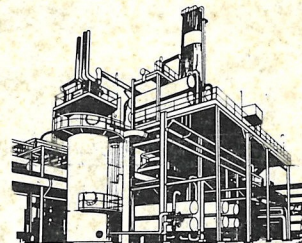


# WOOD RIVER REVIEW

WOOD RIVER MANUFACTURING COMPLEX



VOL. 47, NO. 1 JANUARY 1984



*Snow is removed by the shovelfull from Complex parking lots and roads following a winter storm in December. Severe weather hampered operation of Shell's Deer Park and Norco complexes; Wood River was minimally affected.*

## Complex decorated for holiday season

(see photos page 2)

For the first time in many years, Christmas came to the Complex in the form of lights, wreaths and ornaments. Decorations went up in mid-December for the enjoyment of employees and visitors as well as motorists driving by the facility.

A committee comprised of **Tom Schilling**, pipefitter; **Leroy Ganzer**, electrician; and **Guy Wombles**, contract services coordinator, toured the Complex Dec. 6 and identified about 15 locations where decorations would

be appropriate. The orders for lights and other displays were placed on Friday, Dec. 9 and by the following Monday all of the necessary articles had arrived.

Then the work began. Electricians, teamsters, laborers and other crafts employees pitched in to set up decorations during the week of the 12th. Their efforts did not go unnoticed as testified by the many favorable comments from employees and area residents.

Christmas decorations included a seven-foot wreath on the west wall of

the Main Office, seasons greetings plaques on the west walls of OMC and Purchasing, a garland display was added to the Cafeteria front entrance, lights were placed on trees at the Main and South gates and OMC lawn, and four live trees were purchased, decorated and displayed at the Docks, Sulfur Plant, Field Office No. 1 and the Cafeteria. These trees are to become a permanent part of the Complex landscape.

"The committee is already planning a bigger and better display for Christmas 1984," said Wombles. "We got a late start this past Christmas but managed to pull it off due to the tremendous support from everyone who helped with the planning and 'field work.' Hopefully, Christmas decorations will once again become a tradition at Wood River."

## New Year brings award changes

Wood River employees will see changes in the Service Anniversary Award Program in January . . . a new vendor and new selections, everything from a wall clock to a chafing dish.

Although many of the 1982/83 selections will stay in the program. Oneida Awards is offering a wide range of new items that employees may select as their award from Shell on their service anniversary. Some of the new items include -- a 10K gold-filled Cross pen and pencil set, an 18-inch 14K gold necklace with dangle emblem, a western-style brass belt buckle, a solid oak regulator wall clock, and a two-quart silver-plated chafing dish and tray.

In 1984, approximately 4,100 Shell employees will receive an award on their service anniversary. Out of the company's 36,000 employees, more than 17,000 have 10 or more years with the company and are eligible for an award every five years, up to 50 years of service.

Contact Employee Relations for further details.

# Christmas at the Complex



Complex Christmas Committee members are Leroy Ganzer, electrician; Tom Schilling, pipefitter; and Guy Wombles, contract services coordinator. They plan for a bigger and better display in 1984.



Up goes a live Christmas tree at the Cafeteria. Three others were placed at the Docks, Sulfur Plant and Field Office No. 1. The trees have since been planted at the Complex.



Electricians Steve Erslon and Kathy Mitchell decorate a tree with lights before it is moved to a visible area of the Complex. Employees and passers-by on Highway 111 commented on the attractiveness of the various displays this year.



Attaching a "Season's Greetings" sign to the Purchasing building are Mark Paproth and Bob Johnson, laborers. A similar sign was displayed at OMC.



A little lower, more, more, that's perfect! Two of the many Shell employees who helped decorate the grounds prepare to tie off a cable that holds a seven-foot wreath outside the Main Office.

## SHELL SHORTS

### Retirement party

Friends and spouses are invited to attend a retirement party in honor of **Rommie Womack**, an electrician with 32 years of service. The party is set for Feb. 11 at the Wood River Moose Hall. Cash bar begins at 6 p.m. with dinner to follow at 7. Reservations must be made by Feb. 3. Send a check for \$6.50 payable to "**Dennis Bolton**" to 413 Georgia Street, Bethalto, Ill. 62010.

### Editor wins awards

Wood River Review editor **Dave McKinney** received two awards in a competition sponsored by United Way of Greater St. Louis. From a field of more than 40 entries, he won second place in the best original photo category and third place in the best feature story category for his piece on United Way volunteers **Jim Harmon** and **Leon Little** in the September 1983 Review.



## Investment in the future

# Major Projects under way

The challenges within the oil refining industry are straightforward: to manufacture quality petroleum products in a business climate that emphasizes safety, concern for the environment, integrity, efficiency and cost competitiveness.

Wood River Manufacturing Complex meets these challenges head-on and is looking to further improve its position with a three-year Major Projects program that will cost in excess of \$100 million. The basic parts of the program are improved yield of refined products, energy conservation and modernization of equipment.

A study team of Wood River and Head Office employees was formed in late 1982 to outline the scope of Major Projects; actual construction began in fall 1983 and total completion is scheduled for 1986.

The upgrading of existing units and the startup of others currently out of service will give the Complex more flexibility in processing different types of crude oil. At the same time, improved Complex processes will help squeeze as high a percentage as economically possible of gasoline, diesel, jet fuel and other valuable products from every barrel of oil. This, in turn, will minimize that part of the barrel that winds up as less desirable commodities such as industrial fuel oils and marine bunker fuel. The improvements are also expected to lower Complex energy requirements by approximately 10 percent compared to the 1983 level, which is equivalent to annual energy savings of one million barrels of oil.

All of this will be accomplished without adverse effects on the environment. Air and water quality will be as good or better than before, says **Joe Brewster**, Quality Assurance/Environmental Conservation. He said Complex environmental specialists and management have met with the Illinois Environmental Protection Agency to ensure that the facility continues to meet or exceed governmental standards.

**Bill Durland**, Complex manager, said the many renovations will allow Wood River to continue supplying consumers in the Midwest with quality products and help provide ongoing jobs to residents of the nearby communities — an indication of Shell's commitment



*Removing tubes from a Visbreaker Flasher heat exchanger to make way for new ones is Jesse Rockingham, boilermaker. The task is part of Major Projects, a three-year yield improvement, modernization and energy conservation program at Wood River.*

to long-term operations in southwestern Illinois.

Shell's Eastern Region refined products are made at three manufacturing complexes: Wood River, Deer Park (Houston) and Norco (New Orleans). Domestic crudes represent more than half of the Region's crude usage. Some of these crudes are more "sour" (high sulfur content) than others, but most are "light" (easier to process than "heavy") by world standards. For Shell and the rest of the industry, foreign crudes will remain heavy and sour. One example is Mayan, a heavy Mexican crude oil with more than double the average crude's residual content. As crude quality get poorer, its value decreases, usually because it yields a lower percentage of higher quality

products.

Essentially, then, Major Projects will put Wood River in a better position to refine the less expensive sour, heavy crude oils along with the sweeter, lighter crudes — and save energy in the process.

#### **A TEAM EFFORT**

At some point in time, Major Projects will affect just about every Complex employee, according to **Steve Franke**, who is serving as a technical manager for the program. Employees from within the Complex and from other Shell locations are being temporarily assigned to work on Major Projects, and several have transferred to Wood River for an indefinite period. A close working relationship is also being

(Continued on page 4)



(Continued from page 3)  
maintained between Wood River and Head Office, Houston.

A greater number of people at the Complex means increased potential for work-related mishaps, but Safety & Industrial Hygiene is preparing to meet the needs of the organization and its activity level. Department personnel are already assigned to coordinate safety efforts in a well organized, well executed manner.

**Harry Rollins**, Safety & Industrial Hygiene manager, emphasized that safety considerations are foremost to Wood River operations. Major Projects offers some interesting challenges, he said, primarily because of the long duration and large scope of the program.

The impact of Major Projects on Operations (including Utilities) and

Maintenance groups centers around their ability to integrate and coordinate normal work activities with ongoing construction. Additionally, the changes brought about by new computer technology, sophisticated instrumentation and improved operating unit controls will require classroom instruction and on-the-job training for many employees.

Engineering Operations Support, Engineering Projects & Services, Economics & Scheduling, Purchasing, Employee Relations, Financial, Public Affairs and other departments will all play a part in Major Projects during the next three years. One thing for sure, there is plenty of work to go around.

#### MAJOR PROJECTS "MENU"

Below are summaries of the yield improvement, energy conservation and modernization projects planned at the Complex. Future issues of the *Review* will provide updates on the progress of Major Projects.

#### CAT CRACKER COMPLEX

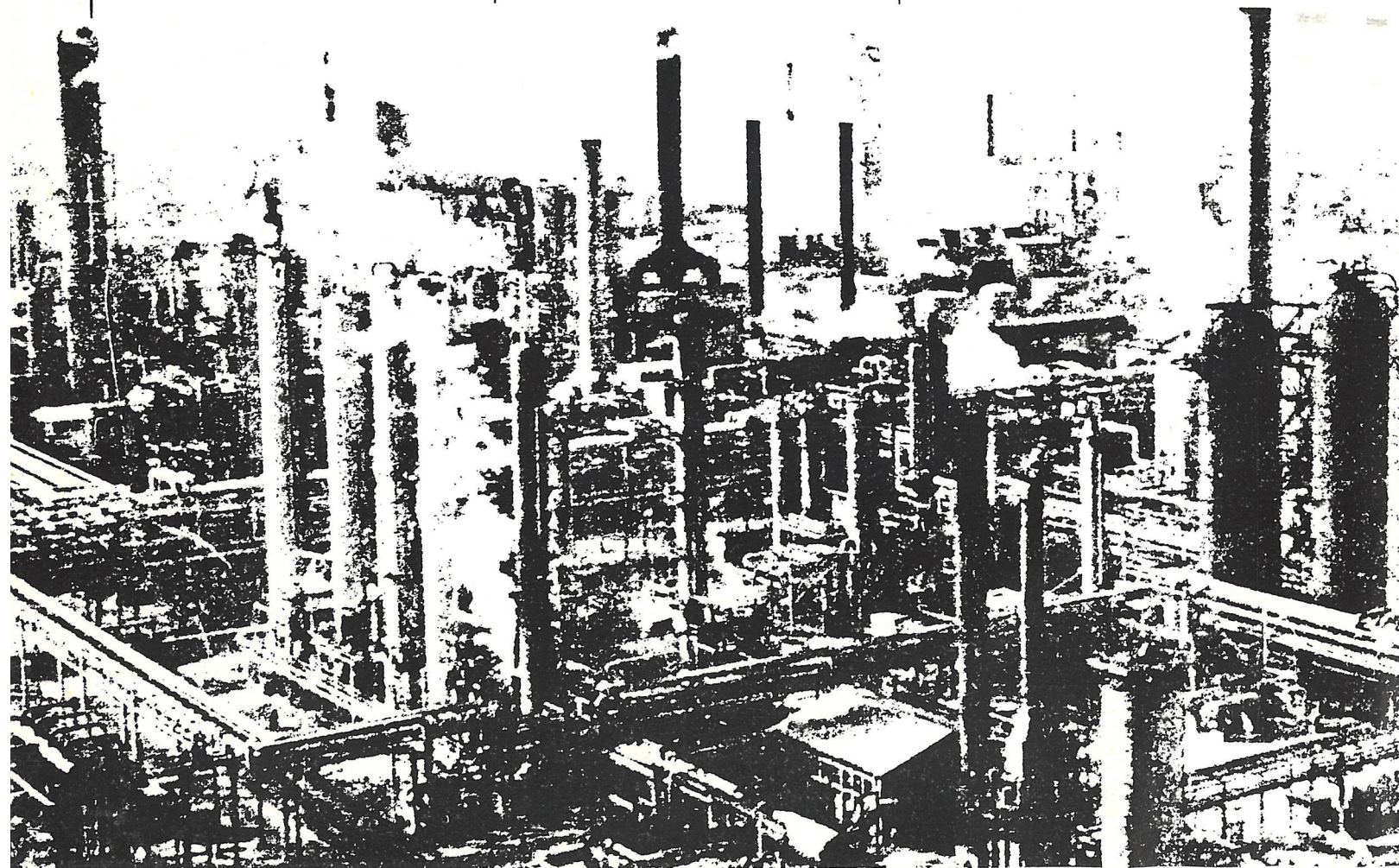
The objective of catalytic cracking is to upgrade heavy, less desirable intermediate petroleum products from

each barrel of crude oil. This is done by "cracking" heavier hydrocarbon molecules into lighter ones, such as gasoline. At high temperatures, the molecules are contacted with a finely-powdered catalyst that promotes the cracking reaction.

The primary revision is the conversion of Catalytic Cracking Unit-1 (CCU-1) from a "riser/dense bed" to an "all-riser" reactor unit, scheduled for completion in mid-1986. Currently, most of the reactions in CCU-1 (and CCU-2) occur in a bed of catalyst where oil/catalyst contact time averages one to two minutes. In an all-riser unit, however, the contact time will be reduced to only a few seconds before the oil and catalyst are separated. This shorter time minimizes undesirable side-reactions, thus permitting operation at higher temperatures and with heavier feeds.

These changes will allow CCU-1 to process about 6,000 barrels a day of pitch from the Distilling and Lubricants areas, providing a more efficient overall yield of light products.

Another CCU-1 project will recover heat as steam from "downstream" facilities, primarily the Main Fractiona-



tor and the CO (carbon monoxide) heater. Five major steam turbine drives at CCU-1 and CCU-2 will be changed to variable speed electrical motors in order to reduce energy costs. These projects not only will lower the Complex's total energy costs, but will allow the shutdown of one low efficiency Boilerhouse boiler.

Revisions will also be made to the Cat Feed Hydrotreater (CFH) for the treating of the residues from Distilling-1 (DU-1) and the Lube unit. The CFH removes impurities such as metals, sulfur and nitrogen from the CCU feed.

Due to high maintenance requirements, it has been proposed to replace the 20-year-old CCU-1 regenerator secondary cyclones. The cyclones recover catalyst and return it to the process. Another proposed project is to replace the CCU-2 wet gas compressor motor. This compressor takes vapor product from the Main Fractionator of CCU-2 and sends it to the Gas Plant for recovery of economically liquefiable materials.

The existing CCU computer system provides reactor/regenerator control and optimization, limited Main Fractionator computer control and an

overall information system. It does not have sufficient capacity or capabilities for extension or modernization. A new system is to be installed which will extend its functions to the Main Fractionator and the Gas Plant.

#### DISTILLING/VACUUM FLASHING

In the distilling process, crude oil is boiled and its vapors are condensed at various temperatures to separate them into different components for additional processing. Vacuum flashing takes heavy liquid residue from distillation and subjects it to intense heat under a vacuum to induce more vaporization. The portion of the residue that vaporizes becomes feedstock for the cat crackers. The remaining residue is used as refinery fuel and as raw material for production of other products.

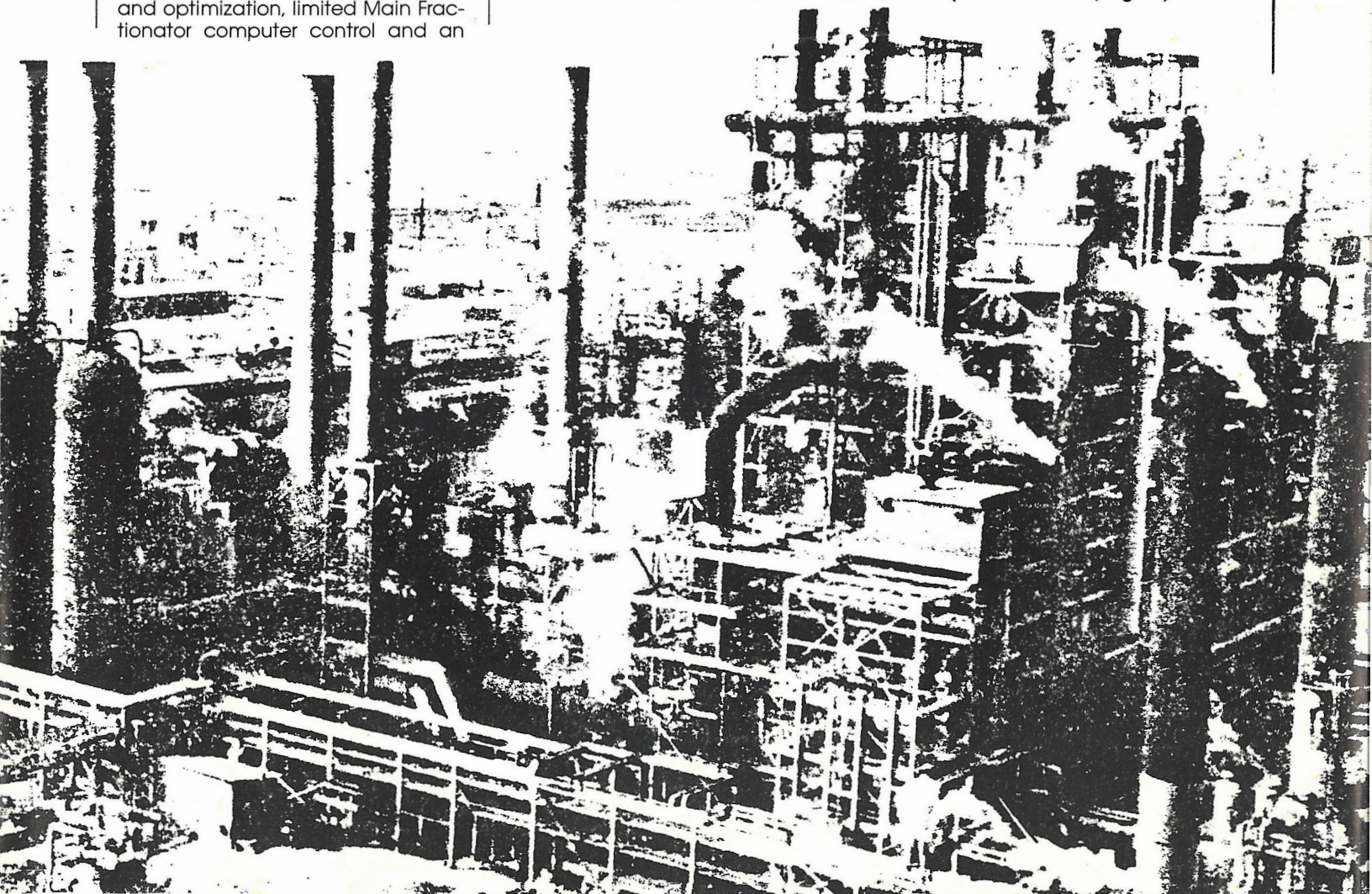
The distilling and vacuum flashing units are high energy users because of the large volume of crude oil they process and the heat that is required to raise the temperature of the crude from about 60 degrees Fahrenheit to more than 700 degrees for processing.

Modifications planned for DU-2 and DU-1/Vacuum Flashing-1 (VF-1) will improve their combined energy efficiency to over 90 percent of a state-of-the-art distilling/vacuum flashing complex. Specific upgrading includes an increase of 100,000 square feet of heat exchange surface on DU-1 and VF-1, the replacement of two heaters at VF-1 and the shutdown of a kerosene reboil heater at DU-1. DU-2 upgrading will add 66,000 square feet of heat exchange surface. Eventually, DU-2 efficiency projects will reduce heater fuel consumption, improve product recovery, increase heat export and provide a net savings of steam.

DU-1's electrostatic desalter, which reduces the amount of salt and metal contaminants in crude oil, is scheduled for upgrading. New second stage desalters are being added to DU-1 and the DU-2 Lube section for further salt removal and to protect the CCU-1 catalyst.

A proposal is under consideration to upgrade DU-1 and VF-1 metallurgy for the processing of high naphthenic

(Continued on page 6)





(Continued from page 5)

acid crude oils. This project would increase the units' capability to process less expensive crude oils.

DU-2 control board instrumentation is to be replaced with a Honeywell Total Distributive Control-2000 (TDC-2000) system. Technical advantages offered by TDC-2000 are: 1) comprehensive computer compatibility; 2) state-of-the-art instrumentation; and 3) flexibility to easily modify DU-2 control functions.

The project is part of a sequence of process control activities that center around the DU-2 control room. It involves consolidation of the four Gas Plant control rooms into the DU-2 control room, plus adding a Gas Plant computer as an extension to the CCU computer system. Also included will be the consolidation of the DU-1/VF-1, Visbreaker Unit, Visbreaker Flasher and Refinery Fuel Pitch control boards into the DU-2 control room, and a proposed DU-1/DU-2 computer project.

### HYDROCRACKER COMPLEX

A stripper column is to be added to the Hydrocracker Main Fractionator for kerosene production. Also, the Steam Methane Reformer, out of operation since early 1972, is being reactivated to produce hydrogen for the conversion of surplus cracked gas oils from CCU-1 to gasoline and lighter products. Both projects are due for completion in late 1985.

### VISBREAKER FLASHER

The Visbreaker Flasher (VBF) is being recommissioned in April 1984, nine years after it was shut down. The companion unit to the Visbreaker Unit (VBU), the VBF takes residual product from VBU and flashes (vaporizes) it to recover more cat cracker feedstocks, leaving behind refinery fuel pitch.

Startup of VBF offers significant opportunity for Wood River to purchase less expensive, heavier raw materials by increasing the ability to convert residuals into light products.

The VBU was started up again in the latter part of 1982 after being out of service for eight years. It is a low-severity thermal cracking unit used to turn part of the pitch-like residue from distilling vacuum flashers into feedstocks for gasoline production, as well as to reduce the amount of high value cutter stock needed to blend the unconverted residues into saleable residual fuel oils. Demonstrated successful operation of the VBU in 1983 paved the way for the VBF startup.

### UTILITIES CONTROL CENTER

A two-story extension to the west

side of the Utilities Control Center building will be built to house a new Digital Equipment Corp. VAX 11/750 process computer system. The system is designed to decrease Complex utilities consumption through the computer monitoring of steam, fuel, electricity, water, nitrogen and compressed air. Increased energy efficiency will result from improved information accessibility and direct control of boiler air-to-fuel ratio, boiler blowdown, steam letdown and the electricity generation level. There will be additional utilities system upgrading as part of Major Projects, including a new electrical substation at the cat cracker area.

Utilities savings are expected primarily from improved boiler fuel usage and decreased consumption, electrical power peak shaving and substitution of pitch for natural gas.

### SULFUR PLANT AND MISCELLANEOUS

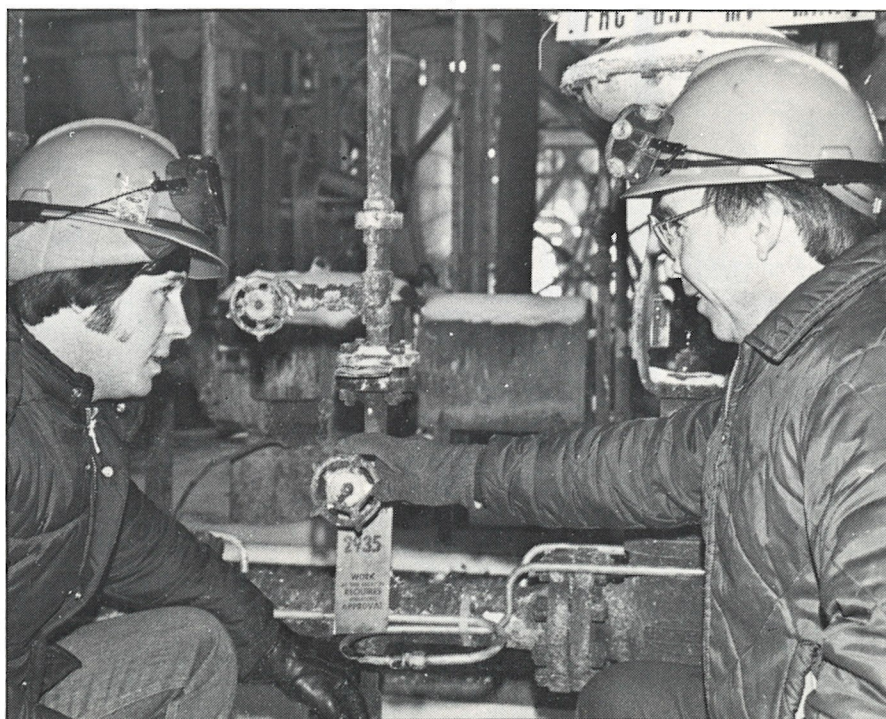
Two condensing steam turbines at the Sulfuric Acid Plant are to be replaced with single-speed electric motors to reduce energy and maintenance costs. The turbines are used to drive the main and atomizer blowers. Included in this project is construction of an electrical substation with the capacity to handle: 1) additional steam turbine to electric motor substitution for energy savings and reliabil-

ity; 2) spare capacity for electrical power requirements in the West Property effluent system; and 3) spare capacity for electrical power needs in the DU-1/VF-1 and DU-2 projects.

Two sour water stripper projects are planned to handle the increased processing demand brought about by other Major Projects modifications: a new stripper at the Sulfur Plant and modernization of an existing one at the Gas Plant. Sour water strippers remove hydrogen sulfide and ammonia from sour water feedstocks, which allows the stripped sour water to be disposed of by way of the effluent system. The recovered hydrogen sulfide and ammonia gases will be incinerated in new combustors planned for the Sulfur Plant "A" and "C" trains.

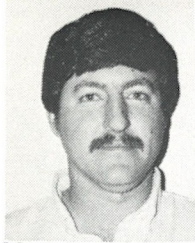
Also being considered are reactivation of the Sulfur Plant "B" train, which converts hydrogen sulfide to sulfur, and some minor modifications to increase capacity of the Shell Claus Offgas Treatment (SCOT) unit. The SCOT unit removes about 95 percent of the small amount of unrecovered sulfur from the sulfur train processes.

Various Cracked Gas Plant facilities will be "debottlenecked" and energy conservation improvements made during Major Projects.



**Operations' Mike Eubanks and Jim Harmon look over a Visbreaker Flasher (VBF) unit column bottoms line that is to be replaced during Major Projects. VBF is the companion unit to the Visbreaker and is being recommissioned in April, nine years after it was shut down.**

# New to WRMC



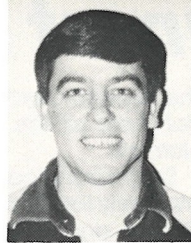
**Mark Bechtold**  
Laborer



**Marge Carter**  
Distilling



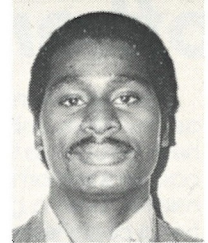
**Reg Conlee**  
Laborer



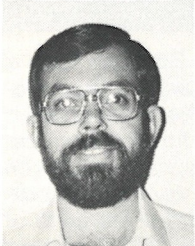
**Kevin Darr**  
Laborer



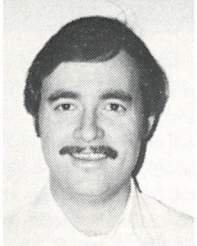
**Joe Holik**  
Safety



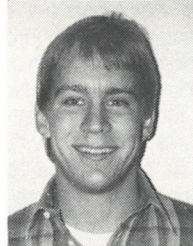
**Leon Parker**  
Laborer



**Denny Smith**  
Garage Mechanic



**Mike Smith**  
Electrician

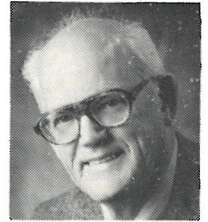


**Dave Triplo**  
Laborer

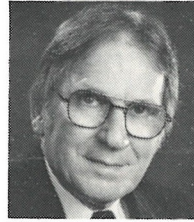
# Anniversaries



**Jim Loffis**  
Purchasing  
40 years



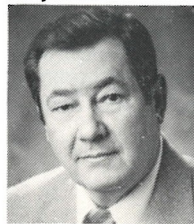
**Eural Beers**  
Distilling  
35 years



**Paul Zerlan**  
Maintenance  
35 years

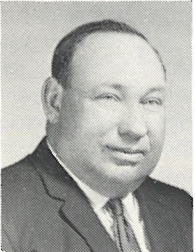


**Frank Cummings**  
EC/Utilities  
30 years



**Mel Niebur**  
Eco. & Sch.  
30 years

# In remembrance



**M. E. Chesnut**



**I. L. Spaulding**



**C. J. Cech**

**Marion E. Chesnut**, 80, died Jan. 3. Mr. Chesnut was a valve repairer 1st, Engineering Field before retiring in 1965 after 19 years of service.

**Irwin L. Spaulding**, 87, died Dec. 26. Mr. Spaulding was a garage mechanic

1st, Engineering Field before retiring in 1961 after 33 years of service.

**Charles J. Cech**, 63, died Dec. 4. Mr. Cech was a senior engineer before retiring in 1978 after 31 years of service.

# WOODY & CLYDE



# Hamann's desire to help others began at home

Scott Hamann, 8 plays just as hard as any other child his age. But when he goes outside to ride his bike or play ball, he is seldom without a protective helmet. Even a glancing blow to the head could leave him partially paralyzed.

The son of **Daune Hamann**, a Shell carpenter, Scott was born missing the parts of his brain that control speech and movement. The care and special attention he has required since birth have brought the Hamann family members close together. Hamann, his wife Ruth, and their two daughters made a special place in their hearts for Scott years ago.

"We are really trying to allow Scott to lead as normal a life as he can under the circumstances," said Hamann. "As parents, we try to treat each of our children the same, but that is not always possible. Scott is just now getting to the age where he realizes he is different from other kids."

When Scott was born, he was one of only five children in the U.S. with a similar handicap. Of that number two are living today. Scott's medical history is recorded in detail at Children's Hospital, St. Louis, and he is the subject of an extensive patient case study conducted by hospital officials.

Scott currently attends Columbus School, Edwardsville and is a "good student who studies hard," according to Hamann. He is athletically inclined, having won two medals last May in

the Special Olympics state competition held at the University of Illinois, Normal.

Scott's handicap has not only drawn his family together but also prompted Daune and Ruth to become quite active outside the home as community volunteers. For the past six years they have coordinated an annual dinner-dance at the Firemen and Legion Park Association hall in Alhambra, Ill. to benefit local charities. With help from friends they sell about 450 tickets a year, arrange for a volunteer band, cook and serve food to the crowd and collect items from businesses for auction. In 1983, \$3,800 was raised--the total for the six benefits is approximately \$21,000.

For the first four years proceeds were donated to a school in East Alton where Scott used to attend, operated by the Madison County Association for Retarded Citizens. Money from the fifth benefit went to the Diabetes Association and the current recipient is the Special Olympics Region II which consists of chapters in Edwardsville, Triad, Highland, Worden and Livingston.

"Ruth and I got into charity work because of Scott, but now it goes beyond that...it is truly contagious," said Hamann, "To experience all of the good that comes from people working together is very moving. Taking part in a charitable project certainly restores your faith in the generosity of your fellow man."



*Daune and Scott Hamann take a break from play to pose for a photograph. Hamann, a Shell carpenter, is actively involved in fund raising and counseling projects associated with local charities. His community participation evolved after the birth of Scott, now 8, who is handicapped but is making great strides toward living a "normal" life.*

The Hamanns also spend time counseling parents of retarded children at the request of the Edwardsville School District. Their objective is to help the parents to open up and talk about the special problems they have at home. "We've been there," commented Hamann. "We know what it means to talk with people who are genuinely concerned, who understand."

## Classified Ads

**For sale:** Adler manual typewriter, \$65. **Jack Heiderscheid**, ext. 2808 or 259-2381.

Bulk Rate  
U.S. Postage  
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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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(618) 254-7371  
ext. 2168