BROOKHAVEN BULLETIN
Vol. 40 - No. 36 September 12, 1986
BROOKHAVEN NATIONAL LABORATORY

Nuclear Power Plants: The Probability of Risk

Unbeknownst to the nuclear industry and its regulators at the time, the 1979 accident at Three Mile Island (TMI), which resulted in a partial meltdown of the reactor's nuclear core, had been predicted.

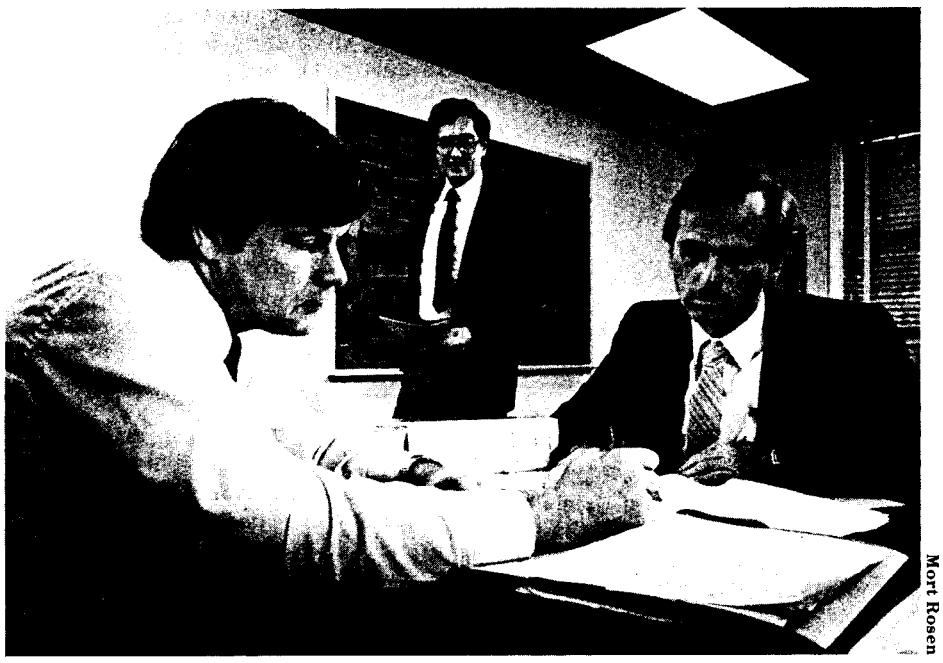
In a landmark study completed in 1975 by the Nuclear Regulatory Comission (NRC), the risks of operating a nuclear power plant and their probabilities were assessed for the first time. This probabilistic risk assessment (PRA) was performed on two specific plants — a boiling water reactor built by General Electric and a Westinghouse pressurized water reactor — and was thought to represent all of the reactors in the country.

The TMI plant is a pressurized water reactor, but was designed by Babcock-Wilcox. Hence, its operation, maintenance and safety systems differ from the Westinghouse plant in the study. While the transient-induced loss of coolant accident in a pressurized water reactor was predicted and identified in the NRC report, it was determined to be of relatively low probability. However, after the TMI accident, it was understood why this event has a higher probability for a Babcock-Wilcox pressurized water reactor.

"It was at this time that the nuclear power industry and the NRC realized that each nuclear power plant is unique because each is built differently and each has unique accident vulnerabilities and risks associated with it," explains Senior Physicist Robert Bari, associate chair of the Department of Nuclear Energy (DNE). "But PRA for individual nuclear power plants didn't catch on until after TMI."

Employing statistics and computer modeling, PRA is a way of analyzing the safety of nuclear power plants by looking at how likely accidents are to occur and what their consequences probably would be. Says Bari, "It is a realistic approach because it puts into perspective the risks and benefits of operating a nuclear power plant. We can determine the level of safety of a plant and what changes in equipment, operation and emergency systems have to be made to make it safer."

Bari and members of the Safety & Risk Evaluation and Engineering Technology Divisions he oversees, have been developing PRA techniques since before TMI. Undertaking approximately 50 programs funded by the NRC, the 60 members of the two divisions and their consultants use PRA to audit utilities' evaluations of their own nuclear power plants. For example, a DNE team has just undertaken a PRA of the Seabrook Nuclear Power Plant to evaluate if the Public Service Corporation of New Hampshire is justified in its request to reduce the emergency planning zone around the plant.



Mort Rosen

(From left) Trevor Pratt, head of the Safety & Risk Evaluation Division, DNE; Associate Department of Nuclear Energy Chairman Robert Bari; and Robert Hall, head of the Engineering Technology Division, DNE, review a probabilistic risk assessment of a nuclear power plant.

As well, the two divisions are extending PRA research, including transferring PRA from nuclear power plants to other plants where hazardous or toxic materials are made or used (see sidebar).

When the NRC calls for a PRA of a nuclear power plant, Bari's divisions first study the plant's design, especially that of its safety system, and its normal operation and maintenance. Then a DNE team visits the plant "to look under the hood and kick the tires," Bari explains. They return to the Lab and their computers to predict how the plant might respond and the safety systems might perform during an accident. Undertaking the PRA can involve, among others, chemical, mechanical and nuclear engineers; physicists and mathematicians; meteorologists and geologists; and psychologists and health physicists.

Though PRA is not part of the formal NRC licensing process for a nuclear power plant, it is used adjunctly in the decision making.

A PRA of a nuclear power plant is used by the plant's owner to decide how to operate the plant safely, as well as cost-effectively. For example, if a pump breaks during normal operation, the operators must decide whether to shut down the plant immediately and fix the pump as emergency maintenance, or continue running and fix the pump during the next scheduled shutdown. That plant's PRA would spell out which option is more risky and less cost-effective.

Recently, PRA has had a new application: to determine how to safely extend the operating lives of nuclear power plants that came on line about 20 years ago, which were designed to operate for 30-40 years.

As it has the most serious consequences, the ultimate risk in operating a nuclear power plant is the release of radiation from the reactor's core. However, of many accidents predicted to lead to core meltdowns, only a small fraction are found to result in significant radiation releases. "The object of PRA is to estimate risks by postulating accident sequences that will end with a core meltdown and a release of radiation that will harm the public," explains Bari. After delineating these accidents, PRA calculates how likely each is to happen.

Probabilities based on statistical records of nuclear power plant accidents do not, for the most part exist, as with the exception of TMI and Chernobyl, none have resulted in core meltdowns. (DNE has been called upon by the NRC to technically support the NRC tracking team at its emergency response center for the Chernobyl accident. More on this in a future Bulletin story.) "We are analyzing accidents that may never occur," says Bari. To look at a nuclear power plant as a whole, Bari and his colleagues rely on statistics on the failure of its components: equipment and human beings.

PRA looks with foresight at low-probability, high-consequence accidents that might initiate an accident, and it inductively delineates how one would result. To do this, graphic representations known as event trees are drawn. The initiating events become the trunks of separate right-side up trees. Each trunk is split into as many branches as there are resulting events. And each branch splits into new branches until a branch sprouts "leaves" at the end, representing all the possible accidents that could ultimately result from the initiating cause.

(Continued on page 2)

PRA Aids Solar Plant Design

After the accident in Bhopal, India, in which a chemical release from a Union Carbide plant killed over 2,000 people in 1984, the chemical industry began looking for new ways to predict and prevent such accidents. Probabilistic risk assessment, a technique used by the Department of Nuclear Energy (DNE) to examine the safety of nuclear power plants (see main story), is now being evaluated as a new tool for determining the safety of chemical plants.

DNE, the Department of Applied Science (DAS) and ARCO Solar, Inc. are applying probabilistic risk assessment (PRA) to the design of a new factory in which hazardous chemicals will be used to make photovoltaic modules. This is the first of possibly many such collaborations between the Lab and other organizations to engineer safer industrial operations based on such theoretical analysis.

Photovoltaic cells absorb sunlight and produce electricity. They are used in a range of devices, from solar-powered calculators to multi-megawatt central station plants. At present, their cost, which is about $6 per watt peak (the amount of power produced at high noon on a cloudless day), is not competitive with conventionally generated electricity. The price of solar cells has dropped by more than an order of magnitude in the past ten years, but needs to fall by yet another factor of ten to be in competition.

Last year, solar cells totaling nine megawatts peak capactiy were produced by ARCO Solar and its competitors, which included subsidiaries of Mobil and Motorola. The more competitive solar cells become, the more that will be produced — and the more that should be known about potential production hazards.

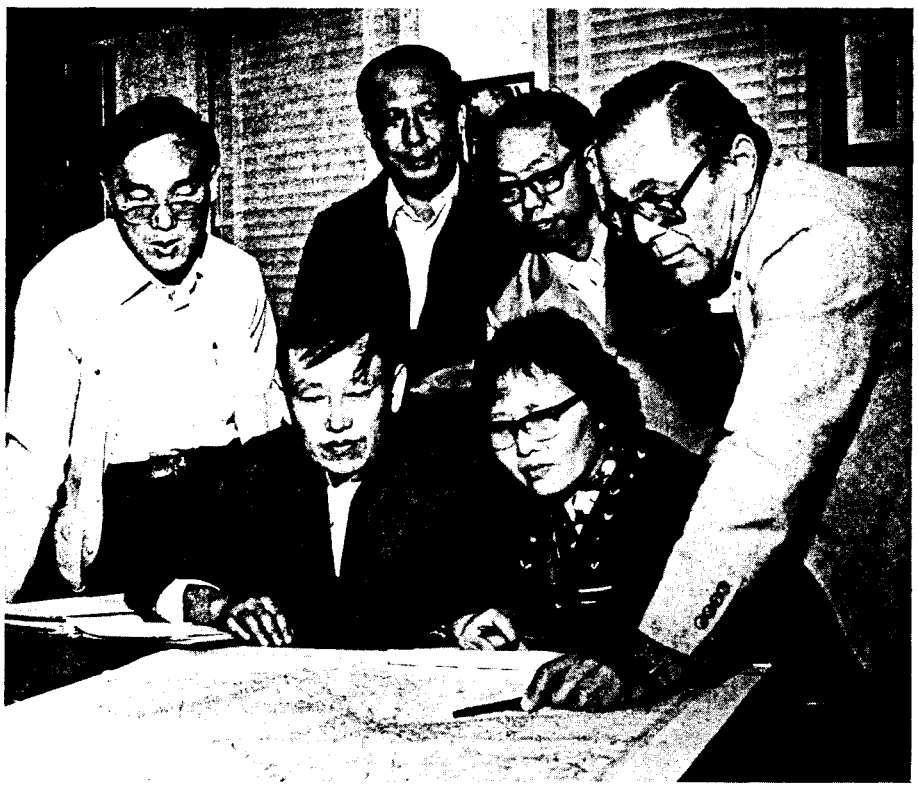
ARCO Solar, a subsidiary of the Atlantic Richfield Company, is the world's largest manufacturer of photovoltaic devices. Their new plant, to be constructed later next year in Southern California, will be the largest solar cell production facility built to date. In undertaking this PRA at BNL, ARCO Solar's goal is to design a safe and efficient factory, which minimizes the potential hazards inherent in photovoltaic production.

Physicist Robert Youngblood, head of DNE's Risk Evaluation Group of the Safety & Risk Evaluation Div-

(Continued on page 2)

Mort Rosen

(From left) Richard Hammond, Sixto Mendez, Paul Moskowitz and James Caldwell study the probabilistic risk assessment of ARCO Solar's new photovoltaic module factory.



Peter Horton

A delegation representing the Institute of Atmospheric Physics, Beijing, and the Chungqing Institute of Environmental Science, People's Republic of China, were the guests of the Atmospheric Sciences Division of the Department of Applied Science on Monday and Tuesday, September 8 and 9. As the purpose of their visit was to discuss acid rain research in urban areas, Division Head Paul Michael (right), showed a map of a recent acid rain field experiment in Philadelphia to (seated, from left) Hong Zhongxiang, Deputy Director of the Institute; Ren Lixin; (standing, from left) Lei Xiaoen; Huang Meiyuan and Luo Qiren. While at BNL, the delegation also visited DAS's Environmental Chemistry Division. The Laboratory was the first stop on the group's planned tour of various U.S. institutions concerned with atmospheric sciences.

Winner's Circle

Two BNL employees have received awards for ideas submitted to the Employee Suggestion System:

Al Borrelli, a senior technician at the National Synchrotron Light Source (NSLS) received a $50 award for suggesting that aluminum ladders at the NSLS x-ray ring be replaced with wooden ladders. Aluminum is a conducting material, so removal of those ladders reduces the possibility of an injury caused by arcing. Although the Safety & Environmental Protection Division found no evidence that aluminum ladders presented an imminent hazard, they felt that their replacement would enhance the safety of personnel working around the x-ray ring.

George Meinken, a chemistry associate in the Medical Department, was awarded $50 for suggesting that anyone who orders radioistopes through the Laboratory be informed about the radioisotopes' lifetimes. The Contracts & Procurements Division has requested that personnel in the Biology, Chemistry and Medical Departments include a reminder of the material's short life on all requisitions for short-lived radioisotopes, service irradiations and special nuclear materials. This will eliminate the possibility of obtaining the materials too soon, in which case they would become useless before they are needed.

Coming Up

Herbert Kouts, chairman of the Department of Nuclear Energy, will give the first Brookhaven Lecture of the season on Wednesday, September 24. He will speak on "The Chernobyl Accident," at 4:30 p.m., in Berkner Hall.

In Line for a Line

Everyone knows how frustrating and interruptive it can be to make a telephone call, get a busy signal, then have to continuously redial the phone number. Effective Monday, September 15, however, users of FTS trunks will no longer have this problem. The telephone feature called "trunk queuing," which was implemented on New York City Foreign Exchange Trunks in July, is being extended to include FTS trunks.

Trunk queuing means that, when someone with line treatments II, IIA, III, IIIA or IX dials an FTS number and gets a busy signal, the caller will be able to get in line, or in queue. Then, when an FTS line is free, the caller will be notified and the call can be completed. It works this way:

- If no FTS trunk is available when the call is placed, you will hear three bursts of tone, followed by two beeps.
- To use the queuing feature, depress the switch hook. You will hear a steady ringing sound.
- Dial 5. You will hear an announcement.
- Hang up. You can continue to make and receive other calls while in queue.
- When a trunk becomes available for your call, you will be called back. The phone will ring for 15 seconds. Pick up the receiver, and the call you tried to make earlier will be completed.
- If you do not pick up your phone when it calls back, the call will remain in line for another cycle through the queue. If you do not answer after being called back a second time, the call will be dropped from the queue.
- To cancel a queue call before it is completed, press # and 59.

Reports Available

The following reports are now available to the Laboratory staff and to affiliates of the DOE, AUI and NRC. Others may purchase the reports from the National Technical Information Service, U.S. Dept. of Commerce, 5285 Port Royal Rd., Springfield, VA 22161. Staff members should call the designated contact at the extension listed.

NUREG/CR-2907
BNL-NUREG-51581
Vol. 3
Contact: J. Tichler, Ext. 3801
Radioactive Materials Released from Nuclear Power Plants. Annual Report 1982. Prepared by: J. Tichler, et al.

NUREG/CR-4509
BNL-NUREG-51953
Contact: A. Spira, Ext. 2352
Waste Package Reliability. Prepared by: C. Sastre, et al.

NUREG/CR-4359
BNL-NUREG-51919
Contact: A. Fort, Ext. 2114
Independent Assessment of TRAC-PF1 [Version 7.0] RELAP5/MOD1 [Cycle 14], and TRAC-BD1 [Version 12.0] Codes Using Separate-Effects Experiments. P. Saha, et al.

NUREG/CR-4479
BNL-NUREG-51948
Contact: J. Danko, Ext. 7125
The Use of a Field Model to Assess Fire Behavior in Complex Nuclear Power Plant Enclosures: Present Capabilities and Future Prospects. J.L. Boccio, et al.

NUREG/CR-4452
BNL-NUREG-51946
Contact: C. Falkenbach, Ext. 2625
Review of RELAP5 Calculations for H.B. Robinson Unit 2 Pressurized Thermal Shock Study. C. Yuelys-Miksis, et al.

English Course Offered On Site

A course entitled "English as a Second Language" is being offered at the Laboratory to employees, guests and their immediate families. This program is designed for adults who would like instruction in conversational English, as well as in reading and writing the language. There is no charge for the course.

The program will begin on Tuesday, October 7, with an individual consultation with the instructor. Classes will be held on Tuesday evenings, in Bldg. 459. Those interested in attending should call Pat Knisely, Personnel, Ext. 7631, to set up a personal appointment with the instructor for the October 7 evaluation of their training needs.

Solar Plant (Cont'd)

ision, assisted in extending the use of PRA from the analysis of nuclear plant safety to chemical plants. For one week, he tutored DAS Scientist Paul Moskowitz, ARCO Solar's Sixto Mendez and others involved in the project in PRA theory. Youngblood then helped them examine events at the proposed plant that could lead to the release of silane gas.

Moskowitz and Youngblood are assisting Mendez, ARCO Solar's manager of safety, health & environmental control, in developing fault and event trees and in analyzing potential hazards within the proposed plant. Other members of DAS involved in the collaboration are Research Engineer Vasilis Fthenakis and Staff Engineer Barbara Royce.

Large quantities of silane, a gas composed of silicon and hydrogen, are used in the production of amorphous solar cells. It is a hazardous chemical: It catches on fire or explodes when it comes in contact with air. Though the probability of a silane leak is low, the potential consequences to workers and equipment are high. Therefore, safety systems designed to prevent or mitigate such releases are being evaluated.

"Using PRA, we are identifying possible problems in equipment, materials and processes used to make photovoltaic cells that could lead to a release of hazardous chemicals," explains Moskowitz, of DAS's Biomedical & Environmental Assessment Division. With the support of DOE's Photovoltaic Energy Technology Division, Conservation & Renewable Energy, he had been researching the health effects of photovoltaic production for nearly six years before undertaking this project.

Working with engineers James Caldwell and Richard Hammond from the firm CRS Sirrine, which is designing the ARCO Solar plant, Moskowitz, Youngblood and Mendez are studying the plans for the factory, from the floor plan to each workstation. They want to understand how the equipment, workers and chemicals interact under normal and abnormal operating conditions. They are cataloging approaches for the safe operation and maintenance of the equipment, the accepted use of the chemicals, and the procedures workers are supposed to follow in the event of an accident.

The PRA project team is also examining the consequences of accidents. In doing so, they are identifying where equipment can fail and are redesigning the plant to reduce the risk to workers and the public.

"ARCO Solar is taking a very enlightened approach to the design of its plant," comments Moskowitz. "They realize that the safety of the plant will positively affect its efficiency and competitiveness, as well as the workers' morale and the public's acceptance of the plant."

— Marsha Belford

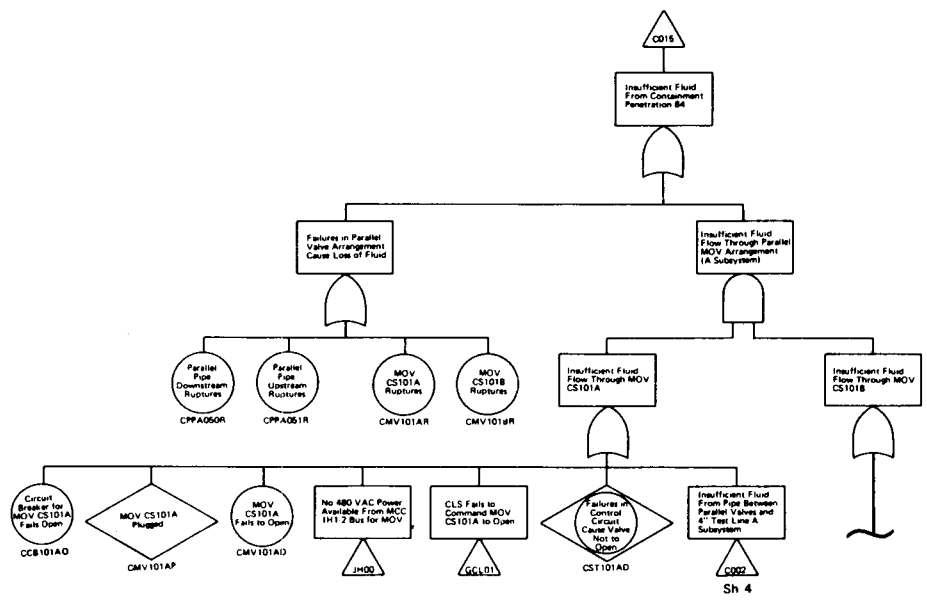
Risk Assessment (Cont'd)

PRA also looks with hindsight to deduce causal events. What are called fault trees are drawn, with accidents representing the trunk of the upside down trees and all the possible first causes depicted as the leaves.

Both event and fault trees describe overall an accident, and the two sets of trees are used in combination for a PRA.

Finally, PRA examines health effects that would result from the range of nuclear power plant accidents. "PRA doesn't end with a meltdown," explains Bari. "We track how fission products would be emitted out of the reactor vessel, into the containment building and finally to the environment. After figuring out how much radiation would be released and how fast, we follow how it would move, and who would be affected and how, taking into account emergency efforts, such as sheltering and evacuation."

— Marsha Belford



A fault tree representing a segment of another, larger tree that describes the failure of a pressurized water reactor's spray injection system, one of the safety systems within the reactor's containment. The "shovel" and the "spade" heads connecting the branches of the tree show whether all or just one of the events, respectively, described below the head is required to cause the event above it.

Field Archer on Target

Archer Joe Bauernfeind is not your typical Robin Hood, wandering Sherwood Forest with his trusty bow and arrow. First, his bow is called a compound bow, not a crossbow, and his arrows are aluminum, not wood. Second, he does not use his weapon to rob from the rich and give to the poor. Instead, Bauernfeind recently used his trusty compound bow to win a 1986 New York State Field Archery Championship.

With a score of 1100 out of a possible 1120, Bauernfeind came in first in the men's unlimited freestyle division at the N.Y. Field Archers & Bowhunters Association outdoor championship in Watkins Glen in August. Winning big is nothing new for Baurenfeind, who is president of the BNL Archery Club: In 1978, he also earned the outdoor state title, and, in 1977, he finished first in the indoor competition in the state.

As well, Bauernfeind placed ninth in this year's national field archery competition; a second place in 1975 was his best finish in the twelve nationals he has attended. In 1984, he was the Middle Atlantic sectional champ.

Bauernfeind got involved with the sport in 1963, through the BNL Archery Club. "A friend of mine went to an Archery Club demonstration and was so impressed, he convinced me to give it a try as well," says the current Archery Club president.

The Club is looking for new archers, young and old, experienced or not, and has a 14-target field archery course for their use near the Brookhaven Employees Recreation Association sports field.

Bauernfeind's sport of field archery differs from the sport most of us think of, which is target archery, where archers stand in a field, aiming at different distances at the same target. Likewise, the compound bow used in field archery differs from the standard, or recurve, bow. The BNL Archery Club advocates only field archery.

In field archery, archers walk a course, like that for golf, through woods and fields and up and down hills. At distances of ten to 80 yards, they aim their compound bows at 28 targets, ranging from eight inches in diameter with a bull's-eye of 1½" to 30 inches in diameter with a 5½" center.

There are two striking difference between a compound and a conventional bow. First, there are pulleys on the compound bow to mechanically assist the archer in drawing it back and to vary how many pounds are needed for the draw. Second, three-foot stabilizing rods project from the front of the compound bow to keep it from twisting as the arrow is released.

Ancillary equipment, such as magnifying and peep sites and release aids, is installed to make the compound bow fire its arrows faster and more accurately than the recurve bow. "The compound bow is more efficient and pleasant to use," comments Bauernfeind. "It is less affected by wind, and easier to aim when shooting up or down hill."

Target archery has been around since before the 12th century legend of Robin Hood was first told. Field archery, however, was not developed until the 1940's, when bow hunters who wished to improve their skills went around the woods shooting at tree stumps. They also shot at hay bales in fields.

Joe Bauernfeind

Mort Rosen

The sport evolved, as did the equipment. In today's field archery competitions, archers may shoot as many as three rounds: a field round of standard distances, with white targets having black bull's-eyes; a hunter round of odd yardages, with black targets having white bull's-eyes; and an animal round, in which the targets are animal pictures, including those of bear and even skunk. Each round has 28 targets, and it takes an archer about four hours to put four arrows into each of the targets.

The arrows used in field archery are made of straight aluminum tubing; their stiffness is matched to the weight of the bow. As Bauernfeind's draw is 30", so are his arrows. He assembles them himself: Each has a metal, bullet-shaped point, two-inch plastic vanes (instead of feathers) and a plastic nock, where the arrow rests against the string. Once used, the arrows can be restraightened, unless a "Robin Hood" is shot, whereby the tip of one arrow goes through the end of another.

"Of the three major components in archery, the trueness of the arrow is most important," says Bauerfeind. "The ability of the archer ranks second, and the quality of the bow is third."

As the compound bow was invented only 15 years ago, Bauernfeind began field archery with a recurve bow. He now uses a Jennings T-Star, costing about $250. The compound bow has been improved since its patenting, and additional equipment developed for it, such as release aids, which are mechnical triggers. "You have to get the feel of the release — but if you practice too much, you can lose it," says Bauernfeind. "It is like pulling a trigger without flinching. You want your arrow to go off as a complete surprise."

Bauernfeind used to practice daily, but running and golf now take up his recreation time. "I only have to shoot once a week to keep in practice and check my site markings," he says. "I also attend local competitions every other week. Any more than that, and my release goes." The current N.Y. State outdoor field archery champ plans to continue competing to keep his interest in the sport keen.

— Marsha Belford

Planting Daylilies

Though daylily tubers can be planted in early spring, the Cooperative Extension Association (CEA) recommends early September as the time for planting and transplanting. Daylilies are not true lilies. They belong to the genus *Hemerocallis*, which is made up of two Greek words meaning "day" and "beauty" — "beautiful for a day." This is appropriate because each blossom lasts no more than a day. Each plant produces an abundance of buds, however, so total blooming time may be 30 to 40 days.

Daylilies are rugged perennials that adapt readily to a wide range of sites and soils. They grow well in full sun or light shade and do best in a rich, moist soil, high in organic matter.

Work the soil deeply before planting, incorporating compost, peat moss, well-rotted manure or other organic matter. Dig a large hole that will receive the tuber and its roots without bending or crowding them. Place the plant in the soil so the crown — the part where the stem and roots meet — is one inch below the ground level. Water thoroughly after planting. A winter mulch is recommended.

Vigorous growers, daylilies establish themselves quickly and form a dense mat in a few years. They generally need dividing and replanting every three or four years.

To divide a clump of daylilies, lift it carefully from the soil and pull it apart. Make sure each division has at least three stems with all their roots attached. Cut foliage back to 5 or 6 inches, then replant.

Thousands of daylily varieties have been named and cultivated. Colors range from creamy white through yellow, pink, coral, red and orange to nearly black. Flowering times vary from early to late summer. By selecting varieties carefully you can have daylilies in bloom all summer.

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Published weekly
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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PSI News

The next meeting of the Upton Chapter of Professional Secretaries International (PSI) will be held on Monday, September 15, at 6 p.m., in the Applied Math Conference Room, Bldg. 515.

At this meeting, Mary Cooper and Patricia Durcan will present highlights of the PSI International Convention held in Pennsylvania last July.

Aerobic Dance

Registrations for the fall session of exercise are still being accepted by the Aerobic Dance Club.

Stretch classes are for those who want to concentrate on stretching and strengthening various muscle groups. Sign up at the next class, on Monday, September 22.

Aerobic dance classes are for those who want to emphasize cardiovascular improvement through vigorous choreographed exercise. Sign up at the next classes, on Tuesday, September 16, and Thursday, September 18.

Participants may take any or all of these classes. Those signing up for aerobic dance are encouraged to take it both afternoons, or one class of aerobics and one of stretch. The fee for each ten-week session (M, T or Th) is $30, payable at registration. Classes are scheduled for the North Room of the Brookhaven Center, from 5:15 to 6:15 p.m.

For more information, call President Paula Bennett, Ext. 3293, or Vice President Bill Leonhardt, Ext. 2378.

Bowling

Purple League

High games were bowled by John Connelly 202, Clem Auguste 229, Lee Barberich 201/188, Jim Vogel 200, Jeannette Thiede 190, Linda Wasson 185, Doris Pion 181, Fran Brown 178.

White League

Rick Jackimowicz rolled a 212, Ted Erickson 209, Bob Jones 204, Ed Meier 201, Mary Grace Meier 197/175, Joyce Pinelli 178.

Volleyball

There will be a captain's meeting and elections for volleyball officers on Wednesday, September 17, at noon, in the Snyder Seminar Room, first floor, Building 911, AGS Department. Please bring your completed rosters.

Arrivals & Departures

Arrivals

John T. Campbell ..... Sfgrds. & Sec.
Marie A. de Crombrugghe ..... Biology
Torsten Freltoft ..... Physics
Rabinder K. Koul ..... Physics
Michael R. Torres ..... Appl. Math

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:

Richard Jaung ..... Nuc. Energy

Cafeteria Menu

Week of September 15

Monday, September 15

French onion soup w/croutons	(cup)	.65
	(bowl)	.85
Pepper steak over confetti rice		2.45
Veal Parmesan w/one veg.		2.65
Hot Deli: Corned beef	(bread)	2.35
	(roll)	$2.50

Tuesday, September 16

Turkey noodle soup	(cup)	.65
	(bowl)	.85
Pork loin and stuffing w/one veg.		2.55
Baked ziti w/garlic bread		2.45
Half avocado stuffed w/turkey salad (lite weight)		2.65
Hot Deli: Monte Cristo		2.45

Wednesday, September 17

Potato/bacon chowder	(cup)	.65
	(bowl)	.85
Beef stew w/biscuits		2.45
Spinach soufflé w/one veg. (lite weight)		2.45
Hot Deli: Grilled Reuben		2.45

Thursday, September 18

Tomato beef soup	(cup)	.65
	(bowl)	.85
Chicken stir-fry w/snow peas		2.55
Salisbury steak w/one veg.		2.45
Hot Deli: Turkey	(bread)	2.35
	(roll)	2.50

Friday, September 25

Seafood gumbo	(cup)	.65
	(bowl)	.85
Yankee pot roast w/one veg.		2.50
Broiled fresh fish w/one veg. (lite weight)		2.65
Hot Deli: Roast fresh ham	(bread)	2.35
	(roll)	2.50

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department and/or appropriate bargaining unit, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Employment Manager, Ext. 2882.

THE VACANCY LISTED BELOW HAS BEEN EXEMPTED BY THE DIRECTOR'S OFFICE FROM THE CURRENT FREEZE ON OPEN REQUISITIONS.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

2479. LABORER - Plant Engineering Division.

Autos & Auto Supplies

79 VW RABBIT - 2 dr., 5 spd., a/c, stereo cass., roof rack. $1,500. Ext. 4209 or 286-8496.

80 OLDS CUTLASS SUPREME - 46k mi., am/fm cass., p/s, p/b, a/c. $4,000; 77 Dodge Aspen SE Wagon, 100k mi. $1,500 firm. Ext. 5294.

PALOMINO POP-UP CAMPER - sleeps 6-7, stove /oven, furnace, 3-way refrig., pressurized water, port-a-potty, custom lights. $2,000. 473-6546.

77 HONDA ACCORD - 5 spd., new brakes, starter, high mi., rusty, runs. $200. Ext. 2417 or 732-6499.

OIL FILTER - dual, for Ford. $2. Morris, Ext. 4192.

76 TOYOTA CORONA WAGON - orig. owner, good basic trans. $750. neg. Brant, Ext. 4552 or 929-3310 before 10 p.m.

79 MERCURY MARQUIS WAGON - 302 V8, a/c, p/s, p/b, a/t, am/fm stereo, roof rack, high mi., good cond. $2,100. 821-0695.

80 FORD MUSTANG - am/fm stereo, white, red interior, v.g. cond. $1,700. 924-5079.

77 PINTO - 4 cyl., 4 spd., am/fm, many new parts. $300. Dave, Ext. 4428.

73 CADILLAC COUPE DeVILLE - good cond., runs well. $475; 72 Chevy Monte Carlo, V8, a/t, good cond. $500. Frank, Ext. 2022 or 399-4480.

83 HONDA - CB1100F, Super sport, red, white & blue, limited edition, good cond., many extras. $2,200. 298-4148 after 6 p.m.

76 DATSUN 710 - $385. Chong-Sa, Ext. 3748 or Ext. 3030 eves.

80 CHEVY CITATION - high mi., am/fm stereo, V6. $500. Joe, Ext. 4028 or 821-3669.

72 CHEVY MALIBU - V8, a/t, 4 dr. model. $200. Martha, 584-7206 after 6 p.m.

70 VW - parts, type 3, fastback, 26k mi. on rebuilt engine, new starter, good battery, good interior. Walt, Ext. 4489 or 757-6392.

79 FORD FAIRMONT WAGON - a/t, 6 cyl., p/s, p/b, a/c, am/fm stereo cass., roof rack, almond color, excel. interior, runs well. $1,600. 924-7035.

75 PONTIAC LeMANS SPORT COUPE - 8 cyl., a/t, p/s, p/b, red, new Goodyear tires. $1,300. Mark, Ext. 4028 or 734-7561.

83 TOYOTA TERCEL - 2 dr., 4 spd., 55k mi., new tires, brakes. $3,200. Jay, Ext. 4994 or 751-0538.

CHROME BUMPER - fits Ford van-p/u. $60; chrome roof rack, fits van, s/w. $10; manifold w/carb, fits Ford 351. $50. Ray, Ext. 3536 or 289-7615.

77 BUICK LeSABRE - a/t, a/c, p/s, am/fm cass., new vinyl roof. $800. Robin, Ext. 3414.

85 DODGE CHARGER - 2.2L/5 spd., sunroof, louver, spoilers, 5/50 warranty, low mi., excel. cond., extras. $8,000 neg. 727-2861 after 5:30 p.m.

TIRES - Radials, (1) Goodyear polysteel, P205/-70R14, (1) Goodyear viva, P205/75R15, (1) Goodrich steel-belted, P195/75R14; snows mounted on Ford rim. $5. each. Henry, Ext. 3084.

82 HONDA CIVIC - orig. owner, new car cond., am/fm 8-track stereo. Ext. 2384 or 878-0074.

75 FORD GRANADA - 4 dr., 250-6 cyl., a/t, new brakes and exhaust, good cond., dependable. $400. 589-4363 after 6 p.m.

80 DATSUN 210SL - 5 spd., a/c, 69k mi., 40 mpg, excel. cond. $2,500 neg. 589-7496.

74 MUSTANG - needs engine and body work, best offer over $300. Dave, Ext. 3093.

82 TOYOTA TERCEL - good cond., a/c, new tires, am/fm cass., 5 spd., 4 cyl., 4 w/d. $3,200. Ext. 3389 or 727-6385.

TIRES - (4), w/aluminum slots, 13 inch, for Datsun. $100. or best offer. Wayne, 698-1184, 5:50 - 7:00 p.m.

80 OLDS TORONADO - red, V8, diesel, all power, orig. owner, clean. $4,000. Ext. 3794.

73 BUICK REGAL - recent tune-up, needs minor body work, good running cond. $325. Alaine, 758-5288 or 654-5569.

71 CHEVY WAGON - 9 passenger Kingswood, doubles for truck. $500. 744-3069.

79 MONZA WAGON - 44k mi., excel. cond., 6 cyl., new tires, brakes, muffler, good mi. $1,600. 289-0034.

RADIO - Delco am/fm. $15. Walter, Ext. 3988 or 567-9025.

82 CHEVY S.W. MALIBU CLASSIC - a/c, V6, in perfect cond. $3,500; Tires, (2) 875 16-5LT Goodyear, 6 plys, $40. for all. 475-4596.

66 FORD MUSTANG - not running. $500. 399-0942.

81 PONTIAC PHOENIX - hatchback, am/fm, new tires and shocks, good value. $1,900. Christoph, Ext. 4360.

84 FORD TEMPO GL - 32k mi., 2 dr., a/t, p/s, a/c, 4 cyl., asking $4,800. Fred, Ext. 3155 or 286-3446.

CAMPER - 9½ ft. slide-on, gas stove, heater, ice box, ideal for hunting or fishing. $150. Jim. Ext. 4215.

71 BUICK LaSABRE - p/s, p/b, a/c, for parts. 584-7750 after 6 p.m.

TIRES - (4), 17SRx13", on Datsun rims, almost new, whitewall, all or pairs. $25. each. Joe, Ext. 3464 or 281-7683.

RIMS - Buick, 15", 5 hole. $5. each; fuel pump, Ford, 8BA, V8. $15; reworked head and exhaust manifold for Ford 250 cu. in., 6 cyl. engine. $80. Ext. 4782.

75 FORD LTD. - 2 dr., p/s, p/b. $700. 475-4394.

78 CHEVY ENGINE - 305 cu. in., runs excel., approx. 60k mi., asking, $350. Jim, Ext. 4688 or 286-8611.

77 CHEVY MALIBU - runs excel., rebuilt trans., no dents, must sell. $1,500 neg. 744-5122 after 6 p.m.

74 MUSTANG - 4 spd., 4 cyl., stereo. $400. Dave, 734-6270 or 765-1229 eves.

69 FORD FAIRLANE - V8, 4 dr., a/t, runs well, good for first car. $400. Jack, Ext. 4722.

81 OLDS CUTLASS LS - p/s, p/b, a/c, 6 cyl., 4 dr., new brakes, 46k mi., fine cond. $3,900. 289-1883.

78 OLDS DELTA 88 - 8 cyl., 4 dr., a/t, a/c, p/b, p/s, excel. cond., immaculate interior. $2,200. Nobal, Ext. 3531.

MAG WHEELS - 1 set for Ford Mustang. $75. Ext. 3254.

74 HONDA CB400 - red, chrome fenders, 33k mi., excel. cond. $400. Ext. 3499.

77 CHEVY IMPALA - a/t, a/c, am/fm stereo cass., new tires, good cond. $1,200. Shu, Ext. 3499.

78 PONTIAC PHOENIX - 231-V6, a/t, p/s, 103k mi. $895. Ext. 7593 or 878-0653.

79 FAIRMONT WAGON - 6 cyl., a/t, good cond., am/fm. $1,500; 77 Chevy Nova, 6 cyl., stick, runs well, high mi. $1,000. Ext. 4605 or 281-5956.

72 PONTIAC BONNEVILLE - 455 cu. in. engine, a/c, p/s, p/b, p/w. $550. John, Ext. 7527.

72 FORD LTD - new trans. Ext. 4995 or 399-1249.

Boats & Marine Supplies

27" SPORTSCRAFT - 1975, 350 cid inboard, FWC, recorder, loran, full canvas, 160 gallon fuel tank. $9,750. Chris, Ext. 4028 or 399-3732.

19' RENKEN BOWRIDER - 120 h.p. Volvo I/O, 150 hours, full canvas, trailer. Ron, Ext. 7533 or 286-0353.

23' SABRE - 1966, fiberglass, I/O, 150 h.p., new top, orig. owner, mint cond. 265-2574.

20' SLOOP - sleeps 2, fiberglass over wood, gaff rig. $4,000. Ext. 7225 or 929-6748.

16' DURANUTE ALUMINUM - off-shore model, 1983 35 h.p. Evin., side steering consol, Telflex boat trailer, new rollers, new wheels. 929-6564.

19' TRI-HULL - w/walk-thru windshield, 70 h.p. Johnson outboard, trailer. $2,750. 325-0582 after 6 p.m.

8' SAILING/ROWING ELI - fiberglass dinghy, used one season, like new. $550. Al, Ext. 7588.

15' KAYAK DOWNRIVER RACER - Baldwin extinguisher, all Kevlar, new cond. $725. 698-9160 eves.

TRAILERS - (2) ¾-ton tilt beds, 15' and 17' boat sizes. $50. & $75. Joe, Ext. 3464 or 281-7683.

16' FLEETCRAFT - 1973, 70 h.p. Evinrude, new top, new canvas, excel. cond., in water. 878-0994.

18' RENKEN BOWRIDER - 1983, 120 h.p. I/O, trailer, full cover. $6,500. Ady, Ext. 4531 or 331-3785.

16'7" BOSTON WHALER - 50 h.p., galvanized trailer, w/extras. $3,500. Ext. 4605 or 281-5456.

Miscellaneous

TRICYCLE - new, $15; plastic palm, $25; organ w/books, new $50; plant hangers, 50¢ ea.; rocking horse, $10. 732-5047.

REFRIGERATOR - Sears Coldspot, frost-free; Lady Kenmore dishwasher, Hotpoint electric stove 24", $150 each or best offer. 289-1439, eves.

GO-CART - runs but needs work. $150. 728-2104.

ENGLISH SPRINGER SPANIEL - male, four months old, papers, reasonable. Ext. 2959 or 751-1131.

CURTAINS - approximately 7'x8' area, very good cond. $20. Morris, Ext. 4192.

POOL - above ground, 15' diameter, 2 yrs. old, w/pool accessories. $300. or best offer. Ext. 3809.

PEKINGESE PUPPIES - AKC, health guarantee and shots. 654-1731.

TORO LEAF VACUUM - 4 h.p. $250; water pump, deep well, 1 h.p., new. $150. 399-3899 after 5 p.m.

REFRIGERATOR - 19½"x21"x34", white, formica wood grain top, door shelves, deluxe model. $85. Pete, Ext. 4326.

SOFA - opens to queen size bed, red velvet, excel. cond. $150; bedroom set, 4 pieces. $150. Ext. 2683 or 751-2469 eves/wknds.

WOOD LADDER - extendable. $15; el. metrenome. $35; weighted umbrella stand. $5. Sal, Ext. 2460.

PUSH MOWER - Chemson, reel-type. $15; Scholastic Systems Inc. speed reading system, instruction books, reading machines, materials. $20. Ext. 4782.

COLONIAL WOOD DOORS - (1) 77"x20"; (2) 77"x24"; (1) 77"x30"; (2) 78"x30". $5. each. Henry, Ext. 3084.

ELECTRIC GUITAR - Aria Pro II, new cond., w/strap, hard case, whammy, fine tune. $160. Dave, 821-0250.

EXCELSIOR ACCORDIAN - $45; one-man duck box boat. $35; (2) black duck decoys w/weights. $3.50 each. 878-6637.

CEILING FAN - w/light, new; outdoor swing; girl's 3 spd. bike. 924-1151 eves.

TICKETS - (2), Moscow State Symphony, Avery Fisher Hall, box seats, Oct. 20th, 8 p.m. $25. each. Don, Ext. 3042 or 286-2267.

PARAKEETS - beautiful pair w/cage, cover and seed catcher. $40. Ext. 5277.

8-TRACK CASSETTES - pre-recorded, cheap, for old car stereo. Ext. 2341 or 821-2716.

DIRT BIKE - 16". $35; wooden climbing frame. $50; chalk board. $5. Lawrence, Ext. 3811 or 744-4789.

COAL STOVE - Franco Belge, good cond. $150. 878-2482 eves.

SEARS WELDER - 250 amp, infinite settings, excel. cond., like new. $150. Dave, Ext. 4417.

HUNTING JEANS - Thinsulate, insulated, camo green, size 42 reg., new, Walls Mfg. Co. $25. R. Mele, Ext. 2514.

COLOR TV - Emerson 19", 10 mo. old, w/guarantee. $140; toaster oven. $20; Dov, Ext. 4552 (work) or Ext. 3105 (home).

HIGH CHAIR - Bilt-rite. $15; girl's clothes, 2-3 yrs., very cheap. 924-0582.

B&W TV - 12", 2 yrs. old, hardly used. Herb, Ext. 3611 or 692-9521 eves.

TYPESETTER - Graphics Systems Inc., C/A/T phototypesetter, 7 yrs. old, working order, orig. cost $14,000., best offer. P. Odom, 924-5533, Ext. 206.

MOTORCYCLE TRAILER - 1975 Sears, 3-bike, asking $350. Ext. 4672.

POOL FILTER - ¾ h.p.; (2) pool covers, 16'x32'. $100. or reasonable offer; aluminum screens, (6), 82"x94", w/tracks. $250. neg. Ext. 3569 or 286-9560 after 6 p.m.

REFRIGERATOR - 14 cu. ft., G.E., excel. cond. $75. 286-0795.

FIREWOOD - split, seasoned oak, 4'x16'x20-22" pieces, delivered. $105. 732-2849.

COLOR TV - Sharp, 13", one yr. old, excel. cond. $130. Zhao, Ext. 3296 or 3079 after 6 p.m.

GARDEN TRACTOR - 1984 Snapper, 16 h.p., heavy duty, hydrostatic trans., w/attachments, excel. cond. $3,500. 289-1359.

REFRIGERATOR - G.E., 2 door, copper color, 14 cu. ft., 64"x30", excel., easy pick-up, street level. $200. 281-7844.

KITCHEN SET - $150; matching ceiling lamp. $50., both very good cond. 724-6408 after 6 p.m.

ETAGERE - white wicker. $60; Sofa, floral print. $55; formica kitchen table w/two leaves. $25. Sal, Ext. 2460.

MINK COAT - dark ranch, size 10-12, like new, moving to Florida, reasonable offer. 325-9511.

LIVING ROOM SET - Colonial, 4-piece. $300; Coal stove, bin, coal. $300. 286-0503 after 4 p.m.

METAL LATHE - 10" Atlas, on stand, chuck and accessories, best offer. 286-0422 after 6 p.m.

REMOTE PHONE - Sears, am/fm clock radio. $35. Ext. 4607 or 368-0452.

PLAYPEN - $12; newborn infant car seat. $15; boy's 2T winter sweater jacket. $10; baby backpack carrier. $10; Baby Snugli front & back knapsak carrier. $15. 744-9677.

COLOR TV - Heathkit, 25", needs work, all manuals. $75; Sansui 1000A amplifier. $25. Mike, Ext. 7594.

HITACHI STEREO - am/fm, turntable, speakers, dual cassette system. $100. firm; fish tank, 30 gallon, filters, plants, new pump, hood, stand. $100. Jim, Ext. 4215 or 878-8012 after 6 p.m.

COLOR TV - G.E. console, 25". $150; Magnavox color TV console, 25". $125. Both very good cond. Ext. 3589.

DISKETTES - 3M, 5¼", ds/dd, new, $10./10; portable typewriter. $25. Jim, Ext. 3372.

WATERBED - queen size, frame, heater, like new. $350. or best offer. Jon, Ext. 2948.

ROLL BAR - w/hardware, wired for lights, for mini pick-ups. $75. Al, Ext. 4826 or 231-4613.

MATTRESS - king size, 78"x78", super-orthopedic, mint cond. $80. Aron, Ext. 7545.

KITCHEN SINK - white, cast iron, 22"x24", w/rim. $25. Ext. 2705.

DRUMS - Slingerland, 3 toms, bass w/cases., excel. $500; Roto-toms, 10" & 12", w/stand and cases. $135. Ext. 3499.

COAL STOVE - Franco Belge, thermostat, 60 Btu, good cond. $400; Miller ARC welder, 250A, 220V, welding hood, good cond. $200. firm. Ext. 4081 or 874-3844.

WHIRLPOOL FREEZER - upright, 19 cu. ft., cost $600., asking $495. 728-6353.

COMPUTER - Commodore 64, never used. Ext. 4995 or 399-1249.

SKI PANTS - men's, wool poly stretch, size 34R, never worn. $75. Ext. 4727.

WEDDING GOWN - silk, embroidered, ivory organza, off-shoulder, size 7. $175. Gloria, Ext. 2837.

COAL STOVE - Surdiac Southpost, MC/C 512, 44 Btu, auto-feed, heats 13,700 cu. ft., wood door, weatherstrip, w/weatherstrip jams, 1¾x36x6'8". 475-0509.

CLAM RAKES - (2) mud, (1) sand, 2 "T" handles, baskets, box 1". $75. Joe, Ext. 3464 or 281-7683.

HAM STATION - Heathkit, MR-1, MX-1, ac power supply. $80; Heathkit Apache transmitter. $50. Jack, 588-0910.

MICROWAVE CART - walnut, new, butcher block, shelves and cabinets. $100. neg. 588-0493 after 7 p.m.

Yard Sale

CENTER MORICHES - yard & bake sale, corner of R.R. Ave. and Main St., Sept. 20., 10 a.m. - 4 p.m., rain date Sept. 27. 878-2239.

Free

KITTENS - three, 2 males, 1 female, ready to go in 2 wks. Dave, Ext. 3093.

KITTENS - 5 wks. old, ready to leave mom. Ext. 2841.

KITTEN - gray w/blue eyes, lovable, sweet, please give home, only 1 left. Ext. 4935.

JUNK CARS/TRUCKS - taken free, will pickup. Ext. 4081 or 874-3844.

Lost & Found

LOST - men's jacket, blue nylon, light-weight, on softball field 4, Thurs., Sept. 4. Pete, Ext. 3297.

Car Pool

PATHOGUE - van pool, seat open, leave name and number. Ext. 4669.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed, sex or national origin of the applicant.

For Sale

SHOREHAM NORTH - 4 bdrm., Colonial, 2½ baths, den, f/p, bsmt., fenced, patio, formal dining rm. 744-1750.

ROCKY POINT - 3 bdrm. ranch, l/r w/fp, fam. rm., full bsmt., deck, town water, treed, parklike, lg. play area, $144,000 neg. 282-2017 or 744-7708.

MASTIC BEACH - 5 rm. house, 2 bdrm., l/r, eik, full bath, 80x100 plot, $63,500. 744-2821.

SHOREHAM - 3-4 bdrm., 1½ bath, l/r, eik, den/fp, study, gar., shy ½ acre, low taxes, more, $124,000. 821-1704.

PORT JEFF. STATION - Sagamore Hills condo, 2 bdrm. townhouse, 1½ bath, mint cond., prime loc., for sale by owner, $120,000. 331-1638.

RONKONKOMA - ½ mi. LIE, across lake, hi-ranch, 2 independent nice apts., 3 & 2 bdrms., l/r, d/r, eik, great income, Connetquot S.D., $142,000. Ext. 2830 and 543-0487 eves.

MASTIC - 3 bdrm., eik, d/r, l/r, w/w, appli., city water, furn. bsmt., fenced yd., extras. 281-1294 eves.

For Rent

HILTON HEAD, SC - 2 bdrm. condo, sleeps 6, many extras, beach, pool, tennis, golf, fall special, Lab employees & families only. $300/wk. 585-9149.

E. PATCHOGUE - S. of S. Country Rd., 2nd fl. apt., 2 bdrm., l/r, eik, priv. ent., avail. Oct. 1, $450/mo. + util., no pets. Walt, Ext. 2907 or 698-0576.

SHIRLEY - 1 mi. Smith Pt., 8 mi. BNL, immaculate 3 bdrm. ranch, l/r, d/r, eik, util. rm., w/w. appli., fenced-in-yard, quiet st., $750 + util. 744-5448 after 5 p.m.

SOUTHAMPTON - 3 rm. new apt., off Noyac Rd., furn. or unfurn., avail. Oct. 1, $550 incl. util. 744-3315 after 6 p.m.

MASTIC BEACH - spacious 1 bdrm. apt. w/priv. ent., nice neighborhood, full kitchen/bath, lge. sunny l/r, avail. Oct. 1. Jim, 281-2849.

VERMONT - vacation house, f/p, fully equip., beautiful view, apple picking, foliage, alpine slide, woodland trails, reas., fam. oriented, avail. weekly or wknds. 732-6499 after 6 p.m.

SHOREHAM - lovely house, SWR school dist., 4 bdrm., 2 bath, full bsmt., deck, gar., all appl., Oct. 1. 744-5412 between 5-9 p.m.

CENTER MORICHES - 2 bdrm apt., eik, priv. ent., no pets, 15 mins. from Lab along Sunrise Highway, $550/mo. Mary or Rob, 878-6831 after 8 p.m. or wknds.

WADING RIVER - fully equipped house, share & cat sit, off season, non-smoker, $250/mo. + ½ util., sec. 929-8443.

REMSENBERG - contemporary, 3 bdrm. house, furn., passive solar heating, Sept-May, $500/mo. 325-0582 after 6 p.m.

SHOREHAM - 3 bdrm. house, l/r, d/r, lg. kitchen, all appli., lg. yard, 5 min. to the Lab, avail. Oct. 1, $725 + util. 744-9697.

NORTH SHIRLEY - 3 bdrm. apt., full bath, l/r, appl., 7 min. to Lab, avail. Sept. 1, $700 + util. 395-1084.

CATSKILLS - 3 bdrm. chalet w/sleeping loft, fully furn., rent for fall foliage or deer hunting. Judy or Kay, Ext. 3595, or Bea, Ext. 3642.

PORT JEFFERSON - spacious 1 bdrm. apt. in quiet refined area, furn or unfurn., $550. 473-8470.

NYC - E 34th St. apt., avail. wknds., $150. Don, David, Ext. 3042 or 286-2267.

Wanted

LAWNMOWER & UTILITY TRAILER - in good cond., reas. Walt, Ext. 2907 or 698-0576 after 6 p.m.

14" RIM - for Chevy, must be usable over disk or drum brake wheels. Morris, Ext. 4192.

HOUSE OR APARTMENT - to rent for Danish physicist & wife, after Oct. 1. Torsten, Ext. 3817.

TEACHER - of Jewish history & culture, part time. Sondra Korus, 727-3353, or Elaine, Ext. 3188.

WOOD CHIPS - or top soil, free or cheap. Rich, Ext. 3386.

DRIVER - in need of one-way transportation to Southern Calif. to drive Chevy Nova ASAP to LA area, call to discuss flexible arrangements. Dorry, Ext. 2103 or 286-0126 after 6 p.m.

BIKES - men's, women's & kids, Huffy. Ext. 4490 or 744-2275 after 5 p.m.

BASEBALL CARDS - any year, any cond. Ed or Dennis, 744-7796 after 6 p.m.

TRAINS - Lionel, American Flyer, accessories, any cond., brings good price. Carole, Ext. 3362 or 924-4097 eves.

BELLPORT TEENAGER - to sit w/10yr. old boy after school, my home. 286-0422 eves.

AMPLIFIER - for electric guitar, reas. Bob, Ext. 7204 or 331-5912 eves.

HOUSEMATE - C. Moriches, 3 bdrm. waterfront house, non-smoker, $266/mo. + util. Ext. 4245 or 878-4130 eves.

CHILD CARE - responsible mother will care for your child in her apt. on site. Ext. 3019.

SMALL OUTBOARD - needing work or running up to 10 h.p., reas. Ext. 4081 or 874-3844.

APPLE COMPUTER - disc drive, color monitor, Ext. 4490 or 744-2275 after 5 p.m.

SKI MAGAZINE - Feb. '86. Ext. 4727.

Ads left out of this issue due to lack of space need not be re-submitted to appear in the next issue.

Classified Ad Policy Deadline is 4:30 p.m. Friday for publication Friday of the next week.