



# Sun Ship Log



Volume 8, No. 1

Sun Shipbuilding & Dry Dock Company

March, 1974

## Important Contract Landed by Sun Ship



**ARTIST'S CONCEPTION OF LNG TANKER.** The design and engineering is solely Sun Ship's, supported by a heavy Research and Development program emphasizing various design facets. From the rendering shown above, it can be seen that the ship differs radically in deck design from all LNG's on the books of other shipyards. The deck arrangement is striking in its similarity to that of a tanker, rather than the huge bubbles more conventionally seen.

Perhaps the single most important contract to come into Sun Ship in recent years was marked by the signing of an agreement between Sun Ship and Pacific Lighting Marine Company of the West Coast for the design and construction of Liquefied Natural Gas carriers (LNG's). Culminating months of work and negotiations on the part of various members of the engineering staff and company management, a major contract for two LNG's was awarded Sun Ship to usher in the New Year. Contract provisions provide for the possibility of three additional ships. Delivery of the first ship is scheduled for mid-1977 with follow-on vessels to be delivered in nine-month intervals thereafter. Capacity of the ships is slated for 130,000 cubic meters, equivalent to about 2.75 billion cubic feet of natural gas in liquefied cryogenic tanks.

The initial design calls for the containment system to be self-supporting Conch design aluminum tanks. The containers

are insulated to maintain a temperature of -260°F.

To be used in transporting liquefied natural gas from Alaska to Southern California, the ships may see additional service to Indonesia if Pacific Lighting obtains approval from the Federal Power Commission. They have already filed an application for permission to import the gas from that area of the world. About 550 million cubic feet of gas daily could be expected if they are successful. Primarily, Pacific Gas expects initial deliveries of 200 million cubic feet daily of gas from Cook Inlet, Alaska.

These LNG ships should rank along with the recent HUGHES GLOMAR EXPLORER for interest and challenge to all shipyard employees. Certainly they will provide a "firm" for Sun Ship workers who are well skilled at leading the industry in producing vessels unique in concept, design and engineering.

## Changing Face Of The North Yard As The Capital Improvements Program Gets Underway Here At Sun Ship



On the left, progress on the landfill is shown (about 20,000 cubic yards of clean fill had been dumped when this picture was taken).



**1974 SUN SHIP MERIT SCHOLARSHIP WINNERS.** At their awards luncheon Friday, March 22, are from left to right: STEVEN G. BLAIR, GEORGE B. BLAIR, JAMES K. MCNEAL IV, and JAMES K. MCNEAL III with GEORGE LIACOURAS, Vice-President of Sun Ship and Chairman of the Company's Contributions Committee.

Last year, Sun Ship announced intention to sponsor two scholarships per year for employee's sons or daughters qualifying under the rules of the National Merit Scholarship Corporation. All selection of winners would be made by N.M.S.C. with no involvement from Sun Ship in that decision, and the program would be totally administered by N.M.S.C.

This year, the first awards were made under this new program. A total of 35 applications were received from Sun Ship employees and the honors fell to Steven Blair and James McNeal, sons of George Blair and James McNeal. Steven, a senior at Upper Darby high school, is in the top 10% of his class. He has been on the Distinguished Honor Roll 11 times and is a member of the National Honor Society. In addition to being head editor of his high school newspaper, he is also interested in theater and has had lead roles in "The Odd Couple," "Play It Again, Sam," and others. He is planning to attend the University of Delaware and major in physics.

Steven's father, George, is a Designer

and has 15 years of continuous service with the Company.

Jim is a senior at Pilgrim Academy and a member of the school chorus and school orchestra in which he plays trombone. He has received special awards in citizenship, science, and English. One of his notable outside activities is that of Junior Volunteer Tutoring at Senator Conventsen Center. With a college interest of premedicine or biology, he will be attending Wheaton College in Illinois.

Jim's father is the Assistant Manager of R&D. He too boasts 15 years of continuous service with the company.

The N.M.S.C. program comes under the Contributions Committee with Mr. Liacouras as Chairman. Neither of this year's winners are National Merit finalists and are not designated by N.M.S.C. as "merit scholars." However, they have been judged by N.M.S.C. as highly qualified students and are approved for the "special scholarship" sponsored by Sun Ship for its employees.



At the right, pile driving on cell 16 is taking place. The cell is a steel structure that will act as a bulkhead. The cells are in front of the old pier—a total of 31 of them will form a 1200 foot pier at completion.



6 WALLS  
520 FLEWING AVE  
PROSPECT PARK PA  
15076

**EDITOR:** Helen C. Bauman (ext. 718)  
**CONTRIBUTORS:** D. Garber, B. Currier,  
E. Decker, R. Barnhart, J. Martin, J.  
Judson, R. Corbitt

*Note: Original contributions are most acceptable, especially if shipyard related. However, contributors should identify themselves in full so that the editor can be in contact.*

## Busy Period for Ship Repair

During the past few months, Ship Repair has been kept busy with the demands of a lot of old favorites—some originating from the shipyard—who elected to return to the Yard at all about the same time. Perhaps the favorite of them all and the one deserving first mention is the S.S. HOPE, anchored here for her 30-year survey. While the owners' survey began in February, initial inspections by Ship Repair showed that the main plant was in fair shape, while the auxiliaries were poor. The owners' then decided to officially return the ship to the U.S. Navy, and the S.S. HOPE was later towed out of the yard for the Philadelphia Navy Yard.

The S.S. HOPE it will be remembered was launched August 1, 1944 as Hull #251, and was first named the MARINE WALKER. Originally a troop transport, after the war her status was altered to a hospital ship carrying the name CONSOLATION. As the S.S. HOPE since 1961, she was also converted for this service where she was built—here at Sun Ship. A companion hull, No. 353 (lost in the Yard for repairs), called the MARINE OWL, also underwent conversion to a naval hospital ship under the name SANCTUARY, and as recently as Vietnam, saw service stationed off that area.

The MANHATTAN also arrived in January for dry docking. Still sporting her ice breaking bow from the previous large conversion performed on her by Sun Ship for her record setting Arctic voyage, this time the ship required bottom damage

repairs and a general overall inspection for classification. The ice belt is being removed. She had been stationed for months off Bangladesh serving as a floating warehouse for grain storage to help that stricken area.

Hull #595, the ECLIPSE, arrived back at Sun Ship for anchor windlass repairs, anchor chains, etc. The fire pumps were also found to be inoperative. What was interesting in this instance was that Sun Ship had to go back to the archives, retrieve the original drawings made back in 1952, in order to proceed with the work without unnecessary delays. The ship was launched December 23, 1953 for Socorro Vacuum.

Another famous hull, the USNS COMET, first roll-on/roll-off ship ever to be built, will arrive back at the yards of her builder for rudder repairs, sea valves and sea chests, clearing and painting. Bottom shell repairs will be necessary as well as tank cleaning. The USNS COMET, Sun Hull #610, was another pioneering venture in concept undertaken by Sun Ship for MSTs during the 1957-58 period. A prototype in her day featuring steam turbines, since the time of the Comet the CALAGHAN has been built for MSTs, with the latter using gas turbines for propulsion. This ship too was another "first" for the Yard.

Also in for repairs are two Chilean Navy vessels and one Brazilian Navy ship. This has been Ship Repair's busiest period in the last 3-4 years with every pier filled.



SUN "800" PLACES 320-TON CRUDE OIL TANKER on board vessel for shipment to Hong Kong's refinery in St. Cruz, U.S. Virgin Islands. The crude oil tanker is 200 feet long with an inside diameter of 19 feet and has a 5/8 inch average wall thickness that includes a dual stainless steel liner. The tanker left Sun Ship on Tuesday, February 19th, aboard West India Line's INAGUA LIGHT which docked here to make the pick-up.

## Pension Plan

A letter recently received from a 33 Department retiree stated, "I want to say thanks to Sun Ship for being so generous to me in the past year. I am looking forward to great happenings as all of your future plans take shape. It gives me a good feeling to have been part of the organization."

The pension plan which Sun Ship provides for its retirees is one of our most important fringe benefits. Sun's funded plan is non-contributory, meaning that no payroll deductions are necessary from the employees. The company contributes 100% of the money to the pension fund. Although many of our employees are years away from 65 years of age, people of all ages are planning and preparing for their retirement. Never before have so many people in this country been concerned for the security of their retirement years.

Few people are aware of the extent of the benefits now being realized under our Pension Plan. Pensioners at Sun Ship now number 579 individuals who in 1973 received a total of \$703,020.94 in benefits. These are significant numbers.

Sun Ship keeps in touch with its pensioners in many ways. All receive the Sun Log. They are invited to special events at the shipyard such as Family Day. Sons and daughters are eligible for our company-sponsored National Merit Scholarship Program. They receive all general mailings made to active employees. This group also receives the annual Christmas bonus. It is hoped that this communication with our retirees indicates to them a continued interest in their welfare which is over and above the monthly pension check.

This past Christmas a retired draftsman received the Christmas bonus and wrote to the company stating, "I took early retirement from another company after 44 years of service and received no such gift from them. Unexpected gifts such as these are greatly appreciated to make ends meet. I enjoyed every minute of my employment at Sun Shipbuilding."

Retirement years can be a happy and fruitful time of life. Obviously Sun Ship plays a large part in making this possible for its employees.

## Earning It the Hard Way



Samuel L. Arding has been making a record of notable achievements while at Sun Ship. Recently promoted to the position of Programmer within the Data Processing complex, this marks the third promotion Sam has had within the organization since joining the company in September 1969.

More importantly, however, Sam is honored and congratulated for having earned his Bachelor's degree with honors while holding down full time employment with Sun Ship. He graduated second in his class at Cheyney State College with a 3.82 average, thereby acquiring his degree in business administration in admirable fashion.

During the time he was working for his degree, Sam worked first as a machine operator in Data Processing, then in a series of promotions was promoted to supervisor of the third shift, and still later to the second shift. His last promotion, just recently, was to the position of Programmer during first shift. All the time he worked third or second shifts, Sam used his daylight hours to attend Cheyney, either on a full time or part time basis. His tenacity and dedication, to both schooling and job, have earned him much success. The shipyard is proud to number people like Sam among their many fine employees.

A Chester resident, he is also married and the father of three children.

## Fire Marshal Honored



Fire Marshal HANS BOLCH instructing volunteers in the proper method of smothering fires.

Scarcely with the Company a year, Hans Bolch has already been honored by an outside organization for his outstanding service—namely, when the City of Chester presented him with its 1973 Fire Prevention Award. A retired captain from the Philadelphia Fire Department having 26 years of service with that organization, Hans was credited with being one of the founders of that department's fire prevention division. Now he is applying that knowledge into developing an effective

volunteer fire brigade for the shipyard. The force numbers 10 men per shift selected from yard supervisors.

With Sun Ship since May of 1973, he not only has been instrumental in strengthening fire control methods for the yard, but was also Acting Head of the Security force until the new Security chief took over. In addition to making a favorable mark in the Sun Ship organization, Hans scores marks for his own pleasant, agreeable personality.



Fire fighting crew taking part in learning the proper methods of fire fighting while Hans Bolch demonstrates.

## Introducing... Three New Faces To Industrial Relations

By the very nature of their responsibilities, these personnel are brought into more contact with all employees than perhaps any other singular group. Since they have all recently joined the Sun Ship organization, we would like to make them known to all of you.



Robert C. Smith—Personnel Analyst

A new member of the Personnel Office, Rob's responsibilities will include interviewing prospective employees for clerical and drafting categories, assistance in professional recruitment, preparation of up-to-the-minute statistical analyses regarding personnel throughout the Company, and assistance in Orientation Programs for new employees.

Rob comes to Sun Ship with considerable experience in the personnel field. Most recently, he worked for John Wamamaker where as Personnel Manager he was responsible for opening their newest suburban store. Previously, he had had a number of assignments in their Corporate Offices including Training Director where he was responsible for writing and implementation of the Company's employee training program.

Rob's office is located in the Industrial Relations Office Building.

## Note Of Thanks Voiced

Elmer Catling, Assistant Welding Foreman of 39 department, wrote the following note to the Editor to express his gratitude at the help he received from Yard personnel.

He wrote, "On January 9, 1974, I was taken ill while in the yard and had to be taken to the Dispensary, and then to the Crozier Medical Center. I would like to extend my thanks to Rose Foley, Anne Fineman, Dennis Raymond, and the ambulance driver for their efficiency in this instance.

I would also like to extend my thanks to all those who called and asked about my well being. Thank You."

Thank you, Mr. Catling. I am sure those who participated will appreciate hearing the vote of confidence and appreciation in their skills in one of their usual jobs well done.

## PENNSYLVANIA WITHHOLDING TAX

Based on a reciprocal agreement between Pennsylvania, Ohio, Maryland, West Virginia and Indiana a nonresident of Pennsylvania, living in these states, can be exempted from Pennsylvania Withholding Tax by submitting to his employer an Employee's Statement of Non-residence in Pennsylvania (Form 165 Rev. 4-73). Data Processing has made the necessary modifications to Sun Ship's Payroll System to accommodate this change. All employees requesting this change on the hourly rolls will be handled by Data Processing File Control by the submission of a copy of the above mentioned form from Payroll Control. Employees on the Weekly and Semi-monthly rolls will be handled by Payroll Control and forwarded to Data Processing for updating on the Payroll Master File.

Any inquiries on this form should be presented to the paymaster at the pay window.



Bill Brucher—Medical Services Administrator

Reporting to Richard Corkhill, Bill will be administrator for the dispensary and the workers' compensation program. His office will be located in Industrial Relations to provide ready access to employees.

Bill is well qualified in his chosen field of health services. Since 1968, he has been associated with Temple University's Health Sciences Center where he has acquired considerable experience in the field. In his new position with Sun Ship, Bill will also be filling the void left by the death of Miss Dorothy Allbach, who for years capably and efficiently administered compensation cases.

Bill is a resident of Havertown, is married and has two children.



## People On The Move

### Recognition For A "Marathon" Achievement

"Neither snow, nor rain, nor heat, nor gloom..." may be an appropriate motto for the post office carriers, but it applies equally well to two Sun Ship employees—Henry Crielly and Harry Berkowitz. They both run marathon races (for those not familiar with the term, the marathon dis-



C. Joseph Baldwin—Security Manager

Joe most recently worked for Acme Markets on their security problem before joining Sun Ship to fill a vacancy in our plant security system. With Acme, Joe was Security Supervisor responsible for investigating both external and internal security matters.

Joe is well qualified for his position. Prior to his industrial experience with Acme, Joe had been a member of the Air Force, performing similar work. When he retired after 20 years of service it was as Security Police Superintendent.

He will have responsibility for all industrial security functions for Sun Ship, including supervision of the current 28 man guard force covering a three shift basis.

His office is next to the Guard Captain's office.

tance is 26 miles, 385 yards) for the mixed relaxation, exercise, and competitiveness it provides. One works at a strenuous occupation and in a remarkable 63 years of age; the other has a very mentally active job with little physical exertion and is 33 years young.



HENRY CRIELLY (66-183) whose good health belies his 63 years of age, has been a shipyard employee for the past 14 years. Almost all of his time here has been spent in stargazing. Mr. Crielly runs four miles every night. On those week-end days when he's not competing, he also runs 10 to 15 miles each Saturday and Sunday.

Not sponsored by any athletic club, Mr. Crielly competes in the Masters Division and the Golden Masters. Masters are open to those 50 years of age and up while the Golden Masters are only for those runners 60 years old and up.

On December 16 of last year, here in Chester, he finished 30th out of 51 runners who started in the first annual F. Eugene Dixon marathon. Beginning at the 1724 Chester Courthouse, he ran the distance in snow and strong wind, uphill and downhill, to finish in 3:36:14. The first Masters Runner in the same race to finish took 24th place.

He lives in Lynwood, and in addition to his remarkable health, he boasts 13 grandchildren.



HARRY BERKOWITZ, on the other hand, is fairly away from his desk while he works out the mathematics of computer research problems. After hours, or before he comes to work, he stays in motion for an average of 1-1/2 hours daily. On week-ends, he extends his training to around four hours, and trains between 80 and 100 miles/week. His pace is about 8 miles/hour.

Starting in high school, Harry now represents the Penn Athletic Club and ran his first marathon in 1964 in Boston. Every year since then he has competed in this marathon. So far, he has finished over 60 races at the marathon distance or longer. In 1973, he ran 12 times including a 13th place finish in the National 50 kilometer place finish in the National 50 kilometer championship in Vermont. In 1969, he captured third in the National 50-mile Championship in Atlantic City, and followed that with a 6th place finish the following year.

His longest training run was from Camden to Atlantic City, along the White Horse Pike, about 60 miles, completed in 8 hours, 35 minutes.

## What to do...

### If Your Car Is On Fire

The National Fire Protection Association has published a brochure on the proper handling procedure if you are involved with a fire in your car. For anyone so unfortunate, knowing the safety rules may mean the difference between complete panic and safe, quick handling of the situation.

Here are the safety rules prescribed by the NFPA in their brochure on car safety. **Engine Fire**

The NFPA recommends that you have a fire extinguisher as part of your car's emergency equipment. A 2-1/2 pound dry chemical type can provide the needed protection.

Then, if the engine catches fire, turn off the ignition immediately. Send for the fire department FAST. These fires can worsen quickly.

Lift the hood cautiously in case of flame. Protect your hands. Direct the extinguisher at base of flame. When out, stand by in case fire restarts. Using a coat or dirt, a fire may even be smothered.

Disconnect electric wires if they are burning. Rip loose with any nearby pry, but protect your hands. Fast action is needed in this case.

### Upholstery Fire

Water is the best extinguisher for soaking any deep seated smoldering. Pull apart upholstery to see car's hot spot. In this case, using the dry chemical extinguisher, or even throwing snow or dirt on the fire can knock it down, but it may not penetrate to complete extinguishment.

Remove the involved seat if possible to avoid risk of undetected sparks bursting into flame hours later.

Prevention is accomplished by checking immediately if you smell gasoline or suspect electric trouble.

In the same brochure, the NFPA also issues the reminder that in case of accident, if someone is hurt, usually do not move him until medical help arrives. BUT, if gasoline is leaking, get everyone away from the car as fast as possible. Gasoline vapors spread; they can flash into a dangerous fire.

For your protection, keep these rules in mind in case you are ever faced with such an emergency.

## Need For Volunteers

Delaware County has initiated a program designed to help young people involved in crime redirect their lives and become successful, responsible citizens. Called VOLUNTEERS IN PROBATION, the program aims to train citizens who are interested in helping young people in need of guidance, and matches them on a one-to-one basis with one such young probationer. The volunteer commits himself or herself to spending four hours a month with his "client," acting as a teacher, counselor, and good friend.

Recognizing that professional people have an obligation to the community, the Delaware County Bar Association provided part of the impetus that established this effort. All 50 active volunteers at this time are lawyers.

Since there are ample numbers of young people who would benefit from this effort, employees are being invited to join with the lawyer volunteers in this vital service to the community. If sufficient numbers of Sun Ship personnel indicate a willingness in this undertaking, a member of VOLUNTEERS IN PROBATION will arrange a meeting to further describe this unique program and the way to become a participant.

Call Richard Corkhill, ext. 848, for further details. The number for VOLUNTEERS IN PROBATION is 891-2479, and they are located in the Tool Building, Second and Chester Streets. Media Director of the group is Robert S. Foster, Jr.

## The Month For Patents

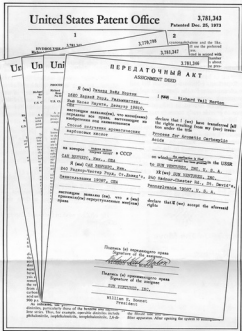
Last issue it was announced that Dan Garber of the R & D department had been awarded a patent for the FABRICATION OF HEAT EXCHANGER TUBE BUNDLES. Since then, he has received official notification of his award, and patent number 3,768,137 has been assigned by the U.S. Patent Office. Formal issue is dated October 30, 1973.

At the same time, Dr. Richard V. Norton, also situated with the R & D department, but on loan to the company from Sun Oil, has been awarded a record number of patents for any one employee at any one time. More about that later.

The invention came about as a result of the several drawbacks and disadvantages of conventional shell and tube heat exchangers. Before Dan's patent, such tubes were ordinarily supported at their opposite ends by means of respective tubesheets, the tubes passing through holes drilled in the tubesheets, and outer ends of the tubes being rolled or welded into the sheets to

provide the necessary sealing or fluid isolation between the tubes and the interior of the shell. First cost, therefore, was high and drilling costly (there can be as many as 10,000 tubes in the bundle). In addition, in the former method, crevices are commonly formed and from the crevices, stagnant areas can originate which rapidly corrode. Because motion is involved, corrosion preventing coatings are not satisfactory.

In the Sun Ship patent, these drawbacks are eliminated.



Dan Garber

Since details were promised on Dan Garber's patent in this issue, they follow here. Dan has come up with a new and useful improvement in all welded heat exchanger tube bundles. Having integral mounting flanges, these are fabricated by first flaring the ends of the tubes and then machining, by a rack hobbing process, three weld prep surfaces, arranged as half a hexagon, on the flared ends of the tubes. The machining is performed on one complete row of tubes at a time and, at the same time, the ends of solid stubs (which eventually become the mounting flanges) are similarly machined. A machining operation is performed on both an unwelded row of tubes, held in a fixture, and on a previously welded array of tubes in the tube bundle; after both of these operations, the two groups of weld prepped tubes may be welded together to add the new row of tubes to the bundle.

A Sun Oil employee since 1968, Dr. Norton is a member of the prestigious Advanced Technology Section of Sun Ventures in Marcus Hook. On assignment to Sun Ship, he is bringing his expertise in chemistry to the study of the difficult area of cryogenic features for the LNG tankers now under contract to the shipyard. On loan to us for an unspecified time, Dr. Norton is operating on the project from Sun Ship's Research and Development department. He has also established a small working laboratory inside one of the store-rooms in the North Yard.

Dr. Norton earned both his M.S. and Ph.D. degrees from the University of Maine. His undergraduate studies were completed at Rutgers University. He is an



Richard V. Norton, Ph.D.

avid home remodeler when he finds free time between the laborious filing of complicated patent applications across the world, and working on the inventions and processes themselves that make the final patents possible. So far, he has garnered about 19 patents total, with 11 of them awarded in 1973 alone, and two already granted to start off the New Year.

As far as his hobby is concerned, he has added a major wing to his house in Wernington, accomplishing all of the work himself without the aid of any subcontractors.

He is an handy with his talents in woodworking, roofing, wall raising, etc., as he is with his ability to find new and better refinery processes.

Both inventions are among a group to be honored at a luncheon March 29, Springhaven Country Club, sponsored by Sun Oil for all inventors of the past year.

## Historic Opening Ceremonies Participated In By Employees

The opening of the Commodore Barry Bridge spanning Chester and Bridgeport saw numbers of people taking advantage of the opportunity of walking across the span that otherwise would be denied to pedestrians. On that first day, February 1, from



Last voyage



2 to 6 p.m., the bridge was open to pedestrians, bicyclists, and other enterprising methods of crossing other than auto.

Many Sun Ship employees couldn't resist participating, among them Fred Keller of 78 department and his family;



Separate generations — antique and modern — meet briefly



Jack Martin of Industrial Relations; T. Twardowski of 77 department; H. Lomas, 78 department; Otto Siegel, retired from the Purchasing department; and Mike Prystash of Industrial Products drafting. Bill Morrison of Sun Oil's Marcus Hook Machines Shop also was present. Between Mr. Morrison and Mr. Keller, here are some of the incidents they snapped as they hiked across the span.



F. Keller's family

## Energy Accomplishments Given High Score

The Energy Conservation award system has ended for Sun Ship employees and has proved itself to be extremely worthwhile to both company and employee. Besides being a highly successful venture for management to locate and curb areas of energy waste within the shipyard, it also proved lucrative to employees who had a chance to vie for a series of cash awards based on their energy savings ideas. To recognize accomplishments, in the course of four months over \$800 was distributed to 17 employees. Prizes ranged from \$25 to \$50 per winning recipient, chosen by an impartial panel representing union and supervision.

More importantly, with a goal of 12% energy savings, this figure was substantially surpassed thanks to the efforts of everyone in the yard. To date, the Company with your help has realized a savings of 30%. This could only have taken place by your direct efforts.

Energy conservation is everyone's responsibility and it is certainly a vital part of this company's business ethic.