



UNITED STATES POWER SQUADRONS

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District Commanders Message 2009

My theme for this year is "Show your Pride in the Adventure".

We have heard in all the Administrative Meetings for the past few years a recurring message that we need to sell USPS, to take it out of hiding and put it before the public eye. For far too long we have been a BEST KEPT SECRET and want to give up that distinctive title! One simple way to do this is to fly our Ensign whenever we are on the water. Another is to wear our logo clothing especially when in the marinas, on our boats or anywhere it can be noticed in the nautical community. This is Marketing and anyone can do it.

As per the Chiefs message we can now teach our Seminars to the Public and use this opportunity to attract new members. It has been suggested that we change our "Target Audience" from the novice boater to the experienced boater who would be more receptive to improving their boating skills. When teaching the Public Boating class or any seminar put up a table with material describing the seminars we offer and our advanced courses so the students can view these while at the class. Put posters out in the supermarkets, drugstores, libraries, Diners or anywhere with a public notice

board that will attract the attention of anyone interested in boating. Don't forget most boaters don't live by the water but they all have to eat.

With many squadrons showing a decline in membership this may be a good time to take a look at your rosters and see if you can't entice some of the non-participating or older members to once again become active. Give them a call, offer to bring them to a meeting and re-introduce them around, tell them about the changes that have taken place in the past few years in USPS. Are they aware of our member benefit package? Be friendly and enthusiastic. If they are a "P" suggest they take the NEW AP course that has been rewritten to make it easier to understand and more fun to do.

During these difficult times I believe we can solidify our core group of members so that when things once again improve, which they will, we will be a much stronger organization.

Above all remember to have fun this year with your squadron and if you can, join in a district event. We will be having our annual Atlantic City Rendezvous, another in Barnegat Bay with a Poker Run, another in Jamaica Bay to celebrate the 400th Anniversary of Henry Hudson's Landing and exploration of the river which carries his

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name and a Rendezvous in the City Island area. Information will be sent to the Commanders and will be on the D4 Website.

I wish you all a very enjoyable and safe summer and hope to see you at a USPS event.

D/C Richard Fiorentini, SN

A cruise liner with 1,500 souls aboard, the most dangerous waters around the US coast and a GPS that tell lies to the autopilot for 36 hours with nobody noticing. Guess what happens next...

The Bridge Team

Their real names aren't important so we'll call the Master Tom, The Chief Officer Dick, The Navigator Joe and the Second officer Harry.

Tom had Master's certificate and license from Greece and Panama. He'd never been on an integrated bridge before joining the Royal Majesty as Master in 1992.

Dick also had a Master's certificate from Greece and a Chief Officer's license from Panama. He'd never been on an integrated bridge before joining the Royal Majesty on 1992.

Joe had a second officer's certificate from Greece and a second officer's license from Panama. He'd never been on an integrated bridge before joining the Royal Majesty as navigator in 1994.

By now you don't have to be psychic to know that Harry had a chief officer's certificate from Greece, ditto a license from Panama, and hadn't been on an integrated bridge until he joined the Royal Majesty in March 1995, six weeks before the incident.

The Ship

The Royal Majesty

The Royal Majesty was a cruise ship, 568 feet carrying more than 1,500 souls. She was built with an integrated bridge, a fairly new innovation at the time, which brought all the ship's navigation and control systems onto a single console, including the autopilot.

The Nav aids

Well, almost all. The GPS was banished to the chartroom along with the Loran-C display. This was not a good idea.

For the technical guff, you'll have to read the official report but basically if the GPS receiver lost satellite contact, it switched to dead reckoning. GPS data uses a standard code called NMEA, designed by the National Maritime Electronics Association. When it was put together nobody thought there'd be any sense in a GPS receiver sending out dead reckoning data, and really there isn't, so there wasn't a code for it. The GPS designers found a way around the problem, it sent the data with a bit set to 'invalid', a sort of note to say 'ignore me'.

GPS data went to the autopilot. The designers of the autopilot thought that if the GPS receiver didn't get satellite data, it would simply stop sending data. They were wrong, so they didn't program the autopilot to look for the note that said 'ignore me'.

When the ship was delivered, she had a GPS that guessed where it was when it lost satellite contact and an autopilot that believed everything the GSP said.

The ship had radars either side of the bridge equipped with automatic radar plotting aid, an

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ARPA, which overlaid an electronic map imagesupplied by the autopilot.

When the GPS lost satellite signal, it sounded a rather feeble alarm, the sort of thing you might have on a wristwatch, for just one second. An external alarm could have been fitted, but wasn't.

Because of a problem with satellite reception the GPS antenna had been moved from its originalposition and the cable ran across the roof of the bridge and wasn't fixed where it could not be accidentally kicked free.

One other bit of equipment is worth noting, the echo sounder, referred to in the official report as a fathometer. Normally, this was set to sound an alarm if the depth under the keel was less than three metres, except in port, when it was adjusted to zero metres.

The Voyage

At 1200 on June 9, 1995, The Royal Majesty left the dock at St. Georges, Bermuda, on the 667 mile return leg of a cruise to Boston, Massachusetts with good weather and clear visibility. Joe checked the GPS and Loran-C equipment, it was working.

Nobody had reset the echo-sounder alert to three metres from its in-port setting of zero.

About 52 minutes after taking to sea the GPS antenna was somehow disconnected, possibly kicked loose by a crewman. The GPS receiver defaulted to dead reckoning. No-one heard the alarm

For the next 24 hours the vessel followed its planned course of 336 degree at a little over 14 knots. Hourly plots were out on the paper chart based on the GPS readout – no-one noticed that the GPS was on dead reckoning. The Loran-C was not checked because it was only regarded

as a back-up, not as an alternative means of checking position.

On the evening of June 10, chief officer Dick compared the GPS and Loran-C readouts twice and they seemed to agree.

Several times, Master Tom phoned the bridge asking about the buoy that marked the southern entrance to the Boston traffic lanes, known as the BA buoy. Dick expected to see the buoy at around 1845. At that time, he saw a radar target which, based on the GPS reading, he took to be the BA bouy. He did not visually confirm the target because it was hidden in the glare of the setting sun.

In fact, it was an entirely different buoy, known as the AR buoy which marked a wreck. But it was in the position that the chief officer expected for the BA bouy.

Harry took the watch at 20.00. Half an hour later a lookout reported a yellow light to port and a few moments later both the port and starboard lookouts reported high red lights. Harry took no action. These lights were not mentioned to the master when he came to the bridge for the first time during that watch.

The Royal Majesty was not alone on the sea. Two fishing boats with Portuguese-speaking crews saw her. They tried to call her in English on Channel 16 but got no reply. The two boats discussed the out-of-place cruise liner

Tom was on the bridge again at 2200. He didn't check the vessel's position because the second officer had told him they were already past the second bouy of the Boston traffic lane, bouy BB. In fact, he hadn't seen the BB bouy, either visually or on radar but based his assumption on the GPS reading.

The vessel was already moving over shoal that would have triggered the depth alarm if the fathometer had been correctly set.
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Shortly after Tom left the bridge at 22.10 the port lookout reported blue and white water dead ahead.

Harry did not respond. Suddenly, at 22.20, the ship veered to port. Harry switched the helm to manual steering. The movement of the ship brought Tom to the bridge. The starboard radar showed the vessel to be less than 10 mile from Nantucket. He checked the position in the chartroom and immediately ordered hard right rudder but it was too late. Before the helmsman could respond, the Royal Majesty ran out of water on the Rose and Crown Shoal, 17 mile off course.

Instruments of Disaster

Navigational aids are just that, aids. *They don't navigate, people do.* True, had the GPS been working properly, or the fathomometer been correctly set, the Royal Majesty probably would not have grounded, but it was the reliance by the ship's officers on these instruments that led to the grounding.

There were only two checks in those hours before the grounding on the accuracy of the GPS, comparing it to the Loran-C reading, which appeared to agree within the necessary limits so it seemed that the GPS was correct and working. Yet, every time an officer took a reading from the GPS to plot on the paper chart, staring at him from the screen, just below the ship's position were the letters 'DR', for dead reckoning. Nobody noticed them.

What we're dealing with here is confirmation bias. We tend to look for data that confirms our expectations, if it fits, we don't question the data. Because the GPS and Loran-C seemed to agree, nobody noticed that the GPS satellites were offline and vessel was on dead reckoning.

That wasn't the only example of confirmation bias. The Chief Officer saw a radar target at the time and place he expected to see the BA

bouy but could not get visual confirmation. All the same, he informed the master that they had passed the BA bouy.

Data that seemed to confirm their assumptions was accepted, data that did not, like the high red lights reported by the lookout, was discarded.

In a sense, the master was rather like the autopilot, he was making assumptions from partial and incorrect data, data that appeared to confirm his assumptions about the ship's position. When Harry told him they had passed the BB bouy the master did not know that the bouy had not actually been seen visually or on radar. Because of that, Tom did not check the ship's position – he thought he knew where it was.

Those assumptions resulted in the vessel being 17 miles off-course in some of the most dangerous waters around the United States coastline.

If Harry had told Tom that he hadn't seen the BB bouy, Tom would have made more efforts to determine the ship's position.

It takes just a split second to check whether the GPS shows SOL – satellite on line or DR – dead reckoning and it's probably a good habit to get into. It's a better habit to regularly use an alternative means of position fixing.

Man and Nature

Yet man and nature were trying to send a message to the bridge of the Royal Majesty. The lights spotted by the lookouts might have raised Tom's suspicions, had he known about them but Harry did not mention them. Had the

Royal Majesty been on the right course, those lights should not have been there.

The source of the lights did not appear at the 6

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mile range on the radar. If Harry had checked at the 12 mile range, or had one of the radars on the 12 mile range he'd have seen Nantucket island and at that range the radar map on the ARPA display would have shown beyond doubt that the vessel was in the wrong position.

The Royal Majesty radar with ARPA radar map. On the six-mile range the map concurred with the presumed position.

If he'd looked at the chart he'd have seen that the nearest red light to the presumed position was the bouy on the Rose and Crown Shoal.

The Channel 16 radio call from the fisherman was at first ignored, then a voice, believed to be Harry's, told them to be quiet. There is a requirement to monitor emergency Channel 16 at all times but it's equally important to listen, because the ship they're talking about might be yours.

And, of course, a lookout reported blue and white water dead ahead just 10 minutes before the grounding. Blue and white water may look good on the tourism brochures but it's not normally what you want to see in front of your ship.

It would have been a great time to take a look at the echo sounder display on the console, but Harry didn't.

Why were these signs ignored?

It points to a danger that has proven significant in the air transport industry, too. Technology brings many benefits to the bridge but it threatens to isolate the ship's officers from the environment they work in. Increasingly, they are being called upon to be systems managers, not seafarers. The attitude is that if the system doesn't tell you there's a problem, then there isn't a problem, despite what you can see outside the bridge window. But what you see out of the window may tell you more than the

thousands of dollars worth of electronics programmed by people whose closest connection to the sea is a bottle of bath salts.

Even looking out of the window isn't much use if you don't relate what you see to the safety of your ship. After all, an officer of the watch is supposed to watch out for the ship.

Asking the Right Questions

Asking the right questions can go a long way towards getting the right answers: how do I know the GPS is working properly? Is that really the bouy I'm looking for? How has it been verified? Why haven't I seen the bouy I was expecting to see? Is that light supposed to be there? Why is the sea an odd colour? Is that my ship they're talking about on Channel 16? Isn't it time to check position using something other than the GPS? What will I see if I expand the radar range?

Navigation technology will get more complex and invasive. Only two living beings will inhabit the bridge of the future, the master and a dog. The master will be there to feed the dog and the dog will be there to bite the master if he touches any of the equipment.

For now, try not to make a dog's dinner of navigation.

If you have have opinions on this, or any other Maritime Accident Casebook, episode, or want to share your experiences, go to maritimeaccident.wordpress.com or drop me an email at maritimeaccident@yahoo.com

This is Bob Couttie wishing you safe sailing.

Bob Couttie

Mark 4 is the official publication of District 4, USPS. P/D/C David J. Meshulam, AP, Editor. Submission of articles and pictures by email are welcome. djmgem@aol.com.

FOOD FOOD THOUGHT

Mayonnaise Jar & Two Beers...

When things in your life seem almost too much to handle, when 24 hours in a day are not enough, remember the mayonnaise jar and the 2 Beers.

A professor stood before his philosophy class and had some items in front of him.

When the class began, he wordlessly picked up a very large and empty mayonnaise jar and proceeded to fill it with golf balls.

He then asked the students if the jar was full. They agreed that it was. The professor then picked up a box of pebbles and poured them into the jar. He shook the jar lightly..

The pebbles rolled into the open areas between the golf balls.

He then asked the students again if the jar was full. They agreed it was.

The professor next picked up a box of sand and poured it into the jar. Of course, the sand filled up everything else. He asked once more if the jar was full. The students responded with a unanimous 'yes.' The professor then produced two Beers from under the table and poured the entire contents into the jar effectively filling the empty space between the sand.

The students laughed.. 'Now,' said the professor as the laughter subsided, 'I want you to recognize that this jar represents your life.

The golf balls are the important things---your family, your children, your health, your friends and your favorite passions---and if

everything else was lost and only they remained, your life would still be full.

The pebbles are the other things that matter like your job, your house and your car. The sand is everything else---the small stuff.

'If you put the sand into the jar first,' he continued, 'there is no room for the pebbles or the golf balls.

The same goes for life. If you spend all your time and energy on the small stuff you will never have room for the things that are important to you.

Pay attention to the things that are critical to your happiness.
Spend time with your children.
Spend time with your parents.
Visit with grandparents.
Take time to get medical checkups.
Take your spouse out to dinner.
Play another 18.
There will always be time to clean the house and fix the disposal.
Take care of the golf balls first---the things that really matter.
The rest is just sand.

One of the students raised her hand and inquired what the Beer represented.

The professor smiled and said, 'I'm glad you asked.'
The Beer just shows you that no matter how full your life may seem, there's always room for a couple of Beers with a friend.

**I JUST DID!
LIFE ISN'T ABOUT WAITING FOR THE STORM TO PASS..
...IT'S LEARNING HOW TO DANCE IN THE RAIN !**

William B. Hempel, P
Member of the National Marketing and
Public Relations Committee
United States Power Squadrons

**FISHING FOR AN EXCUSE TO
WEAR LIFE JACKETS, Or
FISHING IS MORE
DANGEROUS THAN YOU
THINK**

Ask any experienced boater about life jackets and they will tell you that they put them on at the first sign of danger. Ask those same people if they think fishing is inherently dangerous and they will probably say no. Unfortunately this is a severe disconnect in boating safety logic.

There is something almost hypnotic about fishing. Fishermen get so entranced in the act of catching a fish that they wander off shore without an EPIRB or radio and believe they are protected with insufficient near shore life jackets. They get so focused on catching a fish that they fail to see approaching weather. When they do see an approaching storm they refuse to head for safety if the fish are biting. If they have a fish on the line, it is "Katie Bar the Door" until that fish is landed.

My home State of Florida has the highest mortality rate per boating accident in the Nation. In just the past few months there have been several needless deaths, all to fishermen. One man was reported missing and was found drowned near his 16 foot boat. His fishing rod was floating nearby with a fish still on the line. Recently a man in the Florida Keys was fishing with a companion. He hooked a fish and in the process of landing it, fouled the fishing line on his outboard propeller. Leaning over to free it, he fell overboard and drowned. I bet these men didn't think that fishing was dangerous since neither one was wearing a life jacket.

The majority of fishing is done in a 16 to 24 foot craft. National statistics show that the majority of boating accidents happen on small

craft. This immediately puts you at risk. While your best protection on the water is an off shore life jacket, I know they are too bulky to ask an active fisherman to wear. This is one instance where a type 5 inflatable life jacket may be a reasonable alternative. These safety devices are no more bulky to wear than a pair of suspenders. While the models with automatic inflators are a little pricey, those with a pull cord inflator are quite reasonable and simple to operate. Fishermen please believe me. The sport of fishing is dangerous and you should have a life jacket on at all times. If you don't believe me I will be glad to direct you to the families of the two men mentioned above. Perhaps they can convince you!

The United States Power Squadrons has 45,000 members in over 450 squadrons throughout the United States and abroad. Its members are men, women, and young adults who volunteer and give freely of their time and energy to teach boating safety courses and seminars, provide vessel safety checks, assist the National Ocean Service in updating our nation's over 1000 nautical charts, and in other ways contribute to making boating on our waterways safer. For further information please visit the USPS Web site at www.usps.org or call (toll free) 888-367-8777.

"Boating is fun...we'll show you how"

Bill Hempel is a year round resident of Punta Gorda, Florida and a regular writer for the Waterline in the Charlotte Sun. His articles have appeared in publications throughout the recreational boating world. He is a recipient of the United States Power Squadrons' "Ship's Bell Award" which is the organization's highest accolade for the promotion of boating safety.

**TAKE CARE OF YOUR MARINA,
THEY NEED IT**

(Due to the present troubles with our economy, here is a ray of hope to pass along to the boating industry and your marina in particular. The following was received as a release from Tom Kemp, USPS Headquarters Marketing Manager.)

Thanks to the efforts of Senator Richard Burr (NC), a great friend of the recreational boating industry, the following should be noted.

The Federal Reserve has included Marine floor plan loans in the Term Asset Backed Securities Loan Facility (TALF) program. This inclusion should have a positive impact for marine dealers. Very briefly, non-auto floor plan loans will include revolving lines of credit to finance dealer inventories. There are of course some terms and conditions. If interested go to www.newyorkfed.org/markets/talffaq.html to see eligible collateral requirements.

This has great potential for us as an organization to establish and foster relationships with marine dealers in our local areas. One of the “choke-points” in the downturn of new boat sales has been the lack of financing for boat dealers to purchase new inventory from the manufacturers. Simply by stopping by and sharing this information can be a door opener for a venue to offer our boating courses and seminars that will increase the dealership floor traffic. It will not only increase our visibility as the number one recreational boating authority expert, it would also go a long way in solving a major headache for the dealer.

Below is the letter that D/PRO Glen Sherman had published in every squadron newsletter in D/3

**Welcome to the Public Relations
Committee**

That's right; every USPS member in is involved in public relations. Don't be frightened, you won't be planning advertising campaigns, sending out press releases or any of the other things you might associate with public relations, that's the job of the district and squadron PR Officers. You however, and all USPS members, are on the PR front lines. Every time you drive your car or pilot your boat with a USPS decal on it; wear a USPS, district or squadron shirt; wear a USPS uniform or even just a name tag; you put your self on the PR front line and represent USPS to prospective members or class attendees. People will recognize you as a USPS member and although you are NOT required to approach them with a PR hard sell, you must be prepared to answer simple questions and help USPS make a good first impression. Where can I take a boating class? What is the Power Squadron? These and others are innocent questions you may be asked. Do you know where to find the local boating course schedule? Do you know your Commander's, Educational Officer's, or Membership Chair's phone number? Do you know the national, district or your squadron's web address? Do you know the USPS education toll free number? Being Johnny or Janey on the spot with one of these simple answers can do more for public relations than you could ever imagine, so welcome to the public relations committee.

**SEE “THE PROLOG” FOR
MORE DETAILS AND
MATERIAL FOR PUBLIC
RELATIONS**

Your 2009 District 4 Bridge

Commander,

D/C Richard V. Fiorentini, SN

Executive Officer

D/Lt/C Richard Swackhamer, AP

Education Officer

D/Lt/C Christopher Windeler, SN

Administrative Officer

Florence Smith, SN

Secretary

D/Lt/C Ernest Wasserman, SN

Treasurer

D/Lt/C Harry G. Wagner, JN

Assistant Education Officer

D/1st Lt Don G. Young, SN

Junior Past Commander

P/D/C Richard Zucchi, AP

Flag Lieutenant

Theodore W. Wallace, P

SQUADRON ACTIVITIES

Lackawanna Sail and Power Squadron encourages all boaters to participate in Fire Extinguisher Training to learn a critical safety skill. We are fortunate to have a first-rate facility, Morris County's Fire Fighters & Police Training Academy, located in Parsippany, to provide both classroom and hands-on instruction.

Fire fighting theory is taught, and everyone is given an opportunity to extinguish a pan of burning gasoline. This reality training dramatically illustrates that, in a real situation, one has the ability to deal with an extremely dangerous condition.

We hold this class in July and anyone wishing to join us for an evening of instruction can call Richard Pfaff at 973 334 6910. Space is limited; we will have to make arrangements with the academy depending on the number of respondents.

Staten Island Power Squadron

1) Invites all to join them at their annual picnic on Saturday, 13 June, at 12 AM, at the Coast Guard Pavilion, Sandy Hook, NJ. Fun and great food friendship and sights for all. Join them for a first, a walk to the Lighthouse. \$25 for adults, \$10 for children under 14. Call P/C Joe David at (917) 968-7794.

2) Looking for a great cruise this summer since your squadron does not have anything planned? SIP has scheduled a cruise up the Hudson River to Haverstraw Marina leaving Friday, July 17th and returning Sunday, July 19th. Contact Joe David (917) 968-7794, or Harold Goldberg (718) 490-6104

DOES YOUR SQUADRON HAVE ANY ACTIVITIES PLANNED THAT WOULD BE OF INTEREST TO MEMBERS OF OTHER SQUADRONS? IF SO, WHY NOT SUBMIT INFORMATION BY EMAIL TO DAVE MESHULAM FOR INSETION IN THE NEXT ISSUE OF MARK 4 TO BE PUBLISHED ON SEPTEMBER 1, 2009.

