BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Doug Humphrey

Discussing district heating on Long Island at a forum held Monday at the Lab are, from left, Lee Koppelman, Director of the Nassau-Suffolk Regional Planning Commission; the Honorable George Hochbrueckner, New York State Assemblyman; and Bernard Manowitz, chairman of BNL's Department of Energy and Environment.

A Look At District Heating

This past Monday, a forum on district heating was held at Brookhaven Lab. Spearheaded by James Powell, DNE, and John Karkheck, formerly of BNL and now with General Motors in Illinois, the meeting brought together local policy makers and technical experts in the field to talk about the possibilities for district heating on Long Island.

District heating is a system that serves urban and suburban population clusters. In some cases, it draws on a source of free energy: waste heat from power plants and industries. Where a plant is exclusively used for district heating, the system can be more efficient and, in the case of a coal plant, less vulnerable to oil supply fluctuations. According to Powell, district heating is widely used in Europe and is starting to look more attractive in this country. However, American cities and towns aren't rushing to convert to district heating, because it isn't right for all areas and careful study is required to determine its feasibility for each case. Also, except in places like Boise, Idaho and Klamath Falls, Oregon and sections of a few large cities, Americans have not had much experience with district heating. The first question is, "will it work?" The second is, "how much will it cost?"

Now, city planners, town officials and private companies can come to BNL for help in answering those questions. Ann Reisman, at the National Center for Analysis of Energy Systems, is working on a methodology to examine the economic feasibility of district heating in communities. "It provides a first-cut look at a community to see if conditions are right for district heating," says Reisman, principal investigator of a DOE-funded district heating program.

Reisman says Karkheck and Powell had done some earlier calculations which were slowly turning into a computer model, and she, with programmer Keelin Fendler, took over the task in January, 1980.

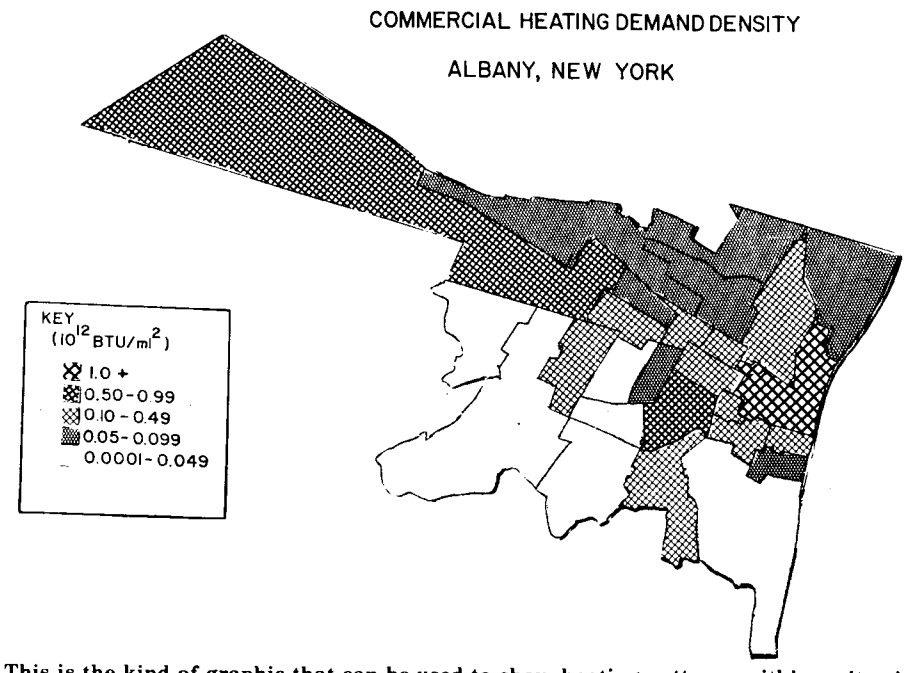
Reisman designed the model to identify areas of a community where there is high heat demand, identify heat sources, and lay out the most economical distribution system to hook up the supply and demand sectors. The model considers such cost variables as piping materials, labor, pumping fuel, heat source fuel, and construction and operation of a heating facility. "What comes out is a total cost estimate of putting in a system and operating it for a 30-year life-time," Reisman says.

She recently did a case study on Provo, Utah, population 50,000. The city is considering building a district heating plant using geothermal, coal or refuse burning. It has a low population density, which means a lot of piping per household, but the numbers that have come out of the model indicate that district heating would be economically feasible for Provo.

"It's a popular misconception that high density is required for successful district heating," says Reisman. "Under-the-street congestion, like sewer, water, gas, electricity and telephone lines, can be so bad that if hot water heating pipes have to be woven into the mess, labor costs skyrocket, making the venture very expensive." Reisman says every city or town needs a tailored plan.

Recently, the Department of Housing and Urban Development and the Department of Energy invited cities and towns across the country to apply for money to examine the economic feasibility of district heating for their communities. Reisman reports that 111 responded and 28 were selected, among them New York City and Albany. She says some of those who didn't win are so convinced about the

(Continued on page 2)



This is the kind of graphic that can be used to show heating patterns within a city. As indicated by the legend, 10^{12} BTU/square mile is used as a standard for heat demand density. To read the graph, match a cross-hatch pattern with its corresponding range of numbers in the legend and multiply by 10^{12} BTU/square mile. The resulting number gives the heat demand density for that area on the map.

Feedback on Cutbacks

In response to the Cost Cutting Committee's request for suggestions, employees have already sent in a number of ideas. Joseph Hendrie, chairman of the committee, has indicated his appreciation for the thought and concern that has gone into these suggestions and hopes that everyone will continue to be alert to any possible economies. He notes that "of course, we can't use everything, and it may well be that on further examination, some suggestions may not actually save us money."

Here is a sampling of the suggestions thus far, and Hendrie says that his group would appreciate hearing from employees as to their reactions. For instance:

Space — Where there are empty offices, consolidate personnel and close off sections of buildings or, where possible, shut down modular units and move people back into buildings.

Pay cuts — Pay reduction for employees making over a certain amount; or a percentage decrease which would depend on the salary range; or a flat percentage decrease for everyone.

Furlough — Close the Lab for several days, with everyone taking leave without pay.

Holidays — Take the two floating holidays and put them in Christmas week, and close down the Lab. Vacation or leave without pay could be used at the employee's option for any days not covered by holidays.

Transportation — Eliminate unnecessary Lab vehicles.

Vacation allowance — Reduce the allowed vacation carryover from the current 36 days to 26 days, the reduction to be effective October 1, 1982.

Recreation — Close the swimming pool and gym.

Pay periods — Instead of weekly and monthly pay periods, have all employees on same payroll schedule, e.g., every two weeks.

Administration & budget — Reorganize and consolidate the administrative and budget functions now done in both the departments and in the Director's Office.

Group energy manager — Have each research group appoint an "energy manager" to check which equipment must be kept running and which could be shut down over night.

Energy from waste — See if use could be made of waste energy from Lab equipment to heat buildings.

Time cards — Tighter control of time card reporting, with supervisors keeping a daily log and signing time cards only for their own people.

Retirement — Ask for voluntary retirement.

Travel — Place a ceiling on all Lab travel.

Work week — Put Lab on 4 day work week/10 hours per day.

Job-sharing — In appropriate jobs, have two employees who are agreeable work one job; half time for half pay.

Send your reactions to the above, and any other ideas you may have, to Joseph Hendrie, Bldg. 475.

Former BNL Student Wins Nobel Prize

Although it was 24 years ago, Jim Cumming recalls that Roald Hoffmann, his 1957 summer student in chemistry, "had great promise. He was clearly one of the brightest people we'd seen." Hoffmann's early promise has since been fulfilled and often recognized by his peers in the American Chemical Society. On Monday, however, it received worldwide recognition when Hoffmann was awarded the Nobel Prize in Chemistry.

Hoffmann, now chairman of the chemistry department of Cornell University, shares the award with Kenichi Fukui of Kyoto University, Japan, for their independently developed but similar theories of quantum mechanics. These theories describe the behavior of atoms and molecules in order to predict the course of chemical reactions.

But when Hoffmann came to BNL as a Columbia University undergraduate student, he was not yet a theoretician. That summer he practiced experimental nuclear chemistry at the Cosmotron, working with Cumming to develop a system for counting Carbon-11. At summer's end, he continued as a research collaborator, commuting to the Lab in the evenings and on weekends until the system was completed and any problems had been eliminated. "This was so effective," said Cumming, "that it formed the basis for a number of measurements for many years thereafter, both at the Cosmotron and the AGS." Cumming also said that their efforts resulted in what may have been Hoffmann's first published scientific paper — a technique paper they co-authored and published in 1958, entitled "Efficient Low-Level Counting System for C_{11}."

After graduating from Columbia, Hoffmann earned his master's and doctoral degrees from Harvard. When he switched from experimental to theoretical chemistry is uncertain, but, remembering that summer, Cumming quips, "Maybe we frightened him out of it." Actually, Cumming feels the world of chemistry has benefited from Hoffmann's choice, saying, "He understands the theory very well and has a knack for explaining it to us non-theoreticians so we can use it very easily."

Cumming, now a senior chemist, continues to stay in touch with the first Brookhaven summer student known to have won the Nobel prize and last saw him four weeks ago when Hoffmann visited the Lab to give a chemistry seminar.

Channels Of Communication

With the large number of employees at BNL, it would constitute a small miracle if every one of them were in agreement all of the time. In recognition of the fact that, on occasion, an employee may disagree with a supervisor or have a work-related complaint, BNL has a number of channels to air and resolve such grievances.

Ideally, any problem can be settled within a department, through first or second line supervision or the department chairman. But, depending on circumstances, the further avenues listed here may be appropriate. Employees are encouraged to become familiar with these options and to use them when it is clear a third party decision is necessary. The several alternatives give employees an opportunity to consult with whomever they feel most comfortable.

Employee Relations Counselor

Janet Whitehead, Assistant Manager of Personnel and Labor Relations, has been appointed Employee Relations Counselor. This office, formerly held by Peter Paige who retired this summer, was established by the Director in March 1980. Whitehead has a comprehensive knowledge of Lab policies and practices and is available for consultation on any work-related problems. She may be reached at Ext. 2872, Bldg. 185. Problems not resolved by her may be referred to the Employee Relations Committee, if the employee so wishes.

Employee Relations Committee

This committee reviews problems of non-bargaining unit employees which come to its attention directly from the employee, or through referral from the Employee Relations Counselor. According to chairman John Keane, the committee has been effective in providing a listening post to relieve employee frustrations and to give objective opinions. Sometimes if there is poor communication between supervisor and employee, the committee is able to open up this avenue. Potential problem areas may be spotted and, if appropriate, Lab-wide policy changes can result. The committee stresses confidentiality in its dealings. Contact the chairman on Ext. 4724, or any other member of the committee: Roger Bailey, Ext. 2491; Frank DeVito, Ext. 4113; William E. Lenz, Jr., Ext. 2422; Vincent LoDestro, Ext. 4592; Irene Steele, Ext. 3415.

Tune In!

Since its inception in 1969, the Tune In! program has provided employees with a means of anonymously questioning Laboratory policies and practices. The Tune In! letters received by the Editor of the Brookhaven Bulletin range from simple comments or requests for information to complaints. After the writer's name is removed, each letter is sent to the appropriate Laboratory official for a written reply. The Editor acts as middleman — making sure the question is answered, preserving the employee's anonymity, and determining whether the question and answer would interest enough employees to merit publication in the Bulletin. The Tune In! approach is recommended whenever the subject is general in nature. Boxes containing the Tune In! forms are located in all major buildings throughout the Lab. Forms can also be obtained from Public Relations, Bldg. 134, Ext. 2345.

Affirmative Action

Several avenues are open to those employees who have a problem concerning the Lab's equal employment policy. Employees, including those covered by a collective bargaining agreement, may consult any of the following. However, adjustment of their complaints must be in accordance with the pertinent collective bargaining contract.

Affirmative Action Assistant to the Director — Harvey Thomas heads the central affirmative action staff in the Director's Office, Bldg. 460. Thomas can be contacted on Ext. 3318.

Women's Program Coordinator — Recognizing that women may have particular employment concerns, the Laboratory appointed Gail Williams to deal with BNL women on these matters. Williams is located in Bldg. 460, Ext. 3338.

Affirmative Action Representatives — These representatives have been selected to respond to employees' equal opportunity concerns in their particular departments. They also act as liaison with Thomas' office. The current list includes:

Affirmative Action Representatives

Accelerator
R. Brown/I. Montanez/R. Edwards/P. MacKay-Iulo/H. Fadem/W. Tuttle/J. Grisoli/L. Toler
Admin. Sys. & Data Proc. MIS.
G. Mack/R. Merker
Applied Math
E. Taylor/M. Cooper
Biology
H. Kondratuck/P. Tinsley-Smith
Central Shops
A. Velasco
Chemistry
J. Fowler/M. German
Contr. & Proc.
R. Piccione
Director's Office
G. Williams
Energy & Environ.
T. Neuhoff/H. Serry/A. Reisman/W. O'Grady/C. Benkovitz
Fiscal
M. DuBois
Instrumentation
B. Gaer/S. Rankowitz
Medical
E. Popenoe/S. Haber/R. Brown
Nuclear Energy
N. Sarsfield/R. Bari/A. Prince
Photo. & Graph. Arts
E. McLean/L. Lawrence
Physics
R. Manning/G. Grigg/M. McKeown
Plant Engineering
J. Mendez/S. Ebron/W. Milian/B. Washington
Reactor
D. Rorer
Safety & Env. Pro.
C. Flood/R. Mosley/P. Cahill
Staff Services
C. Brown
Technical Info.
M. Galli/M. Hicks

Meeting On Statistics

The 1981 DOE Statistical Symposium will be held at Brookhaven, Nov. 4-6 in Berkner Hall. The sessions are open to anyone interested in statistics. For more information on the program, call Diane Barletta (Applied Math) on Ext. 4142.

District Heating (Cont'd)

potential savings of district heating, they are going ahead with studies of their own.

To date, Reisman has had numerous requests to tap her expertise and to use the model. She says this is a good first step in determining the economic feasibility of district heating for a specific community.

•

Winter is the time of year when your car won't start and your fuel bills won't stop.

•

A tax collector has what it takes to take what you've got.

•

Inflation is when your nest egg is no longer anything to crow about.

•

A successful doctor is one who can keep his patients alive long enough for nature to heal them.

United Way Under Way

In summing up her view of the United Way of Long Island and her role as chairman of BNL's 1982 campaign, Betty Pergan cites the slogan coined specifically for this year's Lab drive: United Way... The Fusion of Friendship.

With the opening of the campaign next Monday, October 26, the fusion process will begin. Fusion, according to Webster, is "a merging of diverse elements into a unified whole." This is what Pergan expects to happen as the 27 people who have volunteered to coordinate the United Way effort within the departments each meet with the people in their groups — over 3000 people all together. Despite the diversity of so large a population, Pergan believes that all those people can merge into a unified whole, so that when the fusion process is completed, friendship will be the big winner.

United Way offers a special brand of friendship by supporting over 120 human care agencies that offer health, mental health, family, youth and planning services throughout Long Island. These services are available year-round to you, your family, friends, fellow workers, and the general community.

United Way is supported by your voluntary contributions. You can pledge on a weekly or monthly basis or make a one-time donation. You can return your pledge card either to your coordinator or directly to Payroll. Whatever you choose, if everyone gives something, BNL will be able to reach this year's goal: to top last year's figure of $48,062. "Even a one time donation of a dollar could help someone in need," Pergan says. "Please try to give a little to help a lot."

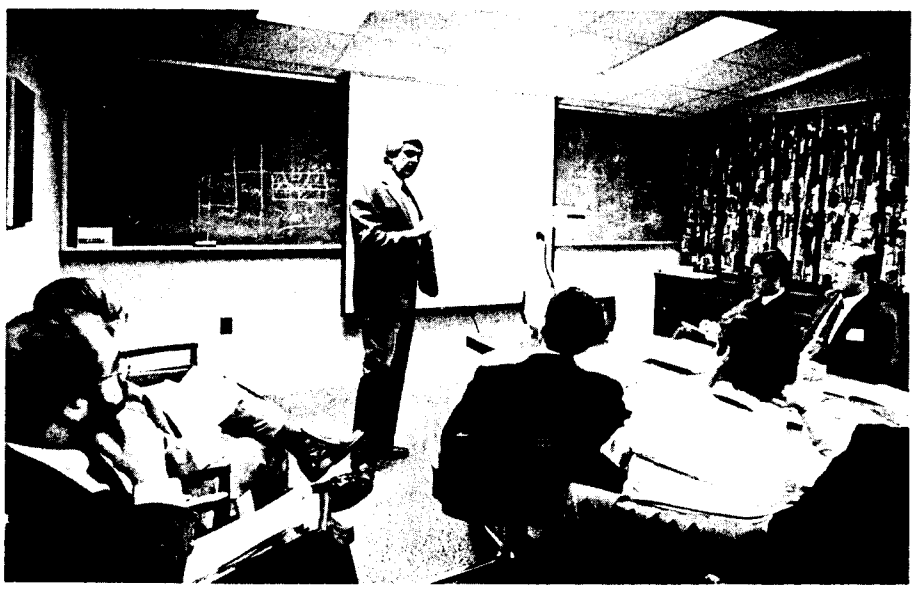
She speaks from experience. As department coordinator of DEE last year, the Senior Staff Assistant guided her department to a 158.54% increase in total contributions. Pergan and assistant chairman, Rosalie Piccione of Contracts and Procurement, both feel that it's simply a matter of education — letting people know what United Way is all about and how important their contributions are. These subjects will be covered by the department coordinators listed here during introductory presentations next week.

Doug Humphrey

Betty Pergan

Department	Coordinator, Ext.
Accel & ISA....	R. Gottschalk, 4805/7184
Applied Math	E. J. McFadden, 4188
ASDP & MIS	Gerard Haubert, 3302
AUI	Elinor Adams, 2498
Biology	Frank German, 2328/3413
Central Shops	W. Massinger, 2957
Chemistry	Madeline Kinney, 4316
Cont. & Proc.	Harold Klein, 4917
DEE (Bldg.179A)	G. Neuhoff, 3058
DEE (Bldg.120).....	Patricia Towey, 3445
DEE (Bldg.475)	A. Vanslyke, 2211
Director's Office	Beth Salata, 3325
DNE (Bldg.830) ...	Calvin Brewster, 3532
DNE (Bldg.197C)	A. Romano, 4024
Fiscal	Josephine Gazzola, 2456
Instrumentation	Lee Rogers, 4222
Medical.....	Amanda Harrison, 3555
NSLS	William Foyt, 4752
Personnel.....	Patricia Gorden, 2880
Photo/Graphic Arts...	Nora Davies, 2926
Physics.....	Sharon Smith, 3995
Plant Engr.....	Edward Byrne, 2477
Reactor	Robert Fuchs, 4400
S&EP	Andrew Hull, 4210
Staff Services	Joan Perullo, 2525
Supply & Materiel ..	Lewis DiCarlo, 2302
Tech. Info.....	Bronnie Orlowski, 3484

Japanese Visitors



Doug Humphrey

To cope with the energy shortage and environmental pollution, Japan initiated its "Sunshine Project" in 1974. Aimed at achieving energy-independence by tapping non-fossil resources, this technical development program is being promoted on a national scale with the cooperation of Japanese research institutes, universities and private enterprises. Accordingly, on October 16, eighteen members of the Japan New Energy Foundation Technical Development Committee visited Brookhaven for an afternoon of presentations about DOE-funded research activities into various energy options. Here, DEE's Alessio (Al) Mezzina addressed the group on the "Chemical Hydrogen Energy Storage Systems Program." The representatives of such Japanese firms as Fuji Electric Co.; Hitachi, Ltd.; Mitsubishi Electric Corp.; and Kobe Steel, Ltd. were also updated by Bernie Manowitz, Sumner Levine, Jim Reilly, Gerry Strickland, Bill O'Grady, Jim McBreen and Eric Forsyth. The areas of discussion included fuel cells, superconductivity, metal deposition studies for battery application, and metal hydrides. The talks and a subsequent tour of DEE's hydrogen storage facility and electrochemistry labs were organized by Frank Salzano, head of the Division of Materials Chemistry and Energy Conversion.

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Women In Science

At the September meeting of the Women in Science, officers were elected to serve for one year in the following capacities:

Group Coordinators —
Betty Heldman and Vicki McLane
Secretary — Mary Phillips
Treasurer — Ellen Gannon
Program Coordinator — Eva Bazoki
Publicity Coordinator —
Mary Kinsley
Seminar-Lecture Coordinator —
Louise Hanson
WIS Liaison Coordinator —
Harriet Fadem

The officers are available for discussions about the group and are receptive to program suggestions.

A joint luncheon meeting of the Women in Science and the Professional Women in Government will be held on Wednesday, October 28 at noon in the Brookhaven Center. Guest speaker Corinne Ince will talk about "Employment Interviewing — Effective Techniques for Conducting and Participating in the Job Interview." All women are invited. Those wishing to attend should send a check for $6, payable to SAGA Foods Inc., to Harriet Fadem, Bldg. 911C, Ext. 4853, by Friday, October 23.

Cooking Exchange

The International Cooking Exchange will feature tempting breakfast foods at its next meeting, "Rise and Shine," on Wednesday, October 28. Meetings are held at the Recreation Building between 12:30 and 2:30 p.m., and are open to employees and their immediate families. There is a $1.00 charge per person and babysitting is provided at a cost of 50¢ for each child.

For more information call Bernie Benz (928-1068) or Ruth Fernow (928-8465).

Realistic painting by Kathi Ince.

Art Show At Berkner

Realistic paintings and wooden sculpture from the Loft Gallery of Southampton, New York, will be exhibited at Berkner Hall, Room B, from November 2 through November 13. The work of two realists, Ricardo Wiesenberg of East Hampton, and Kathi Ince of Brookhaven Hamlet, will be shown along with the sculpture of Michael Ince, also of Brookhaven.

Mr. Wiesenberg, formerly of Germany and Italy, has exhibited widely throughout Europe, including annual shows at the prestigious Haus der Kunst. His classical training and reverent sensibility for the natural form is evident in his paintings based on local East End scenes.

Kathi Ince uses large canvases to depict rural Long Island. Michael Ince does abstract sculptures in natural materials to reflect the local environment, particularly marsh and beach areas.

Sponsored by BERA, the art show opens with a reception from 4:45 p.m. to 7 p.m. on Monday, November 2. Employees are invited to meet the artists at the reception and to view the show from November 3 through 13, between the hours of 11:45 a.m. and 1:30 p.m.

R/C Airplane Club

On Wednesday, October 28, at noon, the Radio Control Model Airplane Club will show the film "To Fly" in Berkner Hall. This general interest film, which has been shown at NASA, traces the history of flight. Everyone is welcome to attend.

Mountain Club

A canoe trip on the Carmen's River is planned for Sunday, October 25. For the following weekend, October 31-November 1, a backpacking trip (destination negotiable) is in the planning stages. Contact Pat Thompson, Ext. 7635 for information.

To Pool Or Not To Pool

When it comes to carpooling, do the benefits outweigh the risks? Do the savings compensate for the rigid schedule? Must all participants have large cars? Bill Graves of DEE has tried to analyze the situation. His statistics are based on 249 work days per year, with each carpooler working on site for 203 days per year, randomly distributed. Some of Graves' findings are summarized here:

- **How often must a carpooler drive?**

Persons in carpool	3	4	5	6
Days each drives	83	62	50	42
Driving days saved	120	141	153	161

- **Can small cars be used?**

The following table shows that smaller cars can be used much of the time.

Persons in pool	3	4	5	6
Persons in car	Trips per year			
2	75	28	8	2
3	110	81	37	14
4		90	83	46
5			73	81
6				60

Based on this, Graves points out that with proper scheduling, a 5-person carpool can use at least one, and possibly two, subcompact (four-passenger) cars. A 6-person carpool needs only two six-passenger cars and can use one five-passenger car as well.

Bowling

Purple League

Highlights for past weeks include games of 235 for A. Pinelli and L. Musso, J. Connelly 601 scratch series, M. Connelly 215/210 games, W. Milian 229, B. Brown 215/221, G. Schuman 212, K. Riker 211, B. Benson 203, E. McDougall 202, J. Penoyar 211.

White League

Notables for prior weeks include J. Griffin 214/215/230 for a 659 scratch series, M. Stoeckel 181/190/512 scratch, N. Erickson 190, R. Flack 190, K. Asselta 203/210/584 scratch, J. Roesler 209, B. Belligan 201, J. Griffin 201.

Pink League

The Lickety Splits are in jeopardy for the first time with the Knockouts trailing by only 3 points. High games were bowled by R. Rosati 179, A. Donegain 175, M. Connelly 171, M.G. Meier 169, D. Johnson 168, K. Kissel 160.

Red & Green League

High games were bowled by K. Riker 235/665 gross, J. Morris 221/223 for a 631/691 series, J. Scandizzo 212, L. Jacobson 212, R. Larsen 206, R. Brown 205, H. Arnesen 203, H. Marshall 201, M. Iarocci 200, A. Almasy grossed 658 and N. Fewell 653.

Soccer

The indoor soccer league will start again on Friday, October 30 at 5:15 p.m. As in previous years, four or five teams will be formed among the various departments, and two matches will be scheduled for each team every Friday throughout the winter months between 5:30 and 7:30 p.m. The first two Fridays will be for registration and open play, with league play starting on November 13.

The annual meeting of the Soccer Club will be held on Wednesday, October 28, in Berkner Hall at noon. All members are requested to attend. For further information call Ken Batchelor, Ext. 4674, Enrique Abola, Ext. 4383, or Dave Cox, Ext. 3818.

Cafeteria Menu

Week Ending October 30, 1981

Monday, October 26		
Black-eyed pea soup	(cup)	.55
	(bowl)	.65
Kielbasi w/sauerkraut		1.60
Cheese omelet w/hash browns		1.60
Hot Deli — Corned beef	(on bread)	1.70
	(on roll)	1.80
Tuesday, October 27		
French onion soup	(cup)	.55
	(bowl)	.65
Beef liver & onions w/one veg.		1.55
Roasted chicken quarter w/one veg.		1.60
Hot Deli — Roasted turkey breast	(on bread)	1.70
	(on roll)	1.80
Wednesday, October 28		
Cream of celery soup	(cup)	.55
	(bowl)	.65
Macaroni & cheese w/one veg.		1.60
Meatballs a la mode over rice		1.60
Hot Deli — Pastrami	(on bread)	1.70
	(on roll)	1.80
Thursday, October 29		
Minestrone soup	(cup)	.55
	(bowl)	.65
Salisbury steak w/one veg.		1.60
Chinese pepper steak over rice		1.65
Hot Deli — Baked Virginia ham	(on bread)	1.70
	(on roll)	1.80
Friday, October 30		
New England clam chowder	(cup)	.60
	(bowl)	.70
Fried shrimp & French fries		1.87
Turkey a la king over buttered noodles		1.65
Hot Deli — Barbequed beef	(on bread)	1.70
	(on roll)	1.80

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, November 4. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $3.50, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Thursday, October 29. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Arrivals & Departures

Arrivals

Peter J. Schultz ..... Physics
David A. Wesner ..... Physics

Departures

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

Harold L. Atkins ..... Medical
David Crowther ..... Biology
Joseph P. DeRosa ..... Staff Services
Richard K. Dilg ..... Plant Engrg.
Maureen Mazzilli ..... Ad. Sys. & Data Proc.
James S. Munson ..... Energy & Environ.
Thomas M. Poole ..... Staff Services
Laurie H. Rhodes ..... Applied Math

Fall Back!

Set your clock back one hour, at 2 a.m. on Sunday, October 25.

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, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

The determination of the best-qualified candidate for available positions will be based upon education, experience and other job-related criteria. Such factors will be evaluated and measured against the demonstrable requirements of the available vacancy, as well as the Laboratory's Affirmative Action objectives.

The Laboratory is committed to a policy of Equal Opportunity in its selection and placement of personnel. Its objective is equality of opportunity in employment, training, and promotion without regard to race, color, religion, national origin, sex or handicap.

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, as indicated below. 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 Personnel Placement Supervisor, Ext. 2882.

There is currently a freeze on open requisitions, however, certain positions must be filled. The Director's Office has approved the filling of the following positions from within the Laboratory.

LABORATORY RECRUITMENT: Opportunities for present Laboratory employees.

1637. PATROL OFFICER - Requires AAS in criminal justice or equivalent experience performing diverse security duties for a large organization. Excellent communication skills are necessary as well as ability to work shifts. Will participate in comprehensive training program in order to become knowledgeable of site and police procedures. Safety and Environmental Protection Division.

1638. MEDICAL ASSOCIATE - Requires a BS in a life science discipline. Experience in animal handling and cytogenetic research is also required. Will perform developmental and testing duties as it relates to the National Toxicology Program contract. Medical Department.

1639. MASTER METAL WORKER, GROUP LEADER. Central Shops Division.

1640. SENIOR STATIONARY ENGINEER - Requires demonstrated experience in the maintenance, repair and operation of high pressure boilers firing #6 fuel oil. Current stationary or marine engineer license is highly desirable. Plant Engineering Division.

Autos & Auto Supplies

SNOW TIRE - GR78-15 Delta Dura steel w/w, like new. $25. 744-1429

80 MONZA - sport coupe, 9,500 mi, showroom cond, must see! Ext. 2926 eves or 744-8063 days.

AUDI - 4 dr sedan, 60,000 mi, good cond, needs wiring, best offer; (2) 14" rims, one w/tire; 1978 Olds tire, radial, good cond, $20. 744-4440.

78 DATSUN - 620 pick up, low mileage, good gas, 4 spd, cap am/fm cassette. $3,700. 732-3350.

72 DATSUN - truck, new paint, clutch, excel cond, 30 mpg. $1,950. 475-3415 after 5 p.m.

76 CHEVY VAN - good cond, new battery, 6 cyl, std shift. $2,700. Weirshousky, 757-5478.

76 CORVETTE - a/t, a/c, p/s, p/w, radials, am/fm, tilt telescopic, 350 c.i. alarm, excel cond. $8,300. 281-9504.

RIMS - (2) Ford 14", 5 hole. $10 pr. 878-9534.

80 KAWASAKI - KX125 dirt bike, excel cond. $850. 477-0264 or 477-2269 after 5:30.

71 PONTIAC - T37, 2 dr, 6 cyl. 929-4734.

80 CITATION X11 - 2 dr, hatch, 6 cyl, std, p/s, p/b, custom int, am/fm cassette, excel cond, must be seen. $6,000 or best offer. Allison, Ext. 2462.

77 CHEVY - pick up, 4 w/d, snow plow, fully customized, too much to list. $5,500. Negotiable. Ext. 3514.

TIRES - (2) 155SR13, good shape, 3K miles. 2/$25. Roger, Ext. 4343.

76 HORNET - 4 dr, a/t, am/fm. $1,300. 744-4254.

HIPPO HANDS - by Vetter, used twice, like new, $40; hiway/crash bar, fits Honda 750, $15. Mike, Ext. 4360 or 698-5861 after 7:30.

73 VEGA GT - trans, rear, frontend, parts; 66 Bronco engine/trans; 1974 GMC pickup bed. 744-9892 after 6 p.m.

71 CHRYSLER - New Yorker, dark green vinyl roof, p/s, p/b, p/w, p/seats, a/c, good cond, chassis and motor manuals. $750. Jim, Ext. 4040 or 289-0876.

77 PACER WAGON - a/t, 20 mpg, runs well, many extras, orig owner, 62,000 mi. $3,000. Ext. 2070 or 283-0223.

78 HONDA - Civic hatchback, 4 spd, am/fm, rustproof, 42K mi, 35 + mpg, excel cond. $3,200. Ext. 2298 or 283-7209 after 6 p.m.

72 PLYMOUTH DUSTER - 6 cyl, 225 eng, p/s, a/c, very good cond. 399-5407.

59 MERCURY - Cruiser, black, 60,000 orig mi, very good cond, in and out, very good running. Must sell. $1,200. 281-0360 after 6 p.m.

TWO NEW - shock-abs 73-78 colt, $5 ea; new wool front rear covers 73-81 colt, ½ price. $30. 698-5475.

80 FORD PICK UP - w/custom fiberglass cap, 6 cyl, 4 spd, 30,000 mi, many extras, excel cond. $6,300. Dorothy, Ext. 2444.

70 FORD LTD - excel running cond, a/c, p/s, p/b, new brake, new muffler. Tom, Ext. 3703.

73 MONTE CARLO - landau, p/s, p/b, p/w, p/d, a/c, tilt wheel, 350- 4 bbl, good cond. $1,000. 744-1429.

72 PLYMOUTH DUSTER PARTS - windshield, $20; hood, $20; both doors, $25. Ray, 727-3608.

65 JEEP PICK UP - plow, cap, good running cond. Bud, 281-2289 after 5 p.m.

75 CHEVY NOVA - 6 cyl, 2 dr, good cond. $1500. 654-3968.

RIMS - (2) Ford 15", 5 hole. $10 each, $15 pair. Ext. 2952.

Boats & Marine Supplies

22' DEEP-V GLASS - $3,000. Offshore or bay boat, Tandem trailer, V6 engine, 3½ gal per hr. Charlie, Ext. 3935 or 325-0968.

1975 GRADY WHITE - twin 70 hp Johnson trailer, full instrumentation, winter canvas, side curtains, many extras. Richie, Ext. 3815 or 924-5329.

Yard Sales

YARD SALE - Sat., Oct. 24th. (Four) 229, 230, 231 and 239 North Prospect Ave., Patchogue. 289-1754.

GARAGE SALE - Oct. 24th, 10 to 5 p.m., bride's gown, $45; baby items; more. 227 Floyd Rd., Shirley.

CUB SCOUT YARD SALE - Sat., 10/24/81, 126 Alder Dr, Mastic Beach.

Free

KITTEN - abandoned, needs loving home, tiger striped, affectionate. Lois, Ext. 2959 or 751-3463.

KITTENS - 9 wks old, playful, adorable. Ext. 7597.

Miscellaneous

KENWOOD DG-5 - digital readout and frequency counter, to sell or swap for scanner. 744-9677.

TWIN SIZE - mattress, box spring w/bed frame, hardly used, $80; tricycle, $20; porta-crib, $8; assorted 8 track tapes, $2 ea. George, Ext. 4460.

LEICA IIIG - w/four lenses, accessories. $1,500. Ext. 4051.

OSCILLOSCOPE - 545, 2 plug-ins, excel cond. $350 firm. Ext. 4058 or 286-0436.

REFRIG - 1.5 cu ft good for bars, campers, etc. $50. R. Hildenbrand, Ext. 3273.

UNICEF - 1981 Christmas cards, gifts, stationery. For catalogs and order, call Ext. 4959 or 821-1734.

REFRIG/FREEZER - 14.0 cu ft Coldspot, very good cond, ideal for second unit. 286-2287 after 6 p.m.

GM INFANT - car seat, $12; Karate Gi (medium) $15; large skykennel, $20; Coleman catalytic heater (new), $20. Ext. 3401.

JAPANESE - Silkie chickens, stereo wood cabinet, $75; GE drop in oven/stove, $125; (2) rims A78-13, $25; excel cond, fits GM and some foreign. 751-5539.

TV STAND - kitchen set; broiler and cart; stereo-radio; sofa; end tables and coffee table; B&W TV; lamp; books; baby's musical mobile; glasses; records. 929-6932.

STEARNS & FOSTER - queen mattress and box spring, ultra firm, like new. $150 set. Ext. 2913.

STUDENTS DESK - w/matching dresser; also fireplace screen. 286-3847.

MAPLE TREES - 4 ft to 12 ft. Reasonable, you dig. Walt, Ext. 7154.

DEEP WELL JET PUMP - ¾ hp motor, micromet feeder, 30 gal tank. $125. 286-0795.

DOBERMAN - 9 mo old. $100. 281-9269.

REFRIG - 17 cu ft Kenmore top freezer, frost free, Sears maintained, excel cond. $150. 281-2186.

CENTRAL A/C UNIT - 2 tons w/air handler, 5/10 kw elec heater. $300. John, Ext. 5279.

THERMAX RUG CLEANER - w/hot water heater, used very little, start your own part time business. Asking $700. Charlie, Ext. 4351.

FISH TANK - 10 gal w/filter, plants, etc. $25. Don, Ext. 7611.

BED - 39x72" mattress, box spring, head board (Gertz) like new. $100. Nick, Ext. 4701.

SKI BOOTS - Caber bios men's 9-9½ brand new, never used. $75. 929-8662.

CANON - 155A flash, works automatically w/Canon cameras, brand new cond. $40. 924-4323 after 7 p.m.

SOFA - 8 ft gold Provincial, excel cond. $200. 281-2186.

STEREO - solid wood, custom console, excel components. 369-2151 after 6 p.m.

GIRL'S COAT - quarter length, blue suede coat, good cond, size 9-10. $15. Bettie, Ext. 3561 or 363-6473.

BIKES FOR X-MAS - recond, better than new, boy's and girl's 20 in. MX type and others. $35-$45. Lamm, 581-6432 eves.

KASTLE - 195 cm skis, $25; 27" men's 10 spd bike, Columbia, $100; Head 720 skis, 203 cm, $20; Solomon 202 bindings, $25; Rosemont boots, men's size 12, $15. 929-4886 after 5:30 p.m.

FIREPLACE SCREEN - tri-fold, black w/brass trim. $25. 929-6692.

WASHING MACHINE - excel cond. $65; air conditioner, excel, $60. 399-2131.

CASSETTE TAPES - quality C-90 FeO and FeCr, $2.75 ea. Ext. 2521 or 928-8379 eves.

TAPE DECK - Tandberg Model 64, 4 track open reel. $220. Ext. 3828 or 751-7250.

PHOTO DRY MOUNTING PRESS - 15"x18", $40; 50 and 75 mm Spiratone enlarging lens. $20 pr. Irv Meyer, 929-4326.

WOOD STOVE - Morso, small black, excel cond, used 1½ seasons w/some stove pipe, $300; wood stove, Fisher Mama Bear, brand new, custom model, $350. Larry, Ext. 5385.

PEAVY BASS AMP - excel cond, "piggy back unit." $350. Joe, 878-1688.

PILLOWS - for Christmas presents. Sharon, 878-0927.

COLLECTOR'S RECORDS - 78 rpm, Goodman, Lombardo, etc, excel cond. Best offer. Sharon, 878-0927.

FIREWOOD - split, seasoned oak, 4'x16'x18". $110 delivered. 924-4284 or 924-2881.

RUG - 6x9 100% nylon Oriental rug, blue and tan, new. $50. 475-4199.

1919 RCA ELECTRIC - Gramaphone console, needs electrical work. $250. 475-5415 after 7 p.m.

COLONIAL FURNITURE - couch, $175; matching large armchair, $75; maple tea cart, $35; pine dresser, $40. 928-1887.

KITCHEN TABLE - six chairs, modern, $60. Ext. 4068 or 473-7171.

Real Estate

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

For Sale

MASTIC BEACH - 4 bdrm Cape, eik, d/r, 160x100 prop, low taxes, gas hot water and cooking, elec heat, l/r with wood burner, walk to stores and bay, existing 8½% Farmers Mortgage. $28,000. 281-0360 after 6 p.m.

PATCHOGUE VILLAGE - M/D, separate entrances/meters, finished bsmt w/bar, 2 zone heat, new 2 car garage w/upstairs. Must see. $38,000. 289-8288.

For Rent

VERMONT CHALET - beautifully furn, stone fp, wood stove, ski Bromely, Stratton, Magic Mountains, XC ski on trails outside door. Rent wkly, wkends, share season. 757-5599 after 5 p.m.

STONY BROOK - 7 rm house for rent: 4 bdrms, 2 full baths, unfurn, $575/mo. 689-9409 after 7 p.m.

HOLBROOK - large ranch, 3 bdrms, huge master, den, eik, l/r, patio, 2 baths, lots of closets, big yard. Dec. 1st occup. $650/mo + security. 472-4573.

SOUND BEACH - furn room. $200/mo util incl, full privileges, food plan, quiet, walk to beach. Roy, Ext. 4662 or 744-8779.

YAPHANK WATERFRONT - 3 bdrm ranch, l/r, d/r, den, eik, playroom, garage. Ext. 3706 or 862-6259 after 6 p.m.

VERMONT - hike, loaf, x-country or downhill ski, fully equipped 3 bdrm, 2 baths, Cape Cod, fp, garage. Reasonable. 732-6499 after 6 p.m.

PATCHOGUE - furn rm, priv entr, priv parking, share bath and refrig w/2 others. One mile from 4 corners, near bay. $45/wk. References. 475-9364 9 a.m. to 2 p.m.

Car Pools

BABYLON/W. ISLIP - driver wanted for 4 person car pool. Ext. 2493.

COMMACK AREA - 8:30 to 5:00, riders & drivers. Don, Ext. 2043 or Jim, Ext. 4452.

FROM PATCHOGUE VIA BELLPORT - on time, opening for paying rider. Alyce, Ext. 2902.

RIDE - for reliable paying rider from Bellport on Mon., Fri. mornings, arriving at 8:15 a.m. 286-8724.

Wanted

WINDOW WASHER - 286-0269 eves.

CARPET/RUG - 5'x12', rectangular, gold/yellow preferred. Eric, 669-4845 or Ext. 2973 after 5 p.m.

TIRES - for boat trailer, 8" or 12" with or w/o rims. 281-8274.

WOODEN DESK - for child's room. 929-6942.

CERAMIC KILN - any cond, priced right. Paul, Ext. 4665 or 727-4859.

HOUSE - for visiting scientist & family, starting December. Contact Malcolm Howells, Ext. 3758.

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

AMBITIOUS PERSON — $200. to $300/wk 4 to 6 hrs./wk. 698-5861 after 7:30.

BABYSITTER - 3½ yr. old child needs a babysitter on site Monday & Tues. afternoon. Ellen, Ext. 3030 or Terje, Ext. 4480.

DUCK BOAT - one or two man boat. 286-0570 after 5 p.m.

ELECTRIC TYPEWRITER - office type, good cond. 878-8967.

BASEBALL CARDS - 369-2151 after 6 p.m.

MANDARIN SPEAKING BABYSITTER - for a 2 yr. old girl, wkdays. Preferably someone who has other children & lives close to the Lab. Mona, Ext. 2347 or 878-9384 eves.

MINERALS - mineral collections, mineral books or magazines. Plotkin, Ext. 4717.

FACES - for free facials. Sharon, 878-0927.

REBUILT ENGINE - in excel cond. for '74 Honda Civic. 878-0927.

SNOW TIRES - 7.60 x 15, not radial. Ext. 4692.

APARTMENT - North Shore or Middle Island area. Pete, Ext. 4363 or 751-1866 after 6 p.m.

STORM WINDOWS - wood 31-¾" x 59"H, for older house. Garry, Ext. 5289.

MILLENIUM FALCON - for Star Wars - struck boy. Will pay fair price for good cond. Dave, Ext. 4289 or 288-3011.

HOUSE TO RENT - Bellport Village or Brookhaven Hamlet, Ext. 5055 or 286-0919.

Lost & Found

LOST - 3" blue binder w/nuclear engineering notes. C. Crofts, 369-7158 or 734-7344.

WISH TO EXCHANGE - Giant Blue Aspen windbreaker which was mistakenly swapped for mine last spring. Ext. 4643.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the ***Bulletin.***

CARPETS INSTALLED - repaired, qiuck dependable service. Free estimates. Jim, 821-0187 after 5 p.m.

LIMO SERVICE - luxury chauffered for Weddings, airport, all occasions. Roy, Ext. 4664 or 744-8779.

FIRESIDE CHIMNEY SWEEPS - fireplaces, wood, coal & oil flues. Professionally cleaned. Lab discount. Insured. Bill, 584-6425.

DRESS MAKING - & alteration, quality workmanship 732-6485.

ASPHALT PAVING - and sealing. Bob, 475-4382.

CARPENTRY - repairs & modifications. No job too small. Charlie, 929-4251 or Joe, Ext. 4660.

RUBBER STAMPS - plastic laminating, pressure sensitive tapes & labels, desk, nameplate badge engraving. 286-3377 after 6 p.m.

RESUME PREPARATION - low cost professional service. Bill Polvent, 744-8999.

FIREWOOD SPLIT - seasoned oak, delivered. $130. per 4'x4'x8' cord. 698-0592.

HIGH SCHOOL STUDENT - available for babysitting and/or house cleaning job. Very reliable. Cindy, 924-3243 after 4 p.m.

POOL SERVICE - reliable, competent work, cleanings, repairs, maintenance, emergencies. 727-4186.

HOUSE SITTER - responsible, available. Call Pete, Ext. 4363 or 751-1866 after 6 p.m.

BURGLAR & FIRE ALARM - equipment for do it yourselfers. Discount prices. Ext. 3815 or 399-3806.

PROFESSIONAL SEAMSTRESS - draperies, Roman shades, clothing, bedspreads, cushions, reasonable prices. 928-8562 after 5 p.m.

SANDBLASTING - trailers, chassis, boxes, tanks, headers, any kind metal equipt. Reasonable rates. 744-3968.

EARN EXTRA CHRISTMAS MONEY - w/advertising & marketing in your spare time 732-6647.

SMALL APPLIANCE REPAIRS - No. Patchogue, vacuums, sewing machines, et. 654-3900.

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