



Possible Agreement on Free Navigation in South China Seas

It was reported on 25th September 2010 that the President of the United States of America and the leaders of some South East Asian countries communicated with the Government of the Peoples Republic of China (PRC) in a bid to free up navigation constraints in seas the PRC claims.

Reports suggest the leaders agreed on the importance of peaceful resolution of disputes, the undisputed freedom of navigation, regional stability and respect for international law.

The PRC claims all of the South China Sea.

Other nations such as Vietnam, Taiwan, Malaysia, Brunei and the Philippines disagree and argue that their claims to specific areas have more legitimacy.

The South China Sea is a rich fishery and is potentially a source of future wealth from oil and gas deposits beneath the sea. But it is the long term assurance of the freedom of navigation through these waters that is of most importance to the international community and to the worldwide fraternity of navigators.

The South China Sea is one of the world's busiest international waterways and any confrontation at sea would have an adverse impact on global trade. It is with this in mind that world leaders are seeking understandings.

It was reported that US President Obama said that South East Asia "is home to some of our largest trading partners and buys many of our exports support millions of American jobs. American exports to ASEAN countries are growing twice as fast as they are for other regions, so Southeast Asia will be important in reaching my goal of doubling American exports."

Other South East Asian leaders have given support to this stance with the President of the Republic of the Philippines reportedly going so far as to state that he hoped the PRC would desist from referring to the South China Sea as "their sea."

The Government of the PRC is yet to respond to this approach – and given the past stance of the PRC on this contentious issue, it is unlikely any response will be favourable.

It is understood the Government of the PRC took umbrage when the Secretary of State of the United States of America, Mrs Hilary Clinton, informed a regional conference in Vietnam in July 2010 that the peaceful resolution of disputes over the Spratly and Paracel Island groups was an issue of American national interest.

The government of the PRC contends that the sovereignty of the island groups in the South China Sea is its business; and that the navigational issues associated with transiting near to or through these island groups is an internal matter for the PRC.

The continued freedom of navigation around the globe is crucial for the survival of the world economy. Navigators have a vested interest in ensuring that no nation state places this long respected "world freedom" at risk.

It is to be hoped that whatever the outcome of territorial or sea bed claims, the freedom to navigate without let or hindrance in the South China Sea will be maintained and assured.



The Australian Institute of Navigation Incorporated

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Established 1949

Patron

**Her Excellency Ms Quentin Bryce AC
Governor General of the
Commonwealth of Australia**

AIN Administration

Administration Elaine Doolan 02 6238 2323
Fax 02 6238 2132

The Australian Institute of Navigation Inc

C/- PO Box 1318
Queanbeyan NSW 2620

Email admin@ain.org.au
Web www.ain.org.au

Meeting Schedule

General Meetings

are held on the second Wednesday of the month at the NSW Sports Club 10-14 Hunter Street Sydney,

1800 for 1830 dinner followed by 1930 General meeting with Guest Speaker. Please inform the Administrator if you are intending to have a meal.

Meetings for 2010 are scheduled as follows:

13 October, 10 November, and 8 December.

2011

9 February, 9 March, 13 April, 11 May, 8 June, 13 July, 10 August, 7 September, 12 October, 9 November and 14 December.

Council meetings

are held in the Hunter Room commencing at 1600 and are scheduled for 2010 as follows:

13 October and 8 December.

2011

9 February, 14 April, 8 June, 10 August, 12 October and 14 December.

Annual General Meeting

9 November 2010

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President's Report

We continue to have well attended Technical/General Meetings.

In August: I spoke to the meeting on "My Personal Comments on Flying the A330" The operation of a modern computer controlled airliner was compared to flying the previous generation of "classic" aircraft.

In September: Mr Dick Whitaker, of the Weather Channel covered the weather related aspects and lessons of three significant disasters in Australia – The sinking of the Dunbar off Sydney Heads, and the crashes of the aircraft Kyeema and Southern Cloud.

In October: We will be joining the Company of Master Mariners to hear Mr Chris Ward speak about his experiences over 3 summers in Antarctica and South Georgia as a member of Australia's Antarctic Division.

A very generous offer has been received from Lieutenant-Commander S.J. McCracken, Officer in Charge, Navigation Faculty, HMAS Watson.

An opportunity exists for a limited group [8 members] from the AIN to join the training ship SEAHORSE MERCATOR to witness the methods of training of the latest RAN Navigation Course. It is anticipated that the visit will be on Thursday 18 November 2010, commencing at approx 0830 at Sydney Harbour and lasting for about 4 hours. As the trip will involve a "sea transfer" with a "step" of about 1 metre, a certain degree of mobility/athleticism will be required.

Any members who would like to join this informative outing, please advise our Administrator, Elaine Doolan via the usual contact methods. As the numbers are strictly limited, I am afraid success will have to be on a "first in" basis. More details will soon be available from HMAS Watson.

Our 10 November meeting will be the AGM and on the 8 December we will have our annual Christmas Get-together. I look forward to seeing you there.

Best regards,

Ian Watkins



Seahorse Mercator

Cargo Ships MSC Chitra and Khalijia Collide off Mumbai

by Paul - Export Logistics Guide on August 10, 2010

in [Cargo vessels](#), [Ports](#), [Shipping News](#)

Two cargo ships collided off Mumbai, the MSC Chitra and Khalijia, resulting in a large number of cargo containers sliding overboard and a sizable oil spill. The MSC Chitra listed sharply to the port side after the collision causing the spill. It was carrying 1219 containers, 2662 tons of fuel, 283 tons of diesel and 88040 liters of lubricant oil.



MSC Chitra listing after collision

ment system at Mumbai port and the circumstances in which the collision took place may help understand the outcome of the investigations better.

How it happened

According to reports, the collision took place around 10 a.m on August 7 in the common channel for both Mumbai and JN Port. The container ship MSC Chitra, which was coming out of JN port, was hit by the break-bulk carrier MV Khalijia III, as it was proceeding to berth at Mumbai port. Following the collision MSC Chitra tilted and over 300 loaded containers fell from the ship into the

water, blocking vessel traffic though the main channel.

The ship slowly moved and was grounded outside the channel. The other vessel, its bows severely damaged, was safely berthed at Mumbai port. Salvage experts were immediately summoned and many of the containers have been retrieved. Traffic has partially resumed

(Continued on page 4)

The spreading oil slick is causing concern along the coastline, including along the mangrove belt. Containing the spill is difficult due to the weather and tidal conditions.

The floating containers are also causing a navigation hazard in the port area.

Unconfirmed reports indicate the two ships were on different communication channels instead of on the same channel

The collision should be an eye-opener for Mumbai port authorities.

N. K. Kurup | The Hindustan Business Line

What could have caused the collision between two ships in broad daylight in Mumbai harbour that led to the oil spill along the coastline and suspension of vessel traffic to Mumbai and JN ports last week? Human error, negligence on the part of the captain and failure of communication facilities are being discussed as part of the speculation doing the rounds.

As the Director-General of Shipping is investigating the cause of the mishap, it may not be appropriate to comment on it. However, a look at the ship traffic manage-



Khalijia bow damage

The collision should be an eye-opener for Mumbai port authorities.

(Continued from page 3)

from Friday, with the help of the Navy.

Common channel

Ships coming to Mumbai and JN Port terminals use a common main navigation channel, before entering the respective port's approach channels. The movement of ships at Mumbai and JN ports is controlled by a Vessel Traffic Management System equipped with high frequency electronic communication facilities.

The VTMS, similar to the air traffic control system for aircraft, uses radar and high frequency radio telephony to keep track of ships. Each port has a different VHF channel. JNPT operates on VHF-13 and Mumbai Port VHF-12.

According to senior official at JN Port, a ship coming into Mumbai port from JN port can, depending on the facility on board, keep both the communication channels on. If that is not possible, it has to switch over from VHF-13 to 12 when it enters the Mumbai port.

Pilotage is compulsory for all large ships calling at Mumbai port. At the time of the collision, however, both the ships in question were commanded by their own captains.

According to Mr Rahul Astana, Chairman, Mumbai port, this was because both ships were away from the pilot's station. The JNPT pilot disembarked the container ship before it entered the main channel while the Mumbai port pilot was yet to board the other ship.

A collision in such a situation raises several questions. Was there a communication failure? Did the captain fail to switch to the right channel? Did he fail to act on the warning? The enquiry report will hold the answers to these questions.

The owners of the container ship MSC Chitra allege that MV Khalijia III flouted the navigation rules that led to the collision. According to the vessel's voyage data recorder, they claim their ship was proceeding well within its way though the main channel when the other ship re-entered the channel after crossing it and turned to the port side, flouting navigation rules.

As it happened, within two minutes, it was hit by the other ship's bow. The Khalijia has yet to come out with any statement. However, there are also reports that the voyage recorder shows alert messages sent by the captain of the Khalijia-III to MSC Chitra's captain. Fortunately, there was no loss of human life but the oil spill caused by the mishap could endanger marine life along the coast line. Apart from retrieving the fallen containers, there is a huge cost involved in the clean-up of the oil slick.

Mr S. Venkiteswaran, senior maritime lawyer, says the

owners of both ships will have to bear the costs, based on the percentage of their responsibility in the incident. It could be 50:50 or 75:25, or any other ratio. That can be fixed only after the investigations are over and based on its findings.

Lack of preparedness

According to Mr S. Hajara, Chairman SCI, one of the largest port users in the country, accidents do take place at ports. Quick response is the key in an emergency situation. Capt S. Shahi, Chairman, Shahi Shipping, a leading coastal shipping operator, said the incident should be an eye-opener for Mumbai port.

Its technical team needs regular training in handling ship traffic. Mr S.B. Agnihotri, Director-General of Shipping, who is co-ordinating the salvage operations, said: "We did our best. This is evident from the fact that the ports could resume traffic within five days. However, night navigation may take some more days to begin."



MSC Chitra spilling cargo containers overboard

Cambridge and later ANU, geophysicist Ted Irving whose studies confirmed that the polarity of the Earth's magnetic field had flipped many times and that the continents were drifting.



Book Review

Magnetic from pole to pole

NORTH POLE SOUTH POLE: The Epic Quest to Solve the Mystery of Earth's Magnetism.

By Gillian Turner, Awa Press. 274pp. \$35.
Reviewer. FRANK O'SHEA

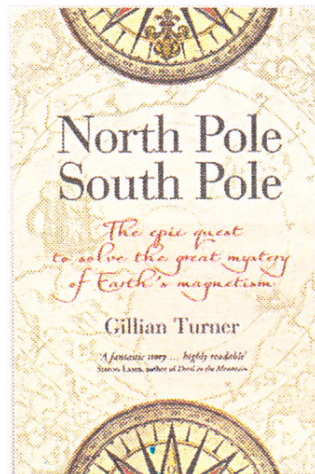
You wonder how Michael Faraday would fare if he were born in today's England. His education was on the streets more than in a schoolroom, and his mathematics never reached much beyond elementary level. When he began his first job at the age of 12, he was fortunate that it was as a messenger boy for a bookbinder so that he had the opportunity to read widely. In time, he would become the greatest experimental physicist of his day. No doubt, someone else would eventually have discovered the association between electricity and magnetism, but it is this modest - he refused a knighthood - and devout Christian whose work we use when we turn on a motor, use a transformer, electroplate a metal or generate electricity from a moving magnet.

Faraday is one of the heroes of this story of magnetism and of the discoveries that have led us to our current understanding of our planet as a large magnet with its own north and south poles. That these do not coincide with the geographical poles is well known; that at various times in the past, the poles were reversed. the magnetic north somewhere in the Antarctic and the south at the other end of the Earth, may be less well known. It is a discovery that came only after much speculation and some trudging through scientific dead ends.

William Gilbert, physician to Queen Elizabeth I, was the first person to study magnetism in a scientific way and the first to conclude that the earth is a magnet; he wrote about declination (variation from geographical north-south) and dip and proposed how these might be used to determine latitude. He also studied and wrote about what we now call electrostatics. It would be another two centuries before Faraday (and Ersted and Ampère) would investigate the connection between these two phenomena and before James Clerk Maxwell explained it all in four short equations. arguably the supreme intellectual achievement of the age.

By the middle of the 20th century, the new fields of archaeomagnetism and palaeomagnetism were providing evidence of possible pole reversal in the past 80 million years. Certain rocks or lava flows could retain their magnetism for hundreds of millions of years. In some cases. their magnetisation was in the opposite direction to the earth's magnetic field in the region where they were found. The conclusion was that the earth's magnetic field had reversed since they were formed.

One of the leaders in this research was Englishman Ted Irving, whose work was so new that there was no one at Cambridge to assess whether it merited a PhD. He was brought to Canberra in 1954 where he set up



his own laboratory at the Australian National University. Here, over the next 10 years, he and colleagues Ian McDougall and Don Tarling brought Canberra to the very front of world research. What a tragedy that their names are forgotten while many can recall front-row forwards and opening batsmen and television personalities from the same era.

There are other names in this saga of those halcyon days when new discoveries came with each edition of Nature or Science or other equivalent journals -indeed, if this book has a fault, it is that the author wants to leave no one out. Today, we believe that there have been 183 pole reversals over the past 80 million years. the periods between them varying from as short as 10,000 years to as long as five million. Hikers and bushwalkers have no need to worry. however, as reversal does not happen overnight; an interval of about 5000 years seems common.

It is the nature of science that when effects like these are observed, the question of "how" is not far away, and here Faraday comes back into the story. The suggestion that the earth is a massive dynamo. current being produced by the flow of molten matter in its core, waited for the electronic age for verification. In 1995, the Cray supercomputer at Pittsburgh University was given a set of equations and some raw data going back through Faraday and Gilbert and into prehistory. It calculated temperature. pressure, density and velocity of the molten fluid at the earth's core and pictured the kind of magnetic field that these would create.

The computer model actually produced a few near reversals and a full polar reversal which seems to happen randomly - Cray may have been lucky to find one after about 40,000 years. It chugged through a further 300,000 years without getting a reversal, though this need not be a worry since the last known reversal occurred about 780,000 years ago.

At times intimidating, and aimed at a scientifically literate readership, this is a fascinating account of the way that human ingenuity can learn about events which happened millions of years ago and thousands of kilometres under our feet. The heroes from the past are Gilbert and Faraday; in the present they are found in lavishly endowed laboratories, mostly American. It may be that the ANU is still at the forefront. but what chance would it have of letting the country know against a background of commercial, sporting and political noise?

Frank O'Shea is a retired teacher.

*Canberra Times
Saturday 18 September, 2010*

IT'S ALWAYS THE LAST PLACE YOU LOOK

by John Colwell

Just after 8:30 am on 20th October 1976 a Piper Arrow 180 with three on board took off from Jandakot in the Benson and Hedges Australian Air Race. Our aircraft, Race number 227 was sponsored by Dier Computer. The co-pilot was Dr. Tommy Thompson, a Qantas doctor and former Royal Navy pilot and our loadmaster / flight engineer was Ken Castle, Dier's Managing Director. One of the race rules limited the fuel consumption to limit power to 75%. This is a dangerous rule because it encourages excessive leaning of the mixture with potential engine damage. The in-flight job of the flight engineer was to monitor fuel usage. Ken Castle was very good at this and was able to predict the amount of fuel to be added at each stop within a couple of litres.

The aircraft was one of the original batch of Arrows and was 8 years old but had won the single engine class of the 1969 England to Australia Air Race and was still able to outrun the 200 hp Arrows. The first leg took us to Norseman, the second to Forrest for a night stop. There had there had been no drama on the first day.

Next day saw us off across the Nullarbor Plain to Ceduna. After lunch, we headed for Parafield. After flying fairly low to the turning point at Port Augusta, we climbed to 5000 feet to cross the Gulf. A few minutes later, there was a momentary shudder which lasted only about a second. The instrument indications were all normal. We seemed to be going a little slower although it was hard to tell. We landed at Parafield without any further strange happenings.

As we taxied to the Aero Club, we noticed a number of people looking and pointing at the aircraft. After shutting down, we got out to find a large oil smear down the side. We handed the aircraft over to the Aero Club engineer to fix the problem and headed into Adelaide for a good night's sleep. Arriving at Parafield early next morning, we were briefed by the engineer. A bolt on one of the magnetos has slackened off slightly allowing the body of the magneto to turn. This had caused a small oil leak and changed the magneto timing which may have caused the shudder and apparent minor loss of power. He had tightened the bolt but did not have a spare oil seal. He told us to have it repaired next day at Moorabbin, a rest day.

We flew from Parafield to Tintinara, making an optional stop to check the oil situation. There was a slight leak in evidence but we put it down to some residual oil left from the day before. The next stop was Warrnambool. We had experienced momentary vibration en-route and thought the magneto may have slipped again. There was a slight trace of oil once again but not as serious as the arrival at Parafield. The oil quantity was fine. The last sector of the day to Moorabbin was uneventful except for a couple of shudders. We handed the air-

craft over to an engineer who had all the necessary seals to fix the magneto. He would also check the other magneto.

After a day off to watch the total solar eclipse, we were ready for the final day's run to Bankstown via Parkes. The flight was uneventful until we commenced our descent. There was several seconds of shudder before it settled down again. After landing at Parkes, we checked for oil leaks and did a run-up with magneto check. There were no signs of anything wrong.

The departure from Parkes was routine but several minutes into the flight, the vibration reappeared. It was intermittent at first but became continuous and gradually increased in intensity. By the time we had passed Cudal, the airspeed began to drop and the decision was made to divert to Orange.

A PAN call was made and our intentions passed to Flight Service. I attempted to reduce the vibration and improve performance by adjusting the propeller and engine controls without effect. By the time we were five

miles from the airfield, the airspeed had dropped from 140 to about 95 knots. It was difficult to be sure as the vibration made it extremely difficult to read the instruments.

It was becoming obvious that we would soon be on the ground one way or another and the sooner the better. I therefore elected to land downwind on runway 11 and advised the local traffic of the situation. Just before we were to turn onto final at about 500 feet above ground, a Cessna 310 took off straight towards us. We had to turn away and struggle round a tight circuit with the airspeed now below 80 knots.

We landed and taxied in while cancelling the emergency.

We left the aircraft rather shaken and expected to find oil eve-

(Continued on page 7)



A New Version of the Airbus A320?

A recent report suggests the European consortium Airbus Industries is planning a more fuel efficient version of the A320. It appears this will be achieved by fitting the existing airframe with new engines.

The engines reputedly under consideration for the makeover are one built by CFM International which is a joint venture between the French company Safran and the American engine maker General Electric; and another manufactured by International Aero Engines a consortium including Pratt & Whitney and Rolls Royce.

Fitting new engines to the A320 is estimated to cost about \$1.5B (AUD) whereas building a brand new aircraft type could cost as much as \$11B (AUD). Fitting new engines to the popular aircraft type is expected to achieve 15 percent greater fuel efficiency than is possible with A320 aircraft now in service.

Airbus has sold over 4100 of the A320 since the aircraft entered service in 1988 and is reported to be in negotiations with the two engine makers.



Whale Found on Bow of Ship in Oakland

The Maritime Executive

Friday, September 17th, 2010

A 642-foot container ship arrived in the Port of Oakland on Thursday with a dead whale wedged into its bow.

The San Francisco Chronicle reports, scientist examining the whale believe it was alive when it was struck and was hit with such force that its body remained wedged into the bow for several miles. Scientist also say the whale was missing its head and there was evidence that sharks had been feeding on it. The 20 to 30 –ft long, whales body has been so badly ravaged that the marine biologists cannot determine whether it is a blue whale or a minke whale.

The container ship NORTHERN VITALITY was travelling from Los Angeles when the incident occurred. The vessel arrived at the Port of Oakland at 8:50 a.m. Thursday, where the whale was removed.

Officials say the number of whales hit by ships each year is unknown because it often goes unreported. The Coast Guard will sometimes send out alerts, at the request of the fisheries service, asking ships to slow down during whale migrations.

Photo Courtesy of: Paul Chinn / The Chronicle



It's always the last place you look

(Continued from page 6)

rywhere. There was no oil leak. Looking at the propeller, it was obvious that the blades were not at the same angle. In fact one blade could be easily turned by hand through almost 30 degrees

The cause of the problem was a fatigue failure of the pitch control mechanism where it connected to the blade in question. The propeller vibration had shaken the magneto loose and caused the oil leak. We had spent the rest of the time looking for magneto problems rather than the propeller. I suspect that had we inspected the propeller thoroughly at Parkes, we might have detected a little slack.

It looked like we would miss the End of Race Banquet in Sydney. However, we were able to contact the race marshal at Bathurst (a turning point for the race). After the last aircraft had passed Bathurst, he flew to Orange in his Beech 58, picked us up and took us to Bankstown. It was Max Hazleton, a thorough gentleman. We arrived just in time for the banquet.

P.S. Some years later, I described the incident to Henry Millicer, the designer of the Victa Airtourer, Jindivik and several other aircraft. He was horrified that we did not make an immediate forced landing. He said that it was amazing that the engine had not been torn from its mountings with catastrophic results to us.

Examination of the failed propeller had revealed a fatigue crack which had probably started from a tiny surface crack on a highly stressed part of the pitch control mechanism. No similar failure had ever been reported to Piper or the propeller manufacturer.

Later still, I read the accident report into the multiple engine failure to a British Airways B747 caused by volcanic ash. I suddenly realised that in 1969 our aircraft had encountered volcanic ash from Mt. Kerinci en-route at night between Jakarta and Singapore. The propeller failure had probably been triggered by abrasion from volcanic ash particles.

Annual General Meeting
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