



HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

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TFTR Update

Like the pieces of an intricate jigsaw puzzle, TFTR components are continually coming together at the D-Site test cell as the project moves closer to its December startup date.

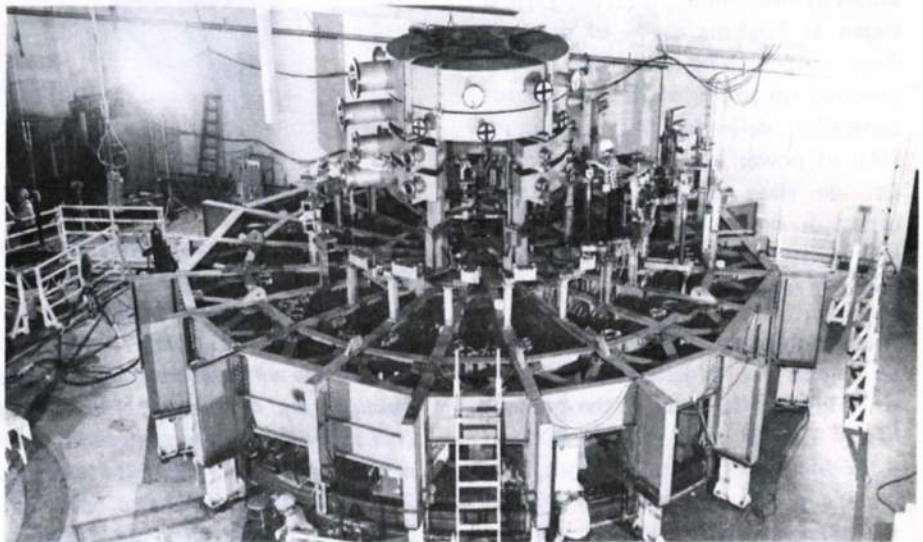
As of early September, nine of the 10 vacuum vessel sector modules had been placed on the TFTR baseplate. Each 78-ton module consists of a vacuum vessel segment, two 28-ton toroidal field coils, and an interconnecting support structure. Module components are placed in a specialized frame and assembled prior to installation on the machine.

The tenth sector module is currently being prepared by PPL for placement on the machine this month. The final vacuum vessel segment has been shipped from Chicago Bridge and Iron, vendor of the segments, and is in final preparation prior to fit-up.

The umbrella structure, which will support the upper portion of TFTR, is now being mated to the upper PF coils. The assembly will be installed on TFTR as a unit. Dr. Milton Machalek, Facilities Operations head, called the procedure "the most critical lift" on TFTR, since the weight of the assembly will near the test cell bridge crane's 110-ton lift capacity. The lift is expected to occur near the end of September.

"We're doing a lot of work in parallel in order to meet our schedule," Dr. Machalek explained. "An important milestone will be to pull our first vacuum on the vacuum vessel. Pre-operational integrated systems testing will begin then, as we start fitting subsystems together into a working facility."

Balancing efforts continue for the first MG set, which is being turned over to PPL for pre-operational testing. Engi-



Work continues on the TFTR umbrella structure.

neers from General Electric will continue to work toward achieving stabilized balance as the startup date approaches; in any case, MG No. 1 has been certified for the requirements of first plasma operation. Six of the 39 TFTR power systems will also be operational well before startup time.

A replacement unit for MG No. 2 is being fabricated by GE while the pit for that unit is being cleared out.

Work is also continuing on transforming a first floor room near the CICADA complex into the TFTR Operation/Information Center. The center will house the entire set of TFTR drawings, as well as over 12,000 blueprints and schematics of various TFTR components and systems, on 35 mm photographic film "aperture cards". Prints from these cards are instantly available, as is other filed test data and information. The immediacy of such information could help avert costly delays should any TFTR component malfunction during operation. Daily status reports and a 'hotline' to TFTR control will also originate at the center.

Carol Sherbet has been appointed manager of the TFTR Operation/Information Center, which Dr. Machalek characterized as "a nerve center for the project."

PPL Family Day

Employees will get the chance to show their families where they work during PPL Family Day, set for October 9 from 10 a.m. to 2 p.m.

The PLT, PDX, and S-1 areas will be open, and TFTR tours will be run throughout the day. Employees are reminded that the TFTR site is still a construction area; visitors should be appropriately dressed to avoid any hazards. Certain areas will be cordoned off, and visitors will be expected to obey all safety directives given during the day.

Tee-shirts and balloons will be given to all children attending the event. Movies and exhibits have been scheduled, and refreshments will be served.

This event is open to all PPL, Ebasco, DOE and Grumman employees. For further information, contact Information Services at ext. 2750.

MG Set Achieves Goal

The first motor generator set for TFTR successfully produced power for the first time during testing September 7.

Dr. Ernst de Haas, lead engineer for the TFTR MG sets, said the generator was run with a dummy load for 20 pulses at five minute intervals. Testing began at 10 a.m., at 1% of the set's final output. The unit was finally powered up to 7% of its final output capability, delivering 150 megajoules (MJ) of power into the dummy load. Dr. de Haas emphasized that the generator could have been tested at higher levels, "but the dummy load couldn't take any more."

When running at full capacity, the MG set will be able to deliver 2,250 MJ into TFTR rectifier coils. At the moment before a TFTR pulse, the set's 600-ton rotor will be turning at 375 rpm. During the pulse, approximately 50% of the energy stored in the set is transferred to tokamak systems. The speed of the rotor drops to 257 rpm, and requires five minutes to regain pulse speed.

Thanks to the efforts of PPL's testing crew and the help of General Electric representatives, the unit has been balance checked to 300 rpm. Dr. de Haas said current tests indicate the set will be available in support of first plasma in December.

Recycling Update

Thanks to the efforts of PPL's "conservatives", the lab's recycling program has collected 22,305 pounds of paper since its inception six months ago. However, the Maintenance Department has found an increasing amount of garbage being placed in recycling bins located throughout the facility.

All employees are reminded to place only recyclable materials (copier and typing paper, letterhead, white notepad paper, carbonless computer stock, or white tissue copies) in the green recycling bins. And keep filling those bins up -- your cooperation has made the program a success!



Director of PPL Emergency Services Unit Jack Anderson was recently elected to the Board of Directors of the Industrial Fire Chiefs' Association (IFCA). He will head the organization's publicity and newsletter committee, as well as the education and training committee. Anderson, who also serves as PPL's fire chief, said it was "quite and honor" to be elected to such a group. I'm very, very appreciative." The IFCA brings together industrial fire chiefs from across the state, to exchange firefighting information and strategies.

Benefits News

Mailing of medical bills can be costly. To further help our employees, the PPL Personnel Office has printed envelopes available for employees mailing medical bills to Blue Shield of NJ and/or TIAA-CREF. The envelopes may be sent via the laboratory's mail system and postage will be paid by PPL. Please be sure to put your home return address in the upper left hand corner.

Envelopes can be obtained by contacting Eleanor Schmitt at ext. 2046.

House For Sale

Three bedroom home in Belle Meade. Living room, very large kitchen, recreation room, 1½ baths, basement, double garage, air conditioned. Located on 1¼ acres. Seven (7) miles from Nassau Street; Call ext. 2290.

Loan Rates Drop

The Princeton University Employees' Federal Credit Union has recently altered its requirements for unsecured personal loans, and for new and used car loans.

The maximum loan limit for an unsecured personal loan has been raised from \$3,000 to \$4,000, and the stable income limit has been lowered to four years. Under the revised policy, employees with one year of stable income are eligible to borrow \$1,000. Employees with two years of stable income may borrow \$2,000; those with three years, \$3,000; and those with four years, \$4,000. Stable income is defined as employment with no break in service.

The interest rates on new and used car loans have also been lowered, but for a limited time only. New car loans financed for three years will be charged 15% interest, while loans secured for four years will be charged at 16%. Used car loans, which may be financed for up to three years, will be subject to a 16½% interest rate.

Three full months of Credit Union membership are required before a member's loan application will be considered by the Credit Committee.

Author Visits Lab

The quest for fusion energy -- and PPL's role in that search -- will be featured in a forthcoming book, "The Man-Made Sun", by T.A. Heppenheimer. Heppenheimer recently concluded a visit to the laboratory as part of his research for the volume.

Heppenheimer, a Ph.D in aerospace engineering, is the Alexander von Humboldt Fellow at the Max Planck Institut fur Kernphysik in Heidelberg, Germany. He has written numerous articles about planetary science, space science and celestial mechanics, and has authored the books "Colonies in Space" and "Toward Distant Suns."

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When asked what attracted him to writing a book about fusion energy, Heppenheimer explained that "fusion has been a personal fascination of mine for close to 20 years." While writing "The Real Future" for Doubleday Books last year, he included a chapter on fusion. Since his research on fusion revealed "just so much" information, he submitted a proposal to do a separate book on the subject. Publishers Little, Brown granted the go-ahead to the tome in December.

Heppenheimer's research trail has thus

far brought him to Los Alamos and PPL. After attending the Baltimore IAEA meeting, his next stop was MIT. Also scheduled are visits to Lawrence Livermore, General Atomic, Inesco and KMS Fusion.

Heppenheimer said his book will highlight "the people doing fusion, from those in the lab battling with nature to those in Washington battling with legislation." He expects the book to be published in the spring of 1984.

While here, the author spoke with members of the laboratory's manage-

ment and technical staffs. He said his research here had gone "very well. People here have been very helpful to me; I've gotten some wonderful stuff. I think I can tell a good story about TFTR, as well as about the temperature advance that occurred here in 1978. I also have Washington sources who have told me what was going on there while the temperature was climbing here."

"I feel the people here were very kind," Heppenheimer concluded, "and I think they'll enjoy what they see when 'The Man-Made Sun' is published."

Faces & Places

Joining the PPL "family" in August were Susan Thelle, staff assistant in Accounts Payable; Keith Sapp, assistant engineer, FOM/AC Power; Laurence Guttadora, technical assistant, Experimental Diagnostics; Anne Palladino, secretary, Director's Office, Program Management and Budget; Natalia Bayes, staff assistant, Operations Division; and Raymond Whitley, technician, and J. Faunce, junior project engineer, Plant Maintenance and Operations.

Director Speaks at SOSS Seminar

Laboratory Director Dr. Harold Furth brought PPL employees up to date on "What's Happening with TFTR -- First Plasma?" during the annual luncheon and seminar for the Secretarial and Office Support Staff (SOSS), September 21. The new SOSS committee was also introduced during the meeting.

Training will be the topic of the next SOSS seminar, slated for October 19 in the Sayre Hall auditorium. Guest speakers Leonard Thomas, Manager of Human Relations for PPL, and Stanley Adelson, Assistant Director of Training and Communication for Princeton University, will discuss the various training options open to SOSS members.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

Bloodmobile Results

The Bloodmobile visit on September 8 was a success; the Red Cross staff was pleased with PPL's contribution to the blood drive this year. We would like to thank the following people for their participation in this year's program:

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| Bob Fleming | Bob Kaita | Joe Malinowski |
| Art Kolupanowich | Gil Graydon | Ken Le Bon |
| Ray Pressburger | Matthew Edgar | Greg Tompkins |
| Sherry Berson | Tom Czeizinger | Mark Cropper |
| Kathy Dunn | Gene Colborn | Gary Pereira |
| David Miller | Meryl Finkelstein | Anne Romano |
| Paul Sichta | John Murray | George Kolinchak |
| Stephan Jurczynski | Sylvia Farley | James Nelson |
| Sam Pellitteri | Dick Carlese | Fred Kelmer |
| John Gumbas | Mary Ann McBride | Walter Tudor |
| Alan Upperco | Frank Bozarth | Angelo Candelori |
| Dick Palladino | Halsey Allen | Leon Jackson |
| Dan Olivieri | Rick Bodinizzo | James Byrne |
| Sally Connell | Scott Larson | Alice Rozenbrock |
| George Martin | Jacob George | Gretchen Shelly |
| David Ruzic | Susan Thelle | George Levitsky |
| Sharon Owens | Bob Malinowski | Donald McNeill |
| George Rose | Jack Abraitis | Bob Smart |
| Frank Clark | Adrian Cini | Frank Pecht |
| Natalia Bayes | Rick Hill | Nadirah Shakir |
| Tony Bleach | Roger Gould | Marie Iseicz |
| George Hill | Boris Grek | Nelson Rainier |
| Julius Krawiec | Bill Pointon | Tina Whitley |
| Joe Davenport | Dietmar Kraus | Denis Lehané |
| Sharon Hughes | Harry Towner | Joe Csenteri |
| Larry Owen | Carolyn Springer | Bob Reed |
| Gene Hrycak | Rich Henne | Jo Ann Matone |
| Ray Jeanes | Reginald Ware | Howard Richter |
| Jerry Neale | John Citrolo | Brad Micklich |
| Jeff Barnard | Don Lang | Howard Zuvers |
| Bob Ernst | Bill Orlando | Terry Greenberg |
| James Faunce | Charles Karney | |

PPL Hosts

IAEA Open House

