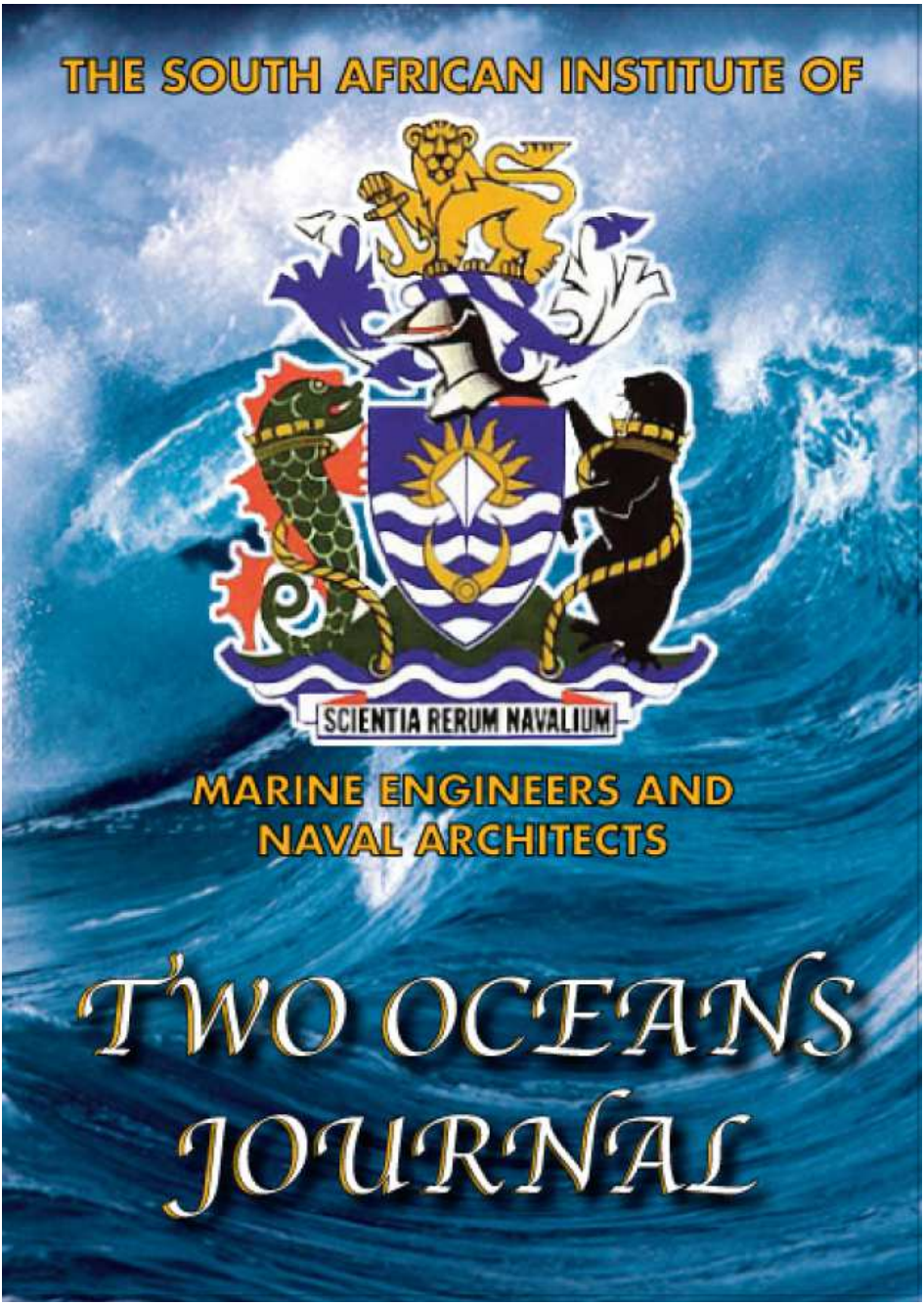
THE SOUTH AFRICAN INSTITUTE OF
SCIENTIA RERUM NAVALIUM
MARINE ENGINEERS AND
NAVAL ARCHITECTS
TWO OCEANS
JOURNAL

COUNCIL 2012/2013

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THE PRESIDENT'S REPORT JUNE 2012

It is with pleasure that I write this first report, having been elected to this position for SAIMENA. I would like to thank our Past President Dick Shaw for his services rendered during his term as President and look forward to his guidance and support during my tenure.

I look forward to an interest period, as there are many developments starting in the Maritime sector, and I would like to ensure that SAIMENA is in a position to play its role in these developments.

The local ship repair industry is reported to be battling to attract trade, those in Cape Town are competing with the flourishing ship repair industry in Namibia; where I understand the port fees and costs to ship owners are not as onerous as those levied in South African ports. This obviously has the effect of making our neighbouring countries' ports more attractive than our local ones. This has a well under stood negative effect on the local based ship repair industry as well as the larger industrial base that directly supports the ship repair companies.

Attracting the ship repair contracts back to South African ports must become a priority for all involved, especially given the emphasis now placed on reducing unemployment. I propose that one way would be by reducing port fees and costs to those ships using South African companies to effect repairs – why doesn't the Ports Authority go as far as paying these customers a $50 per day fee (or similar) while they are using South African services; the return to the economy will be far greater through economic growth, local taxes and reduced unemployment than the income derived from ports fees when considered at a national level. This will however require that all stake holders, from Government, NPA through to the local ship repair industry co-operate together.

Increasing attention is being given to South Africa having few or no ships on its national register, and suggestions have already been made that this is somehow costing the country a lot of money. This talk, which has reached the hallowed halls of parliament, is allied to a fresh call for cabotage to be introduced in South African maritime law, which opens a whole debate in itself. In some African countries – such as Mozambique and Nigeria, cabotage is in place but hasn't always been strictly applied. In South Africa we don't have cabotage, and those in favour of introducing it here will point to this and suggest that this is why South Africa doesn't have a strong coastal service.

There is now a determined movement to bring about the introduction of cabotage into our maritime law, as a means of transforming the local maritime industry. It was recently reported that the head of the South African Maritime Safety Authority (SAMSA), Commander Tsietsi Mokhele reporting to parliament, stated that in addition to not practicing cabotage, the lack of a ships on a local register in South Africa results in South African companies having paid an estimated R45 billion in maritime transport costs to foreign owners and operators during the past year.
SAIMENA must also get involved in ensuring that the Engineering Council of South Africa (ECSA) is approached to get the Maritime Sector recognised as specialty within the Engineering fraternity of South Africa; internationally this is so. I request our members' support as we strive to obtain Maritime sector recognition at ECSA.

Ed Pines is currently representing SAIMENA on a joint working group with SOMMSA to upgrade the Master Mariner's Certificate from diploma level to a suitable higher SAQA level, and credit is not given for sea time served after cadetship. The upgrading of the Master's Certificate is important with regard to structured organizations that rely on such ratings to attract and pay personnel, for instance, lecturers at Nautical Colleges and SAMSA surveyors.
It has been reported that SAMSA is prepared to fund a top-up of senior maritime lecturers' salaries to help ensure the right people are attracted to the job.
SAIMENA continues to be relevant within the maritime sector, we have had 13 new applications so far this year; putting our membership at 441 currently. SAIMENA however must concentrate on attracting younger members, the growth and future of our Institute relies on growing our membership base.

We would also like to recognise the arrival of AGULHAS II in South Africa in early May. The design team and ship builder has certainly produced a great ship, congratulations. I look forward to the ship serving the country well; it certainly has the potential to meet these expectations.
Kevin Watson President

CHAUNCY MAPLES: MAJOR GIFTS PUSH PROJECT FORWARD

Leading marine lawyers Holman Fenwick Willan are our third Special Founder after donating £60,000 in cash and £40,000 in pro bono work.
ZF, one of the world's leading makers of gearboxes, has generously donated the gearbox and engine controls worth £25,000.

FROM THE EDITOR

It is good to see that we have at least one new ship and a new dredger registered in the Republic.
What a pity that they were not built in the Republic too. It would have been a massive boost to our industry, saved billions of rand leaving the country, provided hundreds of new permanent jobs, thousands of temporary jobs and replenished our dwindling base of specialised skills.

It would be a difficult task replacing the lost skills but it could be done with a little help from the Receiver. The state would in turn then get the benefit of income tax, company tax and VAT.
We have in the recent past built well over a hundred fine ships including fishing boats, tugs, salvage tugs, cargo ships drilling rigs, offshore platforms, naval support vessels, fast missile boats and research vessels, some of them setting new world standards.

Selling ourselves to the prospective ship owners, especially the government and parastatal bodies, seems to be a difficult hurdle to overcome, partly in order to dispel the suspicion of self enrichment.
Presenting ourselves as a multi disciplined professional body comprising SAIMENA, the Nautical Institute the Society of Master Mariners and the Maritime Law Society, interested only in the development of our industry for the benefit of our country may help to allay some of the scepticism.

On a lighter note I recently watched the preparations for the DJ motorcycle run (Durban to Johannesburg) and was amazed by the skills of the restorers and the ingenuity of the designers of these machines. The one that impressed me most was a 1911 Humber which incorporated so many features. The rear hub contained an epicyclic three speed gear change mechanism. This was connected to an infinitely variable speed drive from the engine, utilising a wide “Vee” belt between spring loaded pulleys. As the torque increased the belt would automatically move towards the centre of the drive pulley and vice –versa. Other features included a self starter, (you peddled fast and then let the clutch in). Sprung front suspension with adjustable friction dampers, an acetylene gas generator piped to front and rear lights and a drip tray with drain cock to prevent any oil leakage dropping onto the streets as cobbles became very slippery when oily. Not bad for 101 years ago and without any electronics!!

Ralph Baker Hon Editor

ABRIDGED MINUTES OF THE 36TH NATIONAL ANNUAL GENERAL MEETING HELD AT THE BREAKWATER LODGE, CAPE TOWN ON TUESDAY 13TH MARCH 2012

1. The meeting was opened at 17:45 by the SAIMENA National President, Dick Shaw.

2. Attendance 35 Members and guests

3. Previous Minutes. The minutes of the 36th National AGM were put to the floor for adoption as they had been circulated earlier by email to all members.

The minutes were proposed by Ian Armstrong and seconded by Paul Coxon.

4. Matters Arising from these Minutes. There were no matters arising.

5. Financial Report –. Dick Shaw reported back on behalf of National Honorary Treasurer, Ivan Parson. Overall the Institute is in a healthy financial state. The use of National Funds to temporary help the Durban Branch fund their Dinner Dance was advised as a problem experienced during last year. The use of National Funds to sponsor branch activity Dinner Dance is not good practise and should not be allowed. The AGM requested that a full report be tabled at the next Council meeting regarding why the budgeting for related events resulted in this shortfall, specifically related to use of SAIMENA funds (Dbn) to fund a social activity.

6. National Honorary Secretary's Report. The report by the Hon Sec was not available.

7. President's Address. Dick Shaw delivered his address:

"Thank you all for making the time to attend this important occasion and for your support during the last two years. May I express my thanks to the National Secretary Willem Deyzel who stepped in for Dick Jenkins during his illness and later took the job on full time. Ivan the National Treasurer who kept the finances ship shape, Annette, Paul Coxon's secretary who has been an absolute star by sending out the notices and carrying out various administration tasks for us. Paul Coxon for his untiring support on various committees.

S.A.I.M.E.N.A. is a vibrant Institute with over 450 member's country wide and as can be seen from the financial statements, is financially sound.
During the last year we donated to the "Chauncey Maples" fund, a ship on Lake Malawi which is being converted into a floating clinic. We are in the process of purchasing technical Marine Engineering books for the Durban University of Technology, from funds donated to the Bill Singleton Fund.

During 2011 we renewed our membership with E.C.S.A., receiving volunteer status. Some of the challenges are, encouraging people of colour from S.A.I.M.E.N.A. to join E.C.S.A., as there is a shortage of Professional

Registered Engineers in South Africa. I would like to appeal to members who qualify, to register as Professional Engineers, as we are faced with similar

problems within this Institute and if we do not have younger members registering, we will have problems with the Constitution in the not too distant future.

Cobus Visser will take over from Peter Meredith as our official E.C.S.A. representative, many thanks to Peter Meredith for his many hours of volunteer work.

The Durban & Cape Town Branches have both done well during the past year, under the able leadership of Louis Gontier and Kevin Watson. Both Branches have had good attendances at all the papers. Thank you, to both branch chairman, Louis & Kevin.

Willem Deyzel and Roy Hitchings have graded many new members on the grading committee which is pleasing to note. Thank you, to Willem & Roy.

S.A.I.M.E.N.A. House in Durban has undergone a mini lay up and I believe Louis Gontier has been responsible for the repairs. Thank you very much, Louis. Another thank you, to Willem and Louis for your assistance in stepping in for the late Dick Jenkin's.

On the educational front Edward Pines continues to promote marine engineering, one of the achievements, is the recognition of the Master CoC and Chief Engineer's CoC certificates of competency with the South Africa National Qualifications Framework (NQF). I believe these two qualifications will now be equal to a Bachelor Honours Degree (NQF) level 8. This should be an incentive to attract more candidates to a seagoing career. Durban University of Technology now has an engine room simulator. I was privileged to attend the opening of the Voith simulator at the Maritime Training Centre in Simon's town. Thank you Edward.

Thank you to Dormac Ship Repair. Our council has made some use of the modern video conferencing facilities, for Council Meetings between Durban & Cape Town.

The membership data base has been improved on, thanks to the I.T. skills of Kevin Watson. Hopefully we can now track the member data base with qualifications and payments in an improved manner. Thank you Kevin.

Ralph Baker continues as Editor of the "Two Ocean's" Journal and I urge members to contribute with any interesting articles. We are always interested in the member's whereabouts, career changes and what is happening in their lives.

Thank you Ralph.

The official Web site continues to be a success and is continually being improved on thanks again, to Kevin Watson. Bill Rice continues to write the Table Talk on a monthly basis, which I find very interesting. Thank you Bill.
S.A.I.M.E.N.A. is now co-operating with other Maritime Professional Organisations such as the "Nautical Institute South African Branch", "The Institute of Chartered Ship Brokers", "The Maritime Law Association of South Africa" and the "Master Mariners Association". I attended an exploratory meeting, where we decided that each organisation would retain their independence, although there were issues of common interest which could be dealt with in a more effective manner, if presented in a coordinated collective manner. We hope to assist and work with the Government with Maritime Policy and hopefully put more ships under the South African Flag, where we can create more jobs for seafarers and solve some of the unemployment problems in this country.
All Maritime Professional Organisations agreed that we should rather be modelling the RSA Flag on successful reputable states like Singapore (for example.)
Going into the future, I believe S.A.I.M.E.N.A. needs to co-operate with E.C.S.A. in the promotion of qualified engineers in South Africa. On the Maritime front we have to continue, by way of co-operation with other professional bodies, advise and co-operate with the government on Maritime Policies and Matters in the field of Marine Engineering and Naval Architecture. We need to revive South Africa as a shipping nation and encourage more shipping companies to employ South Africans; the ship building industry is doing well and hopefully will continue to expand. The ship repair industry continues to experience a shortage of key skills but many yards have started training schools to alleviate the shortage of technician's and artisans.
I am sure Kevin Watson will be a very capable president and I urge you to support him as you have supported me, during my term as president. "
8. Incoming Council
Dick Shaw announced that he will be handing over the Presidency of SAIMENA to Kevin Watson. This brings his two year term to a conclusion.
Dick Shaw announced that nominations for the 2012 Council were called in accordance with Clause 3.6.3 of the Constitution. Ian Armstrong confirmed his willingness to stand on Council.
The nominations were readout and confirmed by the AGM. The full list is attached to these minutes. This was accepted by the AGM with no objections.
9. Incoming President's Address. Kevin Watson delivered his address:

"I would like to thank Dick Shaw, the outgoing President for his outstanding service to this Institute; I believe I have big boots to fill.

There are a few issues I believe that we, as SAIMENA, must engage with, both for the continued growth of the Institute as well as for the marine industry as a whole:

We need to encourage the attracting and active participation of younger members with SAIMENA. This is the only way to ensure the future of the Institute as well as to support the growth imperatives of the country as a whole.

SAIMENA also needs to, I believe, take ownership and participation in the professional development of the industry. We claim through the Aims and Objects of the Institute to want to advance the science and practice of Marine Engineering, Naval Architecture, Ocean Engineering, Shipbuilding and Ship repairing; and to promote the interest of its members and the maintenance of high standards in the professions, by:-

Maintaining and improving the status of the professions, and Co-operating with the educational establishments in the furtherance of education in subjects within the ambit of the Institute, and making suitable comment when necessary on subjects relating to the professions.

I would also like to explore ways in which we can provide more service, feedback and support to our members. Typically by allow the exchange of skills and services between members. We also receive requests from the industry at large for members who can provide a specific service, at present it's very difficult to pass this on to our members as we don't have that information within our database. However to make this work will require participation of all SAIMENA members. We will at all times always preserve the confidentiality of our members.

We must not forget that this is a voluntary Institute and nobody receives compensation for services rendered to this engineering body, that is one of the reasons why we are able to keep our subscriptions so low. We must thank Paul Coxon and Annette especially for aiding us with this; however they are now both stepping down so we will have to make alternative plans to keep the Institute functioning as efficiently in the coming year, as it has been when we had the assistance and support of Annette and Paul.

We know that the SAIMENA fees are amongst the lowest fees of any Institution which is sometimes questioned by other professional people. It is only due to the many volunteers in Council and the two branches that we are able to keep the fees as low as they are. May I take this opportunity in thanking you all sincerely for giving up your valuable time?

Although SAIMENA has the largest membership it has had during the existence of this Institute. I believe the ship owning and management industry in South Africa is at a cross roads. Opportunities for the employment of Marine Engineer's on South African Registered ships have almost diminished, Safmarine which used to be the National Shipping Line have moved the vessel management division to Singapore.

The development of the industry is currently being championed to a large extent by SAMSA, we need to keep pace, make our professional voice heard and take a greater active role in growing the profession.

I look forward to interesting times ahead and call for your support to enable the Institute to flourish. "

10. Appointment of Auditor. Dick Shaw proposed to retain the services of the existing auditors, Harold Levy and Associates, this was accepted by the AGM. There were no objections from the floor.

11. Appointment of Legal Advisors. Dick Shaw to retain the service of SAIMENA's current legal advisors as Webber Wentzel, this was accepted by the AGM. There were no objections from the floor.

12. Other Business.

a. Constitution Amend 2012 . The amendment to the Constitution was put forward by Kevin Watson. The proposal was read out to the AGM.

The proposal for the Student membership was unanimously accepted with no objections. Ian Armstrong had some questions regarding the Marine Partner Affiliates, namely voting rights, use of SAIMENA Logo and meeting participation. The AGM recommended that the details be referred back to council to be resolved. Written submission to be forwarded by Ian and other members for consideration.

b. Honorarium for Annette. Rob Moody proposed from the floor that an honorarium be voted towards Annette for services rendered, with the support of Paul Coxon, to SAIMENA over the years. The Council was tasked to formulate the details and conclude the matter. The proposal was approved by the AGM with no objections.

13. Meeting Closure. Dick Shaw thanked everyone for attending and closed the AGM.

The meeting was to be followed with the Cape Town Branch presentation by Stephen Scott, Regional Sales Manager, International Paint on International Paints and Introduction to Marine Paint Schemes.

Dick Shaw	Kevin Watson
outgoing National President	incoming National President

SAIMENA CONSTITUTION AMENDMENT 2012

The SAIMENA Council has considered two proposals to increase membership and participation in the Institute by providing for the inclusion of:

Student members, and Marine Partner affiliates (companies)

The inclusion of these two new membership categories requires a change to the Constitution.

The proposed wording is enclosed in the pages attached.

The membership fees for these new grades are as follows:

Student	25% of membership fee
Marine Partner Small	5 x membership fee (<5 employees)
Marine Partner Medium	10 x membership fee (6<99 employees)
Marine Partner Large	20 x membership fee (100> employees)

All SAIMENA members are requested to indicate their acceptance of these changes.

After approval, these changes will be included in the SAIMENA Constitution and marked as Amendment 2012.

SAIMENA CONSTITUTION AMENDMENT 2012

The SAIMENA Council has considered two proposals to increase membership and participation in the Institute by providing for the inclusion of:

1. Student

At the time of election a Student shall be a bona fide student being educated at a university, university of technology or other approved institution of tertiary education, with the object of qualifying for the practice of marine engineering or naval architecture.

2. Election of Student

Applications for SAIMENA Student Membership shall be made on the prescribed form and signed by two referees, preferably Corporate members.

SAIMENA.

2.1 Exemption of application requirements

a. The Council may, in exceptional circumstances only, exercise its discretion in waiving the requirements of By-laws as regards the Institution membership of the referees for students.

b. In such case, candidates shall assist the Council by submitting the names of suitable persons, preferably engineers, who can vouch for character, qualifications and experience and with whom the Council may communicate.

SAIMENA Marine Partner Member

1. The most important criterion for admission as a Marine Partner Member is that the company or organisation be part of the marine industry or be a supplier of equipment or services to the marine industry. Subsidiary companies or divisions of major companies may be Members in their own right.

2. Approval of SAIMENA Marine Partner Member.

Applications for SAIMENA Marine Partner Membership shall be made on the prescribed form and signed by an authorised official of the company.

3. Benefits of SAIMENA Marine Partner Membership

Marine Partner Members will be entitled to the following benefits:

a) They will receive notices of all SAIMENA meetings and seminars held in their area.

b) They may send 2 delegates to all SAIMENA organised functions (including those organised by the Branches) at Member rates.

c) They will receive 2 copies of each issue of the Two Oceans Journal and one copy of conference proceedings that are published.

d) A list of Marine Partner Member will be printed on the back cover of the Institution's journal.

4. SAIMENA Marine Partner Membership representation

a) Each Marine Partner Member is entitled to nominate a representative to voice the views of the Company at meetings of the Institution.

b) The nominated representative of Marine Partner Members will be invited to Institution and Branch AGMs with the object of voicing the views of their organisations. SAIMENA Marine Partner Members' representatives will also be invited to discussions of specific subjects in meetings of Council, its committees or Branch committees at the discretion of each chairperson.

I was driving to work one morning when I saw an AA van parked at the side of the road. The driver was sobbing uncontrollably and looked very miserable. I thought to myself "That guy's heading for a breakdown

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SA AGULHAS II

The R1.3bn icebreaker rounds off SA's research investment south of Cape Agulhas.

It was a question of building a new ice-breaker ship for South Africa, or pulling out of Antarctica, where the country has had a base since 1961 as one of the original 12 signatories to the Antarctic Treaty.

"There is nothing wrong with the current SA Agulhas," says Department of Environmental Affairs (DEA) Southern Ocean and Antarctic support assistant director Adriaan Dreyer, "but international regulations demand that ships older than 30 years not cross the sixtieth parallel into the ice there. So Cabinet decided to commission the SA Agulhas II, which will arrive in South Africa in May.

The current Agulhas has just completed her last journey to Marion Island and South Africa's polar research base, Sanae IV.

The SA Agulhas II, built by STX Finland, will be money well spent, though, as it is a faster, more powerful, slightly longer and much wider ship that her predecessor. It also features vastly improved research facilities.

The R1.3-billion ship will bring to an end quite an investment from the South African government in its bases south of Cape Town.

Marion Island is South African soil and for it to remain so the country must keep a presence on the island. However, the South African base on Antarctica is the same as all the countries represented there –merely a research and weather station far from home, perched on an icy continent that does not belong to any country.

While Sanae IV must still brave the freezing weather for quite a few years, South Africa's position in the Antarctic was strengthened with the construction of an emergency base, or E-Base, in 2010, says Dreyer.

The base on Dronning Maud Land's edge serves to reduce the pressure on Sanae IV's long-haul cargo drivers, who must make several trips every summer to lug supplies from the shelf, where the SA Agulhas weighs anchor, to the station, situated on the rocky stability of continental Antarctica, some 300 km inland.

It serves as a depot and a pit stop of sorts, as well as a refuge, should something catastrophic happen to SANAE IV.

The South African base itself is surrounded by the German, Finnish, Swedish, Norwegian and Indian bases, and is responsible for all search-and-rescue functions for these countries.

"This happened because we are in the middle of all the bases, we have helicopters on standby, and the SA Agulhas normally stays there with us," explains Dreyer.

Apart from the Antarctic deep freeze, South Africa also has a research and weather base on Britain's Gough Island.

All of these bases – Gough Island, Marion Island and Sanae IV – will be serviced by the SA Agulhas II.

Iron Lady

The present SA Agulhas was commissioned in 1978 and was built by the Mitsubishi shipyard, in Japan, says Arcon Management Services SA Agulhas II project manager and DEA consultant **Alan Robertson**.

"She was built to replace the RSA, the very first polar supply vessel built to service the South African base on the Antarctic mainland.

The current SA Agulhas was built as a so-called ice-strengthened cargo ship with capacity for 98 passengers and 44 crew members.

"It is well equipped with cargo and helicopter facilities and has been a very successful supply vessel. It does, however, lack the power required to deal with heavy pack ice and often experiences difficulty in reaching the ice shelf, although I must point out that this is not uncommon among many polar vessels," says Robertson. "In addition, the research facilities on board the SA Agulhas are extremely limited for modern oceanographic research."

While the 34-year-old ship has been well maintained, to sustain the ship as a polar vessel is becoming increasingly costly, he notes.

"Reliability in this very hostile environment was also a factor in the replacement rationale. In addition, there are advantages to being able to widen the summer window, through the use of a reliable, capable vessel to create more time for oceanographic and other research programmes in the summer season.

An important objective for the new ship is to rebuild South Africa's deep-water oceanographic skills."

The SA Agulhas II has been designed to deal with heavier ice conditions than her predecessor, being capable of navigating one-meter-thick pack ice at a speed of five knots.

The hull has been significantly strengthened and the propulsion power has been more than doubled.

There are also greatly improved cargo- handling facilities and the eight permanent and six container laboratories will serve a wide range of research disciplines.

Icebreakers are not cheap, though. Robertson says they are "vastly" more expensive than other ships of similar size.

"The main cost drivers in icebreakers are the huge power requirements and the greatly increased structural strength of the hull."

The hull of a standard icebreaker is not finely shaped like a normal ship's, but has a more rounded, flat structure. (Dreyer says one can flip the ship over and play rugby on its hull.) Fine hull lines help a conventional ships to slice through the waves, reducing friction between ship and water. The rounded bow shape and hull form of an icebreaker may be less efficient in open water, but does allow the ship to break a path into the ice, using its mass to come down on the ice sheet, crushing the white mass.

The smooth hull then helps to push the ice out of the ship's way, preventing it from causing damage to the vessel. As the ship moves forward, the ice moves aside, creating a clear path for other ships, should any be following.

Breaking ice requires enormous amounts of power and to build commercial vessels capable of breaking thick ice during the course of their normal trading routes is simply uneconomical, "thus the need for special ships to break ice for them", notes Robertson.

For the SA Agulhas II, a detailed operating profile was compiled prior to the issuing of the tender in 2009.

"While the ship will spend less than 10% of its time navigating in ice," says Robertson, "hull strength and power are much like a parachute – usage may be low, but when you need it, you need a full parachute!"

Not Just Any Old Ship

The SA Agulhas has certainly had its glory days, says Robertson.

In 2002, she was sent to rescue personnel from the supply vessel Magdelena Oldendorf, beset in the ice after mechanical failures. This happened in June, with the winter ice rapidly forming.

However, the SA Agulhas was able to navigate to within 200 km of the stricken vessel, where the supply vessel crew were evacuated by South African Air Force helicopters deployed from the SA Agulhas. A skeleton crew remained on board the stricken ship over the winter months.

The following year, SA Agulhas was deployed to assist the Australian Fisheries Authorities in apprehending a fishing vessel that had been fishing illegally in Australian waters.

In 2006, the South African vessel rescued three of the four-man crew from the yacht Cowrey Dancer and carried out the subsequent search for the missing person.

Full House

The SA Agulhas II will carry a crew of 44, made up of a number of navigating, electrical, engineering and catering personnel.

On board will be a master and three navigating officers, a chief engineer and three engineer officers, three electrical/electronics officers and a purser, who is responsible for the catering staff and passenger management.

There will also be a number of able seamen and engineering assistants on board, as well as four cadet officers.

The ship is classed as a passenger ship and all crew possess commercial qualifications as specified in the South African Merchant Shipping Act.

All crew are South African citizens and have been trained in the various maritime academies in South Africa. Officer qualifications comprise a wide range of academic subjects and practical sea time served on commercial vessels.

The SA Agulhas II can carry up to 100 passengers, comprising overwintering teams, base maintenance personnel, helicopter crews and scientists.

Robertson expects the ship to provide a minimum of 30 years' service to South Africa.

During these three decades, it will spend around 180 days a year on the water providing logistical support for the three South African bases, with another 120 days dedicated to research voyages.

Different In Many Ways

The SA Agulhas II is not only an icebreaker. It is also a multipurpose logistical support and research vessel.

Engineering design started in January 2010.

The first steel for the ship was cut in September 2010, with keel laying in January 2011, and the ship functionally completed in January this year.

Sea and acceptance trials started on February 28, with full-scale ice trials scheduled to kick off on March 16.

Ownership will be transferred to the South African government on April 4, with the SA Agulhas II leaving Finland on April 5. Arrival in Cape Town is expected on May 3.

Being the first of its class to be built under the SOLAS 2009 Passenger Ship Rules, there are a number of unique aspects to its design, notes Robertson.

The first is the Safe Return to Port Rules, which require a ship to be able to navigate for a distance of 1 000 nautical miles into strong headwind and swell conditions at a speed of six knots on one engine room.

This has resulted in large-scale redundancy being built into the ship's systems, says Robertson.

The second challenge was for the ship to carry low flash-point liquids as cargo, a practice generally forbidden on passenger ships. These liquids include polar diesel (500 m3), Jet A1 helicopter fuel (100 m3) and premix petrol.

The ship also has the ability to pump polar diesel to the Antarctic ice shelf or ashore at the two island bases.

Propulsion on the SA Agulhas II is diesel electric, using two 4 500 kW Converteam motors, powered by up to four Wärtsilä 3 000 kW diesel generators. There are two propeller shafts, each driving a 4 500-mm- diameter variable pitch propeller. The ship also has two bow thrusters and one stern thruster.

The SA Agulhas II also features a helicopter hangar for the stowage and servicing of two Oryx/Puma-class helicopters.

On board there will also be two fast rescue craft, used to stand by during helicopter operations, as well as two enclosed 75-person life boats.

The SA Agulhas II also has a large 35 t crane on the foredeck to load and discharge heavy lifts onto the ice shelf, and three general- purpose 10 t cranes for general cargo work.

On board is a fully integrated navigation system, including dynamic positioning, as well as an Ice Radar, V SAT satellite communications system for data transfer, email and Internet access.

The ship also boasts lounges for the passengers and crew, a business centre, a library, a 100-person auditorium and two gymnasia.

Research facilities include eight permanent laboratories and six container laboratories, a range of scientific winches and davits for the deployment of a wide range of samplers, facilities for vertical water column sampling and coring to 5 000 m, a moon pool for sampling in the pack ice, a drop keel to house various acoustic transducers, and a deep-water sub -bottom profiler and automatic weather station.

Besides all these facilities, functions and capabilities, the SA Agulhas II is 134 m long, 22 m wide, and has a displacement of 13 687 t. It has a range of 15 000 nautical miles at 14 knots.

And for those shipping boffins out there, the SA Agulhas II carries the following official notation: DNV + 1A1 Passenger Ship, Ice class IACS PC5 (ICE-10 for Hull), WINTERISED BASIC, DAT (-35), EO, RP, HELDK-SHF, CLEAN DESIGN, COMF V(2)/C(2), NAUT-AW, TMON, BIS, DYNPOS-AUT, DE-ICE, LFL.

By:
Irma Venter
Creamer Media Reporter

OBITUARY

We regret to advise the passing of Mr Donald Fredrick Utley at his UK home on the 25th May 2012 at the age of 81. Don was a Technical Manager with Safmarine and a founder member of SAIMENA.

For more information please contact Mr Bill McCarthy.

Some Thoughts on the Economics of Dry Docks by Keith Mackie

ABSTRACT Although of a crude nature, a number of "rules of thumb" characterise the economics of dry docks quite reliably. These economics are dominated by the pattern of ownership of the dock. Almost inevitably, either a dry docking facility is owned by a ship repairer who will have exclusive use of the dock or it is owned by the public sector and run as a common user facility.

The economics of these two systems are quite different. The failure to understand these basics can cripple a proposal for a dry docking facility.

PREAMBLE The following comments are a distillation of forty years of experience with dry docks and the technology of dry docks. As such they are pragmatic and much of the basis has been developed as part of feasibility studies or the development of actual projects. Some aspects have been included in refereed papers and are hence persuasive but a word of caution: these comments have not yet been formally examined in a scientific way. The most significant aspect I foresee comes from the relatively simplistic presentation given here. In practice there may well be a great deal of variation from individual case to individual case.

ECONOMIC BASIS OF DRY DOCKING The economics of dry docks are somewhat peculiar. As a rule of thumb, ship owners will accept a docking fee that does not exceed 10% of the overall cost of the work done during the docking without complaining. Generally, ships are mobile and they will begin to think of going to other ports if the charges rise too high. Where the site is relatively isolated, the dock can get away with somewhat higher charges before resistance sets in. Docking charges at this 10% level are generally sufficient to cover operating costs and running maintenance. But it is completely inadequate to cover the amortization of the capital cost. Again, as a rule, dock costs are scale dependent i.e. both the capital cost and the operating and maintenance costs, expressed as cost per ton of capacity, are least for large docks and greatest for small docks.

Ship repairers can afford to acquire their own docks. If they own the dock, they not only control their business, they control the whole of the monies spent on ship repair during docking and the profit on these monies. They can afford to plough back a significant portion of their profit in amortising the dock. Not only does the money stay in the business as capital asset, the tax benefits of the write-off of this investment create a gearing effect that increases the apparent amount of money invested. This does mean that the valuation of a ship repair company, owning its own dry dock, is characterised by a very large single asset.

Alternatively a dry dock facility can be a "common user facility" by which is meant a facility where anyone, boat owner, ship repairer or agent etc., can bring a ship to dock; where anyone, the owner himself or any ship repairer or contractor duly appointed can work on the vessel.

If a dry dock is unencumbered by any capital cost and is endowed to some extent to assist with occasional major maintenance costs, then it can operate as a viable but not very profitable common user facility. This unlikely scenario could perhaps occur where a military dock, no longer needed, is donated to a community or to a training facility teaching ship repair and dry dock operation.

To any fleet whether it be shipping, fishing, undersea mining, oil exploration or any other function and the community it supports, a dry dock, however it is owned, is a major communal asset. Not only does it make possible the economic activity of the fleet that sustains the community – ships cannot continue to operate without the back up of dry docks and ship repair – it also provides ship repair as an added source of employment for the community.

Even if there is only one dry dock in a port and it is owned by the local ship repairer, unless the port is remote from any other ports with docking facilities, it will not constitute a monopoly with respect to shipping. However, with respect to employment in the dock and to the local community, it will.

The public sector, whether it be local, regional or national, if it benefits from the tax revenues that flow from shipping and the associated ship repair, has a duty to ensure that dry docking facilities are available as communal assets. In some cases, the ship repairer industry will be able to provide such facilities. Where this is possible, the public sector will be well advised to avoid becoming involved in the ownership of dry docks. Instead, so far as possible, they should co-operate with the ship repairers and assist them in acquiring their facilities. However, they must also ensure that there are a number of ship repairers each with their own dry dock facilities to avoid a monopoly situation.

If the ship repairers do not provide the facilities, then it is up to the public sector to do so in the interests of the community.

The total annual tax revenues, both direct and indirect, generated from shipping and ship repair activities will far exceed the net annual liabilities of the dry docking facility – total annual costs, capital amortisation, major maintenance and capital improvements, running maintenance and operating costs less income from docking charges.

A warning, however: the provision of a publicly owned common user dry dock leads to "riding a tiger". Once a dock becomes a common user facility, it is difficult to revert to ship repairer ownership. The business models of the community, the fleet and particularly the ship repairers become completely oriented to this common user access to the facility of the dock. The sale of a public dock to a single ship repairer will lead to a catastrophic disruption of the local business environment. The economics of dry docks mean that the new owner has no option but to run it for his exclusive use. If it is the only dock in a port or a region, ship repair using that dock becomes a monopoly. The community and the fleet can only do business with the owner and the other ship repairers can only remain in business if they can find employment as sub-contractors to the owner.

The provision of competent management and operating staff is another problem for public docks. The shipping industry in general, ship repair in particular – at an artisan level, shipwrights – are well able to adapt to this function but it does not lend itself to general administrative, commercial or non-maritime industrial capabilities. Hence, one finds that public docks are commonly operated by port authorities.

Two interesting case studies are the South African Commercial Ports and the South African Fishing Harbours.

South Africa has more dry docking capacity than any other Southern Hemisphere nation – almost as much as the rest put together. The large facilities in the commercial ports were all built between 1880 and 1945 at the behest of the Royal Navy as military facilities and were joint ventures between them and the South African government. The assets and the operation were placed with the port authorities. At the time, they operated as a service entity. The economics of dry docks did not enter the picture. The facilities were well run and maintained and charges were reasonable. Since then the port authority has been restructured and run as a commercial entity. Now the economics of the dry docks are relevant. Charges have increased, service and maintenance have decreased, and the Port Authority has not entertained any expansion of dry docking facilities. Currently they are looking for ways to privatise the facilities.

Despite a major feasibility study, they have been unsuccessful to date.

The South African pelagic fishery came into existence explosively in the aftermath of WWII. Starting with relatively small purse-seiners with a relatively small range, the industry based itself at small harbours spread along the coast at, what at that time were remote, undeveloped sites.

The capital requirements meant that the participants were large companies able to construct fish processing factories at these sites and, initially, to construct minimal harbour facilities including slipways to service the boats. In the mid 1960's the state stepped in to build proper small harbours at these sites including much more sophisticated slipways – a process that evolved the "Cape" type slipway. Once these common user facilities became available, the fishing companies allowed their own facilities to degenerate and soon abandoned them. The only private slipway still operating is owned by a ship repairer.

Given the comments above, there is no easy way to dispose of a public dock, even if there is a compelling reason to do so. Where, to avoid this, the asset is transferred to the port authority, more problems arise. The apparent value will inflate their asset register but, since the object is to provide a common user facility, there will be no concomitant return on investment and this in turn will reflect on the authority's balance sheet.

The only practical way around this is to keep all the financials, asset, costs and incomes in the public domain and acquire the use of the site by purchase or rent as appropriate. Operation and management of the docks and provision of technical guidance on major maintenance or capital improvements can be provided on a contract basis with the port authority or any other competent entity. If, however, the scope and number of dry docking facilities justifies it, a dedicated, competent public institution can be established to handle all these functions and still provide dry docking on a common user basis.

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TUG CAPSIZES AFTER DRY DOCK SINKS AT SHIPYARD

The Coast Guard and Washington State Department of Ecology are responding to a potential environmental hazard following the sinking of a 200 ft dry dock at the Vigor Marine Shipyard in Everett, Wash., Sunday. The 140-foot tug Crowley tug INVADER was in the dock. The sinking caused it to capsize with an estimated 50,000-60,000 gallons of diesel on board, says the Coast Guard. There is also paint, scissor lifts, and a propane fork lift on the dry dock.

The dry dock began sinking on Saturday evening and stopped at approximately 12 p.m., Sunday, after making contact with the bottom. Both the drydock and the Invader are partially submerged, with the Invader capsized on its starboard side. The cause for the sinking has not been determined.

The owner of the Invader has confirmed that an estimated 50,000-60,000 gallons of diesel is contained in the vessel's fuel tanks. Boom has been deployed around the perimeter of the dry dock and the tug to prevent the spreading of any potential leakage. A light sheen has been observed due to residual sources. A salvage company is on scene and has been conducting an assessment dive and plugging the tug's vents. The Coast Guard and the Department of Ecology will continue to monitor the salvage operation to ensure it is conducted safely and with minimal impact on the marine environment.

Source: Marine Log

OBITUARY

We regret to advise that our most senior member Admiral H.H. Biermann passed away peacefully on Tuesday night 27 March 2012. We extend our sincerest sympathy to Hugo and Elizabeth and Diane (Dixie) and Kotie and their families as well as his brother and fellow member Philip.

The military funeral was be held at Christ Church in Constantia on the 10th of April 2012 It was a military funeral and medals were worn.

Whilst there is no doubt that all members of NOASA are aware of Admiral Biermann's history, it is appropriate to sum up his amazing career as we remember him:

Born in Johannesburg on 6 August 1916, his long association with the sea began in 1932 when he joined the SATS General Botha. He then served in the merchant navy from the end of 1933 until 1938 when he was appointed Sub Lieutenant in the RNVR South Africa and joined the SA Railways and Harbours.

In January 1940 he was called up for fulltime service and transferred to the Seaward Defence Force. Promoted Lt in mid 1941 he commanded HMSA Ships Imhojf, Roodepoort and Aristea before being promoted Lt Cdr in command of HMSAS Gamtoos in the Med and made his name clearing Marseilles and other important harbours.

The establishment of the SA Navy (PF) in 1946 was the start of a new era and meteoric rise for him with command of HMSAS Barbrake in 1948 followed by two years in Pretoria. In 1952 he was appointed Naval Adviser in London and completed the Naval and then the Joint Services Staff Courses, and promoted Cdr.

In December 1952 he returned to South Africa and was promoted Commodore in the post of Naval (and Marine) Chief of Staff. He later held the post (sans Marine) as a Rear Admiral. In December 1965 the post was changed to Chief of the Navy and he was promoted Vice Admiral, also serving as Commander Maritime Defence.

On the 1st April 1972 he was promoted Admiral, the first (and still the only) in the history of South Africa in the post of 'Commandant Genera!', (luckily for him to later be amended to Chief of the Defence Force'.) and on 31 August 1976 he finally retired from the SADF .

He will long be remembered as the father of the Navy we know today.