

the NEW



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USS HENRY L. STIMSON ASSOCIATION SSBN655 NEWSLETTER

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INAUGURAL EDITION
The "NEW" Stimson Draft

In the days before computers when everything was handwritten or typed on a 'manual' typewriter there was a very special newsletter. It was issued periodically while on patrol by those intrepid submariners known as Stimsonites! I for one am proud to say that I was one of them. Actually I was one of them TWICE. My first tour was six years—70-75; the second was four years—85-89. Sure is funny how I only remember the good times on the boat.

During my first time onboard I learned to anticipate each issue of our weekly rag "Stimson Draft". It was there before I came; it was there when I left. The only time I don't think I saw an issue was during the 71-73 yard period. As soon as we left the yards it was being published again.

I had the honor of working on the "Draft" for many patrols, first as a typist sitting at the workbench in the forward starboard corner of the Torpedo Room pounding away on the keys of that manual typewriter, then as a contributor and finally assisting with the editing (using the electric typewriter in the MC was a dream) during my last patrol before shore duty.

Imagine my surprise when I went back in 85 as the Blue COB and discovered the "Draft" was still around...though not published as often. I wish now that I had kept every issue...it would be wonderful to use the technology available to us to scan and preserve these documents on our website to read and remember the good, and not so good, times we had.

When I became the association webmaster, shipmates began sending me lots of things to put on the web...and they will get there eventually. The original "DRAFT" issues were numbered by patrol # issue #. I feel privileged that I was sent a scanned copy of Vol.20, issues 2-7. Boy did those issues bring back memories. Don't be surprised if you see some excerpts from these...hint...look at our banner! And if you happen to have copies of the Draft lying around please contact me. It would be great to scan those for the website and use in future issues of the NEW Draft.

I hope you all enjoy OUR newsletter. If you have something of interest, past or present, you would like to share with other shipmates please send it to me in an email and you will see it in a future newsletter. Sea stories would be great! Let's make this document something you can print out and share with your family - kids, grandkids and great grandkids so that they understand . Let's try to keep it clean.

Nick

From the Association President: Ray Kruel

Shipmates, how quickly the year is passing. I want to again welcome all who have once again joined the Stimson crew muster list over the past year. We also welcome those of you who have joined the ships Association.

For all of you who loved the Stimson we ask you to share any stories or memories about her or your fellow shipmates with us. Forward your stories and pictures on to "Nick" as he is collecting them and is going to put out a newsletter for all of us to relive and enjoy our pasts. I can't believe how long ago it was that I and my Gold and Blue crew shipmates rode the Henry L. down the ways at Groton CT. It still brings a tear to my eyes.

I know how fast time passes and how many times this year we had to say good by to one of our shipmates as they went on their eternal patrol. As it has been since the time of submarines that "We shall never forget what they did" and the sacrifices they and their families had to make and overcome while we served.

Last week my son and grandsons visited Patriots Point in Charleston, SC and took a moment to view and sit on the Henry L Stimson bench. My son said the bench was placed in a peaceful location in memory of all who rode her.

I ask we say a prayer for all those who have passed on and for those shipmates who still patrol the deep and for their families who wait for their return.

Raymond Kreul
Association President
We shall never forget their sacrifice



Our son Paul is the Assistant Scoutmaster for our oldest grandson (14), Andrew's, Boy Scout Troop and Assistant Cubmaster for our youngest grandson (10), Jeremy's, Cub Scout Pack. Every year all the boys in the troop pack go up to Charleston for a weekend sleep over onboard the USS YORKTOWN. Ray asked them to locate the bench and take a picture for him. Rita

Notes from Association Treasurer: Ken Meigs

This past year has been very busy for Diane & I. After completing our 7-week honeymoon traveling around the countryside (see the attached map on last page of newsletter), we came back to relocate her mom into an assisted care facility (in Nampa, ID) and began the

process of clearing out more things from her home than any 3 people should have been allowed to own, completing a major refurbishment (new paint inside & out, new carpet, new windows & much more) of her place (which Diane owns) and placing it on the market for sale.

Each month we've been traveling back and forth between Boise & Medford (as I still have some long-standing ministry commitments here in So. OR) but most of the time each month we've spent in Boise, which will now be reversed as we're about to do the same for our home here in Medford (it's way too big for just the 2 of us). We need to downsize from 3 places (to pay for each month) to 2 or just one, which makes life interesting when you're retired.

I regret not getting in contact with you (*Nick*) until after we had passed through Charleston. The picture I took of the Stimson's bench is still the screensaver on my cell phone.

From the Association Storekeeper: Rita Kruel

Greetings Everyone, for those of you who don't know us, Ray is a Plankowner on the Stimson Gold crew and I am his better half. We have run the ship's store since 1999. Our first customers were the reunion attendees in North Dakota, everyone was pleased with the shirts and hats we had so we continued on. If you're reading this I'm sure you've been on the boat's website where you'll see the [order form](#) for shirts and hats. All you need to do is fill out the form and send to the address listed. For shipping we only charge what it costs to buy a box (if needed) and use the cheapest way possible. Stock on hand is limited because we have to wait for a few orders before buying. We pay for everything ourselves and collect after shipment, but do appreciate prompt payment.

We look forward to hearing from old friends as well as new ones. Note: if you don't hear from us right away it's because we travel but will respond in a timely fashion.

Rita Kruel

From the Association Historian: Loree Riggs

I have been officially named to the USS Illinois SSN 786 Commissioning Committee, representing USS Springfield Base, USSVI. Each of the 4 Illinois Bases has a rep on the Committee as well as several of the Navy League Chapters here in Illinois. I got my feet

wet by taking a major role in identifying all the public and private high schools in the state and getting the word out for high school student's participation in the Ship's Seal Design Contest. We have sent out more than 3000 E-Mails to high school principals and had coverage in the State School Superintendent's Newsletter and the Illinois Principals Association Newsletter.

There are 30+ members on the Committee, Chaired by a retired Navy Captain Submarine Officer, and represented by Business, Military, and Government leaders from around the state. The major function of the committee currently is collecting gifts and donations to meet our \$700 K budget. (I knew the Commissioning Committee function has grown considerably since the 655 Commissioning, but I never dreamed it was at this level.)

Michelle Obama is the Sponsor and the Commissioning is tentative for December, 2015-January 2016. The boat is being built in Groton and I was able to have breakfast with PCO CDR Jesse Porter and COB HMCM (SS) Dave DiPietro while I was in Groton this past July for an SSN 761 CoC. Illinois is the 13th Virginia Class SSN and is the 3rd to have the Tomahawk Cluster Tube modification, akin to an SSGN Silo, replacing the individual tubes. A technological master piece that I hope to tour sometime during Commissioning. It is a great honor to serve on this Commissioning Committee.

Loree

FROM UNDERSEA WARFARE NEWS 7 NOV 2014

Students Compete to Design USS ILLINOIS Crest Phil Rogers, NBC Chicago, Nov 6

The USS Illinois, soon to be America's newest nuclear submarine, is being prepped for its official debut next fall, and some Chicago students are working to help to create a piece of it.

The vessel is still being built in Groton, Connecticut, but will eventually be lowered into the water and christened by First Lady Michelle Obama.

Four members of the Illinois' first crew paid a visit Thursday to Westinghouse College Prep on Chicago's West Side, where some students are taking part in a statewide competition to design the sub's crest.

The crew gave the students an inside look at what it's like to live on a submarine and many students shared some of their designs.

Officials say there is still a lot of work to be completed before the Illinois' big day.

Sub base submariners have been training in simulators that offer wartime scenarios.

Petty Officer Charles Scaife of DeKalb, soon to be the sonar operator on the Illinois, will deploy in a few weeks on the USS Missouri.

"Their system is similar to what we're getting, and that will help me when I come back to the Illinois," he said.

The Illinois is also set to have her own support group, the 786 Club, backed by the Union League Club of Chicago.

The USS Illinois is expected to be commissioned and enter service with the Navy in December of 2015.

From A Shipmate: YNC(SS) James Maddox USN Ret

Just got passed this website by YNC(SS)(Retired) William C Scott (then YN3 (SS) Carl Scott) who served with me as one of my junior Yeoman while onboard the STIMSON from 83-86 and have provided a copy to Master Chief Nichols just in case he doesn't receive the other.

Nick how are you? It's been too many years since I've had contact with "my family" of Blue Crew members of the STIMSON. Just got through visiting Carl Scott. Viewed the list of shipmates on eternal patrol and was shocked to find familiar names from lost friends and shipmates. I can honestly say that out of all the ship's I served on this is the only one I missed. Loved the ship and the guys I served with. Would have stayed on but the Navy wouldn't allow it (kind of like the 'Bama McCall situation – didn't want to leave). Would love to join the association and keep in closer contact with my former shipmates and would love to attend the next ship's reunion. Any info you could provide would be greatly appreciated.

I retired from the Navy on 31 December 1973 from the USS BIRMINGHAM at Pearl Harbor, Hawaii. Right after I retired in early 1994 started having major heart problems. Found out that Navy medical had misdiagnosed a heart condition I had back in 1974. I had been having heart problems for years while in the Navy but didn't recognize it as such and when I use to see the corpsmen about it (used to tell them I got really dizzy and passed out last night) they dismissed it probably thinking I was trying to get out of work and

sent me back to duty. Found out I had been having major Atrial Fibrillation and Super-Ventricular Tachycardia (SVT) attacks all of those years causing extreme heart arrhythmia and an enlargement of the heart. After having the last major on in December 2001, I was forced to apply for disability retirement – both from the Post Office (my post Navy job) and with Social Security. The heart surgeon told me he was surprised that I hadn't dropped over dead before now. Said any physical activity could have killed me. Said Navy doctors should have noted this and had me discharged medically in 1974 when I had my first really bad attack. Unfortunately, I didn't make copies of my complete medical record so I couldn't go back and get more VA disability (did get 20% but for other reasons). Asked the VA for copies and got everything except what I asked for to prove my case. What a great bunch at the VA. But good news is had two surgeries and repaired the problems. If they had done that in 1974, I would have been in much better condition.

My dad passed away 2 years ago and my wife and I sold everything and move in to take care of my mother and sister (she has Down's Syndrome and has become too much for my mother since she's 80 now). Been hard on me since I can't do much physically so I'm pretty much under a self-imposed house arrest. Can't really leave them alone. Having to live so far inland the only water close by is in the creek, I yearn to get back Oceanside. Miss the smell of saltwater and ocean breezes. Down the road my wife and I are planning to ultimately retire in one of two locations – the Cocoa Beach area or Saint Croix.

Saw that FTCS Donald Lotspeich was the COB when the boat was decommissioned. Brain is a little foggy after 30 years but wasn't he an FTG1 onboard the STIMSON when we were onboard?

Would love to see the all of the guys again.

JAMES MADDOX
YNC (SS), USN Ret
HENRY L. STIMSON (SSBN635) (B) 83 - 86

WELCOME ABOARD SHIPMATE!!

ET2(SS) John Ransom, Blue - 79-81
Ransom_mtairy@yahoo.com

LOOKING FOR A SHIPMATE

MM2(SS) George D Pledger <gdpledger@aol.com>
has the following question: Does anyone know the whereabouts of former XO Blue c/1975 E.F. Knight?

SUBMARINERS PRAYER

When we were young and feeling our oats
we joined the navy and went on those boats
that sank on purpose sliding into the sea.
Nobody knew where we were going to be
except for a few who charted the way
to a far off coastline or a secret bay.

The rest of us did what we're trained to do
and trusted each other - but prayed a lot too.
In a sewer pipe coffin we just did our jobs
pulling sticks, cycling vents or adjusting some knobs.

**When all hell broke loose we knew what was best
because we had dolphins affixed to our chest.**

But although we knew every valve on the boat
that made it submerge or caused it to float

it wasn't dolphins or qualcards
or years worth of studies
that would save us....
but rather our crewmates... our buddies.

Many stood by us then, but they stand here no more.
On Eternal Patrol they have left their last shore.
Husbands and fathers and grandfathers too
who sailed with us, challenged us under the blue.

Forever a mate, forever our friend
we're bonded as shipmates beyond our lives end.
We pray for them now as we prayed with them then.
May you rest in peace always, my brothers -- Amen

GREAT LINKS TO SPEND TIME WATCHING

655 Association Website:
www.ssb655.org

Both below by Vinnie Ryan 655 Crew Member

SSBN 655 Blue 1970's Patrol & Shipyard
<https://www.youtube.com/watch?v=seVCnhuoK8o&list=UUHiLbaYfM-8u4GHMwksGLEQ>

SSBN 655 Blue 1973 1st Stimson Poseidon Patrol
<https://www.youtube.com/watch?v=UuUuCF-kVXU&feature=youtu.be>

Tribute to the Vietnam Vets:
http://www.youtube.com/watch_popup?v=LemllfcAY8A&sns=em

Pictures of the New London SubBase
<http://www.businessinsider.com/new-london-naval-base-tour-2014-10?op=1>

2015 Military Retirement COLA Set

Military and federal civilian retirees, survivor benefit annuitants, disabled veterans and Social Security recipients will see a 1.7 percent cost-of-living adjustment in January.

The U.S. Navy's Nuclear Submarine Force: A 60-Year Legacy Of Excellence

In the 60 years since Nautilus, her successors have all been technological marvels that embody the very best in American engineering, ship design, and construction; each has progressively improved, keeping the U.S. Navy's submarines the best in the world. The Virginia-class is nearly twice the size of Nautilus, yet is significantly faster, can dive deeper, and are immensely quieter.

That constant improvement is especially true where the power plants are concerned. While Nautilus improved the distance she could steam with each of her four cores during her service, North Dakota's propulsion plant will sail her farther than all four of Nautilus' combined with fuel designed to last the entire 33+ year life of the ship. All of this in a propulsion plant that is more powerful, simpler to maintain and operate, and safer. Those submarines represent a 60 year legacy of operational excellence that began when the world's first nuclear powered vessel, USS Nautilus (SSN 571), was commissioned on Sept. 30, 1954. The advent of a nuclear-powered submarine was brought full circle from concept to completion in a mere 10 years, thanks to the driving force behind the project, then-Rear Admiral Hyman G. Rickover.

Additionally, more efficient use of space provides payload flexibility and even the possibility of deploying unmanned aerial or undersea vehicles.

What has not changed in the 60 years since Nautilus is the training expected of the people who operate our submarine fleet. They are among the most intelligent and highly-trained people in the Navy. All nuclear-qualified submarine officers and enlisted crew members must receive more than a year of intensive, advanced technical training that before assignment to their first boat. The history of this training began with first Nautilus crew at national laboratories and the S1W prototype in Arco, Idaho. The choice not to separate the nuclear engineering officers from the navigation and tactical officer positions of the submarine's wardroom also began with Nautilus. While most nations separate the career paths of the ship's nuclear engineers from the ship drivers; every successful U.S. nuclear submarine line officer qualifies to operate and lead both the engineering plant and the

combat, navigation, and ship control teams. The philosophy behind this decision is simple: the best submarine officers understand every capability of their With the Virginia-class submarines' superior performance, the legacy that began with Nautilus continues crew and ships today providing undersea dominance, and sustained capabilities to operate forward, across the full range of conflicts.

The submarine force provides the capability to ensure stability and security not only our nation, but our allies as well. It is a lasting tribute to that technological marvel from 1954 that our nuclear-powered submarines continue to deter potential adversaries from acts of aggression.

TRICARE Website: Easier to Use - 8/5/2014

On July 24, TRICARE.mil unveiled a new design to give TRICARE's 9.6 million beneficiaries clear and easy access to benefit information. Users now have more ways to browse our site. We've added easier navigation, a login button for quicker access to our partner's secure services, and a section on the homepage dedicated to life-changing events. We've also streamlined and reorganized our content so users can find what they're looking for in the way they're expecting.

We're listening to our beneficiaries. Our new design is the result of an ongoing review about what beneficiaries are looking for when they visit TRICARE.mil. We are using satisfaction surveys, analytics, and user feedback to highlight key information. We are also closely monitoring our most visited pages and our most frequent search terms on TRICARE.mil. Some of the most popular things that beneficiaries look for include:

What plan can I use?

What's covered?

How do I find a doctor?

How much will I pay?

We paired these findings with an extensive review of 34 government and private sector health insurance plan websites. This allowed us to apply common industry practices of website navigation, organization, content, naming convention, and readability.

TRICARE.mil is a powerful educational tool for beneficiaries to learn about their health benefits and stay updated on the latest changes.

Visit www.tricare.mil to see the new design and explore the TRICARE benefit.

SOURCE: TRICARE News Release at <http://www.tricare.mil/webupdates080514>

Many Major Changes in the Submarine Service Since the WWII Diesel Boat Era Part 1

by Michael Skurat miskurat01@snet.net

Member Groton Base USSVI & Central CT Chapter of SubVets WWII

There have been many major changes in the U.S. Navy Submarine Service since the WWII Diesel Boat Era. It might be interesting historically to note some of them.

Initially there were only seven pay grades (actually eight). They ran from one to seven with Apprentice Seaman (AS) as one, Seaman Second Class (S2/c) as two, Seaman First Class (S1/c) as three, Petty Officer Third Class (e.g. MM3c) as four, Petty Officers Second and First Class as five and six. Chief Petty Officers were initially promoted to "seven A" for one year (Acting Appointment) and then to Chief Petty Officer as pay grade seven. There were no Master or Command Chief, etc. The "C" for Chief Petty Officers preceded the rate designation, for example CMM not MMC as today. For all of the seaman ratings there was a comparable Fireman (F)

The Officer's rank structure has remained consistent with minor exceptions. During WWII a five star Fleet Admiral rank was added and bestowed on Nimitz and King. No one promoted to that rank since WWII. Another thing there was no Commodore rank utilized. Officers were promoted from Captain to Rear Admiral (lower half) and hence to Rear Admiral (upper half). The Rear Admiral (Lower Half) replaced the Commodore rank. As it is custom to call any Commanding Officer Captain it also was custom to call a Submarine Squadron Commander Commodore.

Before WWII an Apprentice Seaman's pay was \$21.00 per month. Pays increased in WWII with Apprentice Seaman to \$50.00 per month and to around \$120.00 per month for a Chief. All personnel on Submarines got 50% submarine money and 20% sea duty pay. When added together added up to about 80% extra pay.

If you were married and/or had dependents your pay was reduced by \$28.00 per month the U.S. Navy supplemented another \$22.00 and your dependent was sent a monthly check for \$50.00. Consequently, an Apprentice Seaman would get \$22.00 per month. However, enlisted personnel below pay grade four could not marry without the permission of their Commanding Officer. This breached more often than observed and obviously many entered the service married.

At one time the Navy Paymasters would pay personnel with \$2.00 bills so so that when spent it would indicate

to the local economy the impact of the service. Also when being paid by the Paymaster on board a tender you would line up with your "pay chit" to draw your pay. When you reached the pay desk you would salute the Paymaster, put your fingerprint on the "pay chit" and draw your money. There was a posted pay list indicating what you had on the "books" and you could draw all or whatever amount you desired

Submarine and sea pay were a real boon especially when sea store cigarettes at six cents a pack and a bottle of beer on Bank St. was twenty-five cents. Later when you came in off patrol you would have that back pay and be really flush.

Due to rapid expansion of every aspect of the U.S. Navy, if you could cut the mustard, promotions were forthcoming. Many a serving enlisted person commissioned (called mustangs) or advanced in rating because of the enormous need to fill billets in new construction and replace casualties. Classes at the U.S. Naval Academy graduated early. Personnel with special qualifications were coming into the service rated and/or commissioned. You could see a Chief Petty Officer with no hash marks. These ratings were derided and called "slick arms" (no hash marks) and/or "Tojo" ratings by the old-timers. Some enlisted personnel commissioned as regular line officers, Warrant Officers and Limited Duty Officers (LDOs) in specific areas. Such commissions initially were considered temporary with reversion back to their permanent grades at the conclusion of hostilities

They created many specialty ratings. In their "Crow" specialty designator was a diamond with a letter inside, e.g., the letter "A" would be for a coach or professional athlete who would conduct physical conditioning, etc. Most, if not all, of these ratings ceased to exist with the end of the war. Some referred to these as "square knot" rates.

There were right and left arm rates. Right arm rates were considered "Sea Going Rates" (BM, QM, GM, SM, FC, TM, etc) and the "Crow" was worn on the right arm. Left arm rates were ancillary and were MM, Y, EM, RM, MoMM, ET, etc. Right arm rates were senior to left arm ratings. There was no Boatswain Mate Third Class they were called Coxswains.

Seamen and Firemen wore a "watch stripe" round the right shoulder - white for seamen red for firemen. There was other colors of "Watch Stripes" for aviation, CBs, etc. Indication of rate was on uniform cuffs. One white/red stripe for AS/FA, two for S2c/F2/c and three for S1/c and F1/c. The present diagonal 1, 2, or 3 stripe(s), in color was originally for WAVE uniforms and after WWII were adopted for the present enlisted uniform and the watch stripe was eliminated.

The "T-Shirt" a part of the enlisted uniform initially served two purposes. (1) It was to be worn without the Jumper on work details, especially in tropical locations. (2) It was meant to have the high white neckline to show in the "V" of the Jumper. Some personnel, to enhance the appearance would cut the tab off and wore the "T-shirt" backward for a better appearance especially if with age and washings it seemed to sag. The popularity of the T-Shirt expanded into wide public acceptance after WWII and is now utilized, not only as an undergarment but as outerwear with various designs, logos, etc.

Continued in Part 2 next month

What It Felt Like to Test the First Submarine Nuclear Reactor

Sixty years after the birth of the "nuclear navy," looking back at a first-person account

ROBINSON MEYER OCT 8 2014, 7:15 AM ET



The USS Nautilus, retired in 1980, is now docked in Connecticut. (Victor-ny/Wikimedia)

In the middle of last century, out in southern Idaho, amid the sagebrush and the steppes, the Navy kept a secret site. In that place—dry and arid, far from the sea and very much unlike it—scientists and engineers simulated a nuclear-powered submarine.

It was more than a mere war game. The scientists and engineers had created one of the first nuclear reactors ever. That reactor—and their simulation—would then essentially be replicated inside the USS Nautilus, the world's first nuclear-powered submarine.

The Nautilus turned 60 last week, and the U.S. Navy celebrated both its anniversary and six decades of a nuclear navy. That nuclear navy now encompasses some 80 ships. All of the navy's submarines and aircraft carriers are nuclear-powered.

"If the plant has a limitation so serious, now is the time to find out. I accept full responsibility for any casualty."

To celebrate that anniversary, we've dug up an article from the archives of *The Atlantic*: "[Admiral Rickover's Gamble](#)," by Commander E.E. Kintner. The title of the piece references Admiral Hyman G. Rickover—at the time of writing, only a vice-admiral—who is now known as the "father of the nuclear navy," but that epithet

didn't come easy. As the 1959 account details, Rickover bet much on the success of his test reactor, risking even his men's lives.

Kintner, the author, was responsible directly to Rickover. In the story, he first details why a nuclear *submarine* was such a remarkable innovation, and why a nuclear reactor aboard a submarine meant so much more (and was so much more challenging to build) than one aboard a ship:

They realized that the installation of an atomic power plant would be much more difficult in a submarine than in a surface ship, but they made the decision—the first example of the daring aggressiveness of Rickover's methods—because the rewards of success would be greater in a submarine than in a surface ship. A nuclear submarine, not requiring air for combustion of fuel in its engines, would be able to divorce itself from the earth's atmosphere and thus would be a true submarine rather than a surface ship which could submerge only for short periods. It would be an "underwater satellite."

Rickover further ordered that the test reactor be built to the configurations of a submarine. The team could have built it "breadboard"—that is, could have splayed its contents across a room so that they would be easier to fix—but Rickover wouldn't have it. He knew, writes Kintner, that the nuclear submarine team needed to finish ASAP. He was on a tight deadline: "Eight years had passed since Hiroshima and [...], except for the Navy's program, no U.S. atomic power project was anywhere near fruition."

"And so," writes Kintner, the test reactor, the *Submarine Thermal Reactor Mark I*, "although located almost as far from sea water as possible in the North American continent, was a true seagoing power plant—no shore-based engineering short cuts were allowed in its construction."

The story picks up in the spring of 1953, when construction of the "Mark I" was completed. But "many serious problems" remained, and we'll let Kintner take it from here:

The pumps and valves and heat exchangers, turbines, electrical generators, thermometers, control panels—all the many hundreds of items which made up the complex and interrelated systems of the plant—had been mechanically and electrically tested until they were as nearly perfect as they could be made. The crews had practiced for a week at carefully opening the main turbine throttle from an oil-fired boiler so as to disturb the reactor as little as possible. They were rehearsed in casualty drills, and STR Mark I was ready for an attempt at power operation.

Captain Rickover, who had followed preparations on an hourly basis, flew to Idaho in company with Atomic Energy Commissioner Thomas E. Murray, a man who had contributed much support to the Navy's nuclear propulsion program and who was to have the honor of opening the turbine throttle valve, admitting steam generated by a power reactor into a turbine for the first time. Murray knew that eight years had passed since Hiroshima and that, except for the Navy's program, no U.S. atomic power project was anywhere near fruition. He knew also that the Navy and the AEC were committing almost one quarter of a billion dollars to the project whose success was now to be determined.

That first operation was amazingly successful. After a two-hour run, during which power levels of several thousand horsepower were achieved, the reactor was shut down. Six years of study, organization, planning, conniving, fighting for funds, building laboratories, manipulating people, developing new materials and devices had paid off. The first day of Mark I had surprised its most optimistic proponents.

There were many happy people in the Idaho desert the night of May 31, 1953. The happiest was Captain Rickover, who had had the vision, constantly forced the program against opposition, and provided the technical judgment to steer it through areas far beyond those previously known.

Then followed a month of careful, precise building up in power level. Test operations went on night and day, seven days a week. Power was increased in small steps. What could happen on these increasing steps could only be conjecture until the trial run had been completed. Every man at the desert site knew the danger associated with each increase in power.

The first feasibility question to be answered affirmatively was that of safety. Mark I turned out to be a calm and stable machine and even when treated roughly, as its inexperienced operators often treated it, showed no tendency to become an atomic bomb. There was no indication of any dangerous overheating in the reactor fuel elements. The shield designers were surprised to find that radiation levels were less than half of those which they had calculated, indicating that the Nautilus could easily carry her radiation shield. As additional physics data became available, the estimate of reactor life was greatly increased.

The major difficulty was with the numerous safety circuits, any one of which could cause the reactor to shut down suddenly. These circuits were meant to be extremely tender in their operation; they were, in fact, so sensitive as to provide a serious difficulty to the operators. A submarine propulsion plant not capable of operating without emergency shutdowns under sea

motion and depth-charge attack would not be satisfactory, yet the Mark I had a constant plague of "scrams" from such slight causes as vibration from a crew member's walking through the reactor compartment or a bolt of lightning striking a Montana power line three hundred miles away.

As the crew gained operating experience, and as additional information was obtained concerning safety, the number of signals causing "scram" was selectively reduced to less than twenty. By this means, and by intensive crew training, the problem was licked. As a result, the Nautilus experienced very little difficulty of this sort.

On June 25, 1953, full design power was reached. Not one part of the plant indicated failure to meet the rigid specifications. In less than a month after power generation by the world's first nuclear power plant, Mark I was running smoothly at its maximum rating. The one remaining question was whether the machinery could withstand long high-power running.

The operating crews began a forty-eight-hour test at full power to obtain important physics information. At the twenty-four-hour point the data obtained seemed sufficient, and the engineers intended to shut down the plant. Rickover, who was at the site, inadvertently learned of this plan and immediately overruled it. He had visualized that if the forty-eight-hour run turned out well, they should continue on a simulated cruise across the Atlantic. He reasoned that such a dramatic feat, if successful, would end the doubts in the Navy that nuclear power was a feasible means for propelling ships. It would give the project the momentum and breathing space needed to carry on the development without constant harassment until the Nautilus could get to sea.

I was the senior Naval officer at the site. I felt that extension of the run was unwise considering the many uncertainties, and told Rickover that beyond forty-eight hours I could not accept responsibility for the safety of the \$30 million prototype. Rickover directed me to proceed with the simulated voyage.

Charts of the North Atlantic were posted in the control room and a great-circle course to Ireland plotted. The position of the ship after each four-hour watch was computed and marked on the chart. For watch after watch, the course plotted in the control room crawled toward Ireland. No submarine had covered more than twenty miles submerge at full speed. A propulsion unit, even for a surface ship, need steam only four hours at a full power to obtain acceptance for Naval use. At the mid-point of the Atlantic crossing, the operation seemed to be going well. As one of the Nautilus crew members standing watch in the hull state, "She just

sits there and cooks." A veteran marine engineer, familiar with the large quantities of fuel oil which would have been required to drive a ship so far with a conventional propulsion plant, pointed to the propeller shaft and then to the reactor and said, "So much comes out back here, and nothing goes in up there!"

At the 60th hour, however, difficulties began. Carbon dust from the brushes depositing in the windings caused difficulty in the vital electrical generating sets. Nuclear instrumentation, operating perfectly at the beginning of the run, became erratic, and the crews could not be sure what was happening within the reactor core. One of the large pumps which kept the reactor cool by circulating water through it began making a worrisome, intermittent whining sound. We had not had any check on "crud" build-up; we feared that heat transfer would be so reduced by this point that the core would burn up. The most pressing problem, however, was caused by the failure at the sixty-fifth hour of a tube in the main condenser into which exhausted turbine steam was being discharged. Steam pressure fell off rapidly.

The Westinghouse manager responsible for the operation of the plant strongly recommended discontinuing the run. In Washington, the technical directors of the Naval Reactors Branch was so concerned that he called a meeting of all its senior personnel, who urged Rickover to terminate the test at once. But the Captain was adamant that it should continue until an unsafe situation developed. "If the plant has a limitation so serious," he said, "now is the time to find out. I accept full responsibility for any casualty." Rickover had twice been passed over by Naval selection boards for promotion to Rear Admiral. As a result of congressional action, he was to appear within two weeks for an unprecedented third time. If the Mark I had been seriously damaged, Rickover's prospects for promotion and his Naval career were ended.

The tensions surrounding the test increased the challenge to the crews, and as each watch came on duty it resolved it would not be responsible for ending the run prematurely. Crew members worked hard to repair those items which could be repaired while the plant was in operation.

Finally, the position indicator on the chart reached Fastnet. A nuclear-powered submarine had, in effect, steamed at full power non-stop across the Atlantic without surfacing. When an inspection was made of the core and the main coolant pump, no "crud" or other defects which could not be corrected by minor improvements were found. It was assured that the Nautilus could cross an ocean at full speed submerged.

FROM THE "ORIGINAL STIMSON DRAFT"

VOL. 20 NO. 2

CREW'S DIRTY DIGS

I think someone in FT div ought to give Dick a spelling lesson. You don't spell it DIVISION, Dick.

Larry, I Love You!

Eddie-poo

Question for 'DOC' Lowry:

What's the difference between eating by your diet and not eating at all?

ANS: Not much, Doc, not much.

There's a certain MCC Sup says an MT is not smart enough to qualify TECH.

The new TAB doesn't have a color code, so Chief Lowry made up his own. Just ask Forte.

After 16 hours, 55 minutes continuous skid time, Chief Hewitt was heard to comment, "I can't understand why I am not sleepy!"



SEARCH FOR LOST SHIPMATES

I'm not sure how many of you have looked at the Shipmate Search page on our website. When you do, you will see it goes without saying that we could just about double the impact of getting the word out to our shipmates about our association and events. Please take a look at this list. If you have contact with one of these shipmates please send their contact info to me at 655webmaster@ssbn655.org. One of my goals is to get all of our shipmates onboard with the association and I hope it is your goal also!!

Adkins, William	Debisschop, Timothy
Altman, Chuck	Degon, Vince
Arf, Robert	Delano, Ken
Ball, Steve	Dewitt, David
Ballard, Danny	Diaz, Rudy
Barker, Paul	Dorff, Richard
Barker, Thomas	Dreiss, Ray
Barrows, Keith	Duell, Paul
Beale, Gary	Dyal, Don W. 'Gomer'
Benson, Ed	Edmiston, Ken
Blouse, Dan	Ehlers, Joseph
Blue, Matthew	Ellard, Bryon
Bluestone, Edward	Ellsberry, Prather
Bollman, Stephen	Featheran, Robert Jr.
Borenko, Stpen	Findlater, Doug
Borysewicz, William	Flannery, Aaron
Bowser, James Jr.	Fleming, Benjamin
Bricker, Michael	Fleming, Denvery
Brill, Doug	Fleming, J.D.
Brown, Fred	Fonda, Carl
Buie, Michael	Futral, Dave
Bullard, Patrick	Gallagher, Gilbert 'Skip'
Bullington, Scott	Geisenburg, Nick
Burger, Thomas	Gibson, Chris
Burmeister, Wayne	Glover, Ron
Busteed, Bob	Grabins, Garry
Canup, Richard	Graves, Richard
Carey, Bill	Green, Earsel
Carlson, Hugh	Gutierrez, James
Carr, Don	Habermas, Thomas
Champagne, Brian	Hall, Larry
Claussen, Stephen	Harding, Rusty III
Cool, Arnold	Harris, Willbur
Cooper, Denny	Hatchell, John
Cooper, Doug	Hayes, Robert
Cooper, John F.	Herbert, Randy 'Bear'
Cope, Allan	Henderson, Michael
Cota, James 'Pat'	Herzog, Willie
Couser, David	Hinds, George
Crawford, Christopher	Hogan, John 'Jack'
Cruden, David	Hogan, Tom
Cullum, Ray	Holler, Eugene
Czarnecki, Anthony	Hollingsworth, Paul
Davidson, Dickie	Holtman, Bruce

Hunt, Danny	Rasmussen, Aaron
Hupe, Bill	Rasmussen, Bill
Ignatowitz, Craig 'Iggy'	Rathsam, Richard
Johnson, Anthony	Ratliff, William
Johnston, Paul K.	Raven, Donald
Joyce, Dennis	Reppert, Kevin
Kearney, Russ	Rhodes, Ronald
Kee, Kerby	Robinson, Warren
Keller, Terry J.	Roetto, Paul
Kennedy, Brian	Rowan, William
Kinney, Wayne	Rubright, David
Kirkpatrick, Steven	Ruiz, Luiz
Klaiber, William	Sanderson, Jim
Knowlton, Leonard	Scoville, Scott
Krieger, Kenneth	Searight, Steve
Kulp, Randolph	Seelinger, James
LaPoint, Michael	Shafer, Harold 'Jack'
Laughlin, Brian	Shantz, Denton
Lawrence, Marshall	Shepherd, Charles
Lemp, John	Sherlock, Martin
Liles, Michael	Shields, Vaden
Lizana, Rick	Shock, Joel
Lothrop,	Sikora, Gregory
Lubbs, Larry	Siler, Dennis
Marko, Michael Francis	Silvestri, Henry
Mason, John	Slusser, Howard
Matherly, David	Smith, Charles
Mauk, Elam	Sterner, George VADM
Mauldin, Thomas	Steverson, Jeff
McCarney, Clifford	Stewart James
McConnell, Mark	Stine, Gene
McCord, Oliver	Stockton, N. Bradley
McMillan, Donald	Stortroen, Keith
Meager, Harold	Taylor, Jim
Miller, Donald	Templer, Steven
Miller, Tony	Thaden, Gene
Milton, Jay	Thomas, Larry
Mishler, Jack	Tomasi, Max
Mosman, Harold	Tomren, Gerald
Musselman, Robert	Trotter, Daniel
Neubecker, Andrew	Twisleton, Brown Michael
Neuman, Mark	VanDeLeest, Dean
Noftsger, Mike	Walenga, Craig
Nolen, John	Watson, Herb
Ochsner, Patrick	Weisser, Monty
Parham, Bryan	Wenzel, Paul
Pastiva, Stephen Jr.	Wesley, Mike
Peterson, David	White, Don
Petrak, David	Williams, Brian
Phipps, Mitchell	Wilson, James
Plue, Mike	Wiltse, David
Porterfield, Glenn	Wimmer, Peter Thomas
Poss, James	Wolk, Dennis
Pruitt, Michael	Worthington, Vincent
Putnam, Bobby Jo	Wright, David
Putt, William	Young, Ron
Ralston, David	Youngman, David