



# USS Cusk SSG 348 Newsletter

Volume II Issue 3

October 2007

**Shipmate**  
It is my sad duty to inform you of the passing  
of Frank Fraga on Eternal Patrol on June 25,  
2007, in Houston, Texas.  
Sailor rest your oars



As you know, the Cusk reunion is 15-18 May  
2008 at the Holiday Inn, Mt. Pleasant, SC.

The form must be completed by 15 February  
2008 to take advantage of the rates.

Here is the Cusk Reunion Registration form:

### USS Cusk (SS 348) 2008 Reunion Registration

Name: \_\_\_\_\_

Guest/Spouse: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip : \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail \_\_\_\_\_

Years On Board: (i.e. '75 - '78): \_\_\_\_\_

Lodging: Thurs \_\_\_\_\_; Fri \_\_\_\_\_; Sat \_\_\_\_\_

Extra nights: (\$99.00) Wednesday: \_\_\_\_\_; Sunday: \_\_\_\_\_ (subject to availability)

Requests: King: \_\_\_\_; Two Doubles: \_\_\_\_; Smoking: \_\_\_\_; Non-smoking: \_\_\_\_

#### Thursday:

**Optional Charleston Harbor Dinner Cruise** (Estimated Cost \$52.40 per person)

1815 - 2200, Leaves from Patriots Point; Number: \_\_\_\_\_ (you will be invoiced in April)

Major Credit Card (Required for Holiday Inn Reservation only)

Type: \_\_\_\_\_, CC# \_\_\_\_\_

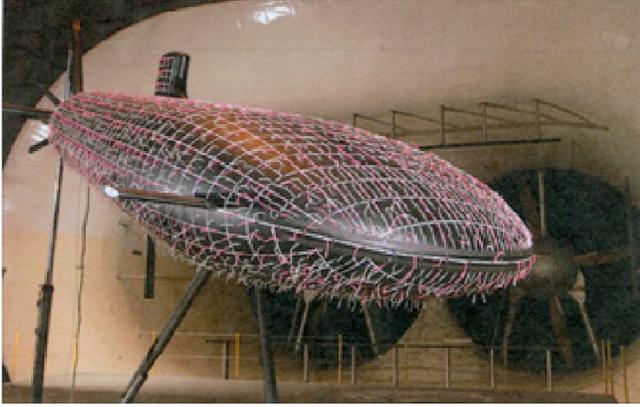
Exp Date: \_\_\_\_\_; Name on Card: \_\_\_\_\_

Signature: \_\_\_\_\_

Reunion Fee (\$110 pp) payable to "Shellback Cruises"

Mail to Shellback Cruises, 2131 Westrivers Road, Charleston, SC 29412

## Engineers at Northrop Grumman try to build a better submarine



With the NNemo, engineers are looking for a submarine that can handle more payloads.

### NEWPORT NEWS

by John Glass

In bits and pieces, ship designers and engineers at Northrop Grumman Newport News are trying to build a better submarine.

They're aiming for technology breakthroughs, such as figuring out novel ways to launch weapons and retrieve unmanned submersibles. They also are working on a new hull design—a wide oval shape, rather than the cylindrical tubes of today.

Their efforts could help save taxpayers a bundle of money—and protect their own jobs.

The work, paid for in part by the company's research-and-development dollars, is being done in the absence of a formal Navy program for a new submarine design—and uncertainty over when money will be made available to begin it. Major design work for the Virginia-class fast-attack subs, being assembled by Northrop Grumman and partner General Dynamics Electric Boat, is done. It could be seven more years before the next submarine design begins—to replace the Ohio-class ballistic-missile subs.

Both Navy and industry officials worry that too long a gap could result in the loss of critical shipyard skills and drive up the cost of building the next class of submarines by more than \$1 billion. A \$975,000 study recently done for the Navy by the Rand Corp., an independent think tank, underscored those potential problems.

“The Rand study confirms what we thought, which is this is a fragile design base that needs to be sustained,” said Rear Adm. William Hilarides, the Navy's program executive officer for submarines.

The submarine development work the Peninsula shipbuilder is piecing together is viewed as one key way to weather the gap.

“Working with the technologies that may apply to submarines is one way we can keep our engineers and designers sharp and current and ready to step up to the plate when the next design comes along,” said Charlie Butler, the shipbuilder's director of submarine engineering.

Company officials would not disclose how much money Northrop Grumman is spending on the design R&D.

One of the major internally funded projects, now beginning to attract Navy interest, is known by the acronym NNemo, for Newport News Experimental Model.

Launched in 2003, the NNemo project involves research on a new hull shape that is shorter and wider than the existing tube-shaped submarines.

Currently, company engineers and designers are working on their second prototype, built to about 1/20th scale.

With the NNemo, engineers are looking for a submarine that can handle more payloads, accommodate more intelligence-gathering sensors, and is faster and easier to maneuver, said Pete Diakun, the shipbuilder's director of technology development.

“We started from the standpoint of looking at the art of possibilities, not to be in the paradigm of a standard cylindrical submarine,” Diakun said.

Making the boat wider, for instance, added room to install twin drive shafts, which allows for quicker turns and significantly improved maneuverability and the ability to operate in shallower water, said Walt Floyd, the company's manager of submarine technology.

The model's broader tail provided space for a sensor array to be installed, giving a sub crew a 360-degree view around the boat, an advantage over a conventionally shaped sub, he said.

The remote-controlled prototypes have been tested in a wind tunnel at NASA Langley Research Center to measure fluid flow and force and torque on the hull and have undergone water trials in the crystal clear waters of a rock quarry.

Later this year, a representative hull-section model—16-feet long, 10-feet wide and 30,000 pounds—will be put in a Navy pressure tank to test how deep such a submarine could dive before it collapses.

That is an indication of the Navy's increasing interest in NNemo, Diakun said. "That's really a step forward for us," he said.

To date, the Navy has not provided direct funding for NNemo. However, the service has awarded money for other submarine research the company is now doing.

For instance, the Navy and the Defense Advanced Research Projects Agency earlier this year awarded the shipbuilder \$12.7 million to work on an external weapons launcher.

That work is part of a larger project meant to find ways to overcome technical barriers in submarine construction, called Tango Bravo in Navyspeak.

Figuring out a way to mount a submarine's torpedo launchers outside the pressure hull—the challenge for Northrop Grumman's team—would free up interior space for other uses and eliminate the big expense of extending torpedo tubes through a sub's hull, Butler said.

The Navy's Hilarides said such work, including ongoing efforts by the Newport News and Electric Boat yards to make design changes to drive down costs on the Virginia-class subs, helps buffer the industry before work ramps up on a new Ohio-class design.

Concern over the next submarine design is heightened partly because this is the first time a new design has not been under way, or about to begin, since the Pentagon launched its nuclear-powered sub program about five decades ago.

But ultimately, Hilarides said, military needs come first in the decision on when to begin the Ohio-class design work.

"Industrial policy should not drive war-fighting requirements," Hilarides said.

"We'll see how that plays in the Pentagon as they debate the war-fighting requirements first, before we get the industrial policy out in front of it."

## Origin of the Submarine Dolphins

The insignia of the U.S. Navy Submarine Service is a submarine flanked by two dolphins. Dolphins, traditional attendants to Poseidon (the Greek God of the Sea and the Deity of Sailors), are symbolic of a calm sea and are sometimes called the 'sailors friend.'

To be designated as 'Qualified in Submarines,' a submariner must possess an in-depth knowledge of the ships construction, operation and damage control as well as demonstrate his reliability under stressful conditions.

The origin of the U.S. Navy Submarine insignia dates back to 13 June 1923. Capt. Ernest J. King, Commander Submarine Division Three (later Fleet Admiral and Chief of Naval Operations during World War II), suggested to the Secretary of the Navy that a distinguished device for qualified submariners be adopted.

He submitted a pen-in-ink sketch of his own showing a shield mounted on the beam of a submarine, with dolphins forward and aft of the conning tower. During the next several months the Bureau of Navigation (later known as BUPERS) solicited additional designs from several sources.

Among the designs were a submarine and shark motif, a submarine and shield, and submarine with ancient dolphins. A Philadelphia firm was requested to design a suitable badge. Two versions were submitted and subsequently combined into the design in use today, a bow view of a surfaced submarine, with bow planes rigged for diving, flanked by dolphins in a horizontal position with their heads resting on the upper edge of the bow planes.

In March 1924, the design was approved. The submarine insignia was to be worn at all times by officers and enlisted men qualified in submarine duty when attached to submarine organizations, afloat or ashore, and not to be worn when not attached.

The officer insignia was a bronze, gold plated medal pin, worn on the left breast pocket. Enlisted members wore silver silk embroidered dolphins on the right sleeve, midway between the wrist and elbow. In 1941, submariners were authorized by a change in

Uniform Regulations to wear dolphins at all times when assigned to other duties in the naval service.

In 1947, enlisted dolphins were shifted to the left breast from the sleeve. And in 1950, another change to Uniform Regulations, authorized a bronze, silver plated medal pin for enlisted and embroidered dolphins for officers. In more recent times, dolphins for specialists in the Submarine Force have been developed. These include the distinctive Supply Corp Officer, Engineering Duty Officer, and Medical Officer dolphins. No matter the color of the pin or insignia at the center, dolphins are worn with pride by all members of the Submarine Force.

## ***FUNNIES***

A diesel boat pulled into a foreign port, and put down maximum liberty.

The skeleton crew didn't notice that a chimpanzee, escaped from a nearby civilian transport, had swung across the mooring lines onto the main deck. The After Engine Room hatch was open, so down the ladder it went.

It came across a power panel opened up for maintenance. It couldn't read the warning signs, and with a bright blue blast, shorted out the boat's electrical system, and plunged the boat into darkness.

A little bit later, the Below Decks Watch and an Electrician wandered through with their flashlights, looking for the problem.

Then they came upon the blackened body of the chimp. They shined their flashlights on its long, burnt arms. They looked at each other.

They highlighted its short legs and odd feet. They looked at each other again.

Finally, one of them said, "Well, it's too hairy to be a Radioman, the legs are too short for a Ship's Cook, and there would be more tattoos on a Torpedoman."

"Call the Wardroom, and see if the Duty Officer is missing."

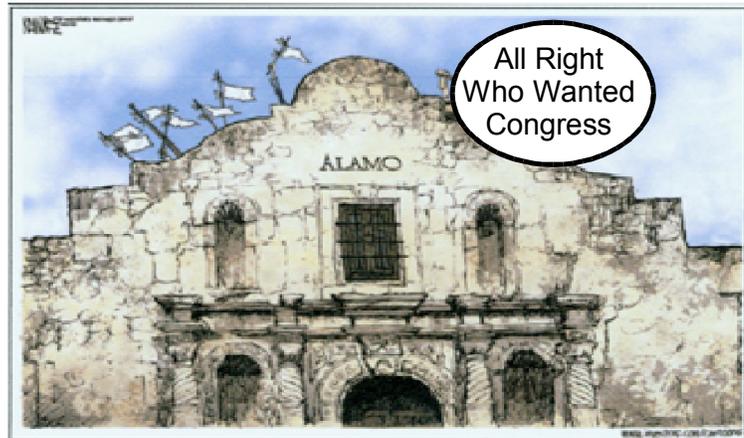
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Just in case you are having a rough day, here is a stress management technique recommended in all the latest psychological journals. The funny thing is that it really does work and will make you smile.

1. Picture yourself lying on your belly on a warm rock that hangs out over a crystal clear stream.
2. Picture yourself with both your hands dangling in the cool running water.
3. Birds are sweetly singing in the cool mountain air.
4. No one knows your secret place.
5. You are in total seclusion from that hectic place called the world.
6. The soothing sound of a gentle waterfall fills the air with a cascade of serenity.
7. The water is so crystal clear that you can easily make out the face of the person you are holding underwater.

See? It really does work. You're smiling already.





**Please Support Our Troops because Congress damned sure won' t!!!**



**American flag: \$25.00  
 Gasoline: \$2.99  
 Cigarette Lighter \$2.50**

**Catching yourself on fire because you are a terrorist asshole:  
 PRICELESS**



## USS Cusk (SS-348) Reunion May 15 - 18, 2008 Charleston, South Carolina

**Reunion HQ:** Holiday Inn, Mt. Pleasant, South Carolina

**Room Rates:** **Thursday \$99, Friday/Saturday \$129** plus tax

**Reunion Fee:** \$110 per person

**Includes:** Hospitality Suite, Charleston Tour, BBQ  
Dinner on Friday, Banquet on Saturday

**Optional:** Thursday Charleston Harbor Dinner Cruise

**Reunion Web:** [www.shellbackcruises.com/ss348.htm](http://www.shellbackcruises.com/ss348.htm)

**Contact:**

Rusty Pickett, ECC Shellback Cruises

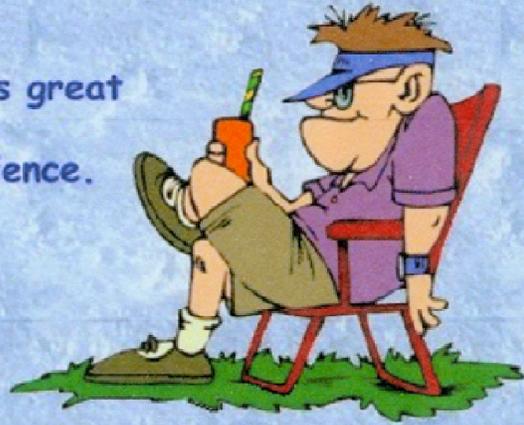
2131 Westrivers Road, Charleston, SC 29412

Toll Free: 1-888-497-2227, E-mail: [scruise@bellsouth.net](mailto:scruise@bellsouth.net)

*All registration and hotel arrangements must be made through  
Shellback Cruises to receive the group rate!*

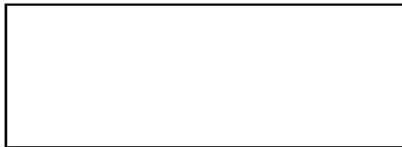
Now that I'm older I thought it was great  
that I seemed to have more patience.

Turns out  
I just don't give a shit.



Merry Christmas  
and  
Happy New Year

Bill and Lu  
and  
Teddy Bear (The Dog)



**USS Cusk SSG 348  
Newsletter**

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