

Anderson Appointed Facilities Engineering Head

J.W. Anderson was recently appointed Head of the Laboratory's Facilities Engineering Division (FED). According to Engineering Head Mike Williams, Anderson was chosen based on his strong leadership and organizational skills. Says Williams, "We welcome J.W. in his new capacity, and we look forward to the new direction he will provide the Facilities Engineering organization." Anderson replaces Harry Howard who will be retiring.

As Head of FED, Anderson will be responsible for integrating the activities of the three FED branches including:

- The Project Engineering Branch, which is responsible for the design and construction of new facilities;
- The Maintenance Engineering Branch, responsible for the maintenance and operation of existing facilities; and
- The Maintenance Operations Branch, which inspects and repairs existing facilities.

In addition, the FED is responsible for special projects, such as Energy Management and Fire Protection system design, modification, and maintenance.

Anderson is looking forward to the challenge of this new position. He says, "I'm excited to have the opportunity to work with the folks in the Facilities Engineering Division. The FED is involved in almost every aspect of the Lab and provides valuable services to all the Lab's employees."

"I'm impressed with the efforts put forth by the men and women of

the Division and with the number and variety of projects we're involved in," observes Anderson. "In addition to their visible work throughout the Laboratory, FED personnel do much work behind the scenes. Although it's invisible, such hard work is essential to the smooth operation of the Lab."

Currently, work related to upcoming Deuterium-Tritium (D-T) operations on TFTR requires particular attention from the FED. Says Anderson, "We've recently become more active in TFTR functions in that we are now responsible for the operation and maintenance of Heating, Ventilating, and Air Conditioning (HVAC) and Liquid Effluent Collection (LEC) systems at

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J.W. Anderson

Photo: D. Applewhite

Confined Spaces—*Danger!*

Recently the Lab had another Occurrence Report (see page 3) filed with the Department of Energy because of violation of confined space procedures. This was the *seventh* such report within the past 18 months.

This recent event was serious and could have led to a fatality. What lessons can we learn from this recent event? What happened and what corrective actions were taken? How can we avoid having such an incident again?

The event is described below and lessons learned are outlined. *The overall lesson is, that if Environment, Safety and Health (ES&H) rules had been followed, this incident would not have happened.*

Technician Becomes Stuck in Confined Space

The event occurred when a subcontractor was performing tests of the TFTR tritium seal dampers. A Heating, Ventilating, and Air Conditioning (HVAC) Technician was assigned to help the subcontractor perform the tests.

As part of the test program, it was necessary to isolate parts of the HVAC System to assure that the seal dampers would perform their required functions. In order to isolate a portion of a duct, the assigned HVAC technician lowered a fire damper. To do so, he placed his hand in an opening approximately 8 inches by 12 inches and released the damper by removing the chain that held it in place.

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Anderson New FED Head

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D-Site, both of which are very important to the Tritium System Test and to D-T Operations. Our challenge will be to provide quality service in a safe, efficient manner—a goal that requires the very best from all the members of the Division.”

ESU Contributions

Anderson had been the Head of Security and Emergency Preparedness Division since 1990. He was chosen for that position in part because of his extensive experience with federal regulatory programs in the nuclear field.

Says Steve Iverson, Head of the Offices of Human Resources and

Administration, “During his tenure as Head of Security and Emergency Preparedness, J.W. developed an outstanding track record of accomplishments and has demonstrated a tremendous capacity to complete projects on time and within budget.”

Some of Anderson’s contributions have included: developing emergency policies and procedures for deuterium-tritium experiments; significantly increasing the level of training for ESU staff; responding effectively to a number of Department of Energy audits; and maintaining excellent relations with the University, according to Iverson.

Anderson’s Career

Before coming to PPPL, Anderson’s career focused in construction and facility operations within the nuclear industry. He was involved in the construction of submarines at General Dynamics, and at Cincinnati Gas and Electric, he participated in the construction of a nuclear power plant. Just prior to coming to PPPL, Anderson was employed by Florida Power and Light in nuclear power plant operations.

Anderson holds a B.S. in Industrial Engineering and a B.A. in Business Administration from Rutgers University. ♦

Confined Space

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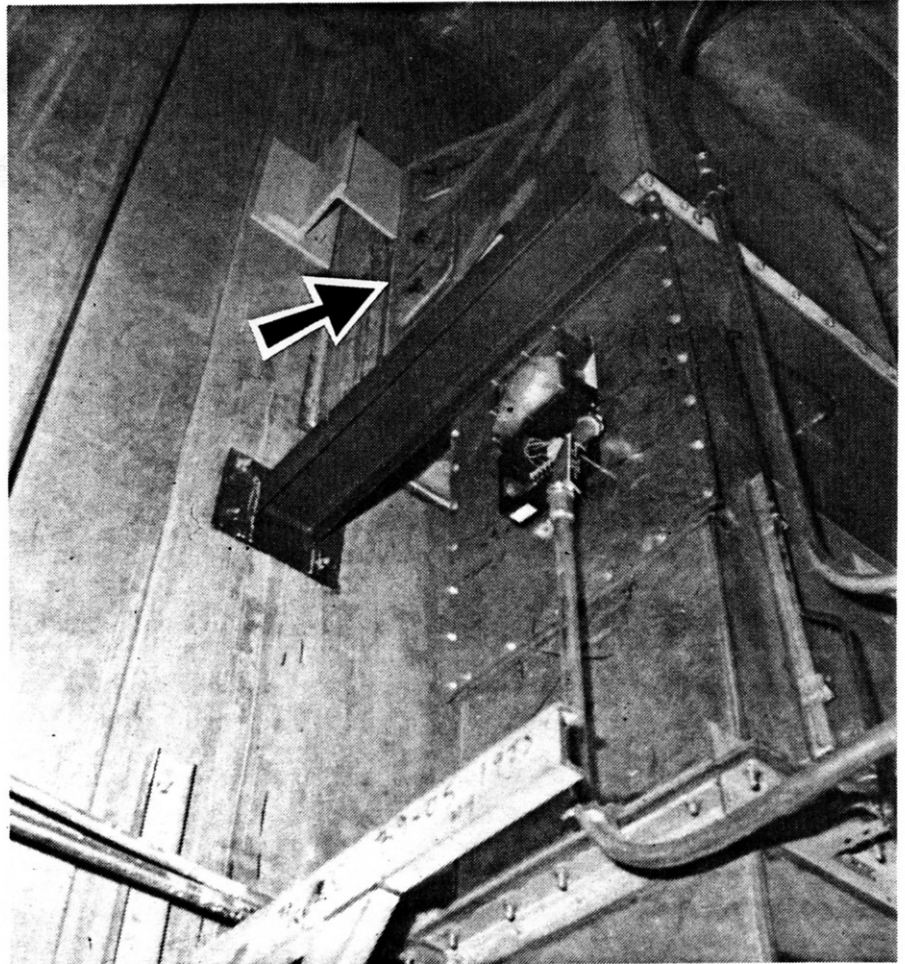
Later, when it was discovered that lowering the fire damper was not an effective way to isolate the duct, the HVAC Technician attempted to restore the damper to its original position. However, he was unable to lift the damper and secure the chain with one hand. In trying to perform this task with two hands, his body became stuck in the 8 by 12 inch opening with his head and upper torso in the duct.

One of the subcontractor representatives called the Emergency Services Unit (ESU) for help, but the Technician was freed from the duct before ESU staff arrived. He was examined by the PPPL Emergency Medical Technicians and refused further medical treatment.

Unusual Occurrence

This incident was classified as an “Unusual Occurrence” in the DOE Occurrence Reporting System. The Facility Manager was required to call the DOE Emergency

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Fifteen feet up, beyond the horizontal I Beam, is the door to the 8 inch by 12 inch duct (see arrow) in which a Technician became stuck—in violation of both Confined Space and Ladder Safety rules.

Photo: D. Krause

Confined Space

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Operation Center in Washington, DC, with the information on the incident. In addition, further conversations with DOE Energy Research Safety Professionals were held immediately after the notification and an investigation was initiated by the TFTR Project Manager.

Issues Raised

The investigation of the incident of the HVAC Technician being stuck in a confined space raised several issues and resulted in several actions and consequences.

Confined Space Entry Permit Not Obtained.

- Any time a confined space is to be entered, a permit for entry must be obtained. Before a permit is granted, the ES&H Industrial Hygienist (IH) evaluates potential hazards and checks for oxygen deficiencies in cases such as this one, where a damper is in a closed position. Since no permit was obtained, the IH had no opportunity to check for hazards.

The HVAC Technician who became stuck had scored high on his Confined Space Training Exam. Nevertheless, he had violated specific rules not to enter a confined space without a permit or an evaluation. In addition, the Technician

climbed a ladder and got onto an "I" beam to enter the duct, a violation of the rules for ladder safety. As a result of the investigation, he was suspended for two days without pay.

IH Evaluation Required When Spaces Aren't Labeled.

- Although major, obvious confined spaces have been labeled, some spaces remain to be labeled. Therefore, General Employee Training and Confined Space Training both emphasize that *any unlabeled space that might be considered a Confined Space should be evaluated by the IH and a permit obtained before entry.*

Subsequent to this Unusual Occurrence, Confined Space warning labels are to be placed around relevant TFTR duct openings.

Supervisor Always Responsible for Worker Safety.

- Although the HVAC Technician was assigned to work with a subcontractor, the Technician's supervisor should have been aware that *a supervisor is always responsible for the safety and health of his assigned personnel. This responsibility cannot be delegated.*

In this instance, the Technician's supervisor did not accept responsibility

for the worker nor for the work activity. He believed that the subcontractor doing the testing was responsible for the assigned Technician's safety. As a result of the investigation, the Technician's supervisor was terminated from the Lab.

Because the lessons learned from this potentially serious or even fatal occurrence are so important, the DOE is publishing an article about the PPPL incident in their *Occupational Health Observer*, a DOE publication with wide distribution.

Let's all be aware of potential hazards associated with our work, take sensible precautions, and take our ES&H rules seriously. Stay safe and stay healthy! ♦

Dangerous Ice Patches

This time of the year is often dangerous for pedestrians due to thin patches of ice developing overnight on sidewalks. Extra care should be taken when approaching apparent "wet" spots which may actually be a thin layer of ice.

Maintenance personnel spread salt and sand on ice patches as the hazards are identified, but unfortunately, many small patches of ice are first found by a slipping pedestrian.

To minimize the hazard to personnel, the Facilities Engineering Division has placed 15 new containers of sand (marked "SAND") at various locations around the Laboratory.

Please take extra care and walk carefully when ice conditions are possible. Should you encounter an ice patch, stop and spread a layer of sand and then call FED, ext. 3092, and alert them to the situation. This will help protect you and others from a bad fall. ♦

Occurrence Reporting

DOE Order 5000.3A requires that unusual events or incidents be reported through the mechanism of an Occurrence Report. Any time an employee becomes aware of a hazardous spill, personal injury, dangerous situation, or equipment failure or damage, it should be reported immediately to his or her supervisor. (If necessary, emergency response should also be requested by calling ext. 3333).

Depending on its seriousness, the problem may be reported to DOE through an Occurrence Report. (For more detail, see article on Occurrence Reporting, page 4, *HOTLINE*, January 24, 1992).

Lab Cooperative Education Program Expands

Bright, fresh ideas and youthful enthusiasm—these are the qualities managers mention most often in describing the contributions of cooperative education students. Says Dori Barnes, Head of Computer Systems, “We’ve been working with coop students for at least five years, and they always bring with them interesting questions and new perspectives. As a manager, I enjoy watching them grow and develop, but their biggest plus is that they’re usually just great workers.”

Scott Sweeney, of Human Resources, who coordinates the Program, is excited about the potential of cooperative education at PPPL. Managers are encouraged to call him to discuss the possibility of hiring coop students.

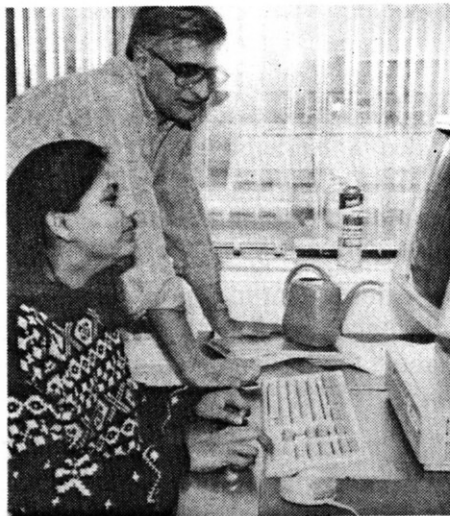
Comments Sweeney, “Cooperative education can provide a true win/win situation. For the Lab, not only does it provide a great community service and excellent public relations, but also, most supervisors find students eager to learn and to contribute. At the same time, coop students have the opportunity to get on-the-job experience that applies the ideas and skills they’re learning in school.”



Human Resources Generalist Scott Sweeney coordinates the PPPL Cooperative Education Program.

During 1992, PPPL had twenty coop students—the highest number ever for the Lab, which has had an informal cooperative education program since 1982. Fourteen college students and six high school students participated.

According to Sweeney, typical salaries range from \$10 to \$12 per



Anindita Sen (seated) of Drexel University and Dick Wieland of the PPPL Physics Program check out some figures on the computer.

hour for college students, who usually work a full-time schedule for the assigned semester or quarter. For high school students, who typically work 15 to 20 hours per week for an entire academic year, the salary is around \$6 per hour. Salaries are paid through individual departmental budgets.

Hiring a Coop Student

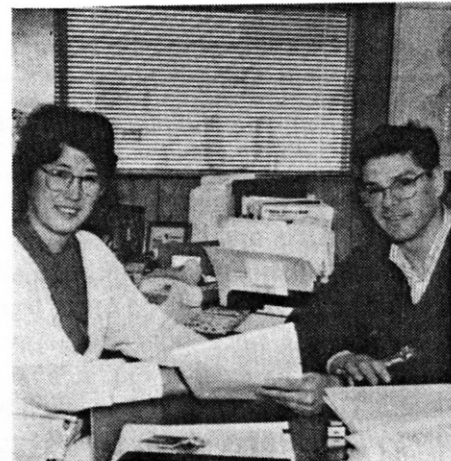
“We want to create the best possible match among PPPL manager, job or task, and student,” notes Sweeney. “In order to do this, I work closely with the hiring supervisor to tailor the situation to meet his or her needs. Then I work directly with the high school or college to recruit students who have the necessary interests and skills.”



Elaine Kozinsky (standing) goes over an ES&H data entry project with Terry Corliss of West Windsor-Plainsboro High School.

Says Sweeney, “Managers need to understand that the students are young and lack job experience. Therefore, a willingness to supervise with patience and to be a professional role model will lead to a more satisfying and productive situation.” He adds, “Just as with any employee, personnel problems can arise. But most supervisors have been very pleased with the coop arrangement.”

Elaine Kozinsky of ES&H, who supervises secretarial worker Terry Corliss says, “Terry is very enthusias-



Virginia Finley of ES&H looks over some waste generation statistics for the Lab with NJIT graduate student Tom Botch.



Mercer Vocational Technical carpentry student Dan Galatro plies the electric saw as Ray Whitley of FED observes.

tic and helpful. She's new to the data base work, but she's learning. I try to give her a variety of tasks, such as setting up a file system, copying and distributing mail, and typing. She's also had the opportunity to work with several people and learn about their different work styles and needs. She's turned out to be a real asset."

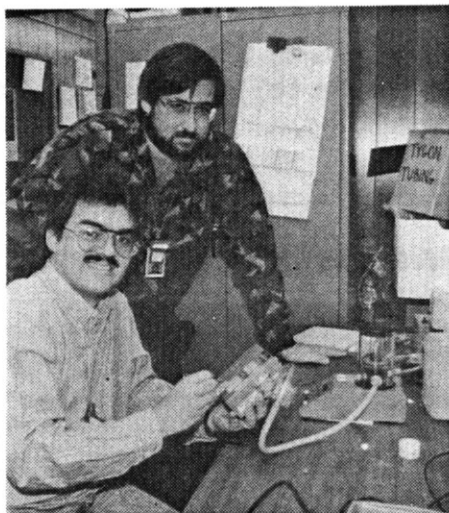
Virginia Finley of ES&H has had the unique experience of working with Tom Botch, an older student who is pursuing graduate work in Environ-



Rosemary Shangle-Johnson (left) points out upcoming drills and training programs listed on the ESU Scheduling Board as secretarial trainee Susan Lewis of West Windsor-Plainsboro High School looks on.

mental Engineering at New Jersey Institute of Technology (NJIT).

Says Finley, "It's important to keep in mind that the Cooperative Education Program is meant to be a learning experience and to provide the student with meaningful work. Tom has been working on waste minimization and pollution prevention activities. He's helped me to accomplish a great deal in a short period of time."



Bill Slavin of ES&H observes as NJIT student Jose Fabregas calibrates a pump.

Notes Rich Gallagher of FED who has had several coop students, "They ask good questions, which makes them interesting to have around. Naturally, since they lack experience, it does take time to train them, but it's a good trade off, because there's a lot of personal satisfaction in passing on knowledge and sharing skills."

Students who have had coop experience are likely to be better prepared for full-time jobs after graduation, observes Barnes. She says, "If I were interviewing recent college grads for permanent employment, I'd definitely lean towards candidates with a cooperative education background. That job experience and knowledge of how to deal with other adults in a business setting is invaluable."



Tim Riotto (left) and Kevin Wojcik of Drexel University work with Ginny Zelenak at the Computer Help Desk.

Photos: D. Applewhite

To find out more about hiring cooperative education students for your department, contact Scott Sweeney in Human Resources at extension 2033, or stop by his office, B172. ♦

CLASSIFIED

Needed

Piano player (non-union) for PPPL Retirement Party to be held at Prospect House 6 to 9 p.m. on Thursday, April 29. Contact Ceil O'Brien, extension 2245.

HOTLINE

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Inventors Awarded for Creativity

Fifty-five PPPL inventors—a record number for a given year—recently received financial awards for their creative work. The awards, totaling \$6400 for fiscal year 1992, were made through the Patent Awareness Program. According to John Johnson, Patent Committee Chair, the Patent Awareness Program was established to recognize inventors, foster invention disclosures, and raise awareness of Laboratory staff about the importance of patents.

Low Meixler, Head of the Office of Technology Transfer, said, "Patents are important for the Laboratory's technology transfer efforts. Patents on inventions which are of value to industry can be licensed and royalty incomes can be generated—part of which are shared with the inventors."

He adds, "Only protected intellectual property—such as inventions which are protected by patents or software which is protected by copyrights—is of value to companies. Our Office works closely with the Princeton University Office of Project and Research Administration and with the inventors to seek potential licensing opportunities."

During FY92, four patents were awarded and four patent applications were made. In addition, 32 inventions were disclosed. Commented Meixler, "It's gratifying to see an increase in the number of disclosures over last year, and I hope to see an even greater increase in the number of patents that are actually filed and issued from the U.S. Patent and Trademark Office."

Patents Issued

Fiber Optic Current Monitor for High-Voltage Applications

George Renda

Toroidal Magnetic Detector for High Resolution Measurement of Muon Momenta

Peter Bonanos

Method of Measuring the DC Electric Field and Other Tokamak Parameters

Nathanial Fisch

Arnold Kritz

An Optically Pumped CH₃OH Laser with a Stark Tuning Capability and with a Fluid-Cooled Cavity

Dennis Mansfield

Michael Vocaturo

Lawrence Guttadora

Patent Applications

Injection of Electrons with Predominantly Perpendicular Energy into an Area of Toroidal Field Ripple in a Tokamak Plasma to Improve Plasma Confinement

Masayuki Ono

Harold Furth

Low Flow Meter

Lewis Meixler

Method and Apparatus for Improved Control of the Electron Energy Distribution Function in a Plasma Processing Source with Good Uniformity

James Stevens

Joseph Cecchi

Apparatus and Method for Uniform Microwave Plasma Processing

James Stevens

Joseph Cecchi

Disclosures Filed

Direct Current Sputtering of Boron from Boron/Carbon Mixtures

John Timberlake

Dennis Manos*

Edward Nartowitz*

D.C. Sputtering of Pure Boron

John Timberlake

Dennis Manos*

An Improved Method for the Analysis of Data from Electrical Probes in a Plasma

Dennis Manos*

Lawrence Lagin

A Method for Sputtering with Low Frequency Alternating Current

John Timberlake

Grounding Switch Soft Closing System

Charles Ancher

Steve Tureikas

Binary Markers for Plasma-Wall Interaction Diagnostic

Dennis Manos*

Timothy Bennett

Michelle Herzer*

John Schwarzmann*

Apparatus to Create a Radial Electric Field in the Edge Region of a Magnetically Confined Toroidal Plasma

Thomas Stix

Midplane Faraday Rotation Tokamak Densitometer

Forrest Jobs

Dennis Mansfield

Imaging Technique for an Opaque Neutron Scintillator

Lawrence C. Johnson

A. Lane Roquemore

Remote Monitor for Transient Strains in Dielectric Materials

Dennis Manos*

Software for Document Filing and Retrieval

Robert Fleming

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Bolt Insulator

Joseph Ignas

ICRF Medicated Edge Helium Exhaust

C.S. Chang*

Sam Cohen

Martha Redi

Stewart Zweben

Flange System for Connecting Co-axial Fluid Systems Employing CF Type Knife Edge Seals

Paul LaMarche

Feedback Stabilization of External Kink Modes in Tokamaks

Janardhan Manickam

New Method for Legend Generation for Front Panels of Electrical and Electronic Equipment

John Robinson

A Means for Positively Seating a Piezoceramic Element in a Piezoelectric Valve during Inlet Gas Injection

Kenneth Wright

Apparatus to Measure Ice Thickness on Aircraft Wings

Steve Scott

Lower Hybrid Current Drive in Tokamak Reactors Using Alpha Particles

Nathanial Fisch

Jean Rax*

Method of Welding Precipitation Hardenable Materials

Holt Murray

I. Harris*

J. Ratka*

Device to Reduce Wear on Aircraft Tires upon Landing

Steve Scott

System for Removal of Helium Ash

Harry Mynick

Hard X-Ray Camera

Schweickhard Von Goeler

Robert Kaita

Stefano Bernabei

Implementation of Electrodeless Discharges for Destruction of Chemical Warfare Agents

Shoichi Yoshikawa

Rhoda Stasiak

Phillip Efthimion

Waste Gas Disposal by Means of Electrodeless Discharges (Electron Cyclotron Resonance Heating)

Shoichi Yoshikawa

Miniature Optical Chopper

Charles Skinner

Darrell DiCicco

An Improved Neutral Beam Production Technique for Surface Processing and UV Photon Free Applications

Dennis Manos*

Peter Schwartz

Method of High Level Radioactive Waste Management

Holt Murray

An Array Source for the Production of a Uniform Large Area Beam of Hyperthermal Reactive Atoms

Dennis Manos*

Ellen Donahue *

Peter Schwartz

Carrie Brown*

Nick Guilbert*

Independent Controls of Electron Temperatures, Density, and Power Density in a Microwave-Powered Plasma Chemical Reactor

Shoichi Yoshikawa

Minority Species Detection by Ion Cyclotron Transmission Spectroscopy in a Tokamak

Glen Greene*

Porous Electrode Method for Thin Film Deposition at High Rates

John Timberlake

Henry Kugel

*Affiliated with other institutions.

United Way Award



For the fifth straight year PPPL was honored with the United Way gold award—given to organizations whose employees average a \$60 donation. PPPL United Way Committee members Edna Kalmus (left) and Mary Ann Brown look on as 1992 Chairman Angelo Candelori accepts the award from Dr. James E. Carnes, United Way Campaign Chairman, at American Re-Insurance, which hosted the event.

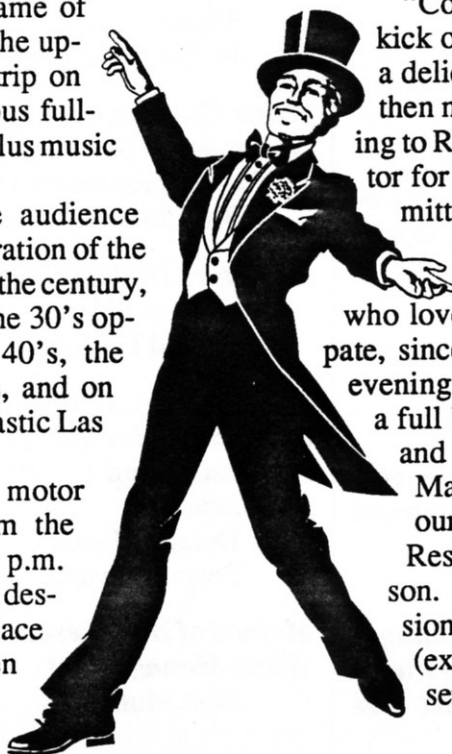
What's Happening at PPPL?

Gala Dinner Theater Trip Planned Make Reservations by March 23

Celebrate! That's the name of the show that highlights the upcoming Dinner Theater trip on April 24. Enjoy a delicious full-course dinner and show, plus music and dancing.

The show takes the audience through a nostalgic celebration of the way it was—at the turn of the century, through the flapper era, the 30's optimism, the glamorous 40's, the dance crazes of the 50's, and on through the 60's to a fantastic Las Vegas finale.

The trip, by deluxe motor coach, will embark from the PPPL parking lot at 3:00 p.m. on Saturday, April 24. The destination is the Crystal Palace Dinner Theater in Glen Mills, Pennsylvania.



"Comedy entertainment will kick off the evening, followed by a delicious dinner, the show, and then music and dancing," according to Rae Federico, Trip Coordinator for the PPPL Recreation Committee, which is sponsoring the trip.

"We invite everyone who loves dinner theater to participate, since it promises to be a great evening," says Federico. "We need a full bus (40 people) for the trip, and we must know by Tuesday, March 23 in order to firm up our plans."

Reservations are \$40.00 per person. Call **Sallie Young** (extension 3379) or **Joanne Bianco** (extension 2070) **NOW** to reserve your places! ♦



"Celebrate"—The way it was...with the PPPL Recreation Committee Trip to the Crystal Palace Dinner Theatre on Saturday, April 24.

Photo courtesy of Crystal Palace