



CPS goes "natural," swapping fuel oil for gas

By converting to natural gas in the Central Power Station's (CPS) two boilers, the largest at DPMC, Shell energy experts hope to increase the efficiency of steam and electrical production at the Complex and save millions of dollars.

The conversion of the CPS boilers from liquid fuels to gas was completed several months ago. Both boilers are now on-line burning a mixture of process gases and natural gas.

"The economics are in our favor," said Bill Charles, process manager, Utilities Distribution. "The difference in cost between burning natural gas and fuel oil will mean a great deal of savings."

Charles explained that the boilers were designed to fire both coal and fuel oil, but the coal-handling and environmental facilities for coal were never built. Each Shell plant burns different fuels

depending on which resource is most plentiful in the area.

The decision to burn fuel oil rather than natural gas at CPS was based on the economic situation in 1975. At the time, there was a severe natural gas shortage in the country. In addition, the prices of fuel oil and natural gas were quite competitive, ruling out any advantages to burning gas instead of oil.

But that situation soon changed.

The enactment of the Natural Gas Policy Act in 1978 imposed price controls on all natural gas through 1984. This action, coupled with the Iranian crisis and the doubling of world crude oil prices created a large price differential between oil and gas. In short, fuel oil became too expensive to burn.

Chuck Thompson, Process Engineering, Utilities, said,

"The price of fuel oil increased to where it was \$10 to \$15 a barrel more expensive than natural gas. In 1981, we purchased almost nine million equivalent barrels of natural gas. If that had been fuel oil, our annual fuel cost would have risen by \$90 to \$135 million."

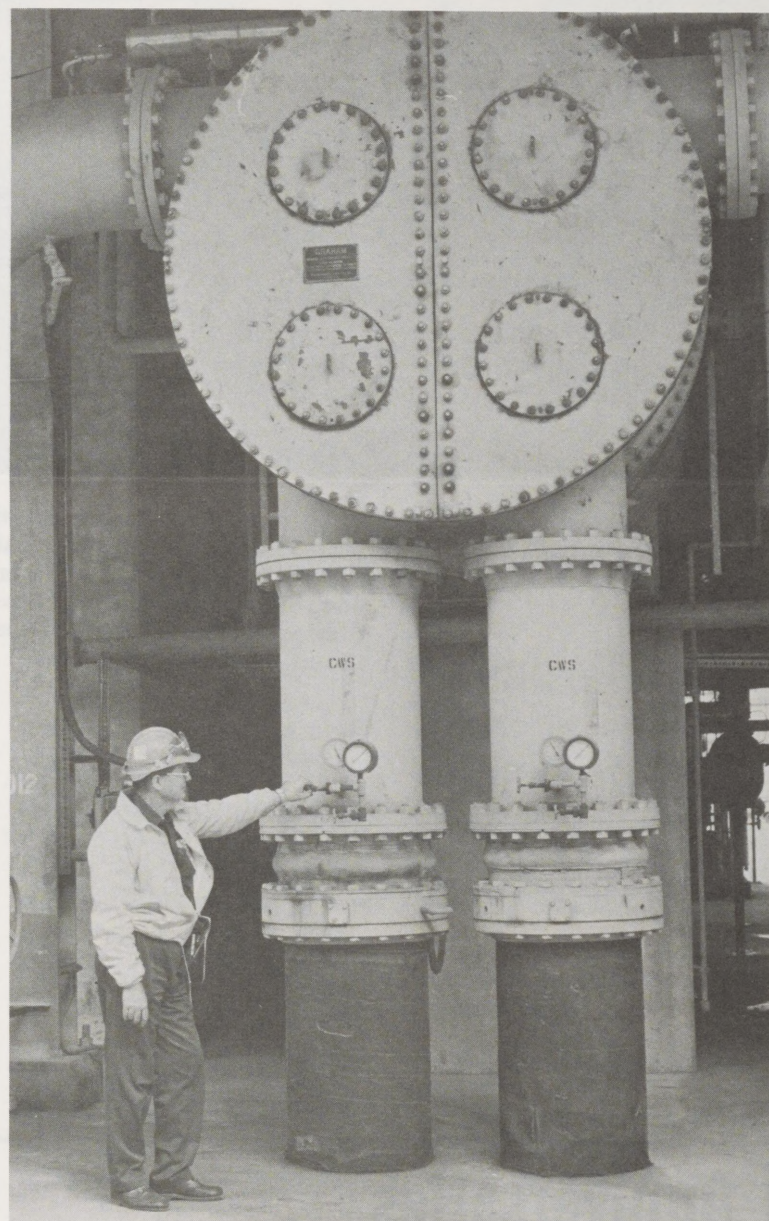
The biggest reason for switching to natural gas at CPS is to maximize co-generation, a process in which electricity is produced along with low pressure steam used for heating purposes. High pressure steam production at CPS produces electricity for the Complex. It also produces low pressure steam for heating in equipment such as reboilers.

"The more power we produce by co-generation, the less we have to purchase," Thompson said. The annual pre-tax savings from converting CPS to natural gas firing is expected to be \$5 million.

Tom Roberts, CPS process manager, added that co-generation with natural gas gives Utilities more flexibility. "It allows us to run both boilers and generators," he said.

Roberts pointed out that natural gas is also "cleaner" to burn. "We save money on the steam we had to use to clean the insides of the boilers with fuel oil," he said. "We can also bring the boilers up slower and smoother with gas."

The CPS boilers were shut down for three months last year while the \$3 million project was completed. They were both running smoothly by December 1, with the added capability of burning both



John Durand, CPS shift foreman, is dwarfed by the size of this condenser, which converts very low pressure levels of steam into water for electrical generation at DPMC. The condenser lends flexibility to CPS, which can increase electrical generation by increasing condensing.

liquid and gaseous fuels. Today, CPS is burning the best fuel available for the best price. But the uncertainty of

fuel economics and availability could change things again in the future.

Continued on page 4

Shell's philosophy of de-regulation

To de-regulate . . . or not to de-regulate. That's the question being debated in Washington, D. C. and across the country by politicians, economists and others.

Both sides offer strong arguments either for or against de-regulation. The situation is more complicated than most people imagine. Shell believes all price controls on natural gas should be phased out, eliminating the artificial price controls placed on it now.

Commenting on the recent conversion to natural gas at CPS, DPMC General Manager Jim Braus said, "There are a number of factors we at Shell manufacturing locations consider when choosing fuels — price, availability and the environment are among them.

"Although at this point in time natural gas is an attractive fuel for DPMC, the situation could change. If it does, we'll take another look at which mix of fuels is most appropriate," Braus said.

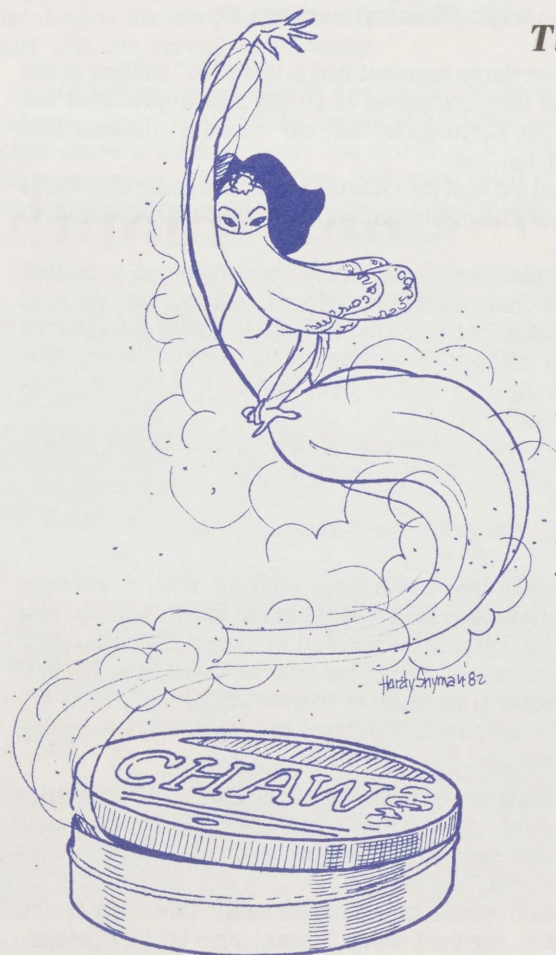
"Shell believes that a gradual removal of price controls on gas is the policy which can best assure the development of our domestic energy supplies with minimum impact on the economy," he added.

"Having natural gas compete with oil in home heating, electric power plants, industrial boilers and chemical feed stocks can significantly reduce our oil imports. That's important for the country."

Don't choke ... but chaw can be hazardous too

The temptation of going smokeless

can disguise the risks of chewing tobacco



For Earl Campbell, Houston Oiler's star running back, it's a way of life. For famous cowboy Walt Garrison, all it takes is a pinch between his cheek and gum. Let's face it... chewing tobacco is a tradition in the Lone Star State.

But a recent study by the Baylor College of Medicine in Houston could have cowboys choking on their chaw before long.

"The worst thing people think about chaw is that it's just a nasty habit, and that it stains your teeth," said Dr. Jim Gross, assistant DPMC Medical Director. "They're not aware of the fact that you can still get the adverse effects of the nicotine that is absorbed into the blood stream."

About 22 million people in the United States use chaw and snuff. The tremendous increase in advertising by tobacco companies in recent years has made some brand names household words. Bubblegum is even packaged in an inventive tobacco tin, designed for child chewers.

The health reasons alone are tempting enough to forsake "cancer sticks" for chaw. Furthermore, chewing tobacco is even more popular at the Complex since cigarette smoking is banned nearly everywhere due to the hazards of fire.

"Most people correctly realize chewing tobacco is a reasonable compromise to cigarette smoking. Chaw is worlds better than cigarettes," Gross pointed out. "You can avoid inhaling the tars and nicotine and reduce the risk of lung cancer and emphysema. But

chewing tobacco can have bad effects too."

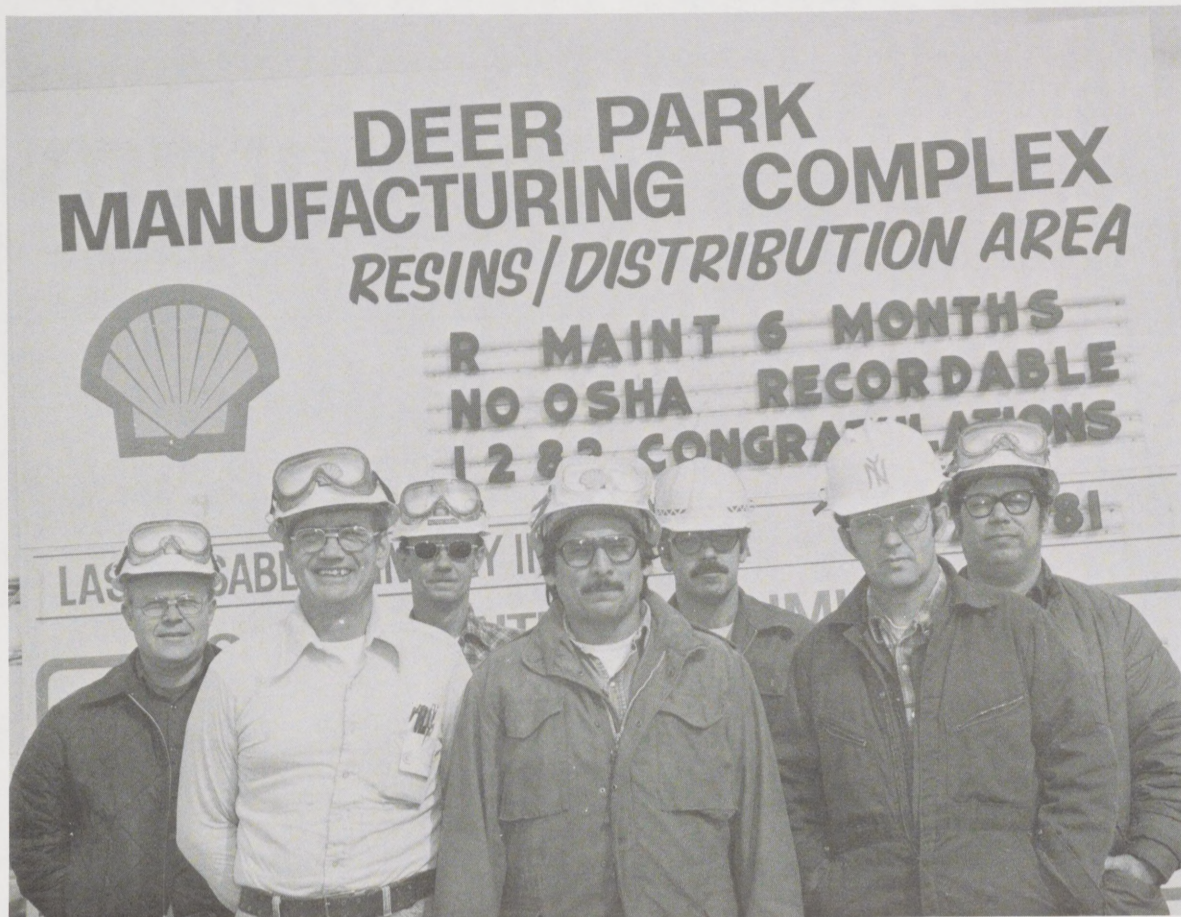
Gross said the first step was to be aware that chaw can be harmful. "Cigarette smoking is far, far worse, but chaw could be potentially damaging for many people."

Chewing tobacco, technically known as "oral nicotine," has its primary effects on the cardiovascular system. The nicotine causes blood vessels to contract, which in turn can cause an increase in blood pressure as well as increase the heart rate. This could be particularly harmful to people with high blood pressure. It also reduces blood flow to the heart, raising the spectre of heart attacks or other cardiac problems.

Dr. Harley Hartung, one of the physiologists who conducted the 1981 study, said the effects of chewing tobacco "increases the tendency toward high blood pressure in certain people who are susceptible to the effects. We think the long-range effects produce chronic high blood pressure in certain individuals."

Few studies have been done on the effects of chewing tobacco over many years. Some experts believe chewing tobacco can also increase the potential for mouth and lip cancer, a fact already documented for pipe and cigar smokers.

Gross suggested people give up tobacco, or try a new habit like chewing gum. "Chaw is important to avoid in a preventive sense," he said. Even though you enjoy your tobacco without lighting up, you should be aware of the problems of going smokeless.



Six safe months for Resins Maintenance

The Resins Maintenance field group recently completed six months on the job without an OSHA recordable accident. Members of the group include, from left to right: Roger Foree, boilermaker; L.L. "Andy" Anderson, instrumentman; Butch Adams, area foreman; Robert Rios, machinist; A.C. Miller, pipefitter; Tom Leroux, pipefitter; and Robert Hernandez, machinist.

Safety has always been of primary concern at the Complex. And now, as part of the new DPMC Safety Recognition Program, safety on the job will pay off in other ways, too.

Under the new program, when a DPMC departmental group completes six months without an OSHA recordable accident, the members of the group can select a gift from the safety gift catalog. Some of the possible prizes include bar-

becue equipment, pen sets, tools, clocks and cutlery.

Resins Maintenance, pictured above, is just one of six Maintenance South field groups that has completed six safe months on the job. Other groups include Intermediates and Solvents, Light Olefins, Special Projects and two groups from the south Shop area. In fact, the entire Maintenance South group has gone six months without a lost-time incident.

Shell News



Shell reports 1981 earnings

Shell Oil reported its earnings increased in both the fourth quarter and in the full year of 1981, despite the dismal economic conditions that resulted in reduced demand for products and the under-utilization of major production facilities.

Shell President John F. Bookout said the company earned \$458 million in the fourth quarter of 1981, an increase of \$49 million over the same quarter in 1980. Net income for the full year was \$1,701 million, \$159 million higher than 1980. The preliminary figures are subject to audit.

Earnings in oil and gas exploration and production increased to \$425 million for the last quarter of 1981 and rose to \$1,547 million for the year.

"The most important factor in this earnings growth was the increase in the prices of domestic crude oil, natural gas and natural gas liquids," Bookout said. "However, much of the benefit from higher crude prices was offset by higher windfall profit taxes," he added.

Bookout said crude and natural gas production were moderately higher, due to increased crude output from Shell's Kernridge properties in California and new and increased gas production in the Gulf of Mexico.

How the earnings increases break down

Per-share earnings for the fourth quarter were \$1.48 and \$5.51 for the full year, compared to \$1.32 and \$4.99 for the same periods in 1980.

The company's capital and exploration spending reached \$4.1 billion for 1981, an increase of \$9 billion over 1980 spending. In 1982, Bookout said spending plans call for \$4.3 billion, with about 70 percent targeted for the exploration and development of domestic energy resources.

Revenues were \$5.2 billion for the 1981 fourth quarter and \$21.7 billion for the year, compared to \$5.1 billion and \$20 billion for the same periods in 1980.

Earnings amounted to 7.8 cents of each revenue dollar in 1981, compared to 7.7 cents in 1980.

Oil earnings rise . . .

On a segment-by-segment basis, earnings for both the quarter and year were higher in oil and gas exploration and production and in oil products (refining, transportation and marketing), but were lower in chemical products.

The oil products segment earned \$121 million during the quarter and \$360 million for the year, increases of \$42 million and \$40 million from the respective periods in 1980. Bookout said the fourth quarter gain in oil products earnings arose from improved margins as compared to the same quarter last year when selling prices lagged behind increases in raw material costs.

For the entire year, selling prices and a higher valued sales mix essentially offset the impact of lower sales volumes, increased raw material costs and other variable operating costs. Earnings benefitted from higher investment tax credits largely associated with refinery modernizations in California.

. . . while Chemical earnings dip

The chemical products segment had a loss of \$11 million in the fourth quarter of 1981, compared to an \$18 million profit for the same period in 1980. Earnings for the year were \$24 million, a \$104 million decline from 1980.

Bookout pointed out that the chemical segment generated funds from operations of \$313 million in 1981, compared with \$395 million in 1980.

He attributed the declines to worse than expected economic conditions in 1981 that resulted in reduced demand, forcing such commodity business operations as olefins, aromatics and solvents to produce below efficient operating levels. Bookout added that competitive pricing and higher raw material costs also contributed to the declines.

Total company earnings increased 12 percent for the 1981 fourth quarter and 10 percent for the entire year.

What's on the horizon in 1982?

Looking at trends into the future, Bookout said, "Domestic crude oil prices remained nearly level in the fourth quarter at a little more than \$31 dollars a barrel, and we expect little change in domestic crude oil prices during the next few quarters. Natural gas prices increased from quarter to quarter during 1981 at annual rates somewhat above 20 percent per year, and continuing increases are expected."

He also discussed the outlook for oil products. "Competitive pressures on selling prices, that intensified late in the fourth quarter, have been narrowing margins, and this condition may persist well into 1982," he said.

As for chemical products, Bookout said, "We expect improvement in this segment when normal growth in economic activity resumes."

Anniversaries



Dan Urbanek, Jr.
Process Engrng.
40 years



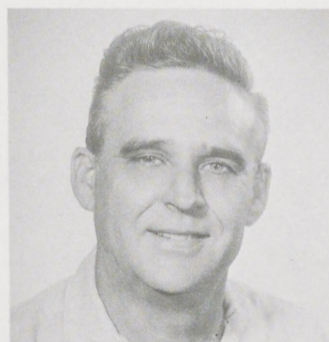
Joe Brewton, Jr.
Process Engrng.
35 years



L. W. Cope
Environ. Con.
35 years



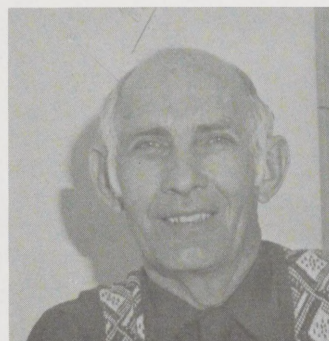
Paul Gudgell
Process Engrng.
35 years



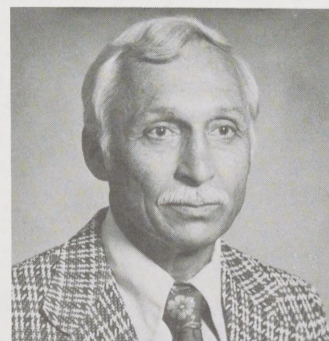
T. J. Williford
C Operations
35 years



John Nepveux
Project Engrng.
30 years



W. R. Knowles
Engrng. Support
25 years



Joe Pietrocarlo
Project Engrng.
25 years



Robert Taylor
Maint. North
15 years

IPA boosts efficiency despite low operating rates

The work amounted to a few simple piping changes and some minor instrumentation changes. As one DPMC engineer put it, the changes were "not very exciting." But the minor surgery done to the IPA distillation columns, allowing them to run more efficiently at reduced rates, saved the Complex nearly a million dollars in just seven months.

The considerable savings was the result of being able to better balance production rates with product demand. Built to run at high rates of production, the IPA distillation units weren't designed for the economic slump that has slowed America to a crawl with the advent of the '80s.

The IPA distillation unit in C Department is marked by three conspicuous sets of

columns that cut the Complex skyline. The large set of columns generally produce a feed stock used in the production of acetone, an industrial solvent which is used in products like nail polish remover. The two smaller sets of columns produce "prime" IPA, used as rubbing alcohol but also as an industrial solvent and in pharmaceuticals.

The demand for both acetone and prime IPA can fluctuate considerably. Unfortunately, the towering distillation columns don't run as efficiently when the market requires them to operate at reduced rates.

"We were wasting a great deal of steam energy when we ran at low rates," said Paul Van Drunen, the process

engineer who surveyed the unit for the necessary changes. "We decided to try and find a way to minimize the disadvantage of running at low rates."

"We wanted greater flexibility in the system," he said. "When the demand for our product declined, we had no choice but to run at lower rates. But we still had to use almost the same amount of steam to operate the columns."

Aida Harvison, the technical engineer responsible for the unit's daily operations, pointed out that a great deal of steam is used just to heat the column itself. "Once it's running, you can only turn down the column so much or it won't function at all. When we tried to reduce the operating rates, it was pretty obvious we were wasting steam in the large column," Harvison said.

You can imagine an Indianapolis 500 race car, equipped with a custom engine, being forced to drive down the highway at 20 miles an hour. The car, straining to run at accelerated speeds, will waste a great deal of energy even though it's moving at a slow pace.

The solution was to make some minor adjustments, like changing a few pipes around, for instance, which would allow the sets of columns to be utilized differently than in the past. This would not only minimize the disadvantage of running at lower rates, but also save DPMC a rather large energy bill.

Van Drunen explained that one of the smaller sets of columns was switched to produce acetone feed stock while the larger set of columns was shut down entirely. Prime IPA continued to be produced in the other set of columns, but in smaller quantities.

The distillation columns

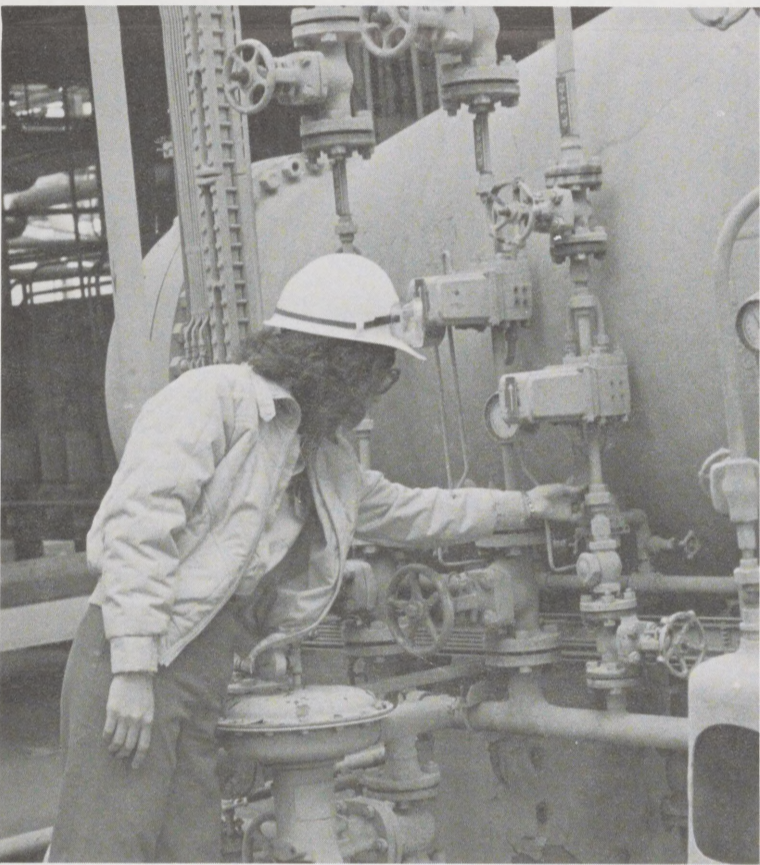


These lofty IPA columns are a familiar landmark in the DPMC skyline. Three sets of columns work together to produce acetone feed stock and "prime" IPA that later becomes finished IPA.

were first switched in April of 1981. They continued operating at that reduced level until the end of last October, when the demand for both acetone and IPA increased, requiring C Department to operate all three sets of columns again. "The project worked very well, and it will work again in the future if we need it," Van Drunen said. "The amount of steam we saved by operating

in this way amounted to about \$150,000 a month.

"Of course there is no incentive to operate this way unless the market demand turns down again," he added quickly. "But now, when we know the market demand will be low over an extended period of time, say several months, we can convert the column operations to minimize our energy consumption."



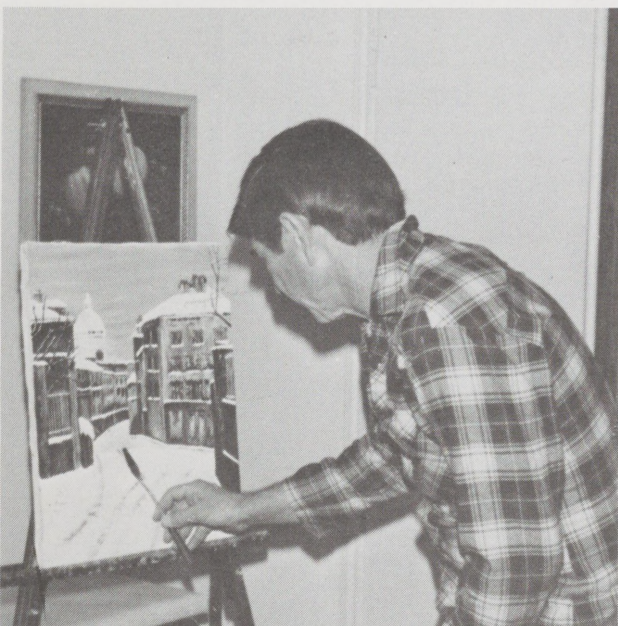
Aida Harvison, technical engineer, checks a valve on a vessel in the IPA unit. Several minor piping and instrumentation changes at the unit will allow IPA to run more efficiently at reduced rates.

Despite a late start, the artist is making up for lost time

Marshall Wood did not pick up a paint brush and press it to canvas until just 10 years ago, when many would consider him past his prime artistically. In fact, art began as therapy for Wood following an eye operation. But despite his late start, Wood is making up for lost time with his pursuit of art today.

The DPMC crane operator in Automotive North is tall and softspoken, befitting the image of an artist. Some might sense a clash between the driver of a modern, massive crane and the sensitive, reflective spirit of the painter. But Wood's late discovery of art has taught him to appreciate both sides of his character.

Even though Wood has reached middle age, when



Portrait of the artist

Marshall Wood at work in front of his easel . . .

most people have accomplished their life's goals or given up, he said he's not sad he didn't begin painting earlier. "I'm not unhappy with my life. I would have liked to have been an artist all my life and devote my life to it," he said. "I always wanted to try painting, and I'm just glad I finally got the chance."

His chance came in 1971, but it grew out of unfortunate circumstances. He had just had an eye operation and was convalescing at home. For Christmas that year he received some odd presents — oil paints, a brush and a series of free painting lessons. The doctors told his wife Betty that painting would be good therapy while he was confined at home and would help strengthen his eyes.

"I progressed slowly after I began," Wood said. "After I had been painting for some time, I realized I could do it, that I had the talent for it." Since then, he's signed his name to more than 100 canvases, and has participated in several shows and exhibitions. Wood has won ribbons for both his painting and his metal sculpture.

"I like to explore when I paint," said Wood, a member of several Houston-area art leagues. "Things that are repetitious, like butterflies, butterflies turn me off. Once I've completed a piece, I like to go on and do new things. Some of the best work I've ever done has been abstract, like just a single limb of a tree."

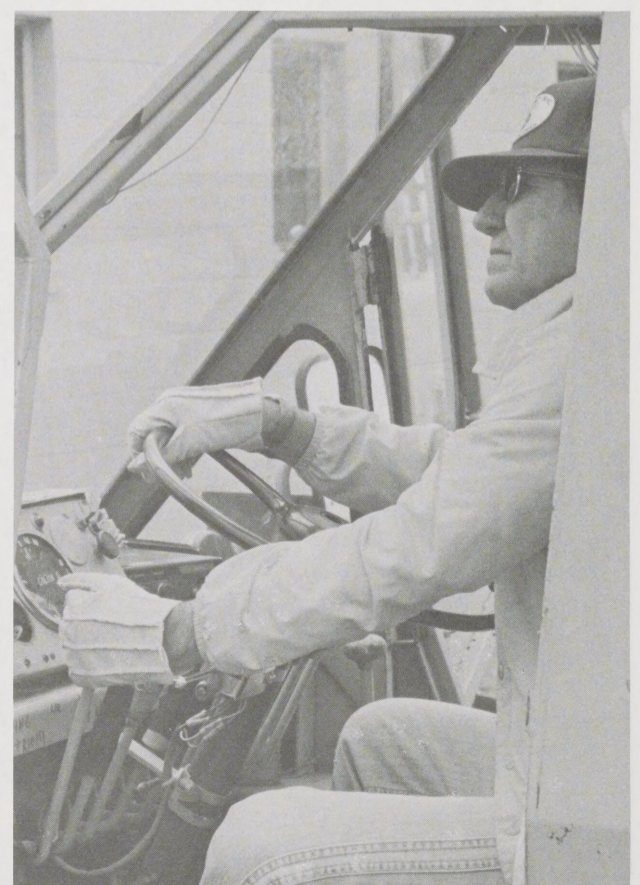
"Once you have a work in mind, it just depends on your imagination. You have to envision what you see," said Wood, who has been at DPMC 33 years.

"Painting should portray the sentiments you enjoy," he continued. Wood said his favorite paintings were of animals, or street scenes "with a nostalgic, old European-early American feel."

Wood is quick to point out that he hasn't painted his masterpiece yet. "Somewhere there's a dream I haven't quite done yet," he said. "I'm proud of my ribbon-winners, naturally, and the things other people have accepted. But I'm most proud of what I hope to do."

Although the DPMC crane operator has sold several of

his paintings for hundreds of dollars, and his metal sculpture for as much as \$500, he said he's not ready to retire and make art his full-time profession. "Right now it's a hobby, and I want to keep it a hobby. Maybe one day I'll go into business with it, but I'm satisfied with where I am now."



. . . and perched at the controls of his cab at DPMC.

Classifieds

FOR SALE

1981 Chevy Silverado. Half-ton. Loaded with bed-liner. Must sell. \$8,200. Call 470-0252.

1976 Chevy Blazer. Two-wheel drive. Power steering and brakes, air conditioning. Pioneer cassette stereo with power amp and equalizer. Slotted wheels, CB. 350 V8 automatic. \$2,800. Call 479-8329.

1979 Triumph Spitfire 6C. AM-FM stereo 8-track. \$4,200. 1979 HD Superglide 1200 cc. Five gallon Fat Bob tanks. Custom seat, sissy bar. \$4,000. Call 471-2064.

1979 Honda 650. Fairing, cruise, luggage rack. Must sell — make an offer. Call 482-4190.

1977 GL1000 Honda. Low mileage. \$2,475. Call 472-8366 after 5:30 p.m.

Four H78-15 snow tires with 6 lug rims. 600 miles. \$400. Call 472-4203.

House in Nassau Bay. Four bedrooms, two-and-a-half bathrooms. Call 333-3439.

Summer vacation Condoshare Week Resort on Lake Palestine, near Tyler. Worldwide exchange privileges. Small equity, take over payments. Call 367-7833.

Insulation for walls and attics. Call 476-4934.

Two rollaway iron beds. Very good condition. One with mattress. Both \$75. Call 472-4203.

Two portable sewing machines. Good condition. \$30 each. Call 472-4203.

Old Kenmore sewing machine with cabinet. Needs

minor adjustment. Runs good. \$60. Call 472-4203.

Three-year-old Sears Kenmore portable zig-zag sewing machine. Includes carrying case and attachments. Excellent condition. \$100. Pair of Mediterranean swag lamps. Each has an 18 foot chain, dimmer setting and four smoky glass sconces. Just like new. \$100 a pair. Call 487-8149 after 4 p.m.

Maytag gas dryer. White, front loading. \$75. Call 479-8329.

Gibson ES335TD guitar. Excellent condition. Call 477-0328.

1.36 carat heart-shaped diamond. Perfect for pendant. Appraised at \$5,432. Will sell for \$1,910. Call 665-5052.

FOR RENT

Three bedroom house in Pasadena area. One bathroom, one garage. \$450 per month. Call 473-2170.

WANTED

One exercycle. Quiet and in good quality. Call 479-6854 from 4-6 p.m. or weekends.

Family would like to rent a van for trip to Colorado on March 12-19. Call 474-4974 after 5 p.m.

LOST

Grey button-down sweater. Call 476-7389.

NOTICES

C.D. Young, Jr., a foreman in the Refinery Laboratory, retired Feb. 1, 1982. We will have a retirement party for him on March 5 at 2:30 p.m. For more information, call Pat Denman at extension 6808.

Blood drive begins next month

Once again, it's time to give the ultimate gift — the "gift of life" — a blood donation that can help keep someone alive.

The annual Spring Blood Drive kicks off next month at DPMC. The Complex has met its blood drive goals the last four years, but DPMC donors will have to be generous to reach this Spring's goal of 500 units. The Fall 1981 goal was 462 units.

The blood drive begins March 2 and runs through March 5 in the Chemical plant. In the Refinery, the drive will be held March 8, 9, 11 and 12.

Cary Wilkins, Spring Blood Drive coordinator, said walk-in donors would be welcome, but he encouraged all employees to turn in their registration cards that were mailed to them. The registration cards are due Feb. 16, and should be sent to Room 149, North Administration Building. If you didn't get a card, or lost yours, you can pick one up from your manager. If you have any other questions, call extension 6552.

Your voluntary donations are the only way the Gulf Coast Regional Blood Center receives the supplies it needs during emergencies. Besides the satisfaction you get when you give such a vital gift, you also ensure your family will receive blood when they need it.

If 25 percent of all Shell employees in the Houston area donate, the benefits will pay off for everyone. Donors receive credit on their hospital bill for the processing fee and the

recruitment fee they and their families use. If we reach our 25 percent goal, non-donors are also credited for the recruitment fee, but must still pay the processing fee.

If these benefits are to continue, we'll need your help once more. The 1982 Spring Blood Drive is the chance for

"old" donors and "new" donors alike to give the "gift of life," a gift that will benefit others as well as yourself.

Don't delay. Join the 464 Complex employees who gave blood in the last drive. Get your registration cards in on time, and sign up today for your donation.



Williams retires after 46-year Shell career

Everett Williams celebrated his retirement last month, closing the books on a 46-year career with Shell. A large crowd of his friends joined him in the party at the North Cafeteria, including his wife and his father. His friends and co-workers presented him a gift certificate and, as a memento of his job as cargo inspector, a gauging tool — a rock on a string. Williams, who started his Shell career as a water boy in the Laboratory before moving to the docks in 1950, said he plans to start golfing and continue hunting. The Pasadena native will live in Friendswood, not far from the lazy bayou he watched grow into the booming Houston Ship Channel.

Provident Fund news

The Provident Fund valuation is as follows:

Equities Fund
Jan. 15 - \$3,849

Shell Stock Fund
Jan. 1-15 - \$39,971

Trustees of the Shell Provident Fund have authorized a distribution of 1981 earnings for credit to Thrift Accounts of members at a rate of 8.553 percent per annum on average member balances. Members' Statements of Accounts were mailed in January.

Natural gas ...

Continued from page 1

Thompson called the fuel situation a "moving target. Natural gas is expected to deregulate soon. When that happens, the cost of fuel at DPMC will rise significantly," he said. "We need to constantly evaluate all fuels to make sure that we are burning the cheapest fuel."



Milton Holmes

The Shellegram is published each week for the purpose of informing and recognizing pensioners and employees like Milton Holmes, an operator at the Tank Farm. Milton has worked at the Complex since November of 1971.

John P. Abbott — Editor
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