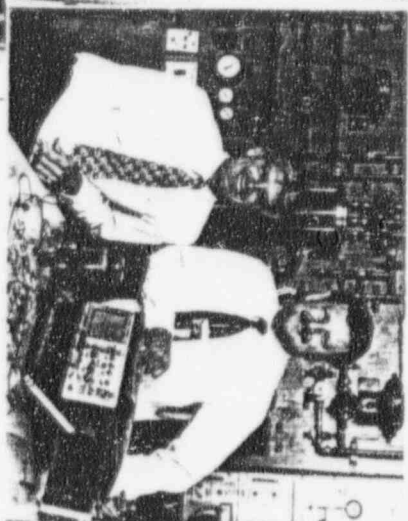
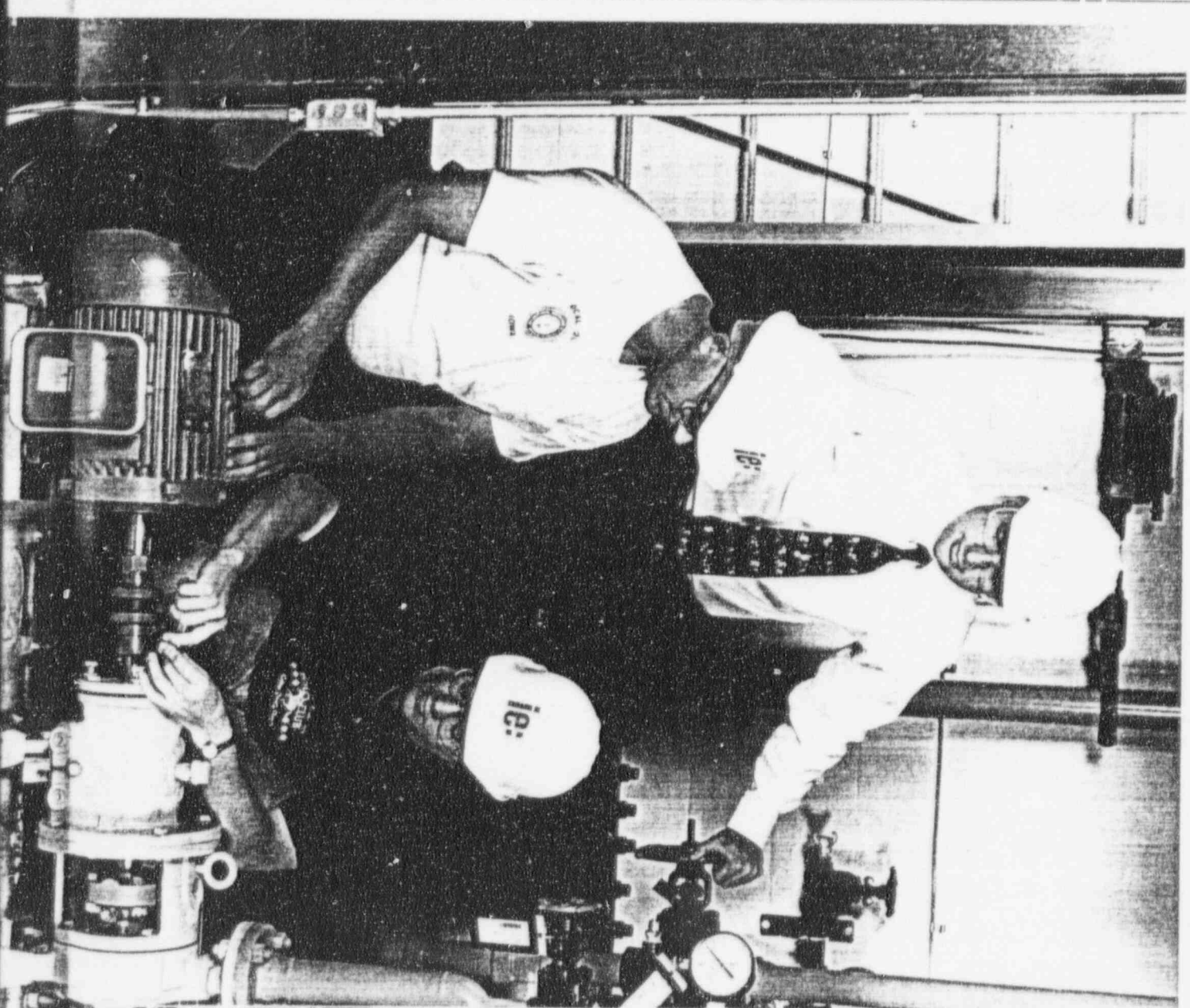
meetings and workshops. "We wanted to find out who is doing the best job in a particular area to benchmark ourselves against them," Minear says. "We found the industry more than willing to share. You just have to ask." DAEC plans to continue visiting other plants to learn and exchange information.

A part of pride at DAEC is that some nuclear plants are now asking Duane Arnold for assistance. Personnel from other plants have visited DAEC to review actions taken related to training improvements. Other plants have implemented DAEC's training procedures and self-evaluation process.

But for all the progress made at the Iowa site, the training and plant staffs aren't relaxing. "We've weathered a rough two years," Kress says. "We achieved our goal of getting our operations training programs off probation and improving our technical training programs at the same time."

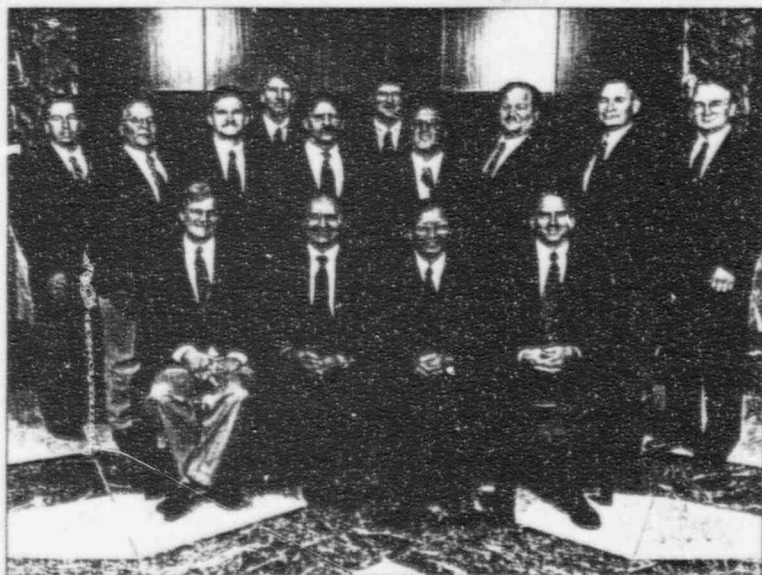
"But we can't sit back because the industry standards keep getting higher. If we stop now, it's only a matter of time before we're back in the same position we were two years ago, and that's not in a game plan." ■

For more information, call Keith Young, training manager, Duane Arnold Energy Center, (319) 851-7229.



Left: Francis Bagby, maintenance instructor, (standing) observes Dale Jensen, journeyman mechanic (left) and Rudy Kress, apprentice mechanic, repair a centrifugal pump in the DAC training center. Top: Ron Mlinear, lead maintenance instructor (left) and Kurt Kress, technical training supervisor. Middle:

Engineering Supervisor Professional Development Seminar graduates



Graduates of the seventh Engineering Supervisors Professional Development Seminar are, from left (standing), Joseph Lafferty, systems engineering manager, Indian Point 3 Nuclear Power Plant; Richard R. Cliché, design engineering supervisor, Seabrook Station; Arthur G. Washburn, supervisor, nuclear plant systems engineering, Crystal River Unit 3; Thomas N. Welch, technical manager, Duke Power Company; Daniel V. Rodice, design engineering supervisor, Braidwood Station; Brian R. Wahlheim, system engineering, safety systems group lead, Quad Cities Station; Thomas Sikavitsas, mechanical/civil engineering supervisor, Big Rock Point Plant; Joseph F. Mead, supervisor, system engineering, River Bend Station; William A. Eaton, seminar mentor, plant manager, Unit 2, Arkansas Nuclear One; Scott S. Freborg, maintenance engineering supervisor, Cooper Nuclear Station; (seated) Randall Schmidt, reactor engineering supervisor, Hope Creek Generating Station; Anil K. Julka, supervisor, electrical/instrument and control, Nine Mile Point Nuclear Station; Chin-shan Lee, division head, nuclear backend management department, Taiwan Power Company (Republic of China); and Robert Duncan, superintendent, mechanical systems, Shearon Harris Nuclear Power Plant.

Liaison engineer

Higinio Garcia Arvizu of Comision Federal de Electricidad in Mexico began his INPO assignment as a liaison engineer in the Operations Department in September. He served as operations manager, Unit 1, Laguna Verde Nuclear Power Plant. ■

Reverse loan assignments

Two INPO employees began reverse loan assignments in September to New York Power Authority's Indian Point 3 Nuclear Power Plant.

Rick Burris, senior evaluator, Maintenance Department, is electrical maintenance supervisor. Ashley Erwin, team manager, Advanced Light Water Reactor Standardization Project, is manager of engineering support. ■

Accreditation renewed

The National Nuclear Accrediting Board renewed the accreditation of 30 training programs at five

On-loan employees

Five industry personnel began on-loan assignments at INPO in August.

Joe Giuffre, on loan from Commonwealth Edison Company, is an evaluator in the Maintenance Department. He served as master mechanic at LaSalle County Station.

Joe Jensen, on loan from Northern States Power, is an evaluator in the Operations Training Department. He served as project manager at Prairie Island Nuclear Generating Plant.

John Linville, on loan from Northeast Utilities, is a senior evaluator in the Chemistry Department. He served as chemistry supervisor at Seabrook Station.

Steve McGarry, on loan from Florida Power & Light Company, is an evaluator in the Technical Training Department. He served as maintenance training specialist at FP&L's corporate office.

Tim Staber, on loan from Illinois Power Company, is an evaluator in the Operations Department. He served as assistant shift supervisor at Clinton Power Station.

Nine industry personnel began on-loan assignments at INPO in September.

David Gauthier, on loan from Wisconsin Public Service Corporation, is an evaluator in the Operations Department. He served as shift supervisor at Kewaunee Nuclear Power Plant.

Ron Grever, on loan from Tennessee Valley Authority, is an evaluator in the Chemistry Department. He served as chemistry manager in the utility's

Reactor Technology Course graduates



Graduates of the 1996 Reactor Technology Course for Utility Executives are, from left (standing), **Ronald Schwarz**, director, human resources, GPU Nuclear, Inc.; **James J. Kelley Jr.**, vice president, nuclear engineering and support, TU Electric; **F. Allen Wiley**, director of hydro operations, Central Maine Power Company; **Quentin Jackson**, president and chief executive officer, Nuclear Electric Insurance Limited; **Gary R. Leidich**, president, power generation group, Centenor Energy Corporation; (seated) **Larry L. Weyers**, president and chief operating officer, Wisconsin Public Service Resources Corporation; **Kenneth G. Lawrence**, senior vice president and chief financial officer, PECO Energy Company; and **Robert J. Deasy**, vice president, appraisal and compliance services, New York Power Authority. **William J. Post**, chief operating officer, Arizona Public Service Company, also attended the course.

The Reactor Technology Course is jointly sponsored by the Massachusetts Institute of Technology and the National Academy for Nuclear Training.

The five-week course is designed for senior utility executives whose responsibilities include or are expected to be closely involved with nuclear electric generation. Designed to teach the fundamentals of nuclear technology, the course focuses on the behavior of the reactor core and on critical safety functions.

The 1997 course is planned for June 16 through July 18.

the accreditation of 30 training programs at five plants during meetings on August 21-22 and September 18-19. ■

August Accreditation Renewals

**Calvert Cliffs Nuclear
Power Plant**
Baltimore Gas and Electric
Company
6 operator training programs

Quad Cities Station
Commonwealth Edison
Company
6 operator training programs

**Hope Creek Generating
Station**
Public Service Electric and
Gas Company
6 technical training programs

September Accreditation Renewals

Fort Calhoun Station
Omaha Public Power District
6 technical training programs

**Wolf Creek
Generating Station**
Wolf Creek Nuclear
Operating Corporation
6 technical training programs

in the Chemistry Department. He served as chemistry manager in the utility's corporate office.

Alvin Hinson, on loan from Duke Power Company, is an evaluator in the Engineering Support Department. He served as engineering supervisor at McGuire Nuclear Station.

Randall Mika, on loan from Commonwealth Edison Company, is a senior project manager for the Advanced Light Water Reactor System Integration Project. He served as manager, technical specification improvement project, at Zion Station.

Russell Peak, also on loan from Commonwealth Edison Company, is an evaluator in the Maintenance Department. He served as work week manager at Dresden Station.

Steve Sampson, on loan from Union Electric Company, is a senior evaluator in the Operations Department. He served as a shift supervisor at Callaway Nuclear Plant.

John Stankiewicz, on loan from PECO Energy Company, is an accreditation team manager-in-training in the Accreditation Evaluation Department. He served as training director at Peach Bottom Atomic Power Station.

Bill Truax, also on loan from PECO Energy Company, is an evaluator in the Outage Department. He served as manager, outage section, at Limerick Generating Station.

Anthony Williams, on loan from Carolina Power & Light Company, is a senior evaluator in the Operations Department. He served as operations manager at Shearon Harris Nuclear Power Plant. ■

Significant event reports issued to industry

Significant Event Evaluation and Information Network documents recently issued include:

Significant Operating Experience Report 96-1: Control Room Supervision, Operational Decision-Making, and Teamwork is an outgrowth of a speech given by INPO President Zack Pate at the 1995 CEO Conference. The SOER includes nine events, eight of which were highlighted in the speech. The speech and the SOER discuss the common elements and lessons of these events from the nuclear industry, 37 airline accidents that were studied by the National Transportation Safety Board and those published in the 1991 INPO study *In-reactor Fuel-damaging Events: A Chronology 1945-1990* (INPO 91-008).

Generic training materials include a copy of the speech and example lesson plans designed to introduce trainees to the lessons learned from the airline accidents and the events in the SOER.

Significant Event Notification 137: Reacting Events, April-June 1996 describes 11 events in which the lessons learned have been described previously. This list is published to help maintain awareness that similar events continue to occur and to discuss reasons the events recur.

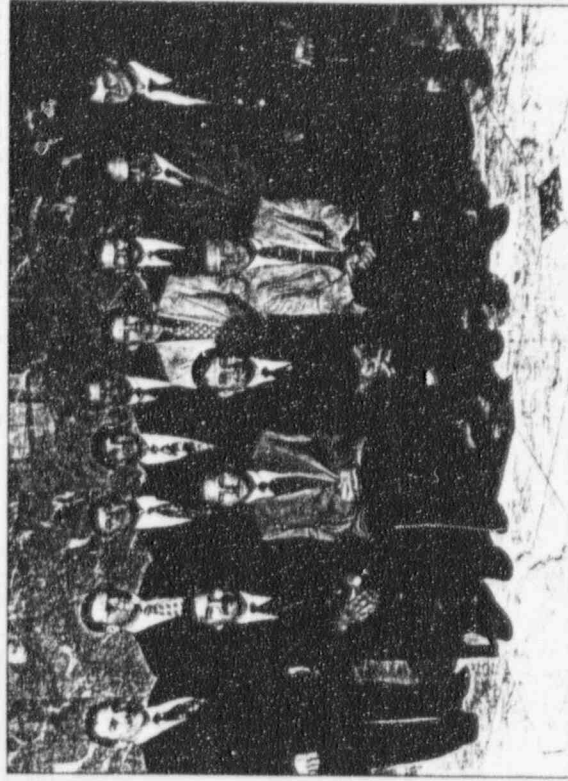
The seven U.S. events are: inadvertent disabling of a safety system automatic function; system design and procedural errors result in inadvertent boron dilution following loss of 120-VAC instrument circuit; significant plant transient that included a reactor scram, loss of off-site power, and partial loss of on-site power during emergency power system testing; operating limit exceeded while maintaining the unit at hot standby with a dry steam generator; ice formation in deep draft pump columns results in potential common-mode failure; inoperable safety relief valves; and insufficient coordination of activities results in an interruption of forced circulation for decay heat removal.

The four international events are: personnel overexposure and contamination of the reactor hall floor caused by a failed fuel assembly; reactor coolant system pump shaft failure caused by foreign material left in the steam generator cold leg; bypassing of safety system during plant transient; and insufficient control of temporary pipe plug results in leakage of primary coolant.

Operations and Maintenance Reminder 420: Lifting and Rigging
Failure discusses several industry events involving failures of lifting and rigging devices. Lifting and rigging device failures have resulted in personal injury, major equipment damage and the potential for release of radioactive material to the environment. The O&MR lists weaknesses in rigging and load handling programs that contributed to the events.

O&MR 421: Recurring Problems with Mono-Block Rotor Turbines focuses on several events involving mono-block main turbine rotor problems that have occurred in the past few years. This document is being issued to increase

Shift Supervisor Professional Development Seminar graduates



Graduates of the 4th Shift Supervisor Professional Development Seminar are, from left (standing), John Konovakchick, Salem Generating Station; Robert E. Barron, Millstone Nuclear Power Station 2; Thomas M. Jones, Calvert Cliffs Nuclear Power Plant; Ralph N. Yzzi, Surry Power Station; George H. Christopher, Browns Ferry Nuclear Plant; Douglas E. Cooper, seminar mentor, Braidwood Station; Charles R. Cottos, Comanche Peak Steam Electric Station; Don Rambo, WNP 2; Michael S. Williams, Brunswick Steam Electric Plant; (seated) Francis C. Lukaczky, Nine Mile Point Nuclear Station 1; W.L. Prevatt, Turkey Point Nuclear Power Plant; Kelvin F. Staffen, Koeberg Nuclear Power Station (South Africa); and Mark S. Stradka, Zion Station.

Maintenance Supervisor

O&MR 421: *Recurring Problems with Mono-Block Rotor Turbines* focuses on several events involving mono-block main turbine rotor problems that have occurred in the past few years. This document is being issued to increase awareness of the problems and to highlight corrective actions utility personnel have taken following the mono-block rotor events.

New communication tool

At the end of O&MR 420 and 421 is a page titled *Prevent Events, Learning from Industry Experience*. This page is a communication tool intended for use by appropriate managers, field supervisors and foremen. *Prevent Events* can be used during morning meetings, prejob briefings and work unit meetings to expedite communication on key industry experience to those personnel who operate and maintain plant equipment. Stations are encouraged to use this page as a supplement to the established methods of processing operating experience.

To provide feedback on the usefulness of this page, contact Gary Fader, Events Analysis Department manager, (770) 644-8671 or fadergb@inpo.org.

SEE-IN products are transmitted to each member and participant using NUCLEAR NETWORK®. Check with your SEE-IN or NETWORK coordinator to request these documents. ■

New documents issued

The preliminary *Systematic Training Process Description* (INPO AP-921) describes a systematic approach to training that reflects current industry practices and alternative systematic approaches to training developed by the Department of Energy. This process description reflects the integration of experience gained from operating plants with processes under development for operating future standard plants.

Minor Maintenance Process Description (INPO AP-901) describes a minor maintenance process to assist member utilities in simplifying operations and support functions while maintaining high levels of safe and reliable plant operation. Minor maintenance is part of the work control process, which in turn is one of an integrated set of processes for the operation and support of nuclear plants. The minor

maintenance process encompasses activities that can be performed safely and effectively without the need for detailed work instructions.

A preliminary document was issued in February 1995. The final edition incorporates industry operating experience collected over the past year.

WANO Performance Indicators for the U.S. Nuclear Utility Industry – 1996 Midyear Report (INPO 96-004) provides 1996 World Association of Nuclear Operators performance indicator results for the U.S. nuclear utility industry. The report also includes industry progress toward the 2000 long-term performance indicator goals.

These documents were distributed to each member and participant administrative point of contact.

Please check with your APOC before requesting from the INPO documents coordinator at (770) 644-8513. ■

Maintenance Supervisor Professional Development Seminar graduates



Graduates of the 17th Maintenance Supervisor Professional Development Seminar are, from left (standing), **Jan Vintř**, deputy head of maintenance, Jaderna Elektrarna Dukovany (Czech Republic); **Keith Beveroth**, mechanical maintenance general foreman, Quad Cities Station; **Jung-Sik Park**, Korea Electric Power Corporation (Korea); **William R. Stoffels**, general supervisor, mechanical maintenance, Dresden Station; **John J. Adams**, mechanical maintenance supervisor, Seabrook Station; **Craig A. Hines**, engineering supervisor, instrument and control, Millstone Nuclear Power Station; **Steve M. Franzone**, maintenance supervisor, instrument and control, Turkey Point Nuclear Power Plant; **Robert E. Geiger**, instrument and control maintenance section leader, Palo Verde Nuclear Generating Station; **Elijah J. Campbell**, seminar mentor, maintenance superintendent, Byron Station; **Larry Blakeslee Jr.**, team leader, refueling floor, E.I. Hatch Nuclear Plant; (seated) **Thomas R. Gill**, nuclear section manager, Catawba Nuclear Station; and **Kenneth W. Reece Jr.**, nuclear section manager, McGuire Nuclear Station.

Outage review visits show industry improvement

In September, INPO completed its 74th outage review visit. When these visits began in 1991, the median length of refueling outages in U.S. plants was 74 days. By the end of 1995, that number had fallen by one-third, to 52 days.

INPO Outage Department's Bill Lang, who's been involved with the visits since 1991, says, "We've seen a lot of improvements in the outage area. In addition to plants having shorter outages, they're putting much more emphasis on shutdown safety management. There's more detailed planning up front, and the majority of the plants now meet their outage goals."

Industry participation

A typical outage review team includes INPO evaluators in the areas of outage management, maintenance, operations and engineering support. Contributing to the success of the team is the participation of utility peers. These peers add their perspectives to the review process and share their outage experiences with their counterparts.

"Bringing in the peers from the other plants was the most beneficial aspect of the visit," says Bill Trubilowicz, outage manager at Big Rock Point Plant. The northern Michigan plant hosted an outage review visit in January 1996.

For example, Bruce Altman, planning and scheduling manager at Brunswick Nuclear Plant, served on

the team and offered ideas on scheduling methods and on effective ways to present the schedule to plant staff. He also provided examples of the system narrative Brunswick prepares to show what work is planned.

"As a planning and scheduling manager himself, Bruce also gave me some tips on holding people accountable for meeting milestones," Trubilowicz says. Trubilowicz also uses INPO contacts to get ideas from other plants.

In the future

Trubilowicz says Big Rock Point's outage review visit changed the way the plant is preparing for its 1997 outage. "We're working with new milestones and have added an additional scheduler with computer expertise. I look at where we are now, being driven by our milestones, and we're in 10 times better shape than we were before the last outage."

"The results of the outage review visits show that one of the key success factors in outage performance is early, detailed planning," says INPO Outage Department Manager Joe Solymossy. For many plants, one of the main lessons learned was finding ways to improve scheduling for the next outage.

"Since early preparation is so important, INPO will soon begin offering outage planning review visits to the industry," Solymossy says.

These outage planning review visits,

INPO makes organizational changes

Ken Strahm, executive vice president, and Fred Tollison, senior vice president, recently assumed broader responsibility for the day-to-day operation of INPO. Terry Sullivan, executive vice president and chief operating officer, left the Institute to pursue other interests.

Strahm continues his responsibilities for three of the four INPO cornerstone technical programs: evaluations, events analysis and information exchange, and assistance. His new responsibilities include the Information Systems and Government Relations Divisions.

Tollison was promoted to executive vice president. He is responsible for the fourth INPO cornerstone program, training and accreditation, and serves as the executive director of the National Academy for Nuclear Training. In addition, Tollison is now responsible for the Administrative and Communications Divisions.

Don Gillispie was promoted to senior vice president of the Plant Assistance Division, formerly the Plant Support Division. As senior vice president, Gillispie has responsibility for INPO's assistance cornerstone, which will be given greater attention and focus. Gillispie reports to Strahm.

Strahm and Tollison report directly to INPO President Zack Pate, as does Sig Berg, vice president for the Institute's international programs.

In other changes, the INPO Board of Directors elected George Felgate vice president, Administrative Division, effective November 1. Felgate succeeds C.J. Ver Steeg, who retires October 31. Jeff Wheelock succeeds Felgate as director of personnel. Wheelock had been assistant director of personnel.

The Board also elected David Weeks as treasurer of the Institute, effective November 1. Previously, Weeks served as comptroller. ■

scheduled for about 10 weeks prior to the outage, will look at the effectiveness of the planning process and how well the plant is meeting its pre-outage milestones. Pilot outage planning review visits have been completed at Clinton Power Station, James A. FitzPatrick Nuclear Power Plant and

Zion Station. Six outage planning review visits are planned for 1997. ■

For more information, contact Joe Solymossy, Outage Department manager, (770) 644-8405, solymossyjm@inpo.org.

If this form has been clipped out and you wish to receive
Review, please call (770) 644-8525.

WE WANT YOUR INPUT!

If you're interested in receiving your own copy of *Review*, please complete the information below. **Review is mailed to plant/utility addresses only.** There's no charge for a subscription. (Individual subscriptions mailed domestically only. For international subscription queries, please call your utility administrative point of contact.)

☐ New subscriber

☐ Change of address for current subscriber

KC number from mailing label (if current subscriber):

Name _____

Title _____

Plant _____

Utility _____

Address _____

City _____

State _____ Zip Code _____

Telephone _____

Comments or suggestions for future articles:

Please clip and mail to Database Coordinator, Review, INPO,
700 Galleria Parkway, NW, Atlanta, GA 30339-5957,
or call (770) 644-8525 or fax to (770) 644-8103.

SEPTEMBER/OCTOBER 1996

Vol. 5, No. 5

INPO

*Institute of
Nuclear Power
Operations*

700 Galleria Parkway, NW
Atlanta, Georgia 30339-5957

ADDRESS CORRECTION
REQUESTED

Nonprofit Organization
U.S. Postage paid
Atlanta, GA
Permit No. 2160

Review

Volume 5 Number 5
September/October 1996

Review is published bimonthly by the Institute
of Nuclear Power Operations for its members,
participants and other interested groups.

Christina Breston, Editor
Amie Toole, Art Director

Address correspondence to:
Review Editor
Institute of Nuclear Power Operations
700 Galleria Parkway, NW
Atlanta, Georgia 30339-5957

Telephone (770) 644-8878
Telefax (770) 644-8103
E-mail review@inpo.org

Copyright © 1996 by INPO. Reproduction for use in whole or part without expressed written permission
is prohibited. ISSN 1061-6411





UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 4, 1996

MEMORANDUM FOR: Darlene Huyer
Anstec, Inc.

FROM: Tremaine Donnell, INPO Coordinator
Records and Archives Services Section
Information and Records Management Branch
Office of Information Resources Management

SUBJECT: ESTABLISHMENT OF DATA RECORD FOR INPO
DOCUMENTS

The Records and Archives Services Section has received the attached INPO Document.

Distribution Code: NYL0

Comments: This is a **General Distribution Document**, copyrighted by INPO. The Institute authorizes the NRC to place this document in the Public Document Room. The document is covered within the Copyright License executed between the NRC and INPO on December 8, 1993.

Please return RIDS distribution to Tremaine Donnell, 5C3, Two White Flint North, 415-5633.

Tremaine Donnell

Tremaine Donnell, INPO Coordinator
Records and Archives Services Section
Information and Records Management Branch
Office of Information Resources Management

Enclosure: As stated

PLEASE NOTE: Hard copy is available from the NRC File Center.

cc: MCollins