Sub construction enters cyberspace era with new shipyard facility

Electric Boat has just taken a significant step toward the next big innovation in submarine construction – the routine delivery of electronic design data to the shipbuilders on the deckplates.

That’s the assessment of Operations VP John Casey, commenting on the Shipyard Visualization Room, which is now up and running in the northwest corner of the Machine Shop.

“The last two major innovations in our business have been the development of the automated frame and cylinder process and the introduction and evolution of modular construction,” said Casey. “We’re in a data-intensive business and in order to convert that data into hardware, we have to make it as user-friendly as we can. We’re at the point now where we need to emphasize the use of data - from putting the hull together through delivery of the ship and lifecycle support.”

According to Casey, the Shipyard Visualization Room brings to the shipyard EVS capabilities that are similar to what’s used in Innovation. “This enables the actual mechanics who build and test the ships to review and discuss their work processes prior to accomplishing the work using 3-D models versus traditional 2-D representations.

“They can confirm that the work steps are properly sequenced and help identify the tooling or equipment that is required to complete the work sequence,” he said. “And they can make recommendations regarding potential changes to those sequences or tooling.”

The Shipyard Visualization Room, said Casey, creates an environment that fosters greater participation among shipyard workers in the construction process. “Everyone can get much more intellectually involved in their work.”

Ultimately, this environment will improve processes, reducing construction costs and enabling the Navy to buy more ships, he said.

One of the first shipyard organizations to put the new facility through its paces is the Piping Department.

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An Electric Boat employee has been honored by the Navy for resolving a problem that threatened to shut down the Naval Submarine Support Facility's oxygen gauge calibration lab at the sub base.

David Wilson, a tech aide in EB’s metrology department, was named the NSSF’s Civilian Craftsman of the Month for his actions, which a Navy official estimated will save the NSSF about $200,000 a year by not having to outsource the cleaning and calibrating of its numerous oxygen gauges.

The problem arose when Wilson discovered that Navy suppliers’ recent shipments of freon, the liquid used to clean oxygen gauges when they are removed from submarines for routine calibration, were not within NAVSEA specifications. Freon must have 1 part per million or less of contamination when being used to clean oxygen gauges, according to NAVSEA rules, but the new supplies were about 2 ppm.

The discovery prompted a brief work stoppage, but the lab was soon back in business when Wilson and his boss, EB metrology department supervisor Craig Adamson, applied for and received a NAVSEA waiver to use the lesser-quality freon, similar to a waiver granted to the Portsmouth Naval Shipyard’s oxygen gauge lab.

Regardless of the waiver, the oxygen gauges will still have to meet all existing NAVSEA specifications after being cleaned.

Wilson said the problem was resolved in a matter of days, which Adamson said didn’t go unnoticed by the Navy. “The problem was rectified very quickly, and I think they appreciated that,” Adamson said of NSSF officials. “It wasn’t something that lingered for months.”

“We had to get this resolved immediately, because you can’t really wait on something like this,” said Wilson, who explained that a sub can’t go out to sea without properly maintained oxygen gauges. And, he pointed out, if the sub base had to outsource the calibration of its gauges, it could potentially affect ships’ schedules.

Navy LCDR Mark Tuohy, division officer for NSSF’s electrical and electronic division at the sub base, commended Wilson for his efforts, saying he has provided the Navy with great customer service on behalf of EB. “Dave is always perfectly willing to

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Software team brings shipyard visualization to life

Electric Boat’s new shipyard visualization suite is a technological marvel, but there’s much more to it than just new rooms, computers and LCD projectors.

There’s also the software – four individual applications that will vastly change the way work is planned, tracked and visualized, in full 3-D, on the visualization screens.

“Those four applications are the backbone behind the shipyard being able to take advantage of the three-dimensional models that exist” of the Virginia-class boats, said Operations VP John Casey. He hosted a special ceremony in the new shipyard visualization suite to recognize the Electric Boat and Computer Sciences Corporation teams that joined forces to make the programs a reality. “Those four applications and that room are going to allow us to bring more innovation to the process.

“This is the first step down the path of our vision to provide the construction foremen and tradespeople with the information they need at the work site,” he continued.

The four applications are:

- Electronic Work Package – a desktop tool that allows foremen to view their work order lists and related data, such as material requirements, job steps and structural weld requirements, and the status of each.

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Shipyard Visualization: a capabilities overview

The Shipyard Visualization Room is located in the northwest corner of the Machine Shop, ground floor.

There are two visualization tools available in the rooms. One is PC Planning Views, which operates on a standard desktop PC using the EB intranet. The second is QuickView, which operates on an RS-6000 workstation (more powerful than a desktop PC and with other operating software).

Both are specifically designed to be relatively easy to use, given some basic training. Planning and Operations personnel have been involved throughout the development of these tools to ensure that they meet the needs of the shipyard and can be operated by shipyard personnel.

PC Planning Views is intended for viewing smaller areas of the ship, such as manufacturing work packages and assemblies. QuickView is designed to take a “top-down” view of the ship and rapidly bring the operator to the area of interest.

The two Visualization Rooms can be separated by a folding wall to project the images for small crews, or opened up to groups of 50 or so. The rooms also have Video Conferencing capabilities. To schedule time to use the Visualization Rooms, contact the Visualization Room Administrators at “EB ShipyardVisualization”@ebmail.gdeb.com

or at
Bob DuBois:
rdubois@ebmail.gdeb.com x7583
Rita Barber:
rbarber@ebmail.gdeb.com x7230
Nancy Gries:
ngries@ebmail.gdeb.com x7751

-By Bill Gibbs
Manager of business systems

continued from page 1

Several tradespeople have completed training provided by Production Support.

“On the working level, we’re now able to go into the ship electronically and see the system in a lot more detail than we’ve been able to see with a normal plan,” said Byron Lowery (243).

“It’s going to give us a big advantage,” he said. “We’re able to pull an image up on the screen, break it down to each part electronically and show all the people in our department who need to know.”

Another member of Dept. 243, Jim Roberts, said the visualization room will promote more process improvement activities. “Somebody might have a better idea and recommend a better way of doing something,” he said. “With this room, everyone will have a chance to evaluate that suggestion. In our case, we’re hoping that this facility will help us do more welding in the shop and less on the boat, which will be safer and save money.”
**Electric Boat receives $54M contract for Virginia-class design work**

The U.S. Navy has awarded Electric Boat a $54 million contract modification to complete component development work and evaluate technology-insertion opportunities relating to the Virginia-class submarine program.

The contract modification provides funding for ongoing design-yard services in support of the baseline Virginia (SSN-774) design, and technology insertion and upgrades for the follow-on ships of the class. The modification also provides for design-yard support for construction of the planned 30 Virginia-class ships.

These submarines will provide the U.S. Navy with the capabilities it requires to maintain the nation’s undersea superiority well into the 21st century. Currently, Electric Boat and its construction teammate, Newport News Shipbuilding, are working on a $4.2 billion contract to build the first four ships of the class. Electric Boat will deliver the first ship, Virginia, in 2004.

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**Software team brings visualization to life**

continued from page 3

- Automated Weld Process Selection System 4 – an application that allows foremen, while using the EWP software, to view crew lists and welder qualifications, and to assign welders to joints, print weld tickets and order weld wire from the wire rooms.

- Planning Change Maintenance 2.5 – an application that allows planners to incorporate changes into the work order system.

- PC Planning Views – an application that allows foremen, planners and tradespeople to view 3-D models of Virginia-class work based on the manufacturing plan.

The latter package is expected to be the most valuable in the area of process improvement, as tradespeople will be able to see precisely how a sub and every single one of its parts will come together.

Dick Palmieri, the Integrated Product Development Environment program manager, praised the members of the four teams for their work.

“‘This was a real team effort,’” he said. “‘Everyone worked together to provide tools that will help the shipyard.’” The EB team members, who also received Employee Recognition Awards, are:

- EWP – Dave Huband (246); John Wilson and Mark Stray (405); and Niels Jorgensen and Paul Macko (604).

- PCM 2.5 – Mike Santoro and Jeff Job (355); Rick Groff, Robert Tetreault and Charles Haag (405); and Stephen Welkie (604).

- AWPSS 4 – Lee O’Connell (341); and Jeff Douglas and Mark Stray (405).

- PC Planning – Ron Donovan (226); Ken Michaud (355); Scott Cooper, Sal Lamesa and Cynthia Richie (405); and Robert Santos (911).

Awards for the CSC team members were presented by Steve Kennedy, CSC account representative for Electric Boat.

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**Dagle will direct RadCon organization**

Paul Dagle has been appointed director of Radiological Services, reporting to Bob Scheel, VP – Quality and Material. Dagle succeeds Steve Kelley, who is retiring.

In his new assignment, Dagle will be responsible for ensuring that Electric Boat meets all contractual and regulatory requirements relating to the company’s radiological control program. Most recently, he was project manager at the Nuclear Regional Maintenance Department, which Electric Boat operates for the Navy at the New London submarine base.

Dagle joined Electric Boat in 1982 and has more than 18 years of experience in nuclear propulsion-plant repair, refueling/overhaul, defueling/inactivation and deactivation/dismantling and radiological controls. He earned a BS degree in mechanical engineering from Worcester Polytechnic Institute.

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Electric Boat News July 2001
NASSCO serves up process-improvement ideas

Always searching for more efficient ways of doing things, and anxious to learn what a General Dynamics sibling has done in that regard, dozens of Electric Boat employees and supervisors attended a recent EB-sponsored seminar featuring representatives of NASSCO.

The seminar, held at the University of Rhode Island’s Whispering Pines Conference Center, gave more than 50 EB employees a close-up view of NASSCO’s process improvement initiative. This initiative has enabled the San Diego, Calif.-based company to become a world-class shipbuilder by making itself more competitive and cost-conscious.

Four NASSCO employees – three senior manufacturing engineers and the manager of manufacturing engineering – provided a vast array of information and ideas for EB workers to ponder. First, the day included a presentation on NASSCO’s “lean manufacturing” program. Next, seminar attendees were split up into teams for an exercise that involved the construction of miniature “ships” using Lego blocks, with all sorts of manufacturing challenges introduced along the way. Lastly, attendees held a brainstorming session on the process improvement initiatives that are already under way in Groton and Quonset Point.

One of the key points emphasized at the seminar, attendees said, is that improving the efficiency of EB’s manufacturing processes will require the participation of every employee.

“Probably the most important and successful event of the day was the bringing together of such a cross-functional group of key individuals in one room and having them receive the same message and understand the importance of the role we all play in EB’s future successes,” said Arthur Serpa, manager of planning and production control at Quonset Point. “We need to do more of this.”

Todd Waterman, a contract specialist with Depart 650, expressed similar feedback.

“Overall, EB’s culture needs to be one that tries to recognize where our weaknesses are, then taking the time to properly evaluate and correct them,” he said. “At the same time, we need to identify our strengths and figure out how to continually grow stronger in those areas.

“By continually looking to get stronger, more opportunities for growth will emerge and we’ll be ready to capitalize on them,” Waterman concluded.

Ron Donovan, steel trades superintendent, said NASSCO’s lean manufacturing program has involved breaking down each major construction process into its smallest steps, studying those steps in great detail, and then eliminating waste, redundancy and non-value-added work from them wherever possible.

A key attribute of this procedure, he said, is employees’ involvement in the entire process. “They have to understand why changes need to be made, and be provided the opportunity to have input into the change process.”

Donovan pointed out that EB already has various process improvement teams working on assorted issues, but that some of the teams are now starting to take a broader approach in an effort to pursue more wide-ranging improvements, involving integrated cross-functional teams.

“Right now we’re just scratching the surface, but I’d expect this to really spread as we step up the focus and attention to these needed process improvements,” he said.

Added Kim Beyer, manager of planning, “We need to recognize that this is a long-term commitment and educating all participants is a critical first step.”
Electric Boat engineers recently took to the stage to demonstrate the company’s position on the leading edge of submarine technology to the Navy’s senior leadership as well as other influential members of the undersea community.

The forum was the annual Submarine Technology Symposium (SubTech) held at Johns Hopkins University in Maryland. The EB engineers presenting papers were:

• Steve Cicora: An All-Electric Modular Submarine Concept.

• John Tressel: Flexible Payload Module and Stealthy Affordable Capsule System – Keys to the Future Submarine’s Payload Flexibility and Modularity.

• Steve Braman: Large Unmanned Undersea Vehicles – A Disruptive Technology for Expanding Battlespace Presence.

In addition, the following EB technologists developed and/or manned these displays at the symposium:

• Tom Skrmetti and Andy Lightner: From Seawolf to Star Trek – A Roadmap for Revolution.

• Jeff Hall: Flexible Tab Assisted Control for Enhanced Maneuvering and Smart Materials for Turbomachinery.

• Pete Liwski: Inflatable Gas Plasma Antenna Provides Needed Aperture and Stealth.

• Jim Campbell: The Virtual Periscope.

According to Innovation VP and Chief Engineer Millard Firebaugh, the first day of the symposium consists mainly of presentations by senior Navy leaders. “These presentations highlight where the Navy is headed, what their needs are, and provide overarching guidance to industry personnel. This year, for instance, a recurring theme was operating in the littorals and counter-mine warfare,” he said.

SubTech is now recognized as the leading forum to introduce ideas concerning submarine technology and policy to a broad audience of operators, technology developers and system providers, Firebaugh said.

“Our own significant role in the DARPA Payloads and Sensors initiative evolved from a paper presented at the 1998 symposium, which charted

continued on page 7
Sub designers apply expertise to Gulfstream jets

An Electric Boat design team has been saluted for its successful conversion of 49 2-D installation drawings to 3-D electronic mockups for Gulfstream Aerospace, General Dynamics’ business-jet maker.

According to Jim Furtado, mechanical design manager, the four-month job began in March and involved five CATIA designers and a supervisor. The team comprised design supervisor Tom Purcell and structural designers Norm Frechette, Don Tellier, George Hunold, Dave Clyde and Marc Adkins. The drawings they converted were for Gulfstream’s G IV aircraft.

“The task of converting G IV product designs to CATIA models has been a success based on your efforts,” Frank Sanchez of Gulfstream’s electronic mockup group told the EB design team. “The enthusiasm and willingness to go the extra mile to produce models that will benefit the Gulfstream product was a common thread throughout the team for the entire project.”

Additionally, an electrical design team completed its work on schedule. This team – supervisor Tom Wallace and designers Shawn Oates, Gary Humphrey, David Gilmore, George Robbins and Mike Banno – incorporated engineering orders on Gulfstream G V CATIA models.

Based on the success of the initial project, CATIA designers are now engaged in additional work for Gulfstream, Furtado said.

Racquetballers report results for the season

The EBAC Racquetball League recently held its annual banquet at the Par Four Restaurant in Groton. In addition to recognizing the players who finish at the top of their divisions, the league votes to honor players for sportsmanship and hustle. Award recipients were announced at the banquet and presented with plaques. Honored this year were:

<table>
<thead>
<tr>
<th>Sportsmanship Awards</th>
<th>Hustle Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Roes</td>
<td>Bill Terranova</td>
</tr>
<tr>
<td>John Klinefelter</td>
<td>Rick Scavotto</td>
</tr>
<tr>
<td>Michael Kuja</td>
<td>Nick Chacharone</td>
</tr>
<tr>
<td>David Ng</td>
<td>Andy Baker</td>
</tr>
<tr>
<td>Bill Coxe</td>
<td>Rick Slack</td>
</tr>
</tbody>
</table>

Awards for regular season and playoff performance were presented to the following individuals:

<table>
<thead>
<tr>
<th>Playoff Champions</th>
<th>First Place Regular Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill Terranova</td>
<td>Open Division</td>
</tr>
<tr>
<td>Matt Munch</td>
<td>Matt Terranova</td>
</tr>
<tr>
<td>Jerry Radzwillowicz</td>
<td>Jerry Radzwillowicz</td>
</tr>
<tr>
<td>Paul Dagle</td>
<td>Paul Dagle</td>
</tr>
<tr>
<td>Scott Willis</td>
<td>Rick Slack</td>
</tr>
</tbody>
</table>

In addition, an appreciation plaque was presented to Michael Kuja for his dedication to the league. EBAC President Judi Page and league commissioner Barry Leon presented the awards.

The league offers competition levels ranging from beginner to advanced. All league matches are played at the submarine base racquetball center in Groton. The league is open to all male and female members of the EBAC. For the second year, the EBAC is participating this summer in a corporate ladder with players from Pfizer, the Navy and General Physics. The next interdepartmental racquetball league season will start the first week of October. For more information about the racquetball league, call (ext. 30387) or e-mail Barry Leon.

EB technologists make a splash at sub symposium

Continued from page 6

the course for this important effort,” he said. More recently – at last year’s event – one of the participating companies introduced the virtual periscope. This concept enables submarines to scan the horizon from a depth of 100 feet.

“EB attendees immediately recognized the potential for this concept, subsequently prepared a Virginia-class design improvement proposal and are now engaged with the company in prototype testing the system,” Firebaugh said. “This type of interaction and communication is invaluable when it comes to inserting new technologies to improve submarine capabilities.”

Following the symposium, the papers and displays were re-presented during lunchtime forums at Electric Boat for the benefit of interested employees.
When Electric Boat decided late last year to step up construction activity on the Virginia-class submarines, the company knew it would need help meeting its manufacturing goals in 2001. The reason: not enough Operations employees to handle the additional work.

So EB turned to its Human Resources Department, which has been assigned the task of bringing the Operations workforce up to needed levels.

The effort has necessitated an aggressive approach on the part of HR employees, who are clearly aware of the role they’re playing in helping the company meet its overall performance goals.

“We work to the numbers based on what Operations’ needs are, and we’ve been pretty fortunate that we’ve been able to keep up with the numbers that they need,” said Hank McNeil, a senior HR specialist who’s responsible for hourly hiring in Groton.

Because the hiring needs are so closely tied to Operations, the company has appointed a special liaison, steel trades administrator Nicholas Ucci, to help communicate specific needs to HR on a week-to-week basis.

Ucci, who as an administrator conducts interviews of job applicants in the steel trades, said he is fully aware of EB’s construction goals and how the hiring efforts relate to them.

“As far as being the interviewer, I feel my major contribution is hiring the quality person – telling Hank, ‘Hey, this is the guy I want, because I know he’s going to come out and perform,’” Ucci said.

Performance on the part of every employee, from new hires to 40-year veterans, will help the company achieve its earned hours goal for 2001. Earned hours are a measure of achievement that represents the value of work performed on EB’s submarine construction and repair jobs. By keeping track of earned hours, EB can tell at a glance how well it is performing on its various contracts.

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To help motivate the workforce to perform well, EB is offering employees a $500 pre-tax bonus at year’s end if the company can achieve 14,194,000 earned hours for the year. The goal is 100,000 hours higher than it was last year, which explains the need for more people.

Rick Buterbaugh, an HR specialist who is responsible for hiring in Quonset Point, said Quonset has been pursuing an expanded workforce – from 1,400 employees up to 1,800 – for the past year and a half. But unlike in Groton, where a number of former EB employees have been re-applying, it’s been a struggle in Quonset, in part because there’s not as large a pool of former employees who can come back, and in part because the labor market is so tight.

“So we have to be very aggressive,” he said, explaining that the effort has involved heavy advertising, participation in job fairs, outreach to area high schools, and similar initiatives.

HR Chief Bill Zembruski, who oversees hourly hiring in Groton and Quonset, said Groton has been successful in bringing a number of former employees back to EB. But should the applicant flow start to dry up, Groton is prepared to conduct the same aggressive recruiting approach as used in Quonset.

In addition to job fairs, advertising and other tools, Zembruski said, Quonset is also benefiting from a new referral program that pays up to $750 to an employee who recommends someone for a job there, provided the new hire stays for at least six months.

“It’s working extremely well,” he said. “We got 97 applicants” through mid-June via the referral program.”

But getting people to apply for jobs is only one step in the process. The others include getting the applicants hired, trained and ready to contribute.

“We’re trying to make sure that each part of the process is moving along expeditiously,” McNeil said.
Service Awards

40 YEARS

DEPT.
705  John C. DeBartolo

35 YEARS

DEPT.
241  John W. Chaffee III
330  Selenda D. Cardello
428  Paul A. Morosky
448  Jon O. Young
452  Donald E. Degidio Sr
453  Anthony J. Grillo
622  Kenneth W. Landry Jr

30 YEARS

DEPT.
355  Evelyn L. Bryant
400  Shirley A. Perry
411  Thomas S. Konrowski
430  Robert P. Sedotti
459  Richard H. Olsen
477  Ronald W. Bashar

25 YEARS

DEPT.
220  David P. Arpin
        Nicholas C. Ucci

20 YEARS

DEPT.
241  Ted M. Miralde
243  Matthew J. Grenier
251  Rhonda M. Goss
272  Richard D. Porrany Sr
341  John A. Girard
341  John R. Dannecker
416  Bryan P. Tunucci
417  Holly S. Geyer
448  Walter F. Streigle
451  Anita M. Kaiser
452  Thomas W. Fitzgerald
455  Nancy L. Fells
456  Kathleen M. Sheehan
459  Dennis L. Arrindell
          Theodore E. Codgere Jr
460  Philip J. Pedersen
462  Kevin J. Sylvia
464  Donald W. Davis
477  Michael J. Levenduski
492  Philip J. Scalise
493  John E. Plisinski
496  Michael D. O’Keefe
505  Brad T. Radicioni

Retirees

Dept.
400  George Pina Jr
    35 years
    Proj Dir Innovation
403  Michael F. Beck
    30 years
    Tech Writer/Editor Senior

495  Arnold S. Herrington
    31 years
    Eng Asst Senior
901  Robert J. Salley
    25 years
    Insttal Tech III
    901  Anthony R. Morenzi
    25 years
    Install Tech III

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EB employee is Navy’s Civilian Craftsman of the Month

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help,” Tuohy said. “He demonstrates initiative, and he helps keep that shop running over there.”

Tuohy said Wilson is the first person to receive the Civilian Craftsman award, which will now be a regular program for non-military employees of NSSF in Groton. Petty Officer Robert Wood, who serves as administrative liaison for NSSF’s mechanical instrument repair and calibration facility, of which the oxygen lab is a part, submitted the paperwork that made Wilson a candidate for the award.

Wilson said he was surprised not only to win the award, but also at the way it was presented – at a regular gathering of hundreds of sailors and officers in one of the large meeting halls at the sub base.

At that meeting, he received an engraved wooden plaque. Then, a day or two later, he received what he calls an even nicer bonus: a reserved parking spot on the lower base – for a month, anyway.

“That was the biggest perk,” he said with a grin, though he probably thought twice about that assessment after also receiving an Employee Recognition Award from EB during a luncheon attended by Mike Toner, Bob Scheel, Mike Alu, Bob Canova and Adamson.

Classified

APPLIANCES

WASHER & DRYER - Kenmore premium large-capacity, almond, 4 yrs old, excellent condition, (changed to front-loader); $1,200 new, $300 for pair. 388-6195.

AUTO/TRUCKS

BUICK REGAL LIMITED, 1988 - Black, loaded, leather, 2 dr, 118k, excellent mechanical shape, no rust, new brakes, alternator, battery & tires; $2,700. 599-4774.

VW JETTA GT, 1998 - 5 speed, metallic royal blue, AC, power locks, alarm system, rear spoiler, 53k, premium wheels, premium sound system, new 6 CD changer; $12,000 or best offer. 536-7756.

BOATS

‘83 BAYLINER CAPRI 16 FT- with 1997 Mariner 90 HP OB with 1994 NorEaster trailer; $5,500. 572-5794.

FURNITURE

BEDROOM SET - Full size bed, mattress, boxspring, headboard, dresser with mirror, bureau, two nightstands, blond wood veneer. Excellent condition; $625. 445-6075.

MISCELLANEOUS

AMERICAN GIRL DOLL, clothes & furniture, child’s rocking chair, record player, children’s books, wooden doll’s cradle, collectible toy vehicles, Star Wars 8 track tape, Tonka Dune Buggy. 401-596-5788.

BICYCLE - Men’s 27-inch 10-speed Mountain Bike, girl’s 24 inch Huffy 10-speed; $25 each or best offer. 401-596-7074.

BICYCLE - Women’s, very good condition; $30. 464-6333.

BLUE WILLOW DINNER PLATES - made in England, Blue Bubble cups and saucers, Oriental tea pot, costume jewelry, adult’s rock chair, two stuffed chairs, knitting and crocheting books. 401-596-5788.

CABIN TENT - 10 x 12 - Cedar Lodge, 3 rooms! Used once; $200. 860-572-8665, evenings.

DRUM SET - Mapex-Mars series, Zildjian cymbals with snare, 4 yr. old, very good condition; $500. 445-5115.

GYMNASTIC/TUMBLING MAT - 4ft x 8ft x 2in, good condition, $30. 464-6333.

PARTY TENT - for rent, 20 x 20, yellow/white, seats 35 - 40, easy set-up; $100. 705-8785.

PETS

DWARF FEMALE RABBIT - 4 months old, with cage; $25. Contact Dave, 464-2498.

REAL ESTATE

CAPE COD GETAWAY - 10/5 - 10/12, Oceanside Resort. Kitchen, fireplace, Jacuzzi, TV, stereo; Friday and Saturday; $300, Sunday through Thursday; $500. 691-2273.

WANTED

LUGGAGE RACK - folding type for 1952 MGTD sports car. 886-2158.

RIDE NEEDED - from Walker Hill Rd. in Groton (off Rt. 12) across from Stop & Shop, to and from EB working 6:00 to 2:30. Cab fare is killing my pockets, please help. 445-4030.
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the $887 million modification to the Jimmy Carter, which will enable the submarine to accommodate advanced technology for naval special warfare, tactical surveillance and mine warfare operations.

The centerpiece of the modification is a new 100-foot hull section that will provide a large and flexible ocean interface, enabling the launch and recovery of various payloads, such as remotely operated vehicles (ROVs). The modification also includes a system capable of deploying ROVs, a reconfigurable command center suite and a reconfigurable cargo area. Additionally, EB will install auxiliary maneuvering devices, which will provide the ship with station-keeping capabilities, as well as an advanced communication mast to better connect Jimmy Carter with other ships of the fleet.

“Larry Runkle and his team (Dept. 419) are running an outstanding design effort, which is now about 70 percent complete,” said Biederka. The design has been developed at about four times the rate of any previous design and for about 80 percent of the projected cost, which is unprecedented, he said. “And on the construction side, we’ve seen virtually no changes required in the design.”

Construction is also proceeding well, said Biederka, crediting the teams of John Holmander at Quonset Point and Kevin Devine at Groton. The base ship is now about 73 percent complete and the modification about 15 percent complete. Biederka anticipates that the company will deliver Jimmy Carter in 2004. “This program is becoming a real success story, and the company has a right to be proud.”