SIX MONTHLY REVIEW
We commemorate service to the Admiralty Court

MAINTENANCE
The task of keeping the light vessels in service

TRINITY HOUSE, LONDON
Keeping up appearances of a Grade 1 listed building
A S I W RITE WE ARE MIDWAY through our 300th anniversary year. There are still a number of events to come in this year of celebration and commemoration as we mark the granting of our Charter by Henry VIII in 1514. I am pleased that so many of you will be participating in this special year. In April HRH The Princess Royal, Master of the Corporation, officially opened the new community hub at Mariners Park in Wallasey. The building and facilities there represent one of the biggest grants made by the Corporation to a seafarers’ charity. I know this haven on the Wirral will be regarded as a fine example of charity by seafarers for seafarers.

Later that same month the Master visited the National Maritime Museum in Greenwich to open ‘Guiding Lights’ the museum’s excellent exhibition about our 500 years of serving the mariner. This free exhibition runs until 2016 and if you have the opportunity you should visit it.

In this edition of FLASH you will see much on progress in various branches of the Service, particularly the engineering disciplines involved in Casquets and Nab lighthouses, the Planning Centre at Harwich, and there is an article about how our lightvessel fleet is maintained.

In refurbishing and modernisation offshore lighthouses built many years ago the task is frequently complicated by the weather as well as by difficulties in access and delivery of materials. These contracts have been achieved in the face of extreme weather.

In the Planning Centre we have undertaken a redesign and reorganisation to meet the challenges of the upcoming years. From our Harwich base we now mentor the aids to navigation provided by our sister authorities, Commissioners of Irish Lights and the Northern Lighthouse Board, out of hours.

The sound maintenance of our lightvessel fleet by our current staff, and their predecessors, means we benefit from great longevity of our lightvessel hulls; 50 years is certainly not unique.

Our activities as a General Lighthouse Authority continue to be recorded with material in FLASH by the RINNAV experts who, by the time you read this, will have returned from the IALA Conference in A Coruña, Spain with other members of the Trinity House team and where the worldwide membership from more than 80 states will have been briefed on a full range of Trinity House activities.

As I write there are a number of other events anticipated eagerly in the months ahead, not least of which is a banquet in London’s Guildhall. We also have planned events to raise funds for the Corporate charity, including absols, endurance cycling and dragon boat racing.

To celebrate further Neil Jones, the Records Manager, has produced a fine 60-page A4 publication which is certified from FSC mixed sources – ideal when an environmentally friendly paper is required. Pulp is bleached using mainly a Totally Chlorine Free (TCF) process.

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There is no doubt that the past winter was extreme and yet sufficient solar power was found to keep all stations illuminated. However, there were a number of weather-related incidents over December to January. In particular two light vessels and four buoys were found more than 100 metres off station and were soon restored. There were a number of other significant casualties including loss of tomarken, all of which were eventually rectified.

In recognition of its 500 years’ service to the Admiralty Court, the Corporation has been presented with a replica of the Admiralty Oak Mace. The presentation took place at the Admiralty Court in the Royal Courts of Justice, 12th February and was attended by the Deputy Master and Elder Brethren.

On 4th April HRH The Master opened the magnificent multi-million pound state-of-the-art new welfare facilities for former seafarers at Nautilus International’s Mariners’ Park Estate, Wallasey on Merseyside.

Captain Ian McNaught, commented, “Through out our 500 years we have had at the core of our organisation the principle of serving the manner; past present and future. These new facilities are excellent and I am extremely pleased we have been able to contribute over £1m to provide them. They are a great legacy and will provide former mariners and their dependants with comfortable communal spaces that contribute to the feeling of community here for a long time.” Nautilus General Secretary, Mark Dickinson added, “I believe that this building will provide a suitable commemoration for this anniversary for many decades to come.”

On 20th May we celebrated the 500th anniversary of the granting of the Charter by Henry VII in 1514. There was an informal service of thanksgiving in the Corporation’s church, St Olave’s, at 1100 at which the Preacher was the Rector, Rev Oliver Ross. A reception followed at Trinity House during which Mrs Susan McNaught, wife of the Deputy Master christened our new Thames Waterman Cutter Trinitytide.

AT THE NATIONAL MARITIME MUSEUM GREENWICH on 15th April HRH The Master, accompanied by Vice-Admiral Sir Tim Laurence, opened a small exhibition, entitled Guiding Lights, introducing the work of the Corporation of Trinity House to coincide with the quincentenary and in which 70 rarely seen objects from the Museum’s collection and our own are on display.

The previous day the Royal Mint announced that to mark this milestone it had produced a limited edition commemorative Trinity House-themed £2 coin in striking silver and 22 carat gold. This carries a striking lighthouse design by Joe Whitlock Blundell and David Eccles. The design also appears on the circulating version of the £2 coin which you will doubtless find in your loose change from October. Each coin is edged in sterling silver and 22 carat gold. This carries a striking lighthouse design by Joe Whitlock Blundell and David Eccles. The design also appears on the circulating version of the £2 coin which you will doubtless find in your loose change from October. Each coin is edged in sterling silver and 22 carat gold.

SATURDAY 17TH MAY saw Trinity House open from 1000 to 1500 when interested visitors were able to wander at their leisure and receive information from expert guides stationed throughout the building. Said Edgar King, Events Manager, “More than 500 visitors joined us and we found that many were relatives of, or knew of, people who worked for Trinity House and included one young man who has worked in Trinity’s Galata for six months. A very good day! “Enthusiasts unable to visit on this day can schedule a visit from 1000 to 1500 on Saturday 20th September, as part of the Open House London promotion created by Open-City (www.open-city.org.uk).

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HRH The Master Presided at a grand quincentenary Trinitytide Dinner held in the City of London’s historic Guildhall on 11th June and attended by the Fraternity. 450 guests from across the international and national maritime communities as well as our own Service, the City of London and City Livery Companies. The evening opened with a walking of the Retreat by the Band of HMY Royal Marines and was followed by a reception, then dinner.

The quincentenary was held at Trinity House on 12th June when HRH The Princess Royal was re-elected Master of the Corporation for the ensuing year.

Captain Ian McNaught was re-elected Deputy Master. Mr Simon Sherard was elected Rental Warden and Captain Nigel Palmer was elected Nether Warden. At conclusion of the Court HRH The Master with the Elder and Younger Brethren proceeded to St Olave’s Church, Hart Street, for the Annual Trinitytide Service where the preacher was the Rt Rev and Rt Hon Rowan Williams, former Archbishop of Canterbury.
Nab Tower Engineering Works 2013 – 2014

NAB TOWER IS AN IMPORTANT PHYSICAL AID TO NAVIGATION and the turning point for all major shipping entering the Solent, this includes super tankers heading for Fawley refinery and huge cruise liners bound for Southampton. Nab tower is located in the eastern approaches to the Solent (50°40’05”N 00°57’07”W), built for the Admiralty in Shoreham from hollow concrete sections and steel in 1918 as a gun emplacement but it was never used in anger.

The structure was made redundant due to the end of the First World War and was floated out into position in 1920 to replace the Nab lightship. The structure was made redundant due to the end of the First World War and was floated out into position in 1920 to replace the Nab lightship. The structure was made redundant due to the end of the First World War and was floated out into position in 1920 to replace the Nab lightship.

The tower was automated with keepers withdrawn in 1983 and converted from diesel to solar power in 1995. The refurbished Nab Tower will exhibit an all-round 12 nautical mile white light at 16 metres above LAT with racon and a two mile range fog signal.

Over recent years Nab Tower has deteriorated rapidly with the external steel structure corroding beyond economic repair and becoming a hazard to staff entering it for maintenance.

After looking at many options which included a new monopile structure, a Type 1 buoy and a lightvessel, the business case and the navigational requirements firmly pointed to a major refurbishment of the existing structure. The remodelled tower has a design life of 50 years during which time no significant expenditure is expected on the structure itself though the aid to navigation will require updating and new batteries during this time.

The tower was constructed on a concrete honeycomb structure with three circular rings forming the main tower. The inner ring was the steel ammunition riser and 8 feet in diameter, the middle ring also in steel at 30 feet diameter and the outer section a mixture of steel and concrete forming the structure that remained up to 2013.

The very outer 55 foot diameter section was timber clad on a steel frame but the sea took its toll on the timbers and replacing them as they were washed away was an impossible task.

Final design solution for the refurbishment was developed with Trinity House Engineers and Civil Engineering Consultants Scott-Wilson and consisted of reducing the overall height of the structure from 23.5 metres to 11.5 metres and the removal of the rusted outer steel framework and cladding. This would be finished with a new concrete cap to take the new aid to navigation and a sprayed concrete gunite protective layer to the outer wall.

After a comprehensive tender exercise and analysis of the best value solution, the contract for these works was given to BAM Nuttall.

Work commenced in the spring of 2013 with preparatory works, however, a peregrine falcon was found to be using Nab as a hunting ground and possibly nesting there so works were suspended until after the breeding season. Peregrines are a protected species and it is illegal to disturb them without a licence and by the time this was ascertained we had missed much of the good weather so the main works were deferred until the spring of 2013.

In April 2013, THV Galatea skillfully loaded all the required equipment onto Nab, this included the tower crane which was to be essential for the refurbishment works plus compressors, generators, cement mixers and in effect a whole mini building site onto the Nab. Over the summer, the concrete frame which was some 400mm thick was nibbled away and removed piece by piece for recycling ashore. Also the outer steel frame and cladding was removed and the concrete structure prepared ready for the gunite spray.

A comprehensive waste management plan was drawn up to ensure that all possible materials removed from the tower would be reused or recycled rather than sent to landfill.

The summer of 2013 proved to be very challenging in terms of weather. Wave height restricted our access to the tower from the launch and once on board, the tower crane had restrictions on wind strength in which it could operate. In spite of reviewing the past two years’ weather and wave height data to assess the number of useful days work we could expect over the summer, the number of days that the tower was inaccessible was more than expected so the works had to be rescheduled to be completed in 2014.

By the end of November 2013, the tower was at its new height and diameter but awaiting the pouring of the new cap and spraying of the gunite to protect the outer shell. There are also some outstanding minor works to the lower deck and landing. The new aid to navigation has been redesigned and rebuilt and placed on soak test in Swansea Buoy Yard awaiting being craned back into position by THV Galatea, a task planned for July 2014.
Casquets Lighthouse Modernisation

Casquets, along with Bishop Rock Lighthouse, is a major landfall light for shipping heading up the English Channel. Located on the Les Casquets rock 11.3 km west of Alderney in the Channel Islands the station has just completed a major modernisation and has “gone green”. A two year project run by Steve Keddie, Programme Manager at Trinity House’s Engineering Department in Harwich, has been completed resulting in the elimination of the use of fossil fuels used in delivering the aids to navigation and reducing the number of planned maintenance visits.

This project was completed to a high standard and with particular attention to the management of the work on site as is required on such a remote location. Attention to detail on Safety Management paid off with zero accidents throughout the installation works, a credit to all involved.

Reducing Casquets’ environmental impact

The near 300 year old (built 1724) lighthouse was modernised in 1990. The navigation equipment was powered by continuously running diesel alternators which used approximately £7000 of diesel every year.

Due to the advancements in renewable technologies the station is now powered purely by solar panels and wind turbine power generation.

Engineering aspects

The Project Brief required the design team to produce a reliable aid to navigation with a low maintenance commitment and zero carbon footprint with a life in excess of 20 years. After a thorough analysis of options and many design reviews by the Engineering Team at Harwich, the agreed plans incorporated the following aspects:

- The main navigation light uses a new six-sided LED light array from the R&RN Av Department, this is fitted in the existing rotating optic.
- An external LED lantern of the same range as the main navigation light as a backup if required.
- A PLC (programmable logic controller) to control and monitor the station’s performance.
- This reduced installation costs and time.
- 22 x 180 Watt solar Photo Voltaic panels. These are larger than the previous service standard and reduced the footprint of the solar array.
- Provision for a monitoring system for the solar array to determine any faulty panel prior to visiting the station.
- A bank of gel lead-acid batteries to power the station, these are sealed and have significantly reduced maintenance requirements.
- A stand-alone battery bank to power domestic services through an inverter when staff are on station; this eliminates the need for a diesel power supply and is supplied by the wind turbine.

Modemising the equipment

Moderation of the equipment

The diesel engines and associated controls and aids to navigation were installed during the station automation in 1990 and were becoming obsolete and expensive to maintain. The modernisation programme replaced the majority of this equipment and ensures that reliable systems are in place to reduce the risk of station failure. This will maintain Casquets as a major aid to navigation for the next 20 years.

In line with navigational requirements the station light changed from 24 nautical miles range to 18NM. This was achieved using new technology LED lanterns for both the main and standby light sources. The station also changed from 24hr operation to night time only. The new technology benefits from lower power requirements and significantly higher mean time between failure rates. This relays the additional benefit of reducing the number of planned maintenance visits each year.

Restoring safe and cost effective access

During the time that the station was manned, the boat landings which are made from the island’s bedrock and concrete were constantly maintained by the lighthouse keepers to give safe access to the island by boat. However, now that the station is attended infrequently these landings are wave washed and a build-up of slippery algae means that the landing has become difficult to use. The modernisation provided a new landing made from stainless steel and extra-gritty waffle board providing access to the island by boat though it is likely that the first choice of access will be by helicopter due to the prevailing sea state conditions.

Power supplies

The main source of power for the station is now an array of solar PV panels generating up to 6 kW of power on a sunny summer day with a battery storage capacity of 4,000 Ampere hours. This is supported by a 2.5 kW wind turbine making free use of the wind for winter months.

The combined generation will power all the aids to navigation and building conditioning and has the capacity to provide for domestic services when staff are on station for maintenance. The power generated is stored in new type sealed gel batteries which reduce the need for mainte-

nance visits.

Control and automation

The station is completely automated with control and monitoring managed by a PLC. This monitors all selected parameters such as battery voltage, power being generated, and status of the aids to navigation as well as allowing the station to be remotely controlled from the Planning Centre in Harwich.

The project was formally signed off and handed back to the Lighthouse Manager Warren Clarke by Commodore Jim Scorer, Director of Operations in January 2014. Calm now returns to Les Casquets rock as the new aids to navigation continue to quietly offer safe passage to shipping as it has done for the last three centuries.
Ten years on we found ourselves again looking to the future as the project to relocate OPC to a new purpose-designed, ergonomically designed monitoring and planning office space within the Harwich building moved forward.

With the expansion of IT in 2011, it quickly became apparent that there were ergonomic issues. These were tackled alongside a study into the operating and staffing patterns of OPC. The latter through the use of internal skills to review OPC whilst the ergonomic issue was passed to external specialists, CCD.

More to monitor
A working group consisting of management, OPC and IT staff worked alongside the ergonomic experts to examine options for office layout, other requirements, ergonomics, and desk layout to maximise interaction of staff and expand operations capability. This first phase concluded that the current OPC space was no longer fit for purpose.

The second phase consisted of looking at alternative OPC locations within the Harwich office building and designing a floor/desk layout and technical monitoring function. The overall design brief was to provide an operations, monitoring and planning function for the main OPC duty officer together with video wall, CCTV, access control and various communication systems. This offers an ultra-fast digital video and audio switching, and lossless HD multi-room signal distribution, for all types of AV sources with up to 32 output destinations.

In our installation, the input sources come from multiple monitoring systems (for our service, NLB and CIL), digital TV feeds, digital signage solutions, local inputs from planning PCs and CCTV feeds.

From technology to furniture experts
The next step was to source a suitable manufacturer with which to work on the design of all of the OPC furniture including the showpiece monitoring desk which had the requirement to ergonomically provide monitoring of up to 14 local screens. Learning from lessons of previous projects we were aware that extremely close interaction between IT, the AV contractors, furniture manufacturers, builders and electrical consultants was required. This led us to appoint Avenue as the preferred furniture supplier due to their track record of working with proAV. They would work in close liaison with Abacus and the M&E contractor, Bowling & Garrard.

Alongside this, a bespoke designed desk for the duty officer would house numerous monitoring screens in an ergonomic manner whilst still allowing full interaction within the office and video wall. Adjacent to the main room, a planning room is located which will have multiple functionality including planning space for OPC, a holding area for visitor tours, an emergency room for dealing with incidents and a general planning/meeting room for the use of all other departments.

Two separate competitive tender processes commenced in August 2013, one overseen by architects to appoint a main construction contractor and another run by IT in order to engage IT AV experts. Detailed specifications were drafted and agreed. Abacus Built was awarded the construction contract following their successful involvement in previous projects within our buildings at Harwich and experienced specialists proAV won the AV contract.

During December 2013, the IT team worked closely with proAV to develop the detailed design which consisted of a digital AV solution built around a Digital Media Switcher. This offers ultra-fast digital video and audio switching, and lossless HD multi-room signal distribution, for all types of AV sources with up to 32 input sources and 32 output destinations.

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Planning the transition
During January 2014, with furniture being manufactured, work continued apace in the new OPC suite with many trades working together in order to ensure that the level of electrical continuity was maintained. For example, power to the department is guaranteed via UPS and generator during a power failure to the building, significant electrical work was required. Alongside this solutions to re-route CCTV, Access Control and various communications cabling had to be planned and arranged in order to provide a smooth transition to the existing services.

As with all projects such as this no element could be overlooked. This included numerals of days spent reconsidering our service, NLB and CIL, digital TV feeds, digital signage solutions, local inputs from planning PCs and CCTV feeds.

In conclusion
All went well, exactly as planned with completion of the building work, installation of IT and AV components, trains, prayers, and more prayers and the new OPC, now named Planning Centre, was inspected by the Deputy Master and members of the Court when they met in Harwich on 13th May. As I write all is proceeding to order ready for the official opening by HRH The Master on 25th June.
TRINITY HOUSE USES LIGHTVESSELS to mark the boundaries of major traffic areas and significant hazards in the very busy shipping lanes of the English Channel, the southern North Sea and other isolated locations. The fleet of ten lightvessels and two smaller light floats represents a unique convergence of 1950s shipbuilding technology and present day electronics and lighting systems. The oldest lightvessel in service, LV02, was built at Philip and Sons Dartmouth in 1946. The vessels were originally manned and have evolved through several fully automated unmanned solutions, from diesel power systems to solar. We are now on our first major revision of the solar powered system having moved from lead acid batteries to gel batteries with an intelligent charging system which greatly enhances the battery life and hence reliability of the station.

The major step changes in the power source and its management are but the summet of improvements made to the vessels over the last 20 years; always aiming toward greater efficiency, autonomy and time on station. The following outlines some of the changes made and the overall effect.

**Removal of redundant structures.**

Masts, flight decks, covered side passages, davits, to name but a few. All these items were originally retained for good operational reasons and removed during the late ‘90s and early 2000s. This resulted in an approximate 10% reduction in area to be coated including the very costly flight deck coating system. Along with these removals the costs of associated mechanical overhauls, net stay and stanchion maintenance were all reduced or removed.

**Changes in paint systems.**

When first automated the vessels were coated underwater with a hot applied bituminous enamel and above waterline with a chlorinated rubber system. This achieved an on station life of approximately four years before the effects of corrosion and, particularly, fading of the superstructures dictated the vessel required repainting.

Systems were changed to more durable two pack coatings during the 1990s and have been revised over the intervening years to take advantage of improvements to anticorrosive systems, both above and below waterline, and better gloss retention for topsides and lower coatings.

An on station period of ten years has now been proven viable, creating very significant savings over the original four year period. We have three vessels that have completed their first ten year tour with no ill effects. The most striking difference the bystander would recognise is the change in colour from the traditional Post Office red or cherry red to the IALA standard “Pure Red”, a very bright colour giving much enhanced conspicuity of the vessel in comparison with the traditional colour.

**Subtle Changes.**

Through analysis of the most common defects on the fabric of the vessels, we determined that there were a number of areas giving constant cause for unscheduled visits to the vessels and others that tended to increase the dependence of the vessels on the Support Vessel Service (SVS) fleet of tending. As a result particular attention has been given to weather Tight closures, all doors and access hatches now have stainless steel compression faces, holdbacks, dogs and locking plates. This has improved seal reliability and station accessibility. On a larger scale it was determined that the original capstan system for adjusting the cable on station was inadequate and that the means of making fast the anchor cable (a huge double bollard on the foredeck) was both time consuming to use and hazardous through the heavy duty manual handling required to manipulate chain cable on and off the bollards. This resulted in the up-rating of the existing capstans and the associated diesel-hydraulic prime mover from 8.5 tons line pull to a maximum line pull of 18 tons. It is now possible to handle both the towing chain and the main riding mooring complete with the 5 ton anchor fully independently of the support vessel.

Heavy duty gate stoppers were fitted on the foredeck removing all but the slightest amount of manual handling necessary, when lifting, deploying, checking, or adjusting moorings. These and many other minor initiatives delay or even arrest the deterioration of the vessel fabric reducing the need for intervention required both in terms of periodic, docking, maintenance and regular in service maintenance.

**Main Picture:**

Above: Photographed during commissioning of the new gangway mounted 200 Mkgf per in 20 Class lightvessel and highly painted configuration. The manufacturer was Mediterráneo Señales Maritime of Spain.

Main Picture: Leaving dock with new paint job. Regarding moorings, typically the weight would total five tonnes which would be represented in the busy port by a single industrial grade of low line cable. Weight per metre of 44mm diameter links is 46kg to equivalent a huge bollard. Lightvessels carry up to 150meters of chain cable at moorings. Each link is 26mm in length and 125mm wide and weighs in at approximately 66kg.

Above: In the lantern of a 20 Class lightvessel the LED MSM aid to navigation provides a Tench light and complete 13 rings of 102/125 each.

Above: After nine years on station, looking forward from the lantern gallery.
**Automatic light vessel maintenance**

Continued from page 11

**Electrical Systems**

Similar challenges have been met and overcome in terms of reducing the electrical systems’ maintenance load. This has been achieved through close attention to the detail of failures and application of modern technology. Each light vessel carries systems that are readily available through the technical department for the vessel. The Monitoring Officer is also able to attend to defects arising that are reported through the telemetry system which enables the on board telemetry system which enables the Centre to check for, and be alerted to, defects aboard the vessel. Personnel we have been able to take advantage of the latest revision takes advantage of new lighting technology. Each light vessel carries system that have been flooded and even if the vessel has not been sustained, this was backed up by a secondary lamp. How ever, an emergency light of compatible power characteristics with the solar system was still needed. Above this photograph of OSV was taken last year before coming off station for refit on an uncharacteristically calm day in mid-summer. Notice the derrick.

**Maintaining light vessels at sea**

Over the years it became apparent that as a result of the increasing complexity and dependency on electrical and electronic systems aboard the Trinity House tenders it was necessary to employ Electro Technical Officers. Having access to such skilled personnel we have been able to take advantage of their skills and carry out first line on board maintenance of light vessels directly from the SVS tender. This has added a degree of flexibility not previously available to us. Additionally, ship’s personnel are supported by the Field Operations Department where their specific knowledge is required. Further technical support is readily available through the technical department for more intractable issues.

The status of all light vessels is monitored through the on board telemetry system which enables the Monitoring Officer in the Trinity House Planning Centre to check for, and be alerted to, defects aboard the vessel. The Monitoring Officer is also able to control all aspects of the aids to navigation system. If the main light is functioning correctly, see the status of the fog signal, we have real time location monitoring. In other words we can see that the vessel is at its assigned position and at the other end of the scale we can identify if the bilges have been flooded and even if the vessel has run down. Through the telemetry system we can monitor the charge state of the all important battery banks and analyse this data through trend analysis software. This long distance formula 1 type technology enables us to more accurately assess the need for intervention aboard the light vessels and tailor our response more efficiently. The maintenance load aboard is organised through the Planning Centre and based around two scheduled visits made to each vessel annually, one in spring the other in autumn. During these two attendances, vessel husbandry inspection work (that is all non-electrical systems’ maintenance), the annual technical inspection to service the electrical systems and the annual moorings maintenance are carried out. Additional visits are scheduled based on level of need to attend to defects arising that are reported through the telemetry system or through user observed reports. Importance of these defects is graded to give a level of response and resolution necessary to maintain the navigational availability of the light vessel within the statistically required limits. Organisation of all visits is scheduled and organised as a team effort between ship’s personnel, Planning Centre and the Supplies Department whose crucial role is to source and draw together all the parts necessary to clear outstanding defects and carry out regular maintenance. It is through close attention to detail that vessel attendances are minimised and the goals of performance are achieved.

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**ACCSEAS 2014 Conference**

A CCSEAS, an EU-funded project to support improved maritime access to the North Sea Region through minimising navigational risk, welcomed over more than 80 regional and international shipping experts to Edinburgh for its second Annual Conference, held in March. This event presented an array of e-Navigation test bed solutions, all of which are aimed at increasing accessibility and improving navigational safety in the increasingly busy shipping waters of the North Sea Region. Spanning three days, the Conference included demonstrations of potential e-Navigation solutions including the Vessel Operations Co-ordination Tool, the Dynamic Predictor, the Multi-Source Positioning Service and No-Co-Area. The Conference also hosted a number of lively panel discussions and workshops that looked at the future training needs for e-Navigation, the implementation of future e-Navigation services and the critical issue of the impact of e-Navigation on the wider logistics chain.

The ACCSEAS Conference was officially opened by HRH The Princess Royal, in her capacity as Master of Trinity House and Patron of the Northern Light House Board. In her remarks, she congratulated the success of the ACCSEAS project and the progress already made by its partner organisations, “It is a huge achievement that this number of countries have come together to give us this rich and diverse marine innovation forward. It is important that technical innovations happen within the maritime industry and this is the first wave that such solutions are being brought to fruition in the way.”

Re-admiral Nick Lambert, former Hydrographer of the Navy, chaired the conference and commented, “The second annual ACCSEAS Conference convincingly corroborated the vision and value of this project’s unique approach to testing potential e-Navigation solutions that are of practical use to mariners going about their daily business. Engaging discussions, great ideas and active engagement by articulate, focused and realistic international delegates endorsed the project’s approach and encouraged further development over the next 12 months.”

The Conference not only gave me an understanding for the needs to start preparing for today.”

In conclusion Alwyn Williams ACCSEAS Project Manager commented, “The ACCSEAS conference proved to be a great opportunity for the stakeholders in the North Sea Region and beyond to come together to discuss the issues and potential solutions for improved accessibility for maritime transport in the region. I thank all the participants for your invaluable input into the discussions as it certainly helps to shape a better future for the users of the North Sea.”

The third and final ACCSEAS Annual Conference will take place next year from 17th to 19th February.
Health and Safety – How it was

JOINED TRINITY HOUSE IN 1968 from the Royal Aircraft Establishment, Farnborough and on Tower Hill was part of the Engineer-in-Chief’s Department. By late 1972 with impending legislation that became the Health and Safety at Work Act 1974 I applied for and was accepted for the post of Safety Advisor within the Lighthouse Service, which duties I took up early the following year. Firstly I had to obtain a recognised safety certificate and this was achieved after a three week RoSPA course. One of the requirements was to write a dissertation entitled “A new concept for safety within the Trinity House Lighthouse Service.”

A word about legislation. HASAWA 1974 set out requirements for the health and safety of all people at work and in particular for the provision of training, protective gear and the regular inspection and review of almost all working practices and equipment. This was new to us at every level of the Trinity House Service and whereas all concerned had always followed the safety route, there were now mandatory requirements which could not be avoided.

My dissertation was presented to the RoSPA management and I was questioned at length on the course. My return to Trinity House my paper was submitted to the Board and an instruction sent to all Superintendents, to Blackwall Workshops and to other parts of the Service introducing me as the Safety Advisor.

As you can imagine, with four centuries of managing men and ships in often harsh conditions and so well tried systems some did not appreciate a young outsider coming in and telling them how the job should be done. I deced on the first day to inform all concerned that I would be visiting on a mutually convenient date to discuss the new Act and to keep them informed of my findings following inspection. This was not about catching people out but simply to comply with the legal aspect of the Act, the responsibilities of management and of an individual worker using the equipment provided for his own safety.

At that time the overall accident rate was low but there were specific areas of risk that needed attention, for example, noise, handling of mercury, ladders, first aid on lighthouses, fire equipment, use of lifejackets and more. At that time a larger helicopter than currently in use necessitated winching at some stations with attendant risk and so a routine had to be devised. In time survival suits were provided for use in the Bond helicopter “Tango Charlie” and further procedures devised along with fire fighting training.

A number of aspects of then current practice came to light which had to be rectified to comply with the Act. For example, keepers on rock light houses had never been told to wear a lifejacket when climbing down the set of or landing steps as the risk had been obvious and at the time the only available appliance was the bulky kapok filled lifejacket soon to be replaced by the inflatable which became widespread.

All service ladders were examined, condemned where necessary, and replaced by more manageable step ladders or aluminium ladders. Inspections were based on a two year cycle and regular safety meetings were chaired by senior staff with safety and trade union representatives.

In recent years it has been a pleasure to reflect upon what we achieved in those early days. It is a credit to the Service that Trinity House recently received a RoSPA Quality Safety Award for consistently high levels of health and safety management, for the third consecutive year.

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In 1992 a further H&S milestone emerged in the form of the new ‘six pack’ suite of legislation to implement the harmonised H&S European Directives. Trinity House embraced this major change and further developed it’s SMS to encompass the new requirements. Much of this work still forms the framework of our current SMS, albeit nearly all of those subjects listed have been subject to amendments and further legislation from EU Directives has been introduced since. However by the millennium TH was achieving a high standard in H&S management and obtained the highest RoSPA Quality Safety Audit Level 5 standard.

In 2006 the audit question sets and evidence requirements had doubled in size and although we suffered a minor blip by 2008 TH was back up to Level 5 and has retained this ever since.

What of H&S in TH today? H&S management within TH is a multi-layered process wholly committed to by every employee through to its directors. It is integrated fully within the individual departments with the aim of being in harmony with their operational functions and achieving compliance as an organisation as a whole. To achieve this we have a just culture and every person within TH is empowered to make a difference on safety matters. Everybody is encouraged to report mistakes (after all we all make them), so we can learn from them. There is considerable investment in H&S, and job training to support this approach. The emphasis is on risk assessing any task or function and applying adequate controls, not wasting valuable effort and expenditure on insignificant risks. Given all staff now know what is expected of them and the standards to achieve, we now take a more behavioural analytical approach to near misses and non-conformance. H&S now is a normal thread that runs through our daily operations in the same category as HR matters, IT, planning, finance, procurement and logistics.

What of the future? Due to the work of my predecessors, safety within TH has evolved from firm foundations and it will continue to evolve. By the end of this summer, to improve the efficiency of the process, it is planned to launch a faster reporting procedure for hazards and near-misses utilising smart phone technology. TH also plays an influential role in national and international conversations on draft legislation and standards, and not only in the maritime sector. The RoSPA audit is changing again to reflect changes in H&S guidance and the audit this November may set new challenges, but within TH H&S is nothing special, it is a normal part of our business and basically, it is what we do to protect the welfare of all our employees, the seafarer, the public and the reputation of TH that has taken 500 years to build.
The conditions for maritime navigation in polar regions are changing and can be expected to lead to new seasonal shipping routes opening as the area covered by ice reduces during the summer months. There will be considerable commercial pressure to use this shorter route as an alternative to the conventional route via the Suez Canal. IMO produced guidelines for ships operating in polar waters in 2010, and is working to develop a mandatory polar code.

In polar waters, maritime services for prevention of incidents and accidents are especially important because of potential serious consequences of an incident in remote waters with limited infrastructure for SAR operations and combating of oil spills. However, in polar areas it is difficult to maintain reliable systems based on traditional aids to navigation due to the extreme distances, sea ice and climate. Buoy and other installations may be damaged or moved by ice. Furthermore, shipping routes have to be flexible and able to be moved at short notice to take into account the shifting weather and ice conditions and local hydrographic conditions.

Therefore to establish safe and efficient maritime transport corridors in polar waters there is a need to develop and implement electronic maritime navigation, communication and traffic monitoring infrastructure, including rafarion and communications systems, such as GNSS and AIS satellite. Development of virtual aids to navigation is one solution that should be given strong consideration.

Positioning Systems

Reliable positioning is essential to almost all e-Navigation services and reliance on electronic positioning could be greater in polar regions than in other parts of the world, simply because physical aids to navigation (AtoN) are few and far between.

Global Navigation Satellite Systems, in particular GPS, have become the primary means of maritime navigation. However, GPS are known to be vulnerable to interference, both deliberate and accidental. The inclined Medium Earth Orbits of the present GPS can also result in poor geometry at high latitudes. The extent of these problems have been investigated and it can be concluded that accuracy is unlikely to be a problem for users in high latitudes. However, integrity (the ability of a system to warn of a malfunction) can only be provided by Receiver Autonomous Integrity Monitoring (RAIM) and this is not available on many maritime GNSS receivers currently installed. Space Based Augmentation System, such as Wide Area Augmentation System (WAAS) and European Geostationary Navigation Overlay Service (EGNOS) potential accuracy of eLoran in NW Europe, combined with eChayka.

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RADAR POSITIONING IS SEEN AS AN ATTRACTIVE BACKUP OPTION FOR GNSS, because it is independent and potentially uses equipment that is already provided. However, there are a number of problems that would need to be resolved. Firstly the radars now fitted to the vast majority of vessels do not have the processing capability for absolute positioning and the radar aids to navigation (AtoNs), principally radar beacons (racons), only provide limited information about their identity – a Morse character that is not unique.

Suitable radars would need to be fitted to all vessels, sufficient enhanced radar AtoNs, giving a unique identifier and/or position, would have to be provided and standards would need to be brought into line. The trials reported here were carried out as part of the Resilient PNT stream of the ACCEAS project and were intended to determine whether the technical problems could be solved. An assessment of the feasibility, cost and timescale for these developments has been carried out using the results obtained from the trials and this will be reported separately.

Trials location
The trial radar was installed onboard Trinity House Vessel Alert, a 59m Rapid Intervention Vessel. Radars were installed on Lowestoft and Southwold lighthouses. These stations are about 10 miles apart on a relatively low-lying coastline, these being the criteria for their selection. The trials were carried out at distances up to 10 miles off the coast.

Trials plan
The trials took place over four days, the first day being taken up with equipment installation and testing and the last day with the removal of equipment. The second day was used for ‘static’ tests, with the vessel holding station at a number of points at different distances from the racon locations. The third day was intended to be used for dynamic tests, sailing parallel with the coast through the trials area. In addition several ‘static’ tests were carried out, with the vessel rotating through 360°.

Results
The summary of results given here is derived from observations on board the vessel and from post-trial analysis. During the trials the consequences of the sub-optimal installations were evident. Responses with the racons on the port side were limited because of the position of the radar. There were also sectors in which no racon responses were received because of blockage by buildings on the shore.

The calm conditions resulted in distinct nulls in the responses due to cancellation between the direct and reflected signals. This accords with conventional radar theory.

The maximum ranges at which the racons could be seen was about 20 miles, however, responses at these ranges were sporadic and inconsistent. The maximum ranges at which consistent responses were received varied between 8 and 12 miles depending on location and time. Therefore a usable range of 10 miles is probably to be expected.

The accuracies also varied considerably, depending on the number of racons being received, their geometry, relative to the vessel and the consistency of response.

During static tests ideal locations were found at which both racons were almost continuously available, with ranges of less than 10 miles and the geometry was good – the two Lines of Position (LOPs) crossing at right angles. Combined position accuracies at these points were 5-10 m. When geometry was poor or only one racon could be received, accuracy was in the region of 50-100 m.

Conclusions
New technology radar with an enhanced radar AtoN infrastructure is technically feasible as an option for providing resilient positioning within about 10 miles of the coast. The installations of the radar and racons were not optimal, but accuracy achievable with two LOPs and good geometry was 5-10 m and 50-100 m with a single LOP.
The South Goodwin Lightvessel
Disaster of 1954

“A LIGHT—CLEAR, RUDDY AND BRILLIANT, like a huge carbuncle—uprose one evening from the deep, and remained hovering about forty feet above the surface, scattering its rays far and wide, over the Downs to Ramsgate and Deal, along the coast towards Dover, away beyond the North Foreland, across the Goodwin Sands, and far out upon the bosom of the great North Sea.”

This depiction of a lightvessel illuminating the Goodwin Sands—from The Floating Light of the Goodwin Sands by R M Ballantyne in 1870—gives the reader an idea of the position of the aid to navigation marking the narrowest point of the Dover Strait, the busiest shipping lane in the world.

The Great Ship Swallower

Since the first recorded shipwreck in the Goodwin Sands—named for Godwin, Earl of Wessex (1001–1053), father of King Harold II—dating back to 1298, there has been an enormous number of ships lost—named for Godwin, Earl of Wessex (1001–1053), father of King Harold II—dating back to and far out upon the bosom of the great North Sea.

The sands which rapidly turn into lethal quicksand, engulfing ships and survivors within days, give the sands the name the ‘great ship swallower’.

On 26th November 1954, heavy weather set in around the Goodwins, putting an immense strain on the 410 metres of heavy cable mooring the lightvessel. Shortly after midnight, huge waves forced the 12 winds parted the cable.

The basic facts thereafter are reported in the Trinity House Lightvessel Handbook.

27th November 1954:

“No. 90 Light Vessel at the South Goodwin Station broke adrift in the early hours of Saturday morning 27th November 1954.”

First intimation that the lightvessel was adrift came from Deal Coaistguard Station (at 0115 on 27th November).

“The Light Vessel drifted North and was found lying on its starboard side on the Goodwin Sands in approximate position 51° 14' N 01° 34' 34" E.

A helicopter from Manston Aerodrome rescued the only man seen on board the Light Vessel (A Ministry of Agriculture and Fisheries official carrying out observations), scrambled through the skylight and into the inferno that was raging above.

Meanwhile lifeboats from Dover and Ramsgate were fighting for survival, the galley door was under water sealing off the exit, but one man, the survivor Ronald Murton (a Ministry of Agriculture and Fisheries official carrying out observations), scrambled through the skylight and into the inferno that was raging above.

In an amazing feat of accurate flying, for which the crew received bravery awards, the helicopter snatched Murton from the hull. He had survived the worst channel storm in two centuries.

29th November 1954:

“No. 65 Light Vessel was laid at the Station”

Remembering the Crew

The above report, while necessarily free from prolix and the horror of the night’s events, does little to record the loss of the crew: Thomas Skipp, Master, from Coggeshall, Essex; Kenneth Lantham from Bow, East London; Sidney Philpott from Ramsgate, Kent; Walter Viney from Plastow, East London; George Cox from Gorleston, Norfolk; Thomas Porter from Holbrook, Suffolk; and Henry Lynn from Dovercourt, Essex.

The loss of the crew was commemorated by Trinity House in a 50th anniversary ceremony on board RSN Patricia on 26th November 2004. Deputy Master Sir Jeremy de Halpert fleshed out the narrative of the night’s catastrophic events, excepted here:

“Sometime between midnight and 0100 the cable parted but such was the battering no one would have known. ashore, Ramsgate and Deal Coaistguard were warned, but visibility was low. Suddenly, at about 0135, the East Goodwin Light Vessel saw its sister ship sweep past six miles north of the station; they could only watch in horror.

“The crew, we know, mustered in the galley and shortly afterwards the ship hit the sands in Kallet Gut, collapsing onto her starboard side. Inside, the men were lighting for survival, the galley door was under water sealing off the exit, but one man, the survivor Ronald Murton (a Ministry of Agriculture and Fisheries official carrying out observations), scrambled through the skylight and into the inferno that was raging above.

Meanwhile lifeboats from Dover and Ramsgate and a United States search and rescue helicopter from Manston were launched, but it was not until daylight that the wreck was located by the helicopter.

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His first words were for his fellow crewmen whom he knew were still alive in the hull. But even as the rescue operation for them was being launched the race against time and tide was being lost. The liferafts could not get near to the lightvessel and within hours the tide had enveloped her and those trapped inside her hull. The extreme weather lasted a further day, and on 28 November divers eventually were able to get on board. There was no trace of the crew, not a single body was recovered.

“Today the South Goodwin Light Vessel lies beneath the Goodwin Sands, with her brave crew. It is in times of such disasters, and our remembrance of them, that we focus on the hazards of the seas and the service of those who ensure our safety.”

Directly after the events of 27th November 1954, such was the outpouring of grief and sympathy from home and abroad that Trinity House was able to compile a Book of Commiserations within the week. Rear-Admiral Charles Lyman of the US Navy wrote that, “we do not often find occasion to express our appreciation for such services, but it seems to me that such an occasion has now, unfortunately, arisen.”
Here we introduce the work of Greenwich artist Peter Kent who, from his Thameside studio, creates the most remarkable drawings with representational views of urban, particularly maritime, scenes. There is no doubt he has a passion for everything connected with the sea and rivers.

He records accurate views of buildings and towns and in addition often provides the bird’s eye view with a comment by way of text pointing to an aspect of history or, indeed, to a personal memory. In recent months he has created an extensive collection of the work of Trinity House recorded both in London and around the coast and you see some examples on these pages.

More examples of his work are available on his website at www.peterkentgreenwich.co.uk. Prints of these works are available to order from www.peterkentgreenwich.co.uk and a donation will be made to the Corporation’s charities for each item sold. Please quote code TH/FLASH.
To the Lighthouse

GODOREV LIGHTHOUSE AND ITS PLACE IN THE CANON OF ENGLISH LITERATURE

On 12th September 1892 a small boat set out across St Ives Bay bound for Godrevy Island and its lighthouse. On board were members and friends of a remarkable family including a girl of ten years named Adeline Virginia Stephen and the Pre-Raphaelite artist William Holman Hunt. The party spent time on the island and all signed the visitor’s book before departing. Young Adeline was a remarkable family including a girl of ten years named Adeline Virginia Stephen.

The lighthouse in the novel is located in the Hebrides and is black and white unlike plain white Godrevey, Woolf used her own memories of Godrevy and her family’s holiday home in St. Ives. When planning the novel Woolf wrote in her diary in 1925, ‘This is going to be fairly short: to have father’s character based on members of her family and their circle.

One such character is Lily Briscoe, a timid, self-sacrificing wife, and mother of eight. Julia Jackson is such a character – a hopeless admirer of Mrs Ramsay – who hangs around to the annoyance and at times amusement of Mrs Ramsay. Holman Hunt had another connection with Trinity House. In the 1850s he had worked at Trinity House, Tower Hill restoring the painted ceiling in the Court Room and as an incompetent young artist had been glad of the work.

Like the family in the novel, the Stephen family had eight children from their parents’ marriage to each other and their parents’ previous marriages.

The holiday house described in the novel is Tolland House, above Porthminster Beach. Tolland House had lawns stretching down to the sea in those days and the light from the lighthouse across the bay would penetrate the rooms at night just as described in the novel. Leslie Stephen rented Tolland House every summer from 1882 to 1884, a period which saw the birth and early childhood of his daughter Virginia.

At the novel’s beginning the Ramsays’ young son, James, is promised a trip to the lighthouse, an adventure which he longs to go on but which, for various reasons, doesn’t happen until years later. The novel then proceeds briskly with minimal detail over a period of several years during which the Great War begins and ends and some of the characters die, including Mrs Ramsay. In reality Woolf’s mother also died young.

Eventually, years later, the novel returns to the summer holiday house by the sea and the long delayed trip to the lighthouse actually happens with Mr Ramsay, James and his sister Cam as passengers in a local fisherman’s boat.

The journey across to the lighthouse is a masterful study of the solipsism and innermost thoughts of the crew and passengers of a small boat on the bounding ocean before a fresh breeze.

Woolf’s stream of consciousness technique is used to full effect. Whilst the boat skips along with James at the tiller Mr Ramsay unexpectedly praises his son, praise James has longed for and never had before, and despite James’ implacable hostility to his father they come closer to understanding something about each other. Cam, too, comes to respect her father, seeing for the first time another more eloquent, loving and wise side to him.

‘James looked at the lighthouse. He could see the whitewashed rocks; the tower, stark and straight, he could see it was barred with black and white; he could see windows in it; he could even see waving spread on the rocks to dry. So that was the lighthouse!’

Finally, the boat lands at the lighthouse as Lily Briscoe watches from the shore, with a sudden flash of inspiration and final bold brushstroke, she finishes a painting she began at the start of the novel. ‘I have had my vision.’

Godrevy lighthouse was built following several notorious wrecks on the nearby Stones Reef culminating in the wreck of the steamer Nile in 1854 with the loss of its cargo and nearly forty souls. After some debate between Trinity House, the Board of Trade and the War Department, Godrevy island was chosen as the site to build the lighthouse rather than building a new rock tower on the Stones at vast expense or on the mainland.

The lighthouse was designed by Jamesimo and built by Thomas Ewa and Thomas Williams of Helston. Construction commenced in January 1854 with the hardy workmen living in tents on the island.

The tower is built of rubble stone and mortar and has walls nearly four feet thick at the base. It is 86 feet high to the top of the weathervane. The total project cost £7,082/15s/7d. Woolf’s stream of consciousness technique is used to full effect. Whilst the boat skips along with the crew and passengers of a small boat on the bounding ocean before a fresh breeze.

Woolf’s stream of consciousness technique is used to full effect. Whilst the boat skips along with
The first Trinity House Lighted Buoys

The 19th century saw the development of iron steam ships and a rapid increase in maritime trade. There was however no means of identifying buoyed channels and buoyed dangers at night to enable ships to safely enter or leave harbours and anchorages after dark. When manoeuvring in areas of restricted water depth the only navigation aid was the leadline.

Oil burning lamps were the main light source for lighthouses and lightvessels and sophisticated oil burning lanterns were developed for use on buoys by Lyth in Sweden, Boudell in France and Wigham in Ireland. These attempted, by various mechanical means to overcome the problems of maintaining a bright flame burning on a week while the buoy moved around at sea in strong wind conditions. While drawings survive of these lanterns I have not found any reports on their use on buoys, except in harbours and later versions found use on lighted beacons where they were accessible for regular, probably weekly maintenance.

Trinity House was one of the first lighthouse authorities to trial the German Pintsch gas buoy that in 1877 lighted a buoyed channel in the Thames estuary. The Blackwall depôt was close to the Trinity House Blackwall depot and a regular, probably weekly maintenance. The buoy was of 1.7m³ gas capacity, contained at the main image: Ovens Buoy in the Thames.

The edition of the 25th April 1879 reported a Danish ‘focal plane tail tube buoy. The early buoy bodies were constructed from steel plate with hammer welded seams. Later buoys used the then more conventional riveted construction.

The German Pintsch gas buoys utilised steel buoy bodies developed from mine bodies they had manufactured in the Franco-Russian War. They incorporated these into a high localized plane tail tube buoy. The early buoy bodies were constructed from steel plate with hammer welded seams. Later buoys used the then more conventional riveted construction.

The lantern had a Fresnel lens and a sophisticated ventilation system that would prevent soot and condensation forming on the lens. It provided the basis for the design of subsequent oil gas and acetylene lanterns. The engineer reported noted that the first trial buoys had ‘an ordinary square framed lamp,’ but unfortunately provides no more details.

The lantern contained a regulator that reduced the pressure of the gas stored in the buoy body to a constant low value and fed the gas directly to the burner. This regulator utilised a spring to control the gas pressure; the original open flame lanterns to mantle lanterns.

The Pintsch and similar installations were made by lighthouse authorities in France, Germany, Holland and the United States. The 1905 Lighthouse Congress in Milan reported 1317 lighted buoys in use worldwide. The original buoys had a continuously burning light that could operate for around thirty days. The service period depended on the volume of gas that could be stored in the buoy body. A clockwork occulting mechanism was introduced in 1881, reducing gas consumption and increasing the service life to three months. Further development resulted in a flasher mechanism powered by the gas flowing to the burner, patented in 1883.

As these gas lanterns were developed, Pintsch worked with Auer von Welsbach, the inventor of the incandescent mantle, to develop a small rigid mantle that transformed the yellow oil gas light into a much brighter white light increasing the lantern’s intensity by a factor of around ten. By the 1890s a competing gas lighting system had arrived. Acetylene was discovered in 1892. This could be easily manufactured by reacting calcium carbide with water and had the unusual advantage of burning with a bright white flame in an open flame burner. However acetylene is extremely explosive. Initial trials, mainly in Canada, with oil gas buoys converted for use with acetylene compressed into the buoy body, resulted in several serious accidents with considerable damage and loss of life. A buoy was also produced that had an on-board acetylene generator, however these proved equally hazardous to operate.

The safe storage of acetylene in cylinders and the development of lighting equipment for use with acetylene were primarily the work of the Swedish engineer Gustav Dalén and the AGA Company. Acetylene buoy lighting then competed with oil gas, later LPG, for most of the 20th century. There is still a legacy of the oil gas system in the Trinity House service in the few remaining ROG buoy bodies. These are a class of small skirt type oil gas buoys that were converted to house acetylene cylinders and were referred to as Redundant Oil Gas buoys.

Editor’s note: The author has now written A History of Floating Aids to Navigation, published by IALA at €18. To buy a copy email IALA at contact@iala-aism.org.
Trinity House: Keeping the building running

The headquarters of the Corporation of Trinity House on Tower Hill was originally built between 1794 to 1796 by Samuel Wyatt, Surveyor to the Corporation. During the Second World War it was gutted by a German incendiary bomb lodged in the roof of the stairwell, leaving nothing of the original building save the Trinity Square façade. After the war Professor Albert E Richardson undertook the reconstruction of the house using a number of photographs of the rooms taken by Country Life magazine in 1919 to reconstitute almost exactly the interior of its original form. In place of offices which stood to the east of Wyatt’s building, a new wing was added by Professor Richardson containing the Library, Reading Room, Pepys Room and the corporate offices. The restoration was completed in 1953. Trinity House was again refurbished in 1990 with a large element of the work concentrating on introducing modern building services into the House.

A Grade 1 Listed building
Trinity House is a Grade I Listed building not only for being historically significant and retaining its original late 18th century elevation but also for the very fine restoration and addition to the building by Professor Richardson after the war.

We were instructed in 1996 by the Corporation of Trinity House to prepare a 20-year planned preventative maintenance programme for the House with the aim of keeping it in a good state of repair and redecoration. In other words, to follow the conservation philosophy first articulated by John Ruskin and William Morris that inspired the Arts and Crafts Movement in the second half of the nineteenth century, the object was: “To stave off decay by daily care.”

The need to record condition of Trinity House
As a young surveyor in 1996 I set about recording the condition of Trinity House both externally and internally, including decorations, furnishing, mechanical and electrical services and associated equipment that assisted in the running of Trinity House. The purpose was in essence about removing surprises and maximising efficiency. It was a planned approach where works are considered, forecast, scheduled, prioritised co-ordinated and budgeted for in advance. The aim was to reduce unnecessary expenditure and protect the property as an investment for it is an historically significant building.

Since publication of the 20-year maintenance programme in 1997 we have year-on-year implemented the programme. It has involved the cyclical redecoration and restoration of the external elevations, the redecoration and refurbishing of the interiors and the phased replacement of mechanical and electrical plant throughout the building. The challenge in undertaking these works is not only in ensuring the sensitive repair and quality of work commensurate with the historic significance of the building, but also to undertaking the works in a fully operational building. Trinity House is not only used as the headquarters for the Corporation but its ceremonial rooms are hired out for functions, meetings, wedding ceremonies and so forth throughout the year. Therefore finding an appropriate period to carry out the planned maintenance works is a challenge within itself.

Traditional August is a month when Trinity House is closed for external hire and this is the period when the planned works often have to be carried out and condensed within.

A 20-year maintenance programme
Planned maintenance will inevitably be adjusted, for example by the need for changes in use or in legislation. In 2005 the major refurbishment and alterations to the ground floor accommodation was undertaken to improve the reception areas and provide enhanced facilities for visitors. In 2008 the second floor offices and accommodation were altered to create modern efficient open plan space. As a result of such changes we continually review the planned maintenance programme and it has since been updated and extended for a further period until 2027.

A particular challenge last year was the replacement of the chiller unit which services the air-conditioning to the House. The unit is located in the roof top plant room which can only be replaced by removing a section of the roof and replacing the unit via a small aperture in the structure. The challenge was to design a unit to not only to meet the requirements of the air-conditioning system but also fit within the restrictive space of the plant room and be delivered and fitted within the month of August. In addition to this, Planning and Listed Building Consent was required as well as having only one week-end in August available to close Trinity Square to crane in the new equipment. With careful planning and co-ordination the installation was achieved with only inches to spare. This illustrates a part of Trinity House that is never seen but is critical to the building’s functioning.

Minimal impact on HQ operations
Keeping the building running is about planning in advance. This involves planning the works themselves, obtaining the necessary statutory consents, planning when they are to be carried out and how they are to be co-ordinated in the most efficient way with minimal impact on the building’s operation. Reverting to the ideas articulated by John Ruskin and William Morris we are merely the custodians of historic buildings for future generations.

Above: Possibly the most famous painting of Trinity House published in Country Life magazine on 10 July 1796.

Above right: The unit is located in the roof top plant room which can only be accessed by removal of a section of the roof and via a small aperture in the structure.

Lower left: Planning offices and where works are to be carried out and how they are co-ordinated frequently demands adequate protection of decoration and features in the House.

Top left & lower right: Replacement of the Chiller unit which services the air-conditioning to the House. All had to be craned in over one weekend in August with Trinity Square closed.

The object was: “To stave off decay by daily care.”
Charities

We provide here a small representative selection of organisations taken from a broad range of charities and other beneficiaries in receipt of grants from the Corporation in recent months.

Mariners’ Park
This is the name given to a unique haven where retired needy seafarers and their dependants can live alongside those who have also experienced a life at sea.

Centred on a 16 acre estate in Wallasey on the Wirral peninsula there are immaculately-kept grounds with views of the River Mersey and the iconic Liverpool waterfront. This estate contains 95 homes, mostly one- or two-bedroomed houses, apartments and bungalows. Grounds include a bowling green and walking routes to nearby New Brighton or Seacombe, where it is possible to catch the ferry to Liverpool.

Many benches have been provided for those who simply wish to tarry a while and enjoy the scenery. Nearby, there is a wide range of local amenities including shops, a post office and doctors’ surgeries. For those residents who wish to live independently or perhaps cannot get out and about enough to visit the shops, the Home Care service can arrange for shopping to be collected and delivered.

Mariners’ Park is a place with a long and proud history, and is constantly evolving to include all the latest modern facilities, helping its residents enjoy a long, safe and happy retirement.

The latest addition to the accommodation options was opened by HRH The Master on 4th April. Known as the Trinity House Hub this project costing more than £4million provides community facilities and 18 one- and two-bedroom apartments to rent. Care support is available 24 hours a day, seven days a week, to ensure that residents with extra care needs are provided for. In addition individual Care Plans can be tailored to the needs of each resident.

The Hub’s community facilities now enhance those already available to residents. For example there is a community room and a hobbies room to enable the Nautilus Welfare Fund to organise more events and host meetings.

The site offers a café serving food and drink for residents and their guests, a spa, a gym and hairdressers. The estate also has a Care Home to provide both residential and nursing care, including short stay respite care. In addition guest accommodation to allow family and friends to visit for stays of up to two weeks’ duration is available.

The Nautilus Welfare Fund has acknowledged the many donations which have made this new project possible.

Ramsgate Lifeboat station
This station was established in 1802, the first lifeboat being built by Greathead for the Trustees of Ramsgate Harbour. The station lapsed for some time before 1824 until 1851, when the Harbour Trustees purchased a lifeboat built by Beeching of Great Yarmouth. The RNLI controlled the station jointly with the Board of Trade from 1865 until 1927, when it took over full responsibility. The current lifeboat station, opened in 1998, lies on the harbour wall between the inner and outer pools of the main harbour and services both the inshore lifeboat, Bob Turnbull and all-weather lifeboat, the RN648 Eime Anderson.

Trinity House funded the shore works here to accommodate a new Atlantic 85 inshore lifeboat which is due to arrive at the station later this year to replace the Atlantic 75 inshore lifeboat which has served at Ramsgate since 2000. The new craft will work alongside the station’s all-weather Trent class lifeboat Eime Anderson.

Whilst the all-weather boat lies afloat on a pontoon alongside the lifeboat station, the inshore boat is housed in a boathouse within the station from which it is pushed out on rails onto a deck and lifted into the water by means of a davit. The Atlantic 85 is slightly larger than a seat four crew members, rather than three, and has enhanced features such as radar and direction-finding equipment. It is this extra size that has necessitated larger accommodation.

Sailors’ Children’s Society
This charity was formed in 1821 to provide assistance to disadvantaged children of seafarers throughout the United Kingdom. The help the charity provides includes the arrangement of clothing and school uniform grants and welfare grants for day to day childhood necessities. In addition caravan holidays can be provided as well as home computers for educational purposes. Furthermore, emotional and practical support via Family Support Officers is arranged.

To date the Society has helped over 8500 children and its aim is to let each of these children achieve their full potential and not be held back by traumatic family circumstances such as bereavement, terminal illness or desertion of a parent.

The Society makes a moral commitment to each of the families on its Support Scheme to provide assistance until they are either once again able to move forward independently or until the youngest child in the family leaves education.

Delver: Annie Garton (pictured right) who represented the UK at the European Judo Championships in Barcelona in 2012. She received funding from the Sailors’ Children’s Society and additional grants enabled her to follow her dream. Since 1821 the Sailor’s Children’s Society has given each disadvantaged child of a seafarer the opportunity to achieve his or her full potential by providing financial, practical and emotional support.
Swedish Maritime Administration

SWEDEN IS ONE OF THE WORLD’S MOST SHIPPING-DEPENDENT COUNTRIES, not least because of the long coastline which stretches about 2,400 kilometres and has close to 50 ports. The nation requires efficient services to maintain the competitiveness of the country’s industries. Around 90% of Sweden’s exports and imports are transported by sea in some part of the transport chain.

The Swedish Maritime Administration (SMA) is active all around the coastline of Sweden, providing shipping routes and maritime infrastructure from the Swedish-Norwegian border on the west coast to the Swedish-Finnish border in the Gulf of Bothnia. Our services include, for example, pilotage, fairway service, maritime traffic information, icebreaking, hydrography and maritime and aeronautical search and rescue.

SMA is a government agency and enterprise with the task of providing resources for high safety at sea and good accessibility. Since activities are financed primarily by dues and tariffs on merchant shipping, it is referred to as a public service company. SMA’s main customer is the maritime transport sector, followed by ports and local authorities, but other customer relationships are becoming increasingly important, for example freight owners. A large part of the revenues are generated by fees charged to the merchant shipping sector for fairways and pilotage.

“By offering expertise, sensitivity to the issues at hand and excellent service, we want to make a difference to our customers – and to Sweden as a whole,” said Ann-Catrine Zetterdahl, Director General of the Swedish Maritime Administration. She continued, “SMA is to maintain and establish safe fairways – Important Blue Motorways

One of the primary tasks of the Swedish Maritime Administration is to maintain and establish safe and environment-friendly fairways. The work includes hydrographic surveying, operation and upkeep of fairways (including lighthouses, buoys and spar buoys) and icebreaking.

The Swedish Maritime Administration owns just over 1,000 lighthouses and lighted beacons. 50% of these are operated by renewable energy sources such as sun and wind. SMA carries out most of the fairway work under its own management, working from its own ships and boats.

The services rendered in the fairways are continuously adjusted to meet the change in flow of traffic, navigational needs and technical development. Maintenance work is performed by SMA’s own personnel, using buoy tenders and pilot boats. Every year after the break-up of the ice the Swedish Maritime Administration performs an inspection of the fairway system. This means that more than 6,000 floating aids to navigation in the fairways are inspected so that they are in good condition after the winter. Damaged and lost material is replaced and the position of the aids to navigation are checked and verified.

The Swedish Maritime Administration is also responsible for the maintenance and operation of reference stations for GPS, called DOPS (Differential Global Positioning System), which significantly increases the accuracy and safety of positioning with GPS. DOPS is also a prerequisite for the use of ECDIS (electronic chart system).

Furthermore, the Swedish Maritime Administration has two hydrographic vessels, Jacob Hagg and Nils Stromvagen. The two vessels measure the depths in Swedish fairways and establish the position of objects that are relevant to navigation. In addition to the survey vessels, the Administration employs approximately 200 pilots around the country to assist vessels in sections of fairways that require the use of a pilot.

Vessel size and type of cargo determine whether or not a pilot must be used. On average, 35,000 pilotages are conducted each year. The Swedish Maritime Administration has a large number of pilot boats to take the pilots out to the agreed meeting point in the fairway where the pilot climbs up the ship’s ladder and boards the vessel.

In Sweden, the Swedish Maritime Administration is the responsible authority for maritime and aeronautical search and rescue operations along the Swedish coastline and in the major lakes, as well as the search for missing airplanes throughout the country.

Missions are co-ordinated by our SAR mission co-ordinators at the JRCC in Gothenburg, and are carried out in cooperation with the Swedish Sea Rescue Society, the police, Coast Guard and the SMA’s own rescue helicopters and boats. The rescue helicopters are a unique asset which is used for the
The benefit of society as a whole. The helicopters are operated by SMA’s own pilots, are available around the clock and depart from five bases around the country.

At the moment there is an ongoing process to replace the current S-76 system with seven new search and rescue helicopters from the Anglo-Italian helicopter manufacturer AgustaWestland. The first three have to this date been delivered and all deliveries are to be completed in 2014. Featuring long-range and all-weather operational capabilities, helicopters are equipped with a full ice protection system to enable operations in all weather.

“It is very satisfying that we will have an improved capacity and ability to save lives in the future without increasing the total cost of operations,” said Niomi Eriksson, Deputy Director General and Head of Maritime and Aeronautical Search and Rescue Department at the Swedish Maritime Administration.

Research and Innovation

The Swedish Maritime Administration is the initiator of and participates in a number of innovations and development projects.

MONALISA is one of the most noted projects. This, led by the SMA, was initiated in early 2010 and is a good example of how the development of new technologies can improve both the efficiency of sea transportation and the environment. The project aims at giving a concrete contribution to the efficient, safe and environmentally friendly maritime transport. This is done through development, demonstration and dissemination of innovative e-Navigational services to the shipping industry, which can lay the groundwork for a future international deployment.

The project activities include the ability to plan the ship routes more efficiently, and to create conditions in order to detect deviations from the planned route. Quality assurance of hydrographical data for the major navigational areas in Swedish and Finnish waters in the Baltic Sea contributes to improving safety and optimization of ship routes.

The MONALISA project has been widely acclaimed throughout the world, particularly after the Costa Concordia accident.

The future

Over the last years, the SMA has changed perspective from a traditional authority to a customer oriented service organisation with emphasis on high-quality products, service and branch-specific knowledge.

For example, the SMA is involved in looking at how to develop Swedish shipping infrastructure toward 2025 and 2050. Together with the Swedish industry and maritime stakeholders, the SMA is set to create an effective and sustainable transport system where all modes of transport interact optimally with the goal of achieving efficient logistics. As a service-producing enterprise, the SMA contributes to strengthening the competitiveness of shipping as well as to collaborate with other agencies for an economically efficient and sustainable chain of transports.

Being a modern and customer-oriented service organization that follows the industry trends, the SMA also focuses on new needs and innovation areas. Without shipping, Sweden stops. That is why the Swedish sea routes are always open. 365 days a year, 24 hours a day.

History of the Swedish Maritime Administration

Maritime Administration has existed in Sweden since 1950. In 1950 the Government established a maritime administration w as created. The birth date was 1st January 1956. It was called the Royal Board of Shipping and Navigation.

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25 years earlier, Sweden had 80 manned lighthouse stations – some without either radio or telephone – pilots who owned their pilot boats – some without engines and 20 lightships, which rolled and pitched in heavy anchor chains outside its shores. Nowadays there are neither manned lighthouse stations nor lightships left and the pilots do not own the boats that take them to and from the ships to be piloted.

The new authority consisted of:

- The entire Royal Pilot Service;
- The entire Hydrographic Office;
- Parts of the Maritime Bureau with the tonnage measurement system, the State’s ice-breaking activities, the maritime prosecutor and the marine consultant and ship inspection; and
- Port Office and some channels from the Royal Civil Engineering Construction Authority.

The regional organization at that time was very comprehensive with all the piloting districts, piloting and lighthouse stations, inspection districts, channels, fish ports, and so on.

The Authority has to date been reorganized several times. In 1969 they would no longer be a royal authority, but purely and simply Swedish Maritime Administration. This organization functioned until 1987 when it became a public service company with virtually the organization that exists today.
An introduction to IMPA

There is mention in ancient scripts of marine pilots and their work, thousands of years BC. In Greek and Roman times, locally experienced harbour captains, were employed by incoming ships’ captains to bring their trading vessels into port. Not for nothing do we claim to be the world’s second oldest profession.

Origins of the pilot and laws governing pilotage
The general term denoting a pilot in the early Middle Ages was lodesman deriving from the Anglo-Saxon lād meaning to lead or guide. The Pole star was known as the Lodestar. The term s as lodesman deriving from the Anglo-Saxon.

In fact two of the articles relate to pilotage:
- Origins of the pilot and laws governing pilotage.
- A young man = knave = mate = pilot is a pilot of a ship and he is hired to conduct her into port where she ought to discharge, for so far he ought to conduct her and lay the berthing of the port.
- Mediterranean before the 15th century, stems from the Greek plous or perilous. A Perilous, in ancient times, was a form of sailing directions (peri-around or around, plous-navigation: thus perilous=circumnavigation). Plous or perilous modified to pilot.

Recognition at IMO
The criticality of pilotage to modern shipping operations was recognized in 1973 when IMO (then IMCO) granted the International Maritime Pilots’ Association consultative status. IMO exists primarily to represent its 8000 members world-wide at IMO, and to contribute to debate there on issues such as bridge design, navigation systems and safety regimes.

- Maritime pilots provide an essential and unique service to the shipping industry. Their principal role is to: Provide critical independent local knowledge and navigational information to vessels.
- Pilot ladders are used to this day in Scandinavia, Germany and The Netherlands. In its application for a charter in 1513, the Trinity House of Deptford used lodesman, pilot and pilot-lodesman, and at the same time the Court of Godman of the Cinque Ports was active at Dover.

Pilots also bring highly developed shiphandling skills which are necessary with ever-larger ships and they bring the local communications knowledge necessary to work with local services such as tugs and linemen. A pilot’s training is of necessity long and thorough, given the value of ships and their cargoes. Pilots normally enter the profession after a career at sea and learn their new trade mostly by mentoring from a qualified and experienced pilot. This is typically supplemented by simulator training and model training. Thereafter, training continues on a constant basis to maintain skills to the very highest degree.

Relationship ‘Twist Master and Pilot’
The Master and Pilot relationship is an intriguing balance of mutual trust and respect, largely-unwritten, which provides an unsullied level of safety in a society that expects, and receives, the highest of standards from the shipping industry.

Far from being a profession in decline, maritime pilots are needed today more than ever to handle huge vessels, often manned by very small crews, in ports which sometimes have hardly grown over a century or more. They are one of the contributors to a nation’s round import/export-based economy in that if the rivers and ports are safe, the ships will call. If passage safety cannot be guaranteed, vessels will stay away and the results are obvious.

A critical public safety service
The prime obligation of pilots is to provide a critical public safety service by ensuring the careful management and free flow of all traffic within their pilotage area, thus protecting the environment. Pilots need to be able to exercise their professional judgement undeterred by commercial or economic pressure. Pilotage is an essential part of a Port’s Safety Management System and compulsory pilotage is considered to be the most effective and important form of navigation safety regulation.

Pilots come aboard vessels by small boat or helicopter at the most critical phase of a vessel’s voyage to assist with the conduct of navigation in waters with limited draught, widths, variable currents and other traffic competing for space. Ships’ masters cannot be expected to be fully conversant with the special navigational and regulatory requirements of an area.

Shiplanding skills and training
Shiplanding skills and training is to bring the highest level of shiphandling skills to manoeuvre vessels within their port.

A bulk carrier in Rotterdam.

Main picture: right: Nick Cutmore, in his hands Aliene on a ladder provided by a third party. Far left: IMPA has campaigned about poor conditions of pilot ladders. In 2007 it commenced a campaign to investigate and highlight standards of pilot ladders and associated equipment which resulted in changes to the SOLAS requirements. Pilot boarding equipment is an integral part of the vital task needed to maintain the continuous pilotage service around the world.
Learning from others through CHIRP

The Confidential Hazardous Incident Reporting Programme (CHIRP) investigates hazardous occurrences; namely those that nearly result in injury or damage and are often referred to as a “near-miss”. The aim of CHIRP is to seek out root causes, identify the lessons learned and to consider how best this information can be used to prevent recurrence elsewhere in the maritime industry. CHIRP does not seek to apportion blame to any company or individual(s), the term ‘whistleblowing’ is not one used in CHIRP as that is often used to cast blame on an organisation or an individual.

A report can be generated either online (through a secure website), as a written report (via post/Freepost), or by telephone to the charitable trust’s office in Farnborough. Reports come from professional and amateur participants in the maritime sector. Upon receipt all reports are validated by the Trust’s office in Farnborough. Upon receipt all reports are validated by the Trust’s office in Farnborough. The aim is to establish an international network of voluntary ambassadors, designed to promote both schemes. For those unclear as to the difference between the two programmes; the MARS reports relay the lessons learnt from the incident and near miss reports they receive, whilst in CHIRP each report involves pro-active follow-up and investigation of safety issues which otherwise may not have been reported to ship managers and authorities.

Examples of hazardous occurrences examined by CHIRP

- A very hazardous operation in severe weather on an offshore vessel with potentially fatal consequence. This was followed up with the vessel operator, who took up the lessons learned and applied them to all the vessels in its fleet.
- Sailing club members injured by a shackle after webbing failed during the recovery of their safety craft. Advice provided on inspection of equipment, risk assessment and the need for supervision.
- Expert advice given on a concern expressed over the information contained in operational and maintenance manuals; where text can be inaccurate and/or poorly written and which can cause confusion for the operator.
- Explosion as a result of heavy corrosion of an air bottle in a ship’s lifeboat. This incident highlighted the importance of regular inspection and survey of all parts of a lifeboat, including bottles containing pressurised gas or air.
- A major argument witnessed between the Captain and the Pilot when entering port has highlighted the importance of establishing a positive relationship when the pilot first boards and then reaching agreement when the passage plan is discussed.
- A small passenger ferry was on passage when the vessel suffered intermittent power loss on both engines. The loss was due to blocked filters due to fuel bugs in the diesel fuel. This emphasised the need for increased care in small vessels in the storage of diesel especially where this contains biodiesel.
- Poor application of the Collision Regulations, led to feedback reiterating the need to take positive and early action when altering course, noting also that there is often a reluctance to do so, reducing the speed of the ship can be used as an alternative means to avoid a collision.

Additional funding from new sponsors is being sought; this will enable reporting to become more readily available to a worldwide audience, this will be achieved through an increase in the distribution of public notices to more than 100,000 copies and presentations at international conferences. A priority is to promote the importance of safety reporting and the provision of a reporting structure that is not always available to all seafarers. Those most likely to benefit are seafarers operating in vessels with hazards or incidents not managed within an appropriate safety management system (SMS); seafarers with concerns over fatigue or stress related issues; seafarers encountering gaps in the interface between two safety management systems (bunkering, pilotage, repair yards), and ship managers whose ships encounter poor application of the Collision Regulations by another ship’s operators.

Perhaps the largest challenge is convincing people to submit reports and increase their belief that a report will make a difference. A recent initiative involves working with the Nautical Institute MARS scheme, the aim being to establish an international network of voluntary ambassadors, designed to promote both schemes. For those unclear as to the difference between the two programmes; the MARS reports relay the lessons learnt from the incident and near miss reports they receive, whilst in CHIRP each report involves pro-active follow-up and investigation of safety issues which otherwise may not have been reported to ship managers and authorities.
In this romantic representation, Grace Darling, the Longstone lighthouse keeper’s daughter, appears eager to launch out through the storm to save lives. Grace died only four years after the rescue, of tuberculosis, but souvenirs continued to be made for many years afterwards.

Grace’s charming boyish figure was often depicted in 19th Century prints. The drawing above left, by William Lionel Wyllie (1851-1931), shows her rescuing the lighthouse workers. Grace’s statue, above right, sculpted by Sir George Frampton, was unveiled in 1910.

**Guiding Lights**

500 Years of Trinity House and Safety at Sea

ON 15TH APRIL AT THE NATIONAL MARITIME MUSEUM, GREENWICH HRH THE MASTER, accompanied by Vice-Admiral Sir Tim Laurence, opened a small exhibition, entitled Guiding Lights, introducing our work to coincide with the quincentenary and running until 4th January 2016. From this display in which 70 rarely seen objects from the Museum’s collection and our own are shown, we publish here a representative selection.

Above left: Print of Grace Darling and her father going to the rescue, 1838.

Above right: Watercolour sketch of a buoy, by William Lionel Wyllie, early 20th century.

Grace Darling statue, circa 1900.

Rear-Admiral Duncan Potts, RN, Younger Brother, appointed CB.

Rear-Admiral Matthew Parr, Younger Brother, appointed CB.

Commodore Paul McAlpine, CBE, RN, Younger Brother, appointed CBE.

Vice-Admiral Philip Jones, CB, Younger Brother, appointed KCB.

Captain Richard Woodman, RNI FRHS, Elder Brother, appointed OVO.

**Honours & Appointments**

We send our congratulations to the following Members of the Fraternity who were recorded in H.M. The Queen’s New Year and Birthday Honours Lists this year:

- Captain Richard Woodman, RNI FRHS, Elder Brother, appointed OVO.
- Vice-Admiral Philip Jones, CB, Younger Brother, appointed KCB.
- Rear-Admiral John Lippitt, CB, MBE, Younger Brother, appointed CBE.
- Commodore Paul McAlpine, CBE, RN, Younger Brother, appointed CBE.
- Rear-Admiral Matthew Parr, Younger Brother, appointed CBE.
- Rear-Admiral Duncan Potts, Younger Brother, appointed CBE.

**Competition Time**

Who was the first Engineer-in-Chief of Trinity House, London?

**Competition Winner**

Each card will be approximately A5 in size and will be sold in packs of ten with envelopes. In due course the price (excluding post and packing) will be announced. The cards may also be collected in full colour and commemorates the grant of Henry VIII’s charter to Trinity House in 1514 as seen here with this message inside: “All Good Wishes for Christmas and the New Year”.

**Flash Winter 2013**

Last year’s winner: Dangerous Lighthouse by Kevin Burchett.

This competition closes on 28th February 2015. Further details about the competition, including rules and an entry form can be obtained from the website: www.trinityhouse.co.uk/photo_competition

**Christmas Cards**

The 2014 Trinity House Christmas Card is printed in full colour and commemorates the grant of Henry VIII’s charter to Trinity House in 1514 as seen here with this message inside: “All Good Wishes for Christmas and the New Year”.

**Light Upon the Waters**

The History of Trinity House 1514 To 2014

When Henry VIII granted a guild of mariners a Royal Charter in 1514, he could not have foreseen the changes the organisation would witness and influence over its first five centuries. To commemorate 500 years of its existence, the Corporation of Trinity House publishes its history in this 300-page, richly illustrated volume, told by maritime historian Captain Richard Woodman and pilotage expert Captain Andrew Adams.

(ISBN: 978 0 9575991 0 9) Price £29.95

To order please contact: michela.tindal@thh.org or www.trinityhouse.co.uk/th500/books

**Light Through a Lens**

An Illustrated Celebration of 500 Years of Trinity House

This is a hardback book by Neil Jones and Paul Ridgway and published by Greenwich and available from Trinity House. Neil Jones has been Records Manager for Trinity House since 2005 and Paul Ridgway’s association with Trinity House goes back four decades beginning as a Pk assistant at Headquarters on Tower Hill in 1972. This is an annotated collection of illustrations of the 500 year history of Trinity House and contains rarely-seen archive photographs of Lighthouse Service operations in our waters.

(ISBN 978 1 4081 7 595 8) Price £20.00

**Lighthouse Photographic Competition**

As in past years we are running a competition to find the best photographs of our lighthouses. Entrants are invited to submit pictures of any of our lighthouses. The twelve winning photographs will be published in the 2016 Lighthouse Calendar produced in association with leading calendar producer J. Salmon Ltd. The photograph deemed the overall best entry will win a short break in one of the lighthouse holiday cottages.

**Honouring the Organisers**

A ndrew Adams and Captain Richard Woodman.

**Competition Time**

Q

Who was the first Engineer-in-Chief of Trinity House, London?

A

The closing date for entries is Monday 1st September 2014. All the correct answers will be entered in to a draw and one lucky winner will receive a print of a Peter Kent picture whose work is shown in the centre pages of this edition of FLASH.

Entries can be posted to: The Editor, FLASH, Trinity House, The Quay, Harwich, Essex, CO12 3JW

**COMPETITION WINNER**

Each card will be approximately A5 in size and will be sold in packs of ten with envelopes. In due course the price (excluding post and packing) will be announced. The cards may also be collected from Trinity House.

To order readers may wish to keep an eye on the website: www.trinityhouse.co.uk/shop
The Lifeboat Service in South East England Station by station
By Nicholas Leach
Published by Amberley Publishing, Stroud, Gloucestershire 160 pages Paperback, ISBN 978 1 445 6 175 0 3
Price £15.99

Kipling and the Sea
Introduced and edited by Andrew Lycett
Published by B T Batsford, London 244 pages Hardback, ISBN 978 1 78067 273 9
Price £19.99

The Golden Age of Maritime Maps: WHEN EURYPA DISCOVERED THE WORLD
By Ian M Malcolm
Published by The History Press, Stroud, Gloucestershire 272 pages Paperback, ISBN 978 0 7524 8634 8
Price £19.99

Shipping Company Losses of the Second World War
By John Kinsley
Published by The History Press, Stroud, Gloucestershire 272 pages Paperback, ISBN 978 0 7524 9842 8
Price £19.99

Quincentenary merchandise
Issued in a limited edition of 10,000 by the Royal Mint a coin cover page tribute to the Corporation of Trinity House in our 500th anniversary year and at the same time Southwold Lighthouse will be featured as part of a seaside architecture stamp set.

The coin cover will contain the £2 coin and bear the Southwold Lighthouse stamp. The front of the envelope carries a photograph of Beachy Head Lighthouse while the reverse features a map of England and Wales pinpointing our 63 lighthouses. Maritime history writer and photographer Richard Johnstone-Bryden has contributed a brief summary of the origins of the Corporation, as well providing a timeline of our history and current responsibilities, this contains a quote from HHR The Prince Philip, Immediate Past Master of the Corporation.

Trinity House-themed £2 coin.
On the 19th May the Royal Mint announced that to mark the 500th anniversary of the granting of the Charter by Henry VIII in 1514 it had produced a limited edition commemorative Trinity House-themed £2 coin in sterling silver and 22 carat gold. This carries a striking lighthouse design by Joe Whitlock Blundell and David Eccles. The design also appears on the circular version of the £2 coin which you will doubtless find in your loose change from October. Each coin is edged with the words SERVING THE MARINER and has a handstamped feature of a lighthouse. On the first day of issue, 18th September, there will be a hand stamp featuring a line drawing of a lighthouse pattern while the postal location of Lowestoft on the postmark refers to our first lighthouse construction, of 1609. To obtain the coin cover and the first day cover residents are invited to take a look at www.royalmint.com

Quincentenary coin and First Day Cover
Issued in a limited edition of 10,000 by the Royal Mint a coin cover page tribute to the Corporation of Trinity House in our 500th anniversary year and at the same time Southwold Lighthouse will be featured as part of a seaside architecture stamp set.

This coin cover will contain the £2 coin and bear the Southwold Lighthouse stamp. The front of the envelope carries a photograph of Beachy Head Lighthouse while the reverse features a map of England and Wales pinpointing our 63 lighthouses. Maritime history writer and photographer Richard Johnstone-Bryden has contributed a brief summary of the origins of the Corporation, as well providing a timeline of our history and current responsibilities, this contains a quote from HHR The Prince Philip, Immediate Past Master of the Corporation.

Trinity House-themed £2 coin.
On the 19th May the Royal Mint announced that to mark the 500th anniversary of the granting of the Charter by Henry VIII in 1514 it had produced a limited edition commemorative Trinity House-themed £2 coin in sterling silver and 22 carat gold. This carries a striking lighthouse design by Joe Whitlock Blundell and David Eccles. The design also appears on the circular version of the £2 coin which you will doubtless find in your loose change from October. Each coin is edged with the words SERVING THE MARINER and has a handstamped feature of a lighthouse. On the first day of issue, 18th September, there will be a hand stamp featuring a line drawing of a lighthouse pattern while the postal location of Lowestoft on the postmark refers to our first lighthouse construction, of 1609. To obtain the coin cover and the first day cover residents are invited to take a look at www.royalmint.com

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Congratulations to...

**WEDDINGS**

Procurement’s Jake Walker married Stuart Holsgrove on Saturday 24 May 2014 at St Michael’s Church in Ramsey, Harwich. The new Mr and Mrs Holsgrove will go on honeymoon later this year.

**BIRTHS**

Robbie James Craig Ramsey, on 1 May. Robbie weighed 8lbs 2ozs.

**NEW STAFF**

St Just

Douglas Millburn, Lighthouse Support Team Member (Fixed Term), on 17 March.

SVS

Samantha Mason, Second Officer (Fixed Term), on 16 October.

David Pacoe, Engine Room Assistant (Fixed Term), on 6 November.

Frazer MacInnes, Trainee Deck Rating (Fixed Term), on 8 January.

Steven Bower, Trainee Deck Rating (Fixed Term), on 8 January.

Daniel Adams, Seaman – Auxiliary, on 8 January.

Jade Fisher, Trainee Deck Rating (Fixed Term), on 29 January.

Ian Garner, Seaman, on 29 January 2014.

Aron Mills, Seaman (Fixed Term), on 29 January 2014.

Andrew Cope, Seaman, on 19 February 2014.

Jonathan Rowlands, Trainee Catering Rating (Fixed Term), on 12 March.

Adam Keen, Second Officer, on 12 March.

Mark Winter, Seaman, on 2 April.

Charlotte Black, Second Officer (Fixed Term), on 28 May.

Tower Hill

David Ring, Non Executive Director (Fixed Term), on 1 December.

Lucy Smith, Navigation Department Administrator (Fixed Term), on 6 January 2014.

Graeme Proctor, Inspector of Seamarks, on 31 March 2014.

Anthony Tibbert, Examiner (Fixed Term), on 1 April 2014.

**LEAVES**

We bid farewell, extend our thanks for their service and wish them well in their futures to:

**Harwich**

Ron Blakeley, Principal Civil Engineer, after 22 years service.

Carl Schofield, Buoy Yard Team Member, after less than one year of service.

Philip Woods, Buoy Operations Manager, after five years service.

Edward Homer, Buoy Yard Team Member, after less than one year of service.

Conor Dale, Buoy Yard Team Member (Fixed Term), after less than one year of service.

**SVS**

Dale Callaby, Trainer Catering Rating (Fixed Term), after two years service.

Alex Davis, Second Officer, after three years service.

Michael Green, Carpenter, after 14 years service.

Travis Cook, Apprentice (Fixed Term), after one year of service.

Scott Sanderson, Seaman (Fixed Term), after less than one year of service.

David Croucher, Seaman, after ten years service.

Robert Sommerville, Second Officer, after six years service.

Timothy Iles, Second Engineer – Auxiliary, after less than one year of service.

Melissa Goddard, Cook, after 12 years service.

**Swansea**

Jeffrey Westwood, Buoy Yard Supervisor, after 30 years service.

John Mainwaring, Buoy Yard Team Member, after 19 years service.

Garry Davies, Buoy Yard Team Member (Craft), after 25 years service.

**Around the Service**

It is with great sadness we report the deaths of:

Michael Williams, former Assistant Keeper, on 2 October 2013, aged 63. He served 21 years.

Margaret Joan Dennis, former HEO (Pay Unit) – Harwich, on 23 August 2013, aged 83. She served 17 years.

Ronald Jeffreys, former Senior Craftsman – Harwich, on 31 October 2013, aged 81. He served 17 years.

Anthony James Wilding, former Engine Room Assistant – SVS, on 20 October 2013, aged 74. He served 13 years.

Kenneth Rowley, former Assistant Keeper, on 20 October 213, aged 74. He served 15 years.

Michael John Nedin, former Craft Painter – Swansea, on 11 October 2013, aged 61. He served ten years.

David Knight, former Assistant Keeper, on 15 November 2013, aged 78. He served 23 years.

Frederick Harry Sould, former FR – SVS, on 26 November 2013, aged 81. He served seven years.

Thomas Graham Forster, former Engineering Superintendent – Harwich, on 11 October 2013, aged 65. He served 28 years.

Eric Ellsmore, former Foreman of Works – Pemiance, on 25 December 2013, aged 82. He served 20 years.

Maurice Ernest Wilshe, former Fitter – Blackwall, on 28 May 2013, aged 93. He served four years.

Patrick Peter Leary, former Labourer – Swansea, on 7 January 2014, aged 87. He served 15 years.

Andrew John Bally, former Electrician – Harwich, on 12 January 2014, aged 65. He served 20 years.

Marie Read, former Ty普及ter – Harwich, on 22 February 2014, aged 90. She served seven years.

Ronald Critchett, former Assistant Keeper, on 11 January 2013, aged 81. He served seven years.

Desmond Williams, former Paintsprayer – CLF, on 1 January 2014, aged 71. He served seven years.

Denis William Bird, former Master – SVS, on 25 March 2014, aged 89. He served 17 years.

Vincent Stephen Pearce, former Principal Keeper, on 27 February 2014, aged 82. He served 36 years.

**LEAVERS**

We bid farewell, extend our thanks for their service and wish them well in their futures to:

**Harwich**

Brian Lane, a dedicated wildfowler on the Essex marshes.

On 16th May 2014 at the age of 72 suddenly after a short illness. He retired as the Corporation’s Maintenance Manager in 2007.

He joined the London Craving Dock at Poplar at the age of 15½ in a multi-trade apprenticeship in 1957 and by the age of 30 he was the youngest shipyard foreman on the London River. The yard was a major ship repair business and for many years two of its clients were the Trinity House Pilot Vessel Service and the RFA which docked and repaired here. In 1979 he joined Trinity House Workshops Blackwall where he worked as a boilermaker fabricating busy bodies and the many examples of steelwork required in lighthouse engineering, particularly on the automation programme, around the Service.

Following the closure of Workshops in 1987 he returned to Trinity House, this time to Tower Hill, in 1990 as the Corporation’s Maintenance Engineer with responsibilities including the supervision of the cleaning of the House, preparation of ceremonial rooms for events and routine maintenance including guidance of contractors during the annual summer refit thus ensuring the best facilities for our clients. He was appointed Maintenance Manager in 2001.

For ten years he carried the Corporation’s mace at the Annual Meeting of the Court each Trinity Tide. He was an accomplished shot and for more than 40 years a dedicated wildfowler on the Essex marshes.