



WOOD RIVER REVIEW

WOOD RIVER MANUFACTURING COMPLEX



VOL. 46, NO. 5, MAY 1983

Annual energy savings of \$5 million

Computer system to support conservation, efficiency efforts

Reducing operating costs by conserving utilities and increasing energy efficiency are goals of a \$9.2 million Utilities Control Center Computer project scheduled for full implementation in 1985. The computer system will monitor utility consumption at approximately 500 points throughout the Complex and regulate the nine steam-producing boilers. Annual energy savings of more than \$5 million are projected.

This will be the third project of its kind for Shell Oil Company; others are in operation at the Norco Manufacturing Complex in Louisiana, and Deer Park Manufacturing Complex in Texas. Wood River's project involves construction of a building adjacent to the Utilities Control Center to

house three new computers, and remodeling of the control room for a TDC-2000 distributed control system. Six computer terminals and other related equipment will also be installed. Shell's Head Office Process Control group is assisting with the project.

To improve efficiency of the Complex utilities system, steam, air, nitrogen, water, electricity and fuel will be monitored. Steam is used for process heat as well as to generate electrical, thermal and mechanical energy. The main functions of air are for catalyst regeneration and to power pneumatic instruments. Nitrogen is an inert gas used to remove combustible material from process

equipment, in tank blanketing and as a backup to the instrument air supply. Water is essential for steam and cooling processes. The Complex uses large amounts of electricity to run high horsepower compressors and pumps. Savings of \$2.6 million a year are achievable by substituting purchased natural gas with less costly fuels. The fuels are used to heat boilers and for process heaters.

There currently is no extensive metering system at Wood River to provide comprehensive data on the amount of utilities used in refinery processes, according to **Greg Gudac**, EOS Utilities/Electrical.

Continued on page 2

Calling all graduates

Wood River Review will recognize class of '83 high school and college graduates in the June issue. Employees as well as sons and daughters of Shell employees and pensioners who have graduated this year are eligible for feature in the newspaper.

Please submit to the editor, Main Office, a head-and-shoulders photograph of each graduate. Include the name of the graduate and school attended, academic major (if college) and type of degree (BA, MS, etc.), relationship to Shell employee or pensioner, and the department where the Shell person works or retired from. Also, provide a mailing address where the photo can be returned after publication.

Deadline for the June issue is Friday, June 3.



Tom Rock and David Webb, operators at the Utilities Control Center, are shown next to the boiler control panels that will be replaced next year with computer terminals. The new computerized system will run the Complex boilers, generators and steam letdown system. Operators will make adjustments by keyboard instructions and "touch" screens.

SHELL SHORTS

Walleyballers

Jake's Bombers captured the 1983 SRA coed walleyball league championship. Team members are **Bill** and **Donna Jacobs**, **Bob** and **Jane Wells**, **John** and **Sue Cook**, **Barb Paul** and **Lee Speicher**.

Fishing tourney

Winners in the first SRA bass tournament of the year, held at Lake of Egypt, are **Orville Rahn, Jr.**, first place; **Dave Plummer**, second place; and **Ron Miller**, third place.

Lost & found

A money clip was found at the Complex and turned over to the South Gate guard station in March. The owner may claim the item by contacting **Bev Reed**, Employee Relations, ext. 2370.

Shell Desk Diary

The 1984 Shell Desk Diary can be ordered by mail for \$4.50 each. Make check payable to Shell Desk Diary and send it along with your name and address to Shell Desk Diary, P.O. Box 2663, Houston, Texas 77001. Deadline is June 1 to assure delivery before Christmas.

Volleyball champs

The Bruins won the SRA men's volleyball league with a 24-4 win-loss record. Team members are **Ken Hudson**, **Jay Rankin**, **Mike Lytton**, **Gary Kindt**, **Kerry Priellpp**, **Mark Booth**, **Kent Peccola** and **Dave Jacober**.

Field Day set

The Shell Amateur Radio Club is holding Field Day activities at Belk Park on June 25 and 26. Field Day is a nationwide amateur radio activity in which members simulate emergency conditions by operating without commercial power. **Tom Colgate**, ext. 2641 has additional details.

Dinner planned

This is early notice of the Wood River Pensioners' Dinner scheduled for Oct. 15 at the American Legion facility, Edwardsville.

SRA SIX FLAGS TICKET ORDER FORM

NAME: _____ COMPANY # _____

NUMBER OF TICKETS	PRICE	TOTAL
_____	X \$7.00 (SRA)	= \$ _____
_____	X \$5.50 (Children 3-6)	= \$ _____
_____	X \$9.00 (Guest)	= \$ _____ CHILDREN UNDER 3 ADMITTED FREE
_____	X \$7.50 (Guest children 3-6)	= \$ -----
		TOTAL COST = \$ _____

MAKE CHECK OR MONEY ORDER PAYABLE TO SHELL RECREATION ASSOCIATION, P.O. BOX 7, ROXANA, IL 62084. TICKET ORDER DEADLINE IS JUNE 8. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE WITH EACH ORDER.

Family Day tickets on sale for June 18 at Six Flags

SRA isn't guaranteeing perfect weather, but it does promise a good time for people who attend Family Day at Six Flags on June 18. The event begins at 10 a.m. and concludes at midnight.

Ticket reservations are being accepted through June 8. Forms are available at the Main and South gates or use the one from this issue of

the Wood River Review.

Four ticket prices are available: \$7 each for SRA members, spouses and children age six and older living at home; \$5.50 each for SRA members' children three to six; \$9 each for guests; and \$7.50 each for children of guests. All children under three years will be admitted free. Tickets will be sold by mail only.

Computer system -

Continued from page 1

"We know how much steam or nitrogen, for example, is going out," he said. "But with the exception of meters on some of the newer equipment, we generally are unable to accurately determine levels of waste. The new system will identify areas where savings can be made by reducing waste."

Gareld Butler, EP&S project coordinator, said more than 500 pressure, temperature and flow meters will be connected by wires to the TDC-2000. Their readings will then be monitored from the Utilities control room.

Tim Kunz, EOS Process Computer Control, explained that the TDC-2000 will serve as a collector of utilities information sent to it by the monitored points. The data is then transmitted to the computers where it will be compiled into a meaningful format for Utilities operators. The system will call attention to points that exhibit readings outside the range of acceptable operating li-

mits, for the purpose of initiating repairs or adjustments.

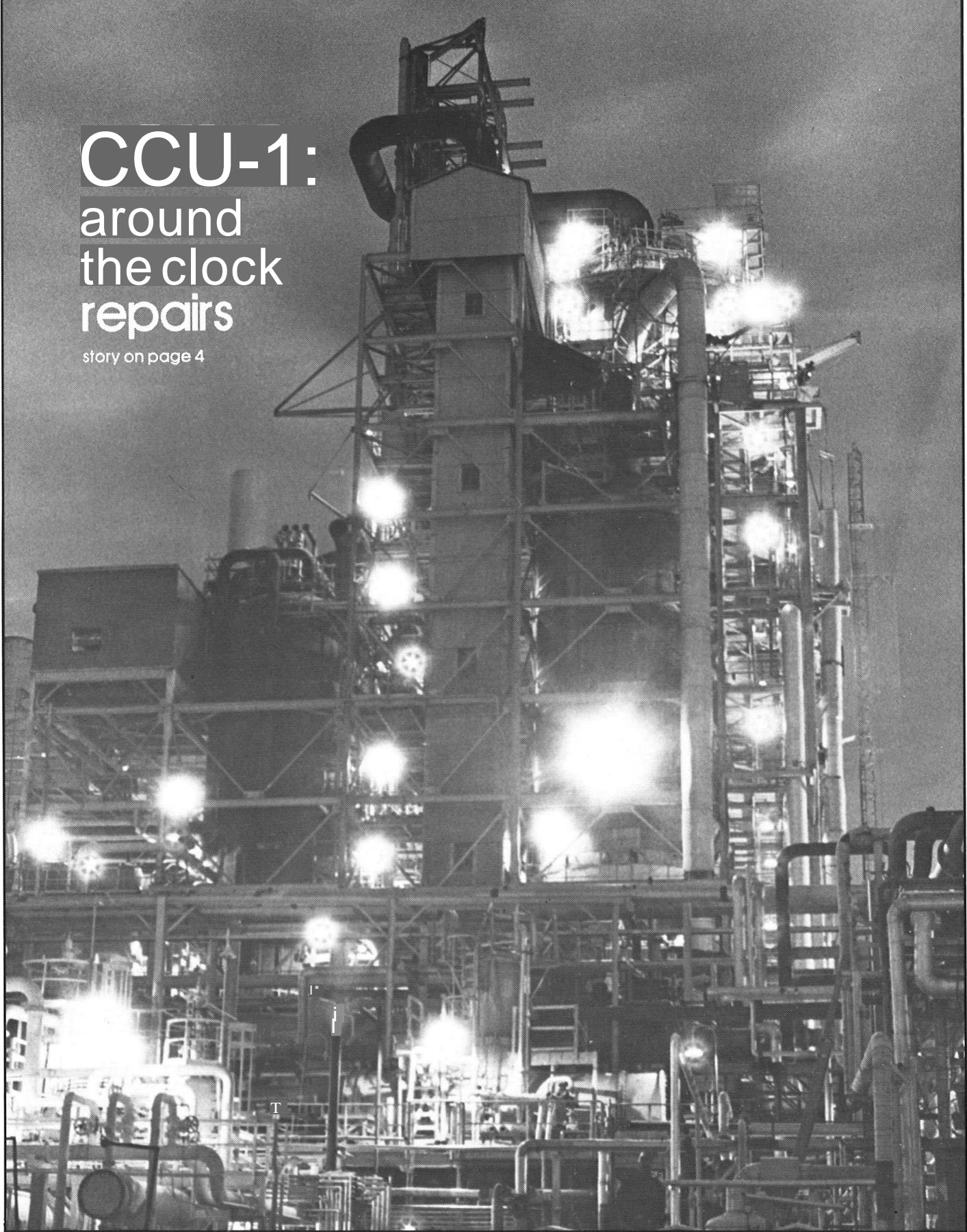
Another function of TDC-2000 will be to run the boilers, generators and steam letdown system. This direct, automatic control replaces the floor-to-ceiling boiler control boards with terminal screens. All boiler operating information will be displayed on these screens and adjustments made by way of keyboard instructions and special terminal "touch" screens.

TDC-2000 is due to arrive at the Complex in spring 1984 and will be put into service for boiler control upon installation. Estimated yearly savings for this function is \$300,000. The computers will be delivered the following year and once connected with TDC-2000 utilities monitoring will begin.

Said **Bill Carr**, Utilities manager, "The sophisticated process computer system will allow us to do a much better job of managing and controlling a large part of Wood River's energy consumption."

CCU-1: around the clock repairs

story on page 4



Cat cracker shutdown leads to gasoline production alternatives

If the pace of Complex work activity appears to have picked up lately there is a good reason. The unscheduled major shutdown of Catalytic Cracking Unit-1 (CCU-1) in March has employees working around the clock to make the best of a not-so-good situation.

The shutdown came at a time when gasoline inventories were low and the start of summer "driving season" only a month away. To further complicate matters, Deer Park's cat cracker also shut down for a brief period which put an added strain on Shell's East of the Rockies

gasoline system.

How is Wood River compensating for the nine-week loss of one of its main gasoline producers? By increasing production on CCU-2, reactivating Catalytic Reformer-2 (CR-2) and postponing shutdowns of the Hydrocracker, CR-1 complex and CR-3. Plus, while CCU-1 is idle, the Cracked Absorber Unit (CAU) is undergoing the first phase of a \$2 million modernization project to improve product recovery and save energy.

"We are in the midst of a cooperative effort to get back on track again," said **Gary Miller**, superintendent - LOP. "We have every intention of meeting our commitments to Shell customers for gasoline."

Wood River's current gasoline position is better than a year ago due to the purchase of 1.3 million barrels in anticipation of the Hydrocracker shutdown originally set for May.

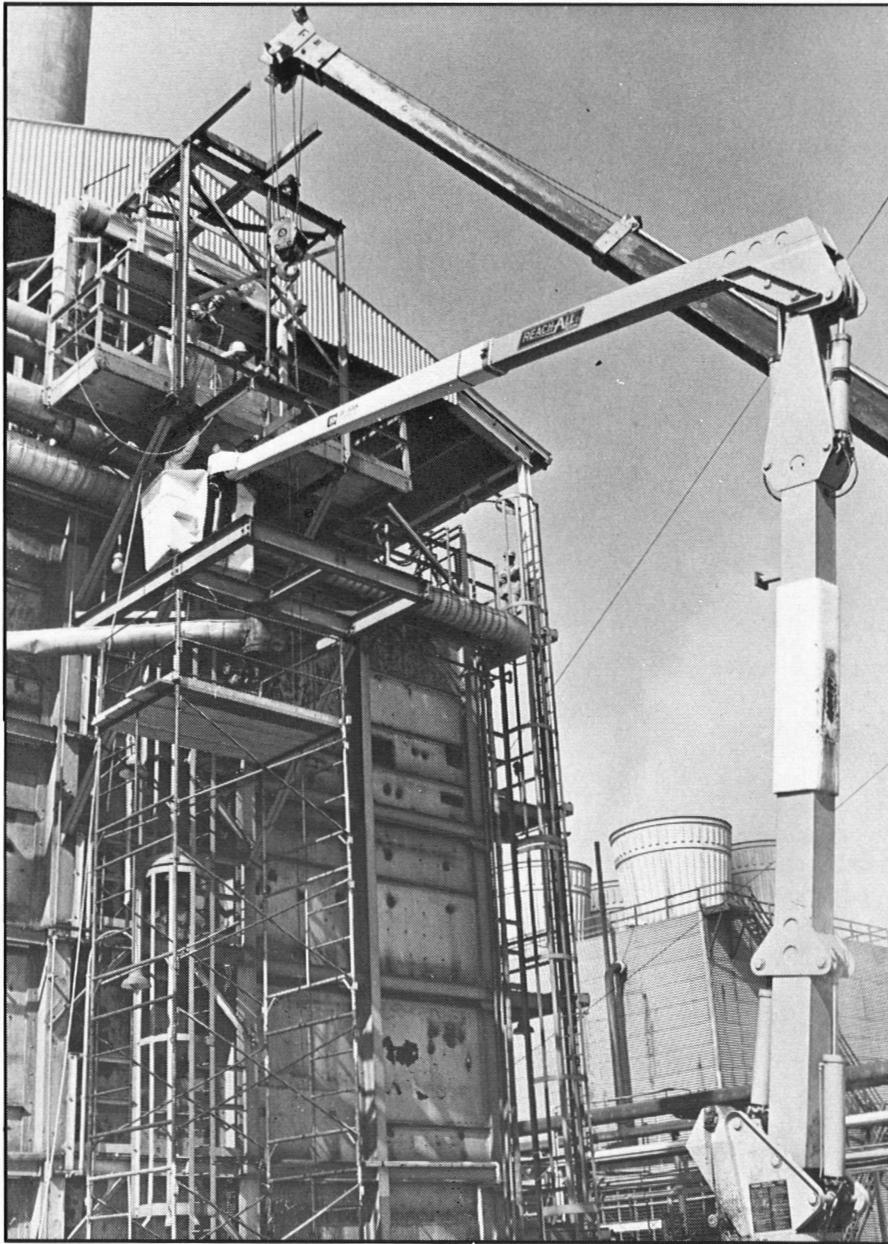
"Things could be worse," said **Howard Olsen**, manager - Economics and Scheduling. "Fortunately CCU-2 is in good shape coming off its fall 1982 turnaround. It is picking up some of the slack and CR-2 and the Hydrocracker are helping a great deal as well."

The throughput level of CCU-2 was raised to produce gasoline at record rates, according to **Dennis Klimpton**, process manager - Cracking. Hydrocracker gasoline production was increased using additional hydrogen supplied by CR-2. The Hydrocracker is approaching its capacity limit but is operating efficiently due to extensive maintenance last year, said **Manuel Lopez**, process manager - Aromatics West. Increased Hydrocracker production plus the startup of CR-2 contribute approximately 13,000 barrels a day to the Complex gasoline inventory.

Cliff Woodford, manager - Dispatching, commented on the department's function of shipping gasoline to customers. "Throughout the many shutdowns, startups and other changes at Wood River, Dispatching maintains the flexibility to meet customers' needs for Shell products."

NEW LINER NEEDED

The problem with CCU-1 can be



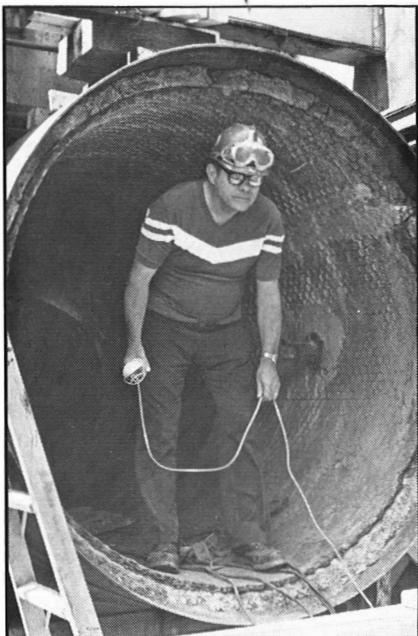
Startup work progresses on Catalytic Reformer-2. The unit was reactivated in April and is picking up some of the gasoline production deficit created by the shutdown of Catalytic Cracking Unit-1 (CCU-1).

traced to failure of its regenerator liner — a fire-resistant tile — that protects the vessel wall from the effects of high temperature. The fire tile dates to 1943 when the unit was built.

At first, it was felt that patching the wall liner would provide sufficient protection until CCU-1's scheduled shutdown in spring 1984. But, following shutdown and a thorough study, spot repairs were judged to be inadequate, said **Dan Swarrell**, Inspection. The decision was then made to extend the shutdown and replace the entire liner.

Approximately 150 cubic yards of fire tile and insulation were removed, equivalent to about 720 barrels. Jackhammers were used to chip much of the tile from inside the 10-story regenerator wall. The antiquated tile was replaced with what **Howard Green**, shutdown planning supervisor, terms state-of-the-art material: monolithic refractory liner. About 190 tons were sprayed on the walls in a consistency of wet cement. Green said the fire tile in CCU-2 will be replaced similarly during its next major shutdown.

Other maintenance work on CCU-1 includes replacing the regenerated catalyst standpipes, repair of catalyst lines, installing cooling water tie-ins, retubing a portion of



Al Moody, Maintenance, Inside the 80-Inch diameter flue gas duct on the sixth level of CCU-1. A portion of the duct was disassembled to allow removal and repair of a valve.



Checking a differential pressure (DP) cell at CCU-1 are Maintenance employees Web Hinton, pipefitter; and Ed Boone, Instruments. This particular cell measures the amount of flow in a slurry line.

the CO heater, and repair of blowers, compressors, pumps, turbines and valves.

CR-2 REACTIVATED

A catalytic reformer rearranges the molecular structure of low octane naphtha, converting it into high quality gasoline or other chemicals. The process also produces hydrogen which can be used in the Hydro-cracker to convert distillates into gasoline. The Complex has three catalytic reformers but until the recent startup of CR-2, only CR-1 and CR-3 were operating.

"With CCU-1 down we are planning on CR-2 to help plug the gasoline production gap," said **J.I. Smith**, process manager - Aromatics East. "The unit was kept in a semi-ready state for the past two and one-half years and is in reasonably good shape."

Arrangements were made with Norco Manufacturing Complex to borrow catalyst for startup of CR-2. Also, naphtha is being imported as a feedstock for all three reformers.

CR-2 startup began April 8 and more than 50 employees "worked with a sense of urgency" to meet the target feed date of April 26, said **Bob Kostelnik**, Maintenance manager - HOP.

Major maintenance involved checking vessels, heat exchangers and utility systems for operating effi-

ciency, instrument/electrical repairs, reloading the four reactors with catalyst, overhaul of mechanical equipment, inspecting and repairing as necessary the unit's 96 heater burners and 396 plug valves, and other items.

"Bringing the unit up in just over two weeks was quite an achievement," said Kostelnik. "Now our job is to keep it running for an indefinite period of time with emphasis on safety and the environment."

THE CAU, TOO

Soon after CCU-1 was shut down, the Gas Plant temporarily suspended operation of its CAU for maintenance and modernization. The CAU processes unstabilized gasoline, lighter liquid fractions and gas from the cat crackers into high octane gasoline components for finished gasoline blending, liquefied petroleum gas, fuel gas, and olefins feedstocks for tertiary amylene, acetone and alkylate.

The long-term modernization effort includes retying three of the unit's seven columns. This will bring about a better separation of products and higher purity of feedstocks while consuming less energy, and allow the shutdown of one column, said **Art Kiehne**, staff engineer - EOS.

Continued on next page

Cat cracker—

Continued from page 5

YOU WANT IT, THEY'LL GET IT

From nuts and bolts to custom-made parts. Purchasing obtains or supplies from warehouse stock whatever materials are needed to support the Complex unit shutdowns. For CCU-1, **Ken Blotevogel**, materials coordinator, is temporarily assigned to a trailer next to the unit where he can provide immediate service.

Blotevogel said an unscheduled major shutdown poses particular challenges. Ordinarily, Maintenance and Inspection have several months to plan what parts and equipment will be required for an upcoming turnaround. This usually gives Purchasing sufficient lead time to acquire the necessary material. Not so with CCU-1.

"We sometimes have to scour the country by phone to find a part. If it is not available, we try to locate a shop that can make it quickly," said Blotevogel. "Thanks to the ability of Maintenance to prioritize what it needs and our rapport with vendors, we're able to deliver most of the materials by the requested date."

For items that may be out of stock, the department tries to find appropriate substitutes or makes outside purchases, said **Jim Lottis**, materials supervisor.

Classified Ads

Wanted: A conversion van with large windows and captain chairs. Tom Colgate, ext. 2641.

For sale: 1972 Plymouth Satellite, four-door, automatic, low mileage. Best offer. Charles Modrovsky, ext. 2731 or 377-9945.

For sale: 140 feet of used four-inch aluminum guttering with downspouts, etc. Also, a used three-ton air conditioner with "A" coil. W.H. Howard, ext. 2545.

For sale: 1939 Golden Shell watch complete with fob. Excellent condition and still runs on original Golden Shell oil. Joseph Levora, 217-368-2840.

For sale: 1971 Volkswagen Super Beetle, a wood lathe and a six-inch Craftsman metal lathe. Carl Herzog, ext. 2629.

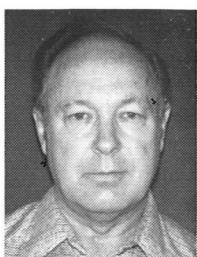


Purchasing employees help themselves to cake and coffee during a reception April 15. The occasion was the department's safety record of 12 years and one million work hours without a lost time accident. April also marked the one millionth safe hour for Engineering. Their most recent lost time accident was in 1979.



After about 25 years of service, the Sulfur Plant D pit is being completely renovated. D pit is used to contain the liquid sulfur recovered from petroleum by the Claus units. The sulfur is sold to Industrial customers. (Photo by Randy Millikin)

In remembrance



E.D. Gross

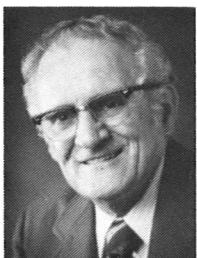
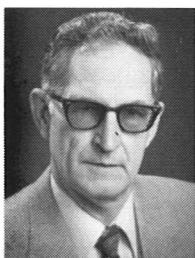
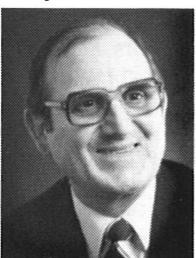


H.G. Miles

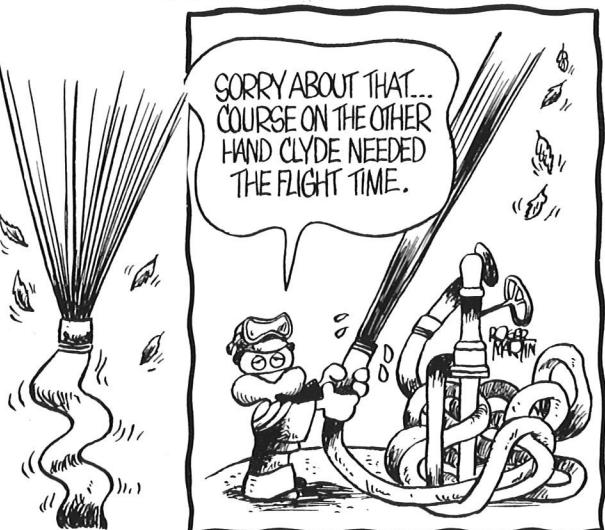
Earl D. Gross, 62, died April 27. Mr. Gross was a pipefitter - Maintenance and had seven years of service with the company.

Harry G. Miles, 52, died April 18. Mr. Miles was a craneman - Maintenance and had 25 years of service with the company.

Retirements

Bud Tomlinson
Financial
44 yearsJim Becker
LOP
42 yearsBill Jones
Maintenance
41 yearsLeroy Meininger
Maintenance
40 yearsDarrell George
LOP
35 yearsRay Bollinger
Maintenance
33 yearsJoe Molla
Lube
33 yearsBruno Larcker
Maintenance
30 years

Anniversaries

Guy Wombles
Maintenance
40 yearsArt Horsburgh
E&S
35 yearsBob Klie
EP&S
35 yearsRichard Saunders
Maintenance
35 yearsGeorge Halaney
Financial
30 years

WOODY & CLYDE

Shell gets high marks as a contributor

Shell Oil Company ranks in the top 10 of U.S. corporates that make donations to charitable organizations, according to a 711-company survey by the American Council for the Arts in New York. As reported in the March 14 issue of *Forbes* magazine, oil companies were the big givers to charity in 1982, and education was the favorite cause.

The average corporate gift to education was \$629,000; to health and welfare, \$473,000; to civic causes, \$203,000; to arts and culture, \$201,000; and to all others, \$166,000. The Council's study also found that corporations budgeted an average of \$1.4 million for charity, favored causes operating close to their home bases and gave less than \$25,000 as individual gifts except to United Way.

Shell's contributions are made through the Shell Companies Foundation Inc. for worthwhile charitable, scientific, educational, religious or literary purposes. Established in 1953, the Foundation endeavors to support organizations or causes which are fundamentally philanthropic, serve in a manner likely to have broad scope and impact, aid all kinds of people, contribute to the general welfare, and are soundly managed and operated.

Total donations through 1982 exceed \$95 million of which approximately 60 per cent went to aid-to-education programs. More than \$15 million was donated in 1982 with preference to planned, continuing programs in support of education

and charitable activities in communities where Shell employees are located.

WRMC DONATIONS

Mike Greer, manager of Community Relations and coordinator of WRMC's local contributions, said the Foundation believes its wisest community giving is through the United Way. Locally, the Complex presented Foundation donations totalling \$81,600 to local United Way offices in 1982.

Other 1982 contributions made on behalf of WRMC were the Arts and Humanities Council of Greater St. Louis, \$1,000; Illinois Council on Economic Education, \$750; Ranken Technical Institute, \$1,500; St. Louis Children's Hospital, \$5,000; and the Beverly Farm Foundation, \$3,500.

AID TO EDUCATION

The Foundation offers numerous fellowships, grants and scholarships in the field of education, including Shell Units, Assists, Undergraduate and Graduate Aids, and Matching Gifts. Shell Units was established in 1971 to strengthen undergraduate education in publicly controlled colleges and universities. In 1982 the Unit recipients included the University of Missouri at Columbia and Rolla, and SIU-Carbondale.

Shell Assists was started in 1958 and provides money for faculty development, student aid and general support. Saint Louis University received a Shell Assist last year.

Shell Undergraduate Aids was established in 1980 to strengthen ac-

vities at the undergraduate level in specified academic engineering, science and business areas in publicly controlled colleges and universities. In 1982, the University of Illinois and the University of Missouri at Rolla received Aids.

Shell Graduate Aids became available in 1967 and are intended for selected graduate areas to support research, graduate students, faculty, recognized experts and distinguished lecturers. They are also used to improve curriculum and methods of instruction. The University of Illinois, and University of Missouri at Rolla and Columbia were awarded Graduate Aids during 1982.

Another program, Matching Gifts, encourages employees, pensioners and members of the board of its sponsoring companies to support colleges, universities and private secondary schools. The program will match two for one any eligible gift made by an eligible individual to an approved institution. The minimum contribution made each time must be \$25 per person per calendar year and the maximum is \$2,500 per calendar year.

Since 1980, WRMC employees and retirees have pledged \$31,000 to Marquette High School, Alton. Combined with the Foundation's double-match of \$62,000, the total Shell contribution to the school in three years is \$93,000.

Matching Gifts forms are available from Employee Relations.

Bulk Rate
U.S. Postage
PAID
'food River, IL
rmit No. 229

Shell Oil Company
P.O. Box 262
Wood River, Illinois 62095



WOOD RIVER
REVIEW

Published monthly for
employees and pensioners
of Shell Oil Company
in Wood River, Illinois

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ext. 2168