News story: Mystery of 2 unknown British soldiers finally solved

The families of Guardsmen Joseph Goulden and Raymond Frederick Rose, who both served with the Coldstream Guards before being killed during World War 2, can finally take comfort in knowing the location of their loved ones' final resting place.

As a result of an investigation undertaken by the MOD's Joint Casualty and Compassionate Centre (JCCC), Guardsman Goulden from Gloucester and Guardsman Rose from Pontefract, Yorkshire were honoured during a moving rededication service earlier today (Thursday 23 November 2017).

The service, organised by the JCCC, part of Defence Business Services, was conducted by The Reverend Jacob Caldwell CF, Chaplain 1st Battalion Coldstream Guards at the Commonwealth War Graves Commission (CWGC) Salerno War Cemetery, Italy.

Following the discoveries made by 2 Italian military historical groups, subsequent research by the JCCC and DNA testing confirming their identities, JCCC were able to trace the 2 associated families so they could be invited to attend today's service alongside current members of the Coldstream Guards.

2nd cousin Susan Henry receives a presentation of a regimental cap and belt along with the Union Flag on behalf of the Goulden family, Crown Copyright,

Sue Raftree, JCCC said:

> These 2 brave soldiers fought for their country to make our lives better. Originally buried as unknowns they now have their own headstones whilst their families finally have closure. It is a privilege for the Joint Casualty and Compassionate Centre to have organised this fitting service.

2nd cousin Michael Rose receives a presentation of a regimental cap and belt along with the Union Flag on behalf of the Rose family, Crown Copyright, All rights reserved

The Coldstream Guards were brought up to Hill 270 to attack at midday on 25 September 1943, their plan was to reach the bottom of the hill by infiltrating from the left and using the thick trees as cover. At 11.40 am the attack began and regrettably, there were huge casualties including Guardsmen Goulden and Rose.

Guardsman Joseph Goulden was 31 years old when he was killed whilst Guardsman Raymond Rose was just 19.

The Goulden family accompanied by Reverend Jacob Caldwell, members of the Coldstream Guards, British Exchange Officer Colonel David Rook and Italian officials.

Statement from the Goulden family:

> We were deeply humbled to discover that we had a relative who fought and died in Salerno Italy during World War 2. Joseph Goulden enlisted in the Coldstream Guards and successfully fought in Africa and Egypt before he was sent to Italy where he bravely fought and died taking Hill 270. His remains were discovered and through DNA analysis it was confirmed that he was a family member.
>
> We were very proud to attend the ceremony today in Salerno.

The Rose family accompanied by Reverend Jacob Caldwell, members of the Coldstream Guards, British Exchange Officer Colonel David Rook and Italian officials, Crown Copyright, All rights reserved

Statement from the Rose family:

> We are proud to know that a relative of ours was brave enough to lay his life down for us.
> Raymond volunteered to go to war and we ask ourselves ‘would we?’ – probably not!
>
> Incredible sacrifice at the age of 19. To risk his life for the good of his fellow man; the ultimate sacrifice.

Reverend Jacob Caldwell CF said:

> What an honour it is to formally recognise the sacrifice of Guardsman Rose and Guardsman Goulden here in the presence of their families. At the Battle of Salerno the Coldstream Guards demonstrated a remarkable resolve in the face of some profoundly challenging circumstances. As we formally give thanks for their lives and service, we honour their willingness to sacrifice their all in the business of war for the purposes of peace.

Two new headstones bearing their names have been provided by the CWGC, who will now care for their final resting place in perpetuity.

Speech: Gallipoli Memorial Lecture 2017

It is a privilege to be here at RUSI, and to have the opportunity to deliver this prestigious annual lecture, particularly at this moment in time, as we prepare to enter the fifth and final year of commemorations for the centenary of the First World War, and as the government considers the role our armed forces must play in a world which, sadly, seems to be growing more competitive once again.

As First Sea Lord, I have had the honour of representing the Royal Navy at a number of Centenary events.

Last summer, I was in Orkney as the whole country paused to remember the Battle of Jutland, perhaps the most consequential 36 hours of the whole war…although that's a debate for another time!

Also last summer, at Thiepval, and earlier this year at the Menin Gate in Ypres, I joined my fellow service chiefs to commemorate the battles of the Somme and Passchendaele, and also to represent the somewhat overlooked contribution of the Royal Naval Division, the Royal Naval Air Service and the Royal Marine Artillery among the trenches and barbed wire of the Western Front.

Yet the Gallipoli Campaign has a special interest for me, both professionally and personally.

As a former commander of the Royal Navy's Amphibious Task Group, and as someone whose own formative naval experiences were in San Carlos Water 35 years ago, I have always been conscious that the Gallipoli landings sowed the seeds for what we now term amphibious and littoral operations.

Although bitter, the lessons would prove central to the success of the allied landings in Sicily and Normandy in the Second World War, and they continue to resonate today, albeit in an ever-evolving form.

To that end, I intend to dedicate a good proportion of my remarks today to exploring what the future holds for the Royal Navy and Royal Marines in this area.

But I want to start by reflecting on the Anglo-French naval action to open the Dardanelles which proceeded the landings.

The reason I choose this aspect is that it challenges today's naval and military leaders to consider how we will operate and fight together in a contested battlespace.

Dardanelles Campaign

As many of you will know, the Dardanelles is a 40 mile strait separating Asia and Europe.

Visiting there as Fleet Commander in the destroyer HMS Duncan in 2015 for the Centenary, I was struck by just how exposed any military force attempting to force passage through the Strait must have been.

The opening is guarded by the rocky peaks of the Gallipoli Peninsula and at its narrowest point the channel is only a mile wide. The water flows in both directions, which produces difficult opposing currents on and below the surface. Even for experienced navigators, it is an extremely testing stretch of water.

Nevertheless, the First Lord of the Admiralty at the time, an irrepressible fellow by the name of Churchill, had devised an audacious plan for the Royal Navy to punch its way through the Dardanelles in order to attack Istanbul and knock the Ottoman Empire out of the war.

With fighting on the Western Front bogged down in a slow and costly war of attrition, he wanted to reboot the allied war effort with a quick and easy win.

And yet there was a fatal flaw in this plan. Both he and the allied commanders had massively underestimated the ingenuity, and tenacity, of their enemy.

Hundreds of mines had been spread across the channel and, with German assistance, the Ottomans had strengthened the defences around the narrows and introduced new mobile artillery along the clifftops.

Today we would term these disruptive technologies; the Ottoman forces were much faster to grasp their potential and were able to apply them to a theatre they knew well with devastating success.

The principal day of naval action saw 3 allied battleships sunk, and a further 3 crippled.

The conduct of the subsequent landings was better but still hampered by a chronic lack of skilled coordination between the British Army and the Royal Navy, and the 'trenchlock' realities of the period prevented them from developing much beyond the beachhead.

To borrow a phrase from Napoleon: one service was an elephant, the other was a whale, and neither really understood how to flourish in the other's environment.

Contested waters

So why is this relevant today?

Just as commanders at Gallipoli faced new and unfamiliar multi-dimensional threats, notably the combination of artillery from above and mines from below, today the armed forces must work in an increasingly complex battlespace.

We feel this acutely in the Royal Navy, operating as we do above and below the waves, over the land, in the air and in cyberspace.

Since the end of the Cold War, Western navies have, by and large, enjoyed a degree of superiority at sea which enabled us to work across all these domains unimpeded.

And yet today, the space in which we operate is becoming more congested and contested.

Part of this is technological. Conventional weapons which deny navies freedom of navigation are proliferating.

The most obvious examples are underwater.

Today there are almost 500 submarines operated by 40 navies.

Nuclear boats remain in a league of their own, but the latest conventionally powered submarines are quieter, more reliable and better operated than their diesel equivalents of yesteryear.

The same is true for sea mines, which remain cheap, easy-to-use and plentiful.

Stockpiles held by North Korea and Iran are estimated to be in the thousands, globally the figure could run into the hundreds of thousands.

Thanks in part to the internet, knowledge of how to use them is spreading too, as we've seen from devices deployed off Yemen recently which, incidentally, is the 22nd global mining event since the Second World War.

Those of you who heard me speak at DSEI in September will know the Royal Navy plans to accelerate the introduction of autonomous mine hunting systems, and this is one reason why.

But as well as being more contested from a technological perspective, the maritime domain is also becoming more congested as a result of broader geo-strategic trends.

You don't need to look very far to see rising and resurgent powers flex their muscles.

It's now clear that the peaks of Russian submarine activity that we've seen in the North Atlantic in recent years are the new norm.

The same is true of the steady stream of vessels passing the UK on their way to join the Baltic, Mediterranean and Black Sea Fleets.

It’s not all about our old friends in the North.

China’s navy now sustains routine deployments to the Middle East, Somali Basin and Gulf of Guinea.

Earlier this year we saw a joint Russian-Chinese naval exercise in the Baltic. Suddenly, our own European backyard is a little more crowded.

To quote my friend the US Chief of Naval Operations,

> the era of uncontested maritime superiority is fading.

Our response cannot simply be to avoid operating in these environments; we don’t have that luxury.

Areas of enclosed water, like the Baltic and the Persian Gulf, are essential to global security today, and will remain so.

Over the coming decades, more and more of the world’s population will be concentrated in coastal regions; and with growing population comes the opportunity for greater economic, political and military power.

This is where the conflicts of the future will happen, and if governments wish to influence events then they must be prepared to act in this space.

The inherent mobility, flexibility and capability of maritime forces provides military and political choice, which is why it remains the favoured means of power projection for western governments, and for aspiring military powers.

I certainly sense no appetite in the West to commit forces ashore in large numbers; whatever the dangers found at sea, the risks of enduring land operations are greater still.

But in any case, the distinction between all these domains is becoming more blurred

We have no choice but to operate across all these domains and to meet conventional and unconventional threats in equal measure.

Reshaping the Royal Navy

So what does this mean for the UK?

Two weeks from today, in the presence of Her Majesty the Queen, we will hoist the White Ensign from the largest ship ever built for the Royal Navy.

Of course, aircraft carriers, like nuclear submarines, are strategic instruments, indicative of an ocean-going navy and a global maritime power.

They may be operated by the Royal Navy, but these ships will sit at the heart of joint and coalition operations.

In particular, I have every expectation that the pairing of the Queen Elizabeth class carriers with their fifth generation F35B Joint Strike Fighters will quickly become a valued asset, in constant national and coalition demand.

Inevitably, the carriers will operate in areas of heightened tension, and in proximity to the threat.

The Royal Navy feels a particular sense of responsibility in this enterprise.

Much of our organisation is being reshaped in order to generate and sustain a Carrier Strike Group with all the resilience needed to ensure that we, the navy, can match the expectation that this phenomenal capability represents for the UK armed forces as a whole.

We've done a lot of work to consider what a comprehensive, sovereign UK Carrier Strike group should look like.

It will vary according to the circumstances of each deployment, but in a high threat environment we would expect a carrier to be accompanied by 2 destroyers for air defence, 2 frigates for anti-submarine protection, a tanker and a solid support ship, together with an attack submarine held on a reasonably tight rein.

Of course, with a force of 19 frigates and destroyers, this will necessitate a change to how the navy delivers some of its other commitments.

The new Offshore Patrol Vessels and subsequently the Type 31e frigates will pick up many of our fixed tasks, freeing up the more complex Type 26 frigates and Type 45 destroyers for their core roles in support of Carrier Strike and the Nuclear Deterrent.

This represents a return to the concept of balance fleet which has been the historical norm for the Royal Navy.

To this core we can add other specialist vessels as required, and we expect to integrate ships and aircraft from partner navies too.

Nor should we forget the Royal Air Force's P8 Maritime Patrol Aircraft, or the Fleet Air Arm's Crowsnest Airborne Surveillance and Control System, both of which sit at the outmost layer of defence.

But, at the heart of it all, is the F35B.

The Joint Strike Fighter represents a quantum leap over anything we've operated at sea before, combining the traditional qualities of speed and manoeuvrability with the 21st century advantages of stealth, electronic attack and sensor fusion.

The vast majority of enemy fighters will likely never know they are targeted

by the F35B until the weapon impacts.

The Royal Navy is proud to boast genuinely world beating capabilities that will sit within the Carrier Strike Group, and we use them with skill.

This is an important point because sometimes, we take the claims of other nations at face value, without being even handed in our critical analysis.

I hear quite a lot of ill-informed commentary about so called “carrier killer” hypersonic missiles.

These are still in the development stage. At some point, they may pose a threat, but this would apply on land as it does at sea.

However, the great advantage of a Carrier Strike Group remains the fact that you can move it out of harm’s way covertly and you can keep doing so as circumstances demand.

But the crucial point here is that while our adversaries may be pursuing new technologies, so are we.

In the coming years we will test the UK’s first directed energy weapon from a Royal Navy ship.

This kind of system will be able to provide close-in protection for naval vessels operating near to shore, while high powered microwave systems, also under development, will disrupt sensors and communications.

Last month, I visited the US Navy’s surface warfare laboratory in Virginia to learn about their electromagnetic rail gun.

This can project a tungsten warhead at a target 110 nautical miles away. It arrives at Mach 9, and can pass through 9 inches of steel.

In time, all these weapons will have a role to play in countering a swathe of emerging threats across land, sea and air, including hypersonic and ballistic missiles, drones and fast intercept craft, and our new Type 26 frigate is designed with the power and space requirements to integrate these systems as they reach maturity.

The future of Royal Marines

So what is the place of amphibious warfare in this new carrier centric era of maritime power protection?

The truth of the matter is there are few elements of our armed forces more feared by our enemies, or more respected by our allies, than the Royal Marines.

Only last week, the Royal Navy and the Turkish Navy participated in NATO amphibious training in the Eastern Mediterranean.

As Turkey develops its own amphibious capability, centred on introducing 2

new LHDs into service, they naturally look to the UK and the Royal Marines for assistance.

As I mentioned earlier, my own formative experience in the Royal Navy was serving in the assault ship HMS Fearless during the Falklands War.

I have subsequently had the privilege to serve alongside, or to lead, Royal Marines at every stage of my career, including commanding the Amphibious Task Group 10 years ago.

The Royal Marines are an inseparable part of our naval family, and as Head of Service I will fight for them every step of the way.

And yet I recognise that, together, the Royal Navy and Royal Marines must adapt to meet the challenges of the maritime century.

Let me explore this in a little more detail.

In the course of my career, I have seen assumptions about the nature of amphibious warfare change time-and-again.

Throughout the Cold War, with most of the British Army committed to Germany, the primary wartime purpose of the Royal Marines was to bolster NATO's northern flank in Norway, to slow the advance of Soviet forces long enough for reinforcements to arrive.

Then, in the 1990s, it was all change. The Royal Marines were now the vanguard of the Royal Navy's transformation into an expeditionary tool. This reflected the Blair government's ambition for the UK armed forces to be a "force for good" in the world and was perhaps best exemplified by our intervention in the Sierra Leone civil war in 2000.

Finally, in the last decade, as the UK's involvement in Iraq and Afghanistan deepened, increasingly the Royal Marines found themselves serving, with distinction, in an infantry role ashore alongside the army.

In each of these cases, the Royal Marines were the 'first to adapt, the first to overcome' and now, as the Royal Navy looks forward to a new carrier centric future, they must do so again.

However, I want to be clear that this does not mean our investment in Carrier Strike comes at the expense of the Royal Marines.

The different core capabilities within the naval service undergo the cycle of renewal at different times.

Fifteen years ago, much of our naval investment was directed toward the Royal Marines, as we conducted operations in Iraq and Afghanistan, recapitalised our amphibious shipping, and introduced new Offshore Raiding Craft and Viking Protected all-terrain vehicles.

So while Carrier Strike and the Deterrent now take their turn in the cycle of renewal, this in no way lessens the continuing importance of the Royal

Marines.

Indeed, the responsibilities, and opportunities, of this new era for the naval service are shared across our 5 fighting arms.

For the Royal Marines, these responsibilities begin at home.

43 Commando continue to protect the Nuclear Deterrent and the Corps is making a growing contribution to domestic counter-terrorism, which has sadly seen them activated twice this year for Operation Temperer.

The Lead Commando Group continues to serve as the UK's 'go-to' high readiness force. They were at the forefront of our disaster relief efforts in the Caribbean in September; and next year they will head to the Gulf and to India with the Joint Expeditionary Force for large scale exercises.

Meanwhile, SDSR 15 confirmed investment in the amphibious capabilities of our Queen Elizabeth class carriers and the modernisation of the Commando Helicopter Force is underway.

Beyond these core roles, the work of ship's protection and boarding teams, the fleet standby rifle troop, and of international training teams around the world, continues.

As I speak a Royal Marine training team is in Taranto working with the Libyan Coastguard to help develop the skills they will need to better police their troubled coastline.

So the Royal Marines are today every bit as vital to the work of the Royal Navy, and of defence more broadly, as they have been throughout the last 350 years.

Nevertheless, the concepts and capabilities that shape how we operate in the littoral will continue to change, and by the 2030s they will look different to how they appear today.

Work to understand and develop this requirement began long before the National Security Capability Review, and is being led from within the Corps.

Through the development of Special Purpose Task Groups, 3 Commando Brigade is now able to offer something new to defence, in the form of scalable teams of Royal Marines with tailored skills and capabilities that can be deployed in theatre, or held at high readiness, to provide military choice.

Meanwhile, 42 Commando has transformed into a dedicated maritime operations commando to work alongside our sailors in a variety of roles; a move that reflects the historical roots of the Corps.

As for specialist shipping, in the longer term we may opt for multi-role platforms which can provide amphibious capabilities, but can also serve as an afloat forward base for a range of enduring maritime security tasks.

The Type 31e General Purpose Frigate will also provide an ideal platform to

host an embarked military force, forward deployed to British Overseas Territories, and to regions of concern to the UK.

While all this points to a more agile approach, we should not discount the future requirement to provide amphibious forces at scale to deliver theatre entry from the sea.

Our experience of the Snatch Land Rover in Iraq and Afghanistan highlighted the vulnerability of lightly armoured vehicles. As a result our newer, better armoured, equipment is progressively heavier, but in some cases too heavy to be lifted by air.

Of course, no one envisages sending landing craft full of Marines to storm an enemy beach under a hail of fire.

That model is, we hope, consigned to the history books; but in instances where aviation lift is unavailable or insufficient it may still be necessary to offload large numbers of personnel and heavy equipment from the sea, ideally at a port but if necessary over a beach, however that might be achieved.

Fighting in the information age

Finally, when considering the role of the Royal Marines, we mustn’t overlook the most important element of all, and the only capability in defence which is truly ‘exquisite’, I am, of course, referring to people.

The future operational environment will demand more than just blunt force, it will require nuance and sophistication.

In Afghanistan, 3 Commando Brigade learnt a huge amount about civil-military cooperation, cultural awareness, and the importance of understanding the pattern of life among scattered tribal villages.

We need to retain and develop this insight, because it will be just as relevant to rapidly growing urban populations in failed and failing coastal states, or among mariners and fishermen working in the vital maritime choke points which govern the flow of maritime trade.

Within this, there is a huge role for information superiority. 30 Commando are world leaders in information exploitation and the Royal Marines were front and centre of last year’s Exercise Information Warrior.

The Royal Marines have always been the thinking man’s solider.

Today 17% of marines have degrees and 40% have the educational qualifications for officer selection.

They remain experts in urban, mountain and arctic skills.

These are the men, and in future the women, who can build understanding, exploit technology and, when required, strike with precision.

And they have rarely been more relevant to the threats we face.

So be in no doubt: even as the Royal Navy enters a new era of carrier operations, the Royal Marines are bound into the future our service, and of our national defence, in every way.

Conclusion

We have drifted a long way from the Gallipoli Peninsula.

But, in sum, with global populations becoming even more concentrated in the world's coastal regions, the UK armed forces must be ready to operate seamlessly from the sea to the land, and across all domains.

Let me draw this to a close by reflecting on the words of General Hamilton, commander of the British Mediterranean Expeditionary Force, to Lord Kitchener, the Secretary of State for War, in May 1915.

> The Royal Navy has been father and mother to the Army. Not one of us but realises how much he owed to Vice Admiral de Roebeck; to the warships, French and British; to the destroyers, minesweepers, picket boats and their dauntless crews; who took no thought of themselves but risked everything to give their soldier comrades a fair run at the enemy.

Amidst the somewhat dispassionate analysis, we must never forget that the men and boys of the Royal Navy and of all the allied forces, showed immense fortitude and bravery, and they paid a terrible price, as did the Ottoman forces.

The best way we can keep alive the memory of all those who fought and died in the Gallipoli Campaign is by learning the hard won lessons of their experience, so that we may prosper by them.

News story: Defence Minister visits small Ipswich company which has played big part in Britain's new aircraft carriers

HMS Queen Elizabeth, the first of Britain's two new flagship 65,000 tonne aircraft carriers, sailed back into her home base in Portsmouth this week ahead of being formally commissioned into the Royal Navy fleet by Her Majesty

the Queen early next month.

Tex Special Projects Ltd, based just outside of Ipswich, Suffolk, played an important role in constructing the Flying Control Room (FLYCO) on-board. The FLYCO is the hub from which the Armed Forces will direct air operations from the Carrier at sea, launching the UK's new F35 jets from her enormous flight deck.

The Flying Control Room on HMS Queen Elizabeth.

The team of just 15 engineers and support staff provided structural, engineering and glazing systems for the FLYCO for both Carriers. The Minister met with employees and was shown a sample of Tex's British designed Maxi-View Tempest glass installed in the FLYCO. The multi-layered laminated panels are over three meters high, making them the largest single panes of glass used on any Royal Navy vessel.

Defence Minister Harriett Baldwin said:

> The largest panes of glass for the biggest ships in Royal Navy history were designed here, by this incredibly impressive small company. Soon our sailors will be watching, through these panes of glass, our F-35 fighter jets take off to defend our country. Our new aircraft carriers are a floating example of British industrial ingenuity and the have helped to boost local businesses right up and down the UK.

Chris Parker, Managing Director of Tex Special Projects Ltd said:

> Tex Holdings have long been involved in a variety of Ministry of Defence projects such as designing visual control rooms within air traffic control centres for Royal Air Force and Royal Navy air stations across the UK. For this project we had to design and overcome some very demanding technical challenges, delivering a near uninterrupted 290-degree field of view of the flight deck, which is unparalleled in any nation's warships.
>
> We feel incredibly privileged to have been a part of this very prestigious capital project. For 12 years we have provided our technical expertise and supplied the FLYCO and all the ship's windows, wipers and blades. Without the Queen Elizabeth Class programme the Special Projects Company would never have been formed, so we are extremely grateful for the exceptional opportunity it afforded us.

Defence Minister Harriett Baldwin paid a visit to Tex Special Projects Ltd.

Tex is one of the hundreds of British small to medium enterprises that has supported the build of the Carriers, which has been a truly national endeavor involving 700 businesses and suppliers. The programme has brought together the best of British industry, with construction taking place across six main cities, involving more than 10,000 people.

Last year saw the MOD's direct spend with smaller business increase by over

10% as the department continues efforts to make it easier for SMEs to win defence business, maximising the innovative solutions they can offer the Armed Forces.

Defence Minister Harriett Baldwin has launched initiatives such as a new Supplier Portal, which brings together a range of useful information for new and prospective suppliers in one place for the first time, as well as a dedicated Twitter account to flag opportunities to SMEs.

Defence Minister Harriett Baldwin paid a visit to Tex Special Projects Ltd.

News story: Ministry of Defence awards celebrate commitment to the environment

The Defence Infrastructure Organisation (DIO), part of the MOD, manages the defence estate and supports armed forces throughout the UK and abroad to live, work and train. The 27th annual Sanctuary Awards, held today (22 November 2017) in London, showcased the achievements of teams and individuals working to preserve and protect the defence estate, both at home and abroad.

Winners and runners up were selected from 5 categories and 2 overall winners

were chosen to receive the Silver Otter trophy or the Sustainable Business Award.

This year's winner of the coveted Silver Otter trophy is archaeologist Roy Canham MBE. Roy won the Individual Achievement Award for his 40 years of work to survey and safeguard the over 2,200 historical sites across Salisbury Plain. From the 1970s, he worked with the then newly formed Imber Conservation Group to create a record of the many important archaeological sites on the plain. Roy also led work with the MOD, English Heritage and Wiltshire Council on designing measures to protect this historic landscape while also ensuring that the area could continue to be used by the armed forces for training.

The Sustainable Business Award was won by Army Basing Programme Salisbury Plain for their work to rebase service personnel and their families from Germany and re-role units within the UK by 2020. The scale of ABP's Salisbury Plain programme is unprecedented with an investment of over £1.3 billion, delivering 1,339 service family accommodation (SFA), 2,600 single living accommodation (SLA) units and extensive technical facilities.

This year's awards have an international feel with winners and runners up representing areas of the military training estate from all over Great Britain and the world. Winners and runners up are:

Individual Achievement Award

- Winner and Silver Otter Winner: Roy Canham MBE, Salisbury Plain, Wiltshire
- Runner up: LCpl Sheona Macmillan, Project (ANEMOI), Falklands

Heritage Project Award

- Winner: Ballykinler WWI Practice Trenches, Ballykinler, Northern Ireland
- Runner up: Ancient Akrotiri Project, Dreamer's Bay, Cyprus

Sustainability Project Award

- Winner: Army Basing Programme, Salisbury Plain
- Runner up: Typhoon Propulsion Support Facility, RAF Lossiemouth, Scotland

Environmental Project Award

- Winner: 25 years of Foxglove Covert Nature Reserve, Catterick Garrison
- Runner up: Longmoor Conservation Group Natterjack Toad Project, Home Counties

Utilities Project

- Winner: Maximising MOD Energy Efficient Behaviours – A Partnership Project

The awards were presented by DIO Chief Executive Graham Dalton and Julie

Taylor MOD Director General Head Office and Commissioning Services.

Julie Taylor said:

> I am pleased to present the Sanctuary Awards this year. It is important that we recognise our staff, partners and volunteers throughout the defence community who play such a vital role in helping us to promote sustainability and preserve the MOD estate. There was a fantastic variety of projects which showcased a great deal of innovation, creativity and community spirit. Congratulations to each of the winners and the runners up.

Graham Dalton commented:

> DIO takes its role in maintaining the defence estate on behalf of the MOD very seriously and it is encouraging to see so many others working with us and playing such an active part. There were many worthy winners and nominees and you should all be very proud of your achievements. Thank you to all of you for your support and your hard work.

This year's Sanctuary magazine was also launched at the awards ceremony. Published annually, the magazine demonstrates how the MOD is showcasing sustainability and protecting and maintaining the defence estate throughout the UK and overseas. You can access Sanctuary Magazine online.

You can also read blogs from each of the winners on the Inside DIO blog

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News story: Military Aviation Authorities (MAA) certification of the P-8A Poseidon Maritime Patrol aircraft

The 2015 Strategic Defence and Security Review announced the procurement of 9 maritime patrol aircraft to re-introduce a capability that had been dormant since the withdrawal of the Royal Air Force's (RAF) Nimrod MR2 in 2010. In July 2016 it was confirmed that the RAF would receive 9 Boeing P-8A Poseidon aircraft to meet this requirement.

The Poseidon is designed and built by the American aerospace company Boeing and can trace its' heritage to the company's 737 narrow body airliner. The Poseidon was developed to meet the requirements of a US Navy programme to replace the venerable Lockheed P-3 Orion maritime patrol aircraft and the

aircraft has been substantially re-engineered from the civil airliner that many of us have flown on business or holidays. As well as the inclusion of a large suite of sensors and mission equipment to carry out the maritime patrol role; it also includes significant structural strengthening, additional fuel tanks, an internal weapons bay and enhanced electrical power generation.

The aircraft first flew in 2009 and entered US Navy operational service in 2014. It should be noted that whilst the Poseidon's heritage is from the Boeing 737; the aircraft are designed, certified and built as military aircraft and are not civil airliners modified for a new role.

MOD Defence Equipment and Support (DE&S) are responsible for acquisition of the Poseidon aircraft, associated systems and support through a Foreign Military Sales contract with the US Department of Defense. Like all new United Kingdom (UK) military air systems the Poseidon must be certified by the Military Aviation Authority (MAA) before entering front line service. This certification activity is a process to demonstrate independently that the aircraft design complies with defined reference standards and can achieve an acceptable level of safety.

The certification process is an extremely extensive one that involves considerable interaction between the Type Airworthiness Authority (TAA), who is the senior engineer in the DE&S Delivery Team, and the Certification Division of the MAA. The process culminates in the issue of a Military Type Certificate (MTC) by the MAA and is detailed in RA 5810. This requirement for independent certification of new air systems by the MAA was a recommendation of the 2009 Haddon-Cave Report that led to the founding of the MAA.

A major element of the MAA 5 year strategy is engagement with other nation's military aviation regulators.This includes a formal process of recognition and, where appropriate, harmonising our approach internationally. Poseidon was introduced into US Navy service under the auspices of their procurement organisation Naval Air Systems Command, known as NAVAIR. The aircraft certification process was carried out by the US Navy's airworthiness regulator, the 4.0P division of NAVAIR. As part of the MAA's mutual recognition programme, NAVAIR 4.0P were recognised in October 2014 as a regulator whose approach to airworthiness, certification and regulation are acceptable to the MAA. Once the decision to procure Poseidon was confirmed, it was decided that it would be logical to exploit the mutual recognition process and use NAVAIR 4.0P's work on Poseidon as a key building block of the MAA's certification of the aircraft.

Whilst NAVAIR 4.0P has been recognised by the MAA, as with any other military regulator, it is important to note that there are significant differences in their regulatory approach. These mean that exploiting their certification activity was not simply a matter of "rubber-stamping" the NAVAIR equivalent of a MTC. Rather the MAA has developed a structured approach to re-use existing certification evidence to cater for differences in UK regulations, together with any differences in the configuration and operation of the aircraft in RAF service compared with the US Navy. This approach is explained in greater detail in 2 MAA Regulatory Notices, MAA/RN/2016/11 and MAA/RN/2015/08, and the MAA decided that certification of Poseidon was a

suitable opportunity to test its' application.

The first step in the process is what is termed a Part A Review. This is essentially a feasibility study to carry out an assessment of the acceptability and applicability of the original certification activities, in this case by NAVAIR 4.0P. The review also takes into account how the aircraft will be used in service by the RAF and the impact of any configuration differences between the UK and US Navy variants of Poseidon. During the Part A review it was confirmed that the Poseidon had been certified by NAVAIR to the processes that had been reviewed by the MAA during the recognition activity in 2014. However, it should be noted that many military airworthiness regulators have, like the MAA, been created in their current form only in the last decade and have evolved practice from there. Therefore, exploiting the mutual recognition route would probably not be feasible if the UK purchases an aircraft that has already been in service for a lengthy period, as it would have likely been certified to a different process to the one that has been recognised.

The Part A report was carried out by the TAA, and reviewed by MAA Certification Division, prior to the project's Main Gate review which took place in June 2016. Over the past 12 months the focus of the certification activities has been the compilation of a follow-on Part B report by the TAA. The Part B report is to address issues highlighted during the Part A Review and carry out a number of case studies into the certification work originally carried out by NAVAIR. The latter focuses on the areas: where US regulations and standards differ from those of the UK; that present the highest potential airworthiness risk and those where the Poseidon design includes novel or unusual features. Therefore, for example, there have been extensive Part B case studies into the major re-design of the aircraft's lower fuselage to include an internal weapons bay and auxiliary fuel tanks. The overall aim of the Part B report is to determine the extent of any further certification activity required to be carried out prior to the Poseidon entering RAF Service in 2019.

The Part B report has recently been submitted by the TAA to the MAA. A review period is required to allow the MAA Technical Director to formally comment on the issues raised in the report. However, the DE&S Delivery Team have been in regular dialogue with staff from MAA Certification Division to highlight issues as they develop and to seek guidance on this novel approach to certification of a UK military aircraft. The 2 teams have worked closely together to efficiently deliver a certification programme, whilst ensuring that there is clear delineation between the respective roles of DE&S as the delivery organization and the MAA as the Air Safety Regulator.

Once the MAA review of the report is completed the TAA will have to address the findings in a similar vein to the Part A report. In addition, the work to date for both the Part A and Part B reviews has been against the data from the US Navy's Lot 4 build standard. The first aircraft to be delivered to the RAF will be part of the US Navy's Lot 8 production buy. Therefore, as part of the programme of certification work following the Part B report, the TAA will have to assess the differences between the Lot 4 and Lot 8 configurations and provide appropriate certification evidence to the MAA. These various work

strands will culminate in the TAA submitting a final certification evidence submission to the MAA in late 2018 followed by the issue of a Military Type Certificate in early 2019, prior to the first RAF Poseidon entering service later in that year.

The procurement of the Poseidon was one of the major decisions of the 2015 Strategic Defence and Security Review and the aircraft will be in front-line service under 5 years from the announcement. This is a demanding timeline, and in order to achieve this the MAA has developed an innovative approach to aircraft certification, which has leveraged its mutual recognition initiative with its' sister military aviation regulators. Many of the aircraft types planned to enter service with the UK military in future, have already seen service with other military or civilian operators. Therefore, the MAA intends to capitalise on this and, wherever feasible, use the mutual recognition approach in order to ensure that this key air safety requirement can be met in the most efficient and timely manner possible.