



New computer system may spur productivity at OP-III

A computerized information system designed to simulate various operating conditions is allowing DPMC engineers to maximize the efficiency of operations at OP-III.

PYROPS, which stands for Pyrolysis Optimization System, is a state-of-the-art computer tool designed to help Shell engineers select better feedstocks for olefins furnaces and increase the productivity of its operations. Pyrolysis, the Greek word for "cleavage by heat," is process engineers use to crack feedstocks into olefins.

"PYROPS is an off-line computer system that allows us to work with the best possible information," said Florian Gierczyk, the process engineer who developed the system's application at DPMC. "The technical and operating staff are learning how to apply PYROPS to our daily operations. As we apply PYROPS, we learn more and more about the factors and variables that have to be considered in our optimization effort," he said.

The savings from better feedstock selection and utilization could amount to millions of dollars a year. By determining the best cracking conditions for olefins feedstocks, under the market constraints on its products, DPMC can operate more efficiently and profitably.

Gierczyk explained that the trick to successful olefins operations is to know what slate of products is the best and how to adjust operating conditions at the cracking fur-

naces to achieve that result. A different slate of pyrolysis products can be obtained depending on the amount of heat the feedstock is exposed to during cracking.

"PYROPS doesn't just determine the point of optimization," Gierczyk emphasized. "In addition, it shows us the environment around the optimum point that simulates different probabilities.

"The best feature of PYROPS is that it has the best available computer graphics. That helps improve communication and understanding," he said. "People in two different locations can look at the range of possibilities simultaneously and determine the most efficient operating point."

PYROPS looks like other computers; it has a typewriter keyboard and a video screen. But when it's turned on, the similarities end. PYROPS can display three-dimensional graphs, as well as two-dimensional plots with up to eight different curves. It also can reproduce these graphs in color on special print-outs. And it's roots are spreading; it is currently displaying results of a Cat Cracker model at Shell's Westhollow Research Center.

George Harper, olefins technical manager, Process Engineering, said engineers now have more information at their fingertips. "PYROPS makes calculations quickly and displays those results. Today, the marketplace changes rapidly, so we often have to make decisions in a



Florian Gierczyk looks over Carole Williams' shoulder as she works at the PYROPS computer bank. Williams is one of the process engineers who helped Gierczyk implement the system at DPMC.

matter of days," he said.

Some olefins history may prove helpful. In the past, Shell designed and built olefins plants to take advantage of the expanding ethylene market. The company's own manufacturing capacity was its primary limitation. No one was prepared for the dip the economy would take in the years ahead.

When the crunch came, DPMC had more capacity to produce olefins than it needed.

Variables like feedstock quality and operating conditions had to be carefully studied to maximize profitability. The search for methods of better understanding the factors that affect olefins operations began; it led to PYROPS.

"We had to ask ourselves, 'can we do better?'" Gierczyk said. "The approach we took was to define the potential opportunity for profitability improvement. PYROPS offers

a variety of sensitive analysis capabilities that can be used to determine which input data — like product values and feed costs — are most critical to reach the proper solution."

PYROPS was developed from kinetic models at Westhollow. The off-line computer system is also being used at Norco to run the OP-V furnaces. In the future, engineers at different com-

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Safety study focuses on accident prevention at Complex

Since man invented the wheel, he has been faced with the task of adapting to the technology he's created. The caveman may not have been confronted with computer chips and space shots, but in his own small way he used tools and techniques to help him survive and to better his life.

A new study of this old problem of man interacting with the machine may give researchers at the Complex some clues to reducing injuries and help them formulate an accident prevention program.



Rick Imig, a mechanical engineer in Plant Engineering, is using the field of ergonomics — the study of the man-machine interface — to analyze accidents at the Complex. His research will help the Safety Department identify how accidents occur, and, hopefully, how they can be stopped.

"You have to take the human being for all he is, with all his limitations, and develop a compatible work situation," said Imig, who has been at DPMC five years. "Just as the caveman figured out the best diameter of a tool to fit his hand, you have to determine the optimum working conditions for today."

"Human beings function in certain ways," he said. "They are only so tall, so strong, and they also can make errors. The effort behind this program is to come up with the work situation that best fits all these human limitations."

Imig is developing a computer program to examine how accidents occurred. He took the OSHA recordable incident rates from 1980 and 1981 and is analyzing them in the computer system. Each incident is studied on a "time sequence" basis: what happened before, during and after the accident. The intention is to reduce the chance of accidents, which in turn prevents injuries.

"If we could spot general trends in our accident rates, we then could study them in greater detail," Imig said. "The computer helps us spot a problem. The next step is to ask ourselves what we can do about it."

"Each problem requires a different approach. For instance, if we had a number of people injured working on valves we could say, 'Did they have the right training? Did they have the right equipment?' We try to gain information on a problem area so we can do something about improving it," he said.

Ergonomics has been applied extensively in the military, in computer applications, and in Europe, but is in its infancy in the petrochemical industry.

Various areas of ergonomics are being used to improve safety performance at DPMC. Again, most of them take into account our own human limitations.

*Anthropometrics is the study of the physical dimensions of humans. This examines how a person "fits" in the working place. For example, can everyone reach the switches in a control room? or are the chairs too low for the desks in the office?

*Human reliability takes for granted the fact that we make mistakes. "In the long run, we're reliable," Imig said, "but what is important is dealing with occasional mistakes in the work situation. You try to examine the system itself to find ways to prevent errors, and to minimize the impact of the errors when they occur."

*Task analysis focuses on each task and how it is performed. What is important here is matching the job to the people involved, not vice versa.

The application of ergonomics to safety performance at DPMC also seems logical. After all, whether we're in a control room, an office, or in the plant itself, the way we interact with the technology that surrounds us determines just how safe we'll be.

Shell notches award for offshore technology

Shell Oil won the 1982 Offshore Technology Conference Award for the innovative underwater technology it used to construct the Cognac Platform, the tallest and heaviest steel drilling-production platform in the world.

The award was presented to Shell at the international meeting of the Offshore Technology Conference, held earlier this month in Houston.

The Cognac Platform stands in 1,025 feet of water about 39 miles from the mouth of the Mississippi River in the Gulf of Mexico. With drilling rigs in place, the platform stands 15 feet taller than the Empire State Building, and weighs 59,000 tons. It is designed to withstand hurricane winds of 140 miles per hour and waves 70 feet high.

Because of its size, the Cognac structure was built in three sections and was towed to location, launched and lowered as three distinct operations. This new dimension in offshore technology required Shell to develop precise procedures to safely lower and join together three sections of the platform in hundreds of feet of water.

The most critical phase of the construction was the positioning of the base platform, which is larger than

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Anniversaries



R. J. Hennan
Process Control Elec.
30 years



R. V. Mattern
Environ. Cons.
30 years

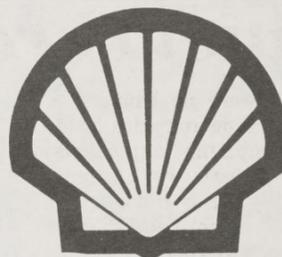


J. J. Wisnoski
South Inspect.
30 years



W. R. Woodworth
Maint. North
30 years

Shell News



Shell contributes to Vietnam Vets Memorial Fund

The Shell Companies Foundation Inc., has donated \$35,000 to the Vietnam Veterans Memorial Fund (VVMF) for the construction of a national memorial honoring all Americans who served in the Vietnam War. The \$7 million memorial, to be built in Washington, D.C., is being financed solely through contributions from individuals, foundations, businesses and community organizations.

The United States Congress authorized the VVMF in 1980 to establish a memorial on two acres of national park land in Constitution Gardens near the Lincoln Memorial. A national competition then was held to select a design for the structure. The contest, which attracted more than 2,500 entries, turned out to be the largest landscape design competition ever conducted in the U.S.

Production office opens in Bakersfield

Shell will establish an oil production field office in Bakersfield, California, during the summer and will transfer about 150 professional and support staff employees there over the next year and a half.

Most of the people involved in the move are now located in the Pacific Division's production operations office in Ventura, California. About 30 employees in the Houston area will be transferred to Bakersfield, although no one from DPMC will be involved.

The move will reduce staff travel time and ensure more efficient coordination of the company's oil and gas activities in Kern County, the location of a majority of Shell's West Coast producing fields.

Shell top bidder in federal coal lease sale

Shell was the high bidder for a 3,687 acre tract containing federal coal in the Powder River Basin in Campbell County, Wyoming. The Spring Draw Tract was one of 13 included in the federal coal lease sale held last month in Cheyenne, Wyoming.

Shell's winning bid of \$7,025 per acre totaled nearly \$26 million. It will enable the company to mine 550 million tons of recoverable low sulfur subbituminous coal in northeastern Wyoming.

Coal in the Spring Draw Tract runs in several seams ranging in thickness from 10 to 100 feet. The coal is located about 100 feet below the surface and will be recovered by surface mining.

Retirements



Chester Bailey
Maint. North
34 years



L. C. Berger
Maint. North
32 years



B. S. Christ
Dispatching
35 years



J. T. Corley
Utilities North
28 years



A. J. Free
Utilities Oper.
32 years



Y. M. Putman
Maint. North
32 years

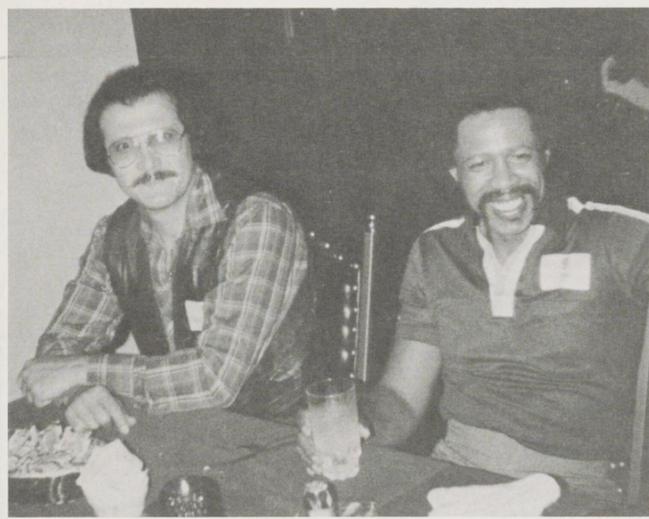


Aubrey Rae
Purchasing
35 years



Roger Williams
Maint. South
40 years

CA Safety Dinner



Frank Canas, left, and Mel Moody, right, both operators in the CA Department, settled back at Angelo's Fisherman's Wharf in Houston after the annual CA safety dinner.



Susan Sweny, Intermediates and Solvents secretary, and her husband, Allen, enjoyed a quiet conversation while the guests arrived.



When it came to dessert, J. D. Washburn, CA process manager, and his wife, Ann, an operator in the Refinery, found that the cheesecake kept them in stitches.

SCORA Installation Banquet



Joe Craft, Employee Relations North, and his wife, Bobbie, enjoyed the Installation Dinner, held at JC's Restaurant in Pasadena.



E.W. Dromgoole, left, sized things up for Gerry Olivo, Product Accounting, center. In the background, Patty Mayes, Resins, and her husband, Pat, relaxed before dinner.



Lisa Adrian, a clerk in Purchasing, shared a table with her fiancé, David Gonzales, an operator in Pyrolysis III.

Quiet ceremony marks East Dock dedication

There were no banners or streamers, no marching bands or champagne explosions. Instead, there was a quiet ceremony on a mild, sunny morning when DPMC's new East Dock was dedicated April 27.

It seemed fitting that little fanfare surrounded the dedication ceremonies. Less than three years ago, the old Number One Dock was destroyed in the tragic Chevron Hawaii fire, after the moored tanker exploded and burned.

A small but noteworthy crowd of about 25 people listened as Father Rivers Patout, Port Chaplain of the Houston International Seamen's Center, gave the invocation.

Many of the area's government and business leaders visited the Complex to take part in the dedication, including the state represen-

tative Ed Watson and Deer Park Mayor Jimmy Burke, both DPMC employees. Dock foreman Charles Anderson greeted the guests, and several operators were on hand to answer questions. Officials from the U.S. Coast Guard, the Port of Houston and Head Office Marine also attended the ceremonies.

After listening to short speeches by Docks process manager Don Lanning and DPMC General Manager Jim Braus, the guests toured the new dock. The Valley Forge, a 37,000 ton tanker, was moored at the dock, loading the first cargo.

The East Dock is capable of handling 80,000-ton loaded crude ships. Its major use will be a loading facility for finished products, and it will also serve as a back-up if the main crude dock is busy. Basically, it's the sister version of the West Dock, although



A number of distinguished guests attended the East Dock dedication. They included, from left to right: Capt. Ralph Bartels of the U.S. Coast Guard, Captain of the Port of Houston; Louis Brown, Safety Director of the Houston Port Authority; Dean Zurkammer, Superintendent, West Operations; Bill Robinson, Manager of Port Facilities for Shell Marine; Cdr. E.K. Roe of the U.S. Coast Guard, Executive Officer of the Port of Houston; and Capt. Robert Adams of the Houston Pilot's Association.



The Valley Forge was parked at the new dock for the dedication, its flags flying in the morning breeze. The 37,000 ton ship is typical of the product tankers DPMC will handle at the East Dock.

it is structurally stronger.

Lanning explained that the new dock will not really increase DPMC's capacity. "It will give us more space and scheduling flexibility, though," he pointed out. He said that when the docks were built in the 1930s, the average tanker length was 300 feet; today, a jumbo tanker can stretch to more than 700 feet. "Instead of four docks with 600 feet of space between them, we now have three docks with 800 feet of space. It gives us more room to maneuver.

"The East Dock will give us better dock availability," Lanning said. "If two crude ships arrive simultaneously, we can accommodate them both today. We'll have fewer

delays now," he said.

The new dock will increase the safety of DPMC's operations along the Ship Channel, and give Shell environmental advantages its competition doesn't enjoy.

"Without question, we are head-and-shoulders above anyone else along the channel in our dock facilities," Lanning said. "To my knowledge, we have a wider diversity of products handled at this dock than anywhere else in the world."

The East Dock has a life expectancy of about 50 years. It took nearly two years to build, and cost more than \$10 million. But when painted with a broad brush, DPMC's newest facility is only one part of a

\$100 million reconstruction project.

The project includes not only new docks but widening the slip and building overhead pipe racks. The replacement of Docks 2 and 3 with the proposed Center Dock also is planned for the future.

"The whole purpose of the dock reconstruction project was caused by land subsidence," Lanning said. "The corrective measures we took have been effective. The subsidence of the two center docks has slowed during the last two years, but they still needed considerable renovation to make them useful and to maintain our shipping capabilities."

Children of three DPMC employees honored at high school awards banquet

Several children of DPMC employees were honored for their outstanding academic records at the 25th annual Deer Park High School Industrial Awards Banquet last month.

The banquet, held at the Marriot Hotel near the Astrodome, was sponsored by a number of area industries, including Shell.

Shell was represented by Bill Gibson, Community Relations Manager and recent DPMC retiree Jimmy Hallmark, who was one of the pioneers of the

awards banquet. Hallmark, former DPMC Claims Manager, received a special award for attending his 25th consecutive banquet on behalf of Shell.

Three of the DPHS juniors honored were the children of Complex employees. Leslie Lindner, daughter of Bob Lain, Aromatics West; William Ubernowsky, son of Bill Ubernowsky, Resins Specialties; and Jon Guidry, son of Alvin Guidry, Dispatching, were among those recognized for their out-

standing scholastic records.

Leslie Lindner is a member of Mu Alpha Theta, the Spanish Club, the National Honor Society and the symphonic and marching bands.

William Ubernowsky is a member of the Junior Engineering Technical Society, the Art Club, Fellowship of Christian Athletes, the National Honor Society, and plays on the football and track teams.

Jon Guidry is a member of Mu Alpha Theta, the Spanish Honor Society, Fellowship of Christian Athletes, Student Council, the National Honor Society, and plays on the football and track teams.

This marked the third year in a row Jon has been honored at the banquet, and the second year in a row for William.

The students at the banquet, ranging from freshmen to seniors, comprised the top two percent of their classes. Each was a straight-A student during the school's first semester, and the first third of the second semester. They all received recognition plaques for their achievements.



The children of several DPMC employees were honored at the DPHS Industrial Awards Banquet in April. The outstanding students are, from left to right, William Ubernowsky, Leslie Lindner, Jon Guidry, and Jimmy Hallmark, who represented Shell at the banquet.

New Answer Book offers first aid advice for the road

Traffic accidents account for more than 50,000 deaths each year. Many of these lives could be saved by simple first aid at the scene, as outlined in the latest Shell Answer booklet, "The First Aid on the Road Book."

Answer Book No. 30 lists the essential steps in administering first aid at the scene of an accident, including moving the victim out of danger if necessary, checking for breathing and shock, and calling an ambulance.

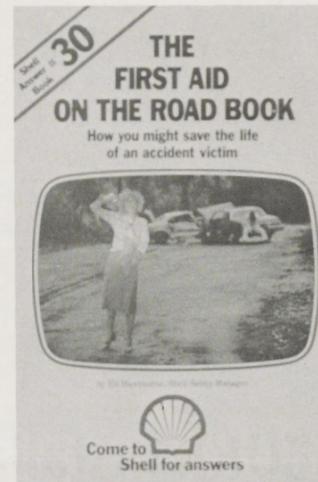
The book was written by Ed Hawthorne, manager of safety and industrial hygiene at Shell's Wilmington Manufacturing Complex in California, in cooperation with the American Red Cross. Hawthorne, a graduate safety engineer and registered emergency medical technician, explains when and how a person should be moved, and he takes the reader step-by-step through artificial respiration, how to stop bleeding and how to fight shock.

For example, Hawthorne points out that an accident victim should not be moved unless he is in danger. Lifting him might aggravate his injuries, so it's safer to drag him using the technique demonstrated in the book. It's also important to start mouth-to-mouth resuscitation immediately after a victim stops breathing. If not, death could follow within minutes, and serious brain damage even sooner.

"The First Aid on the Road Book" contains case histories which illustrate how the simple techniques saved the lives of people across the country. Each victim could have died at the scene of the accident if there had not been a person with first aid knowledge nearby.

The booklet also lists the necessary components of a basic first aid kit. A few inexpensive items carried in the car could be useful in a variety of emergencies.

"The First Aid on the Road Book" is available free at participating Shell stations or by writing to Shell Answer Book, P.O. Box 61609, P.R. Department, Houston, Texas, 77208.



Classifieds

FOR SALE

1974 Mercury Capri. 2,000 cc with air conditioning, automatic. Good condition. \$895. Call 422-4069.

1975 Chevrolet Monza. Air conditioning, heat, cruise control, new tires. AM-FM radio. Bought new — one owner. \$1,500. Call 944-3789.

1980 Chevrolet Malibu Classic Sports Coupe. Automatic, air conditioning, power steering. 21,000 miles. \$5,200. Call 470-1358.

1979 Yamaha XS 1100 Special. Equipped with mini-windshield, mini-engine guards, backrests, luggage rack. 21,000 miles. Runs extremely well. \$2,500. Call 947-1212.

1980 Yamaha 850 Special. Fairing, luggage rack, shaft drive. 5,000 miles. \$2,100. Call 471-8989.

Miscellaneous Volkswagen Type I engine parts. Includes cases, cranks, cams, carburetors, etc. Call 471-2443.

Three-bike motorcycle trailer. 15-inch wheels. \$2 00. Call 487-5256.

House for sale. Four bedrooms, two and one-half baths. 2,060 square feet. All built-ins — excellent condition. Large corner lot, with new drapes and carpet. Owner finance — \$15,000 down. Call 477-7564.

Home for sale by owner in Fairmont-Burke Road area. Three bedrooms, two

bathrooms. Six-foot cedar fence, metal storage building. Six years old. \$15,000 equity, assume 10 percent FHA. \$517 a month. Call 487-3733.

FREE

Seven-month-old male dog. Half-Labrador, half-English Setter. White short hair, about 50 pounds. Has had rabies shots. Call 481-3361.

RETIREMENT PARTY

After 45 years of service, Otto Bopp plans to retire June 1, 1982. There will be a retirement party for him Thursday, May 27, 1982, at 3 p.m. in the North Cafeteria. The menu will include barbecue, beer and soft drinks. For more details, call M.R. Schultz at extension 6590.

PERSONALS

To my many longtime and new Shell friends, to all my Shell retired friends who traveled distances to be with me, please accept my appreciation for my happy retirement party on May 3, 1982.

Just as all of you will be, the gifts and good wishes will long be remembered. A sincere thank-you, to each and every one of you who had a part in making my retirement a memorable one.

Bill M. Sommerfeld

I wish to thank all of you for the wonderful retirement party and gifts. It was a most enjoyable experience. I will always remember our friendship over the years.

A.J. Free

Graduate's issue reminder

Don't delay: the June 4th deadline for submitting information forms and photographs for the Shellegram's annual Graduate issue is rapidly approaching. Don't let it pass you by.

If you would like a graduate in your family honored, send an information form and a picture (with the student's name lightly printed on the back) to the Shellegram office in the North Cafeteria. Forms can be mailed or dropped in a special box in the Shellegram office. The mailing address is P.O. Box 100, Deer Park, Texas, 77536.

The deadline for the July 1 issue is June 4 — material submitted after June 4th will not be accepted. Don't wait till it's too late...or you may find yourself waiting till next year.



PYROPS helps fine tune operations

Continued from page 1

pany locations will simultaneously discuss their business while they each study the same chart on their PYROPS computer screen.

PYROPS is only simulating furnaces that crack liquid feedstocks now. But Gierczyk and Harper said they hoped the

system will eventually simulate the entire olefins operations.

"PYROPS is a crude tool that is still being developed," Harper pointed out. "But it's already producing good results for us. We're running at conditions better reflecting the marketplace than ever before. It is helping us fine tune our

operations," he added.

Gierczyk said that Shell has come a long way in its understanding of the economics of olefins plants. "That, of course, does not mean we've learned all there is to be learned. We've just begun, and PYROPS application and evolution will be an ever-growing process."

Shell award ...

Continued from page 1

a city block. There was virtually no room for error as the massive platform was maneuvered through 1,000 feet of water just 20 feet from the target.

Shell President John Bookout, who accepted the award, said, "Every advance we make is victory for this industry. And it's victory for people who know little or nothing about the work we do — people all over the world who look to us for the technological breakthroughs that make a better life possible for humanity."

When production at the field peaks, the Cognac Platform is expected to produce 50,000 barrels of oil and 150 million cubic feet of natural gas each day.



O. P. Hill, left, Libby Escobedo, center, and Tom McCulley, right, all of A Maintenance, will be keeping it cool this summer with their new Igloo ice chests. When the Intermediates and Solvents Department reached one million safe hours on April 13, it presented everyone in the area with an ice box to mark the occasion. The safety record is even more impressive when you consider the size of the department — 365 people staffing six operating areas and three maintenance areas.

Provident Fund

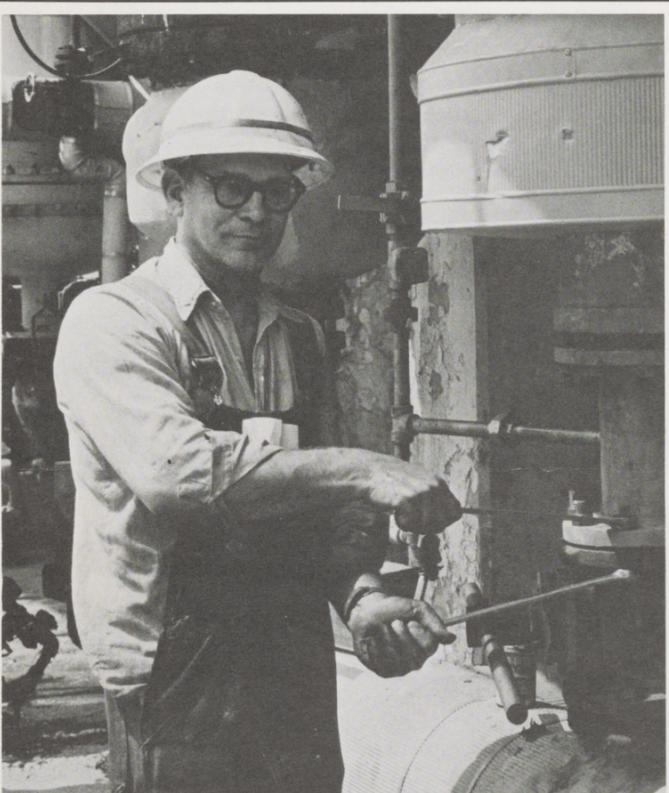
The Provident Fund valuation is as follows:

Equities Fund
Mar. 31 - \$3.731

Shell Stock Fund
Mar. 16-31 - \$34.723

The Shell Employee Stock Ownership Fund valuation is:

Mar. 16-31 - \$33.629



Shelly Clayton

The Shellegram is published each week for the purpose of informing and recognizing pensioners and employees like Shelly Clayton, a pipefitter at Maintenance South. Shelly, who is shown here tightening a flange reboiler, has worked at the Complex 29 years.

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