

the magazine for the **MINEWARFARE & DIVING** community

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# **MINEWARFARE & DIVING**

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**ninety nine**

# **MINEWARFARE AND DIVING**

**THE MAGAZINE OF THE MINEWARFARE  
AND DIVING COMMUNITY**

## **EDITORIAL**

Welcome to the 1999 edition of the MAD Magazine.

The style and format of this issue have been brought up to date in anticipation of the New Millennium.

We can look forward to much over the next few years, a change in the way we train our personnel with stream training being implemented in SMOPS next year, more Batch II Sandowns rolling off the stocks and joining the flotilla, the advent of RIMS in the not too distant future and the emphasis on VSW MCM and Diving which will spawn more innovative and complex equipments for us to operate.

With your contributions the progress of the Branch and the aspirations of the MW and Diving Communities will be charted in these pages.

Thanks are due once more to Cdre J Hance ADC for the use of his Graphics Section, to Cdre BAL Goldman for writing the foreword and to all of you who did (eventually) take the trouble to send in the articles that let rest of us know what is happening in your area of the branch.

I now hand over to Lt Cdr Jonathan LEE as Managing Editor and hope that for the next edition the same quality of articles will be forthcoming. The closing date for next years edition will be May 31 2000

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## FOREWORD

*By Cdre B A L Goldman RN  
(Cdre MFP)*

After one year in post I can reflect not only on a year of considerable activity in the world of Mine Countermeasures but also one of considerable achievement and success.

The Strategic Defence Review has reported and we are now putting the decisions into action. Whilst I am obviously disappointed that three of our older MMs will have to pay off, the fact that the new build programme will continue in full is very good news and we should not forget that force levels are set to rise overall. With a balanced force of 11 HUNTs and 11 SANDOWNs the future is much clearer and the MCM fraternity as a whole has cause for optimism. I know that some have questioned the decision that a SANDOWN should be included in the package for early disposal but the arguments are compelling as long as we get the replacement for the HUNT's 193 sonar. Having seen the demonstrator for the new sonar type 2193, the promise is for something quite stunning and the delay to funding for this project in the recent LTC was a body blow. I remain optimistic, however, that "Smart Procurement" may yet reduce the impact of this measure.

PENZANCE joined the operational Fleet in the New Year, PEMBROKE is well into Part IV trials, GRIMSBY is nearly ready for acceptance and, in April, I watched BANGOR (after a short flurry to check whether her ancestry was of Welsh or Northern Irish extraction!) slide majestically down the slipway. Both PENZANCE and PEMBROKE have the new TMCC in place and yes, it does fit but only just! As the Squadron Reorganisation is put in place, I look forward to seeing more of the Batch I and II SANDOWNs in Portsmouth which will help us to demonstrate how very capable these units really are to those who are unable to travel all the way to Scotland.



*Cdre Goldman and Rear Admiral Jean-Luc Masuy (See page 7)*

On the Diving front, CDBA has now achieved clearance for operational use to 80m. Overall, the Branch now has some excellent kit although there is still much to be progressed, particularly in the area of VSW. Our immediate goal must be to procure our own hand-held sonar rather than relying on the inventiveness of our unit officers to beg or borrow (but not of course steal!) equipment from elsewhere. CMD continues to hit the headlines and IEDD levels continue an upward trend with fanatic groups taking over where terrorist incidents are tending to diminish. The big challenge remains to improve the manning situation and I am actively pursuing an initiative to get a better deal particularly for those in the FDS.

Notable operational and exercise accomplishments are many and I will not attempt to pick out individual achievements. Of note, however, is the progress in JMCs to integrate MCM more fully into the core exercise schedule and we need to continue this initiative in the NATO forum. Unfortunately poor reliability, particularly in Deltics, SRMH Voiths and 2093 continue to dog us and challenge our credibility. In the short term, HUNT single engine running has got us through the worst with Deltics and this autumn should see us out of the woods.

We cannot afford to be complacent. There are some good systems out there but, in influencing our own future procurement, we need to be realistic. There is a natural tendency to draw direct comparisons yet, operationally, I see many of these systems as complementary. We can't afford to have them all but we must understand the attributes of other nation's systems and ensure that we can continue to hold our heads high in the international arena with our recognised expertise and through the operation of the equipment that we currently have and the development of that to which we aspire.

## REPORT BY THE SUPERINTENDENT OF DIVING

*By Cdr David Hilton MNI RN*

Where has the time gone, it only seems like yesterday that I was writing an article for the last magazine! It has been a very busy year with the successful introduction of Clearance Diving Breathing Apparatus (CDBA), Type C Compression Chambers ashore and afloat, Enclosed Space Diving System, there is also a lot more equipment including the Enclosed Mine Lifting Bag (EMLB), Divers Through Water Communications (DTWC) and MCM/EOD Diving Ancillary Equipment being developed. The MCM/EOD Diving Ancillary Equipment is in the early stages of procurement and is being introduced to enable divers using CDBA to carry out the complete range of interrelated MCM/EOD operations, these being, Minehunting Diving, Mine Investigation and Exploitation, Area Search and EOD. The equipment will include voice communications between diver and supervisor, a camera, light and Data Link to allow the transmission of underwater images to the Supervisor for viewing, recording and analysis – particularly useful for Mine Identification and Exploitation. A hand held sonar to aid diver searches underwater and an underwater microprocessor capable of providing mine intelligence data as well as search plan, sonar and navigation information via a head up display. The ASH EOD Data Base, giving the diver ordnance information on the seabed will also be linked into the underwater microprocessor. A hand heating system for use during lengthy decompression stops will also be included. The anticipated In Service Date of this equipment is Jul 01. Exciting times.

Manpower gapping, particularly at the AB (D) level continues to cause concern but is improving. However, I am sure you are aware that emphasis and focus over the last year has been in the recruiting and training of AB(D)'s and stopping 2OE in the short term to address career aspirations. I was pleased to see the recent promotion signal for 11 Leading Divers to Petty Officer over the next few months. A more detailed manpower analysis has been included in this issue but in short over the next 12 months with a number of manpower issues being addressed at high level we should be up to complement.

Of credit, the Defence Diving School (DDS) has continued to run CDBA conversion-training courses to 60 metres during a difficult period of manpower and equipment shortages. Well done to them. However, after almost two years of continuous conversion training in CDBA FOTR funded courses end in Apr 00. Inspector of Clearance Diving, WO (D) Tiny Timms is available on 01705 224139/40 to take your bookings for course/queries. To date, over 80 per cent of the diving branch are qualified to dive CDBA with only a few senior brethren yet to convert! Of course for the few anticipated stragglers there will be some mechanism to train those few (about 5) unable to be spared for a course, probably with the Long MCDO's / PO (D)'s career courses. Be aware, the criteria to qualify for Group 4 and 5 (SSP) is being amended to include the requirement of being CDBA qualified – if approved by the MOD this may take effect from Oct 00! Therefore do not leave your conversion training to the last minute.

It is worth visiting HMS PENZANCE, HMS PEMBROKE and HMS GRIMSBY to see their complete diving system. These ships have an enormous diving capability, which includes a modified diving store, new CDBA, uprated Haskell Booster Pump and Type C Compression Chamber with a Closed Circuit Breathing System for therapeutic treatment. These ships have the ability to dive anywhere in the world unsupported to 80 metres – they also carry air diving equipment. An excellent diving capability, we are certainly a world leader in EOD diving. To prove the concept of operations it is planned to shortly complete a Minehunting diving system check against a fully instrumented ordnance package to 80 metres from an MCMV – of course at these extended depths it will be a whole ship evolution. As MCMV's become modified to accept the Type C Chambers they will also be able to fully exploit 80 metre minehunting diving. A lot of work continues in the margins to improve decompression tables and concept of operations using CDBA in it's primary role of MCM/EOD diving.

The Type B CC's are currently undergoing a refurbishment programme with the manufacturer. It has been noticed by my Inspectorate that these safety to life Chambers are not being used for training or TUP as often.

## **DIVING BRANCH MANPOWER**

*By Lt Cdr Mike Allen, Deputy Superintendent of Diving*

You will recall I wrote an article about Diving Branch Manpower in the last MAD Magazine. I received a lot of positive feedback about that article and several requests to repeat and update it. This is it. Remember there are two themes, which effect the manpower equation; manning and advancement.

### **MANNING**

Let me begin with the numbers. As of 1 April 99 the Diving Branch Manpower numbers look like this:

<b>Rank</b>	<b>Bearing</b>	<b>Actually Borne</b>
WO	10	10
CPO	23	25
PO	50	49
LH	72	70
AB	122	103
<b>Totals</b>	<b>277</b>	<b>257</b>

By December this year I expect the WO Actually Borne number to increase to 11 because CPO(D) Barrett has been selected for promotion. But it will only be temporary as WO(D) Trotter leaves early 2000. This 'evolution' is underway at every level. For example at the time of writing the table above shows 49 POs borne when we should have 50; clearly one has just left and one is about to be made up. The 'extra' CPOs listed above does not effect the Diving Branch directly, as they are employed in 'ANY' billets and are part of what is called the 'margin'.

The two figures that balance each side of the Manning equation are joiners and leavers.

### **JOINERS**

You will all be aware by now that Direct Entry divers have started coming through the system. These are the results of Able Seaman Divers courses (17 wks) already completed, currently running or expected in the near future:

#### **1998/1999**

Cse 116 (ended 3/7/98)	6 Students	5 Passed
Cse 117 (ended 13/11/98)	12 Students	7 Passed
Cse 118 (ends 5/3/99)	12 Students	11 Passed

#### **1999/2000**

Cse 118A(ends 4/06/99)	10 Students	7 remain
Cse 119 (ends 25/06/99)	10 Students	4 remain
Cse 120 (ends 30/07/99)	10 Students	7 remain
Cse 121 (ends 22/10/99)	12 Students	7 passes expected*
Cse 122 (ends 14/11/99)	12 Students	7 passes expected* (First CDBA)
Cse 123 (ends 7/4/2000)	12 students	7 passes expected*

(\* Course loading is supposed to be 10 with 7 passes expected.)

We did better than expected during 98/99 - well done those who passed. Passes for 99/00 are looking about as predicted so far but it is early days. Course 118A was an extra course run by DDS with Staff provided from the Fleet Diving Squadron because last year we perceived that even if we met the full training quotient it wouldn't be enough. We will continue to monitor the situation.

Clearly, the figures above increase branch strength; unfortunately, the figures over tend to reduce it again.

## LEAVERS

These are the numbers of people scheduled to leave on expiry of time over the next six years:

RATE		99	00	01	02	03	04
WO(D)		-	1	-	-	2	1
CPO(D)		2	3	4	5	3	1
PO(D)	4	9	7	3	9	10	
LS(D)	3	4	4	6	3	7	
<i>Cumulative Totals</i>	<i>9</i>	<i>17</i>	<i>15</i>	<i>14</i>	<i>17</i>	<i>19</i>	

The rates above are those held by the individuals concerned today. So by 2003, you can expect the 17 people due to leave then will be made up of more Chiefs and less POs than now but there will still be 17 unless, of course, other factors come into play. By then the odd PO, promoted CPO, may have been selected for Warrant Officer (and thus continue to serve until age 50). Additionally, some may have been offered an extension of service (of 5 or 10 years) and therefore moved right on the list. The point I am trying to make is that the table above is a GUIDE only as the numbers constantly fluctuate.

The other figures to impinge upon the number of leavers is those who have opted for Premature Voluntary Release (PVR). There are currently 8 PVRs outstanding; one Senior Rate and seven Junior Rates. However, historically, not everyone who applies for PVR goes through with it. Many submit applications but change their minds later. Terrific! But even if all 8 do go it still only represents 3.1 percent of the whole (8 of 257), which is much lower than almost all other branches. I wrote last year that this is one of the best branches to be in. Variety, interest and real work. You all love it and thus most of you want to stay. Sorry guys, it's true. But don't get me wrong, we know the Navy in general and our branch in particular is NOT perfect. There is always plenty to drip about and the drips are taken seriously. But even with our shortcomings the PVR rate is low.

Where does this leave us? If you follow the logic from the tables above we can deduce that something like the following will happen up to Apr 2000:

If 4 CPOs leave (2 leave, 1 PVR, 1 Promoted) 4 POs can be selected for promotion.  
 If 4 POs are promoted and 4 leave, 8 LHs can be promoted P0.  
 If 8 LHs are promoted and 4 leave (3 leave, 1 PVR), 12 ABs can be rated LH.  
 If 12 ABs are promoted and 7 leave (all PVR) AND a further 39 pass the course there will be a net gain of 20 ABs.

Look at the table at the beginning again and you will see that we will be one AB over! Will it happen? Rhetorical, but with luck the branch may be fully complemented by April 2000 or shortly thereafter.

## ADVANCEMENT

Not a lot to add to what I said about advancement last time. The diving branch still does not have a good advancement rate. Diving Pay compensates in the short term but I know many of you are thinking pension too. One problem most of you have is that 'sideways entry' Divers only 'join' at about age 25. By the time they leave at 40 they have only served for the equivalent of 15 years. There is nothing we can do about that because any policy change would have to be Navy wide. But there is hope. You will have all seen the recent signals for 5 as well as 10-year extensions. Let's hope that the number of extensions will be increased in the future. In summary, I repeat what I said last year. We are still short of ABs but the situation is improving. Not everyone will achieve advancement to the rate they would like but there is movement and although competition is stiff those who work hard and stick with it will be rewarded. My successor will update you again next year.

## **NEWS FROM THE DIVING INSPECTORATE**

*By Lt Cdr M Jenrick*

I have recently taken over from Lt Cdr Steve Wild (who has now left the service for pastures green and what ever colour computers are!) and this article has allowed me to take a good look at some of the areas for which I am responsible.

The primary purpose of the Inspectorate is to monitor and police the practices and procedures of diving and EOD units to ensure that operational capability is maintained in a safe and efficient manner - this means inspections. Since joining I am impressed to hear my staff comment on the high standard set by many Ships and units of the Fleet Diving Squadron. There were a record number of 'GOOD' assessments awarded during 1998 (no, we are not getting soft) and long may it continue. To that end and to further assist in the planning for inspections, it is intended to issue an inspection document approximately two months prior to an inspection, similar to FOST. This package will assist units focus and organise their preparations.

Sadly, after many years of sterling service, the alphabet set (DSSCCD) will be withdrawn from service on 31 August 1999. CDBA is now fully established as a working 60/80m MCM(EOD) diving set. Conversion courses at the Defence Diving School will continue to run until April 2000. For those not converted, places can be booked through Insp CD. Additionally, the BR2806 Diving Manual will be replaced by a new edition titled 'Military Diving Manual' which will include CDBA rules and regulations and a revised version of Table 11.

Although inspections are a major task of the diving inspectorate, a considerable amount of time is also spent dealing with equipment procurement and outside agencies to ensure that the needs of the diving community are met. This is the current situation for diving equipment:

### **CDBA**

With the exception of 1 MM, GIBCODE and DEODS all units and ships have been issued with and are diving CDBA. Well done to all. Spares are slowly coming through as the stores depot at Exeter clear the initial backlog. Don't forget however, that the spares issued with each outfit are for routine maintenance during the initial two years. Items becoming defective within that time are to be subject to S2022 action and spares demanded via naval stores.

It may not be generally known, but each outfit of CDBA will undergo a contractor refurbishment at the two year point. All users should keep this in mind as the two year point draws near.

### **TRANSPORTABLE MAN COMPRESSION CHAMBER (TYPE C)**

The Type C Compression Chamber programme is progressing after a protracted design and build period with a number of containerized chambers already delivered. Also, HMS Penzance, Pembroke and Grimsby are at sea fitted with a Type C. In its present configuration the chamber can be used as a basic air chamber using the BIBs for O2 as required. The last trials of the Closed Circuit Breathing System were completed successfully just prior to Easter leave. An upgrade to the Certificate for Clearance for Use (CCU) allowing full usage, after training, is expected shortly. One further function trial is required. Unfortunately, due to slippage and platform availability the Type C production programme during the initial design and build phase the fitting of the chamber to the majority of MMs is a long way behind the curve. However, all MM's are programmed to receive a Type C.

### ***DIRECT FEED SUIT INFLATION***

Divers will have noted recent signals regarding the fitting of direct feed suit inflation valves to Made to Measure diving suits. It is intended to issue direct feed suit inflation for use with SABA when sufficient swivel adapters have been procured to allow fitting of the suit inflation hose to the first stage regulator. It is also intended to introduce a new suit inflation cylinder, for other equipment apart from SABA, to allow use of the direct feed suit valve. The new cylinder will be fitted with a reducer to enable the cylinder to be opened prior to entering the water and the Suit inflated by the push button on the direct feed chest mounted valve.

### ***ENCLOSED SPACE DIVING SYSTEM (ESDS)***

The ESDS trials have recently successfully been conducted by NDG with good results. A few problems were noted during the trial, predominately with the communications, which will be rectified by the manufacturer. For those not in the know, the ESDS is basically a Surface Supplied Diving Equipment so configured to allow access safely into confined spaces. Well done to the NDG Group for their efforts and professional approach to the trial.

### ***DIVERS THROUGH WATER COMMS (DTWC)***

DTWC, which has proven in trials to be superior to existing Seapiper through water communications, is soon to be introduced into service for use with SABA. Production proving trials commence 26 July this year. It is envisaged that the greatest problem that may be encountered when introducing DTWC is getting Ships Divers to dive without a mouthpiece to breath from; as part of the introduction process the SABA will be converted to accept the oral nasal mounted AGA full facemask. The reason the DTWC works so well is the oral nasal mask allows for correct enunciation.

### ***INSPECTORATE TELEPHONE NUMBERS***

<b><i>TITLE</i></b>	<b><i>RANK</i></b>	<b><i>NAME</i></b>	<b><i>EXT</i></b>
lofD	LT CDR	M JENRICK	4140
SOEOD	LTCDR	A DANN	4121
SEQ(D)	LT	S FLEISHER	4134
Insp CD	WO(D)	T TIMMS	4138
Insp EOD	WO(D)	A LAWRENCE	4137
Insp Eng	WOMEA	S GIBBONS	4117
Insp ShD	CPO(D)	R HAYTER	4116

## **DIVERS AND FROGMEN**

Fleet Diving Headquarters was visited in April by the French Admiral responsible for all French Minewarfare and Clearance Diving Units, Rear Admiral Jean-Luc Masuy. He was here to sign an agreement (officially called a Memorandum of Understanding or MOU) between the Fleet Diving Group (FDG) and their French counterparts, the 'Groupe de Plongeurs Demineurs de l'Atlantique' (GPD(A)). The intention is to hold combined exercises each year, alternating the location between the UK and France. Signing on behalf of the Royal Navy was Commodore Goldman, (Cdre MFP).

The signing ceremony began with divisions. Both FDU2 and a squad of French Divers from the French Naval Ship (FNS) STYX were inspected by the Admiral and Commodore and gave a very creditable drill performance, considering all parade orders were given in English. The signing completed with short speeches, delivered by the Admiral in English and the Commodore in French! It ended with a combined group photograph of both the RN and FN divers.

After the photographs the Superintendent of Diving and the Commanding Officer of the Fleet Diving Group gave short presentations on the role of the Fleet Diving Squadron. This was followed by a demonstration of the initial hellborne assault of FDU1 onto one of the modules of the fire fighting school. The Admiral then met members of FDU1 and was briefed on their equipment. The visit continued with displays by both FDU2 and SDU2. Again, he met many of the people from each Unit and examined much of their equipment. The Admiral was very interested in our new constant partial pressure oxygen sets, particularly the one used in VSWMCM, the Long Endurance Breathing Apparatus (Mixed Gas) (LEBA(MG)). He also inspected the underwater GPS navigation equipment.

The next objective is the first combined exercise agreed in the MOU. This is due to take place in early July and will be hosted by the French. The exercise area allocated is on the Western end of the Cherbourg Peninsula. The GPD(A) has already begun detailed planning and while the programme has not yet been published I am sure that there will be time for wine, cheese and garlic! FDU2 are certainly looking forward to it.

Diving and Minewarfare are just two of many areas that France and the UK are committed to working on together. There may even be an opportunity for a PO(D) or below to carry out a 'LONGLOOK' type 6 month exchange with a French CDU.

A report on the exercise will appear in the next MAD Magazine.

## **UNDERWATER ENGINEERING**

Underwater Engineering (UWE) continues to be provided worldwide in support of the Fleet by the Area Clearance Diving Units of the Fleet Diving Squadron. In addition to routine defect rectification and preventative maintenance within the 3 main Naval Bases, recent high-profile taskings abroad have included:

HMS GLASGOW (Singapore) - Replacement of the stbd rudder stock lower lip seal and garter spring.

HMS TURBULENT (Dubai/Sicily) - Removal and replacement of towed array stub.

HMS TALENT (Gibraltar) - Resecuring of a torpedo tube fairing plate and associated fittings combined with other miscellaneous repairs.

Much work has also been put in over the past 15 months on underwater CCP blade changes, both in the wet, using conventional techniques, and also in the dry habitat environment. The first of two new habitats for use on both Type 22 and Type 42 was recently delivered to Devonport by Norwest Marine and trialled successfully on HMS CORNWALL in Weston Mill Lake. The second is due to be delivered to Portsmouth shortly and will significantly enhance the ability of the Fleet Diving Squadron to undertake routine CPP blade changes, both within the UK and abroad.

Behind the scenes, Fleet Diving Squadron staff are working closely with the Defence Logistics Organisation Ship Support Agency to improve engineering support, training and documentation across the board for military diving.

A review of Squadron UWE capabilities is currently being undertaken, which will be used to produce a datum list for equipment requirements. Once this is in place it will be easier to rationalise existing holdings and concentrate on the procurement of new tooling that is simpler to use underwater and easier to maintain. Two areas receiving particular attention are air-operated power tools and chain hoists to replace the yale-coffring pull-lifts. The Ship Support Agency (ME 223) has just purchased 4 chain hoists for use underwater that are being trialled by SDU 1 and SDU 2. If successful, more of these will be provided for the rest of the squadron. Also in the pipeline is a replacement stud/bolt gun being procured by the Army that will also be supplied to the Royal Navy for use in steel, GRP and concrete.

Superintendent of Diving has just initiated a formal review and training needs analysis of underwater engineering training conducted at the Defence Diving School. This will be undertaken by FOTR and will concentrate on ensuring that the training offered (in particular for AB(D) and LMCDO career courses) matches the requirements of the Area Clearance Diving Units tasked to undertake underwater engineering on behalf of the CFMS.

In conjunction with these reviews of equipment holdings and military diver training, the Ship Support Agency is sponsoring the production of a whole series of job information cards (JICS) for underwater engineering tasks. Some of these have been produced on the back of the introduction of reliability centred maintenance for Hunt Class MM/PP and Type 23 Frigates and will eventually be extended to other classes of ships. Other JICS are being produced to cover standard preventative maintenance/ defect items, for example, hull survey, replacement of cathodic protection reference electrodes and replacement of stabilisers afloat.

In summary, underwater engineering has a bright future on account of its ability to save money by reducing programmed/emergency dockings and improving hull/shaft line engineering standards across the Fleet. The Fleet Diving Squadron is playing a large part in this process and is working closely in conjunction with the Ship Support Agency to improve techniques, training and engineering support for the future.

## CDRE MFP WARFARE SHOP

*By CDR W - Cdr Simon Neil - MCM: An Enabling Capability*

Since the last missive from the HQ for the MAD MAG, a huge amount has been taken forward in the area of MCM Policy, Doctrine and Operational Capability and all the team in the warfare shop have changed in the last twelve months except for CAPSMAN and ASANO (more from them later). I remember well from my time in HURWORTH, a mere 36 months ago (ouch), thinking what was it that the HQ team get up to? Our main focus is to support you by maintaining and developing OC. With SANDOWN and ATHERSTONE clearing ordnance in the Adriatic, OCF deployments to the Black Sea and the Gulf within the next year, there is much to keep us busy. The other statement I shall make on this matter is that I genuinely believe that the taxpayer is getting value for money. I hope from reading this article, which will outline the desk officers' key current issues, that you will agree. Me first though:

**Directorate of Operational Capability Audit:** This was conducted during June when the audit team, who report directly to the Secretary of State for Defence, examined the Mine Countermeasures Force. Many of this magazine's readership will have been involved. Starting from a detailed baseline questionnaire compiled by the HQ and units, the main focus was the MCM1 TA embarked in LEEDS CASTLE, MMs and FDU, involved in JMC 992. FSUs, SoFD and the HQ were also scrutinised. The official verdict is yet to be published but it would be fair to say that in the main, the audit team were very impressed by what they saw, in particular the focus that the Force (you) had in delivering Operational Capability and noted the demands that had to be coped with to achieve it. The report will be given wide distribution once it has been endorsed by MoD.

**MCM Symposium:** This was held in July on behalf of the Commander in Chief. The aim was to explore the issue 'MCM: An Enabling Capability'. This catch phrase is meant to remind ourselves, the rest of the Navy and the other Services (in the Joint environment), that if we are serious about 'Projecting Force' around the world in the face of a potential mine threat (60 countries now have some form of capability) then we must maintain a credible capability to counter that threat. With this in mind Cdr Cassar (DNO) explored Policy, Cdr Lambourn (MWC) examined Doctrine, I discussed current OC whilst Cdr Harvey (DORSea) and Mr Wickenden (DERA) explored the future equipment programme. These opportunities present themselves infrequently and Admiral Essenhigh summed up with several key points which will impact on how we conduct business in the future.

- MCM as an 'Enabling Capability' is essential and must be exposed at the highest levels.
- The future MCM equipment programme should be endorsed once the right direction has been identified. Sonar 2193 remains our highest priority for the HUNT class whilst the case for VSW diving/MCM equipment and the Remote Minesweeping System should be advanced.
- The priority of MCM equipment should be adjusted and defended robustly to ensure critical procurement and development is not jeopardised.
- Tactical Development so that MCM can be more 'Up Tempo' should proceed apace.

**'Up Tempo' MCM:** The details of this will be covered by SWO2 but essentially, we are trying to achieve the MCM mission quicker and more efficiently. This is a challenge, particularly when deployed a long way from the UK and operating in demanding environments which is not lost on us.

**MCM Route Survey:** You will all be aware that this is not new and is certainly not 'Rocket Science'. However, new policy has been produced to shift the focus from purely UK waters, to gather enabling data in the areas where we are likely to operate or fight. It is no coincidence that a full MCM TG (FSU/FDU, RFA GERaint and TA embarked in BEAGLE) will deploy to the Gulf in Jan 2000 alongside the COMUKTG deployment, the first to do so since GRANBY. We are working on improving the data flow between ships and RSDB and a new MOTI for both class of MMs will hit the streets early in the Autumn. I'm not promising that RS will be riveting (although I always thought it was!) but your tasking and the information that you

gather will have a new importance, in waters home and abroad.

**Other Issues:**

**Northern Ireland Hunts:** Due to the readiness profile of these ships for MCM Ops (~~deleted~~) the decision has been taken for these ships to cease MCM training and concentrate on the Patrol Task. Equipment will be either preserved or removed and schemes of complement adjusted. HQ/MCM3 is leading the staffing with the NI Squadron and once it is complete the implications will be announced.

**Tactical and SOP development:** Whilst we have been busy issuing new MOTI's and MOM's we accept that it is rare to be able to get a 100% fix first time and that is the reason why we ask for feedback from specific units. This does not preclude anyone forwarding a bright idea but before you start nugatory work, contact us. The combined imagination, intelligence and experience out in the Flotilla will undoubtedly enhance our efforts.

**Evaluations:** Whilst the MCMVs enjoy OST, the MCM Commanders and their staff do not escape an outsider looking in at how business is done. MCM1 was kind enough to accept HQ Staff intrusion during JMC 992 which proved the JMC as one vehicle to conduct Evaluations. They will also be conducted at higher level during the 1\* Battle Managers CPEX for the first time in 2000 which again will gain the visibility that MCM deserves in support of wider warfare aims.

**Mine Warfare and Clearance Diving Conference:** The last one was over 18 months ago which is regrettable but unavoidable due to HQ commitments and the desire to hold it when sufficient ships are alongside. The next opportunity looks to be prior to summer leave next year where we hope for a full turnout and we will be able to report progress on a number of key issues. Watch this space.

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**PRISM (OC) - PLANNING, REPORTING & INFORMATION SYSTEM  
FOR THE MANAGEMENT OF OPERATIONAL CAPABILITY**

*By WO (MW) (O) Tony Mulrain BEM*

The present CAPES system is not Y2K compliant and has certain limitations. A new system has been developed, which will be known as PRISM (OC) and will run parallel with Force Programming. This will enable each unit, 1\*(Squadron), 2\*(Headquarters) and 4\*(CincFleet) to assess Operational Capability, which will enhance the 'Ready for Task' strategy.

From 1 August 1999 the name CAPESMAN will cease and the new title will be OCIM - Operational Capability Information Manager. Cdre MFP's OCIM is WO Tony Mulrain and OCIM Assistant is Jacqui Rogers.

PRISM (OC) will be used to collect and collate data, from each of the three main Areas of Capability. These are Fight, Command and Control, and Enabler. OC will be measured against 4 pillars: Manpower, Equipment, Training and Sustainability (METS), then using a mathematical model it calculates an OC score. The information will be used to aid Fleet Programming decisions.

- Manpower will be taken from the Scheme of Compliment and will be tied to specific job title or group.
- Equipment will be a list of major items, which has an effect on OC.
- Training will be law FCD3 for platforms and BR 5063 for Diving Units.
- Sustainability will be measured using ammunition, fuel, food, water and medical.

PRISM (OC) must not be seen as a CAPES replacement. It will be a more proactive and accurate tool which managers at all levels can utilise to gain a variant (platform to Navy Board) of information. Like all new systems it will take time for OC to be fully integrated and understood. It will be more accurate, more user friendly and I believe less time consuming to operate than CAPES.

## **STAFF WARFARE OFFICER MW & CLEARANCE DIVING 2 (SWO(MCD2))**

*By Lt Cdr John LAW*

SWO(MCD2) provides the focus in CDRE MFP for MW Tactical Development, Operational Requirements and Future Projects. I am also the first POC for NATO matters and the UK Co-ordinator for the NATO MW Working Group. Tel: 26313  
CHOTS: CMFP-WAR-SWO(MCD2)

### **(REMOTE)INFLUENCE MINE SWEEPING (R)IMS)**

This is the planned replacement for CIS with an In Service Date (ISD) of 2007. The brackets around the "Remote" reflect the fact that at this early stage in the programme organic and clip on options are also being assessed. There are several reasons why CIS needs to be replaced;

- Extend the in service life of the HUNT class. Current predicted top weight growth will limit life of the HUNT class to 2010, replacing CIS with a lighter or remote sweeping system will extend this to 2015.
- Maintain the essential balance of capability between minehunting and minesweeping.
- Maintain and improve the RN's minesweeping capability into the next millennium. CIS has limited capability against modern microprocessor, multi-axis mines.
- Maximise the safety of personnel during influence sweeping operations.

For the new system we are looking at a number of possibilities including an upgraded CIS, drones, and helicopter towed sweeps. In the event of a remote drone system being chosen, it is envisaged that the HUNT will be the control unit.

### **SONAR 2193**

This is the planned hull mounted replacement for 193M with an ISD of 2003. 2193 will be a quantum leap forward in performance due to the use of wideband technology which has a better probability of detection against low target strength mines such as Rockans and Mantas. Wideband sonar technology effectively filters out background returns and displays a very strong, steady contact for mine like objects. The system will include a Computer Aided Detection and Classification programme although on the whole the CAIS AIO will be retained.

### **"UP TEMPO MCM" TASKING PACKAGE**

"Up Tempo MCM" is the latest buzz phrase to describe the overarching aim of increasing the speed of MCM operations across the board but particularly in support of amphibious operations and the JRRF. CDRE MFP have recently tasked MWC with an extensive and comprehensive range of research projects and studies which we hope will go some way to achieving this aim by; improving tactics, making better use of existing equipment, and identifying new equipment to fill capability gaps. The package is at an early stage but we hope to trial some of the new tactics in forthcoming JMCs.

### **ONE SHOT MINE DISPOSAL**

Carrying on with the "Up Tempo MCM" theme, we are also looking at the use of One Shot Mine Disposal systems to appreciably increase the speed of advance during mine clearance operations by fully integrating hunting and disposal.

Several systems are being evaluated by DERA Bincleaves, the majority of these take the form of a small wire guided vehicle fitted with either an explosive charge or a Semi-Armour Piercing (SAP) gun.

**MINE JAMMING**

Mine jamming is defined as any action that permanently or temporarily disables a mine and allows a target to pass over it safely. HMS LEDBURY took part in a SACLANTCEN sponsored mine jamming trial in La Spezia, Italy in October 1998 which produced some encouraging results. Unsophisticated mines can be swept by relatively simple, unsophisticated sweeps. More modern mines will recognise such sweeps, go dormant for a period of time and wait for the sweep to pass. This characteristic can be utilised in a technique known as CIS Jammer Leadthrough in which the vessel to be protected stations itself on the after most CIS float. The route will have already been swept for unsophisticated mines which will fire on the CIS output. Mines which remain will be of the more sophisticated variety with a sweep rejection algorithm and will therefore go dormant as the CIS and target vessel pass overhead. It is still early days for this concept but the trial proved that it can work in practice. As an added bonus, CIS was found to be more effective and reliable against a number of modern mines than had been anticipated.

**NATO**

STANAVFORCHAN became MCMFORNORTH and MCMFORMED was formed in May of this year. Both forces have been involved in the clearance of unexploded ordnance dropped by allied aircraft returning from missions in Kosova. HMS ATHERSTONE is the first UK unit to participate in MCMFORMED. HMS SANDOWN was our representative in MCMFORNORTH, relieved by HMS CATTISTOCK, 7 Sep. The NATO MW Working Group 99 meeting will take place 25 - 29 October. The UK plays an important part in NATO MW policy making and we will be sending a delegation this year from CDRE MFP, DSWE, HYDRO(UK), FSAG, and DERA amongst others.

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**DEPUTY STAFF WARFARE OFFICER (DSWO(1))**

*By Lt Pete Dearling*

My primary purpose is to ensure, in conjunction with SWO(1), that MM/PPs are aware of the latest MCM training and operational matters so that current doctrines and standards are complied with and developments in the MCM field may be progressed. Which in layman's terms, I staff the following:

- All in-service MW equipment.
- Signature ranging standards/Transportable Range
- MCM input into National/Fleet/NATO publications
- Total Mine Simulation System (TMSS)
- Seamanship matters
- HQ point of contact for the Mining Team
- MOTIS/MOMs/ATP 24B UK SUPP VOL 1

Subjects that have recently passed over my desk are:

**MULTI-SHOT BOBBIN TRIAL**

HMS SANDOWN has achieved 2 occasionally 3 runs out of 2000m bobbins during her current Adriatic Ops. RCMDS runs are taking place in 70m of water with ship/target stand off ranges between 120-150m. 3 shot runs still have over 1000m wire remaining and the ship intends to trial 4 shot runs. Multiple runs on short bobbins (1000m plus) are also possible. The multi-run tactic is particularly useful during medium water depth/high density ops (eg 40-50m) FOST MPV minefields/inshore rtsv/wpa/current Adriatic Ops) particularly if Op area is remote from re-supply port or if bobbins are in short supply. Cost saving impact is obvious.

### ***SIGNATURE REDUCTION***

SFTM 33/99 gives details of signature ranging booking facilities and should be read in conjunction with BR 2000(63) (Signature Reduction and Control) and DCI(RN) Conf 3/96 (Signature Ranging Policy for Surface Ships and Submarines). Both of these publications are currently being updated. SFTM 76/99 gives details for the use of DG systems.

### ***SEAMANSHIP***

As stated in FOSF's recent 6 monthly report on seamanship related incidents, there were 31 seamanship incidents during the first 6 months of 1999 which was, once again, a considerable increase on previous years. The common theme throughout was either a failure to comply with basic operating procedures or a lack of suitability or experience of the person taking charge. FOSF Seamanship staff are available to conduct visits alongside or at sea and should initially be contacted by phone on PNB ext 26579, confirming the visit dates by signal using SIC LAB.

### ***MOTIS/MOMS***

There has been a lack of suggested changes/amendments to MOTIs and MOMs before they reach their host publication. Therefore, future MOTIs/MOMs will be issued with a request for feedback from all addressees.

### ***RECOVERABLE MINEWARFARE TARGETS***

It has been highlighted that there is a need to develop and use realistic replica mine targets in order for MMs to maintain a high Operational Capability against modern day threat mines. As a result, DSWE/CMFP are currently investigating the procurement of recoverable replica mine targets.

### ***COMBINED INFLUENCE SWEEP (CIS)***

A Working Group has been formed to investigate maximising CIS effectiveness by evaluating present capabilities and producing improved tasking and tactics.

### ***OPS ROOM STATEBOARDS***

A common Ops Room Stateboard for both Hunt and Sandown Class has been developed and forwarded to Fleet for approval and manufacture.

### ***WARFARE DEPARTMENT STANDING ORDERS***

The final draft has been distributed for comment and the new Standing Orders should be available by Autumn of this year.

### ***MINE RECOGNITION***

Feedback from FOST MPV has highlighted that despite briefing threat mines at the Command Brief, recognition of UK mines is weak. The training at SMOPS is considered adequate and it is the responsibility of Ops Officers to ensure that mine recognition is kept to a high standard by table-top discussion, recognition quiz etc.

### ***MDC MISFIRES***

An unacceptable number of misfires have occurred during current ADRIATIC Ops and as a result, DSWE are conducting a technical investigation. Feedback so far has identified a possible problem with MDC batteries dated Mar 96 and MMs have been instructed only to use these particular MDCs as a last resort. DSWE intend to conduct a firing trial and CROMBIE are investigating the battery problem.

## **STAFF ANALYSIS OFFICER (SANO) - LT NEIL HOLDEN**

Lt Neil Holden took over the role of SANO from Lt Cdr Richard Hill in Mar 99. Since that time there have been a number of policy changes regarding the tasking and conduct of Weapon Practice Assessment (WPA).

Until recently WPAs were always conducted as part of Operation PIKE, with only an occasional extra incorporated into an exercise. Due, in part, to ship programming constraints it is becoming increasingly more difficult to task multi-ship PIKES. This means it is not financially viable to lay a WPA minefield during these Operations.

However, in keeping with CDR (W)'s new policy of providing a 'Total Training Package', and catching ships on completion of BOST, COST OCF Work Up and Deployment training WPAs have found a new niche. In the future they are to be conducted as part of National Exercises, JMCs and other multi national/multi threat exercises and used to round off these intense periods of training time. This will provide the ship's command teams and squadron staff with a realistic appreciation of their assets capabilities in a Minehunting Operation.

In addition to these changes there have been some more 'invisible' changes that have occurred. The detection range slots have been reduced from 50m to 25m. This should give a more accurate smoother statistical curve and help to ease some of the anomalies encountered when operating at the extremes. MDR encroachments have become more important, instead of a blanket -0.5% regardless of encroachment distance it is now calculated on a sliding scale from -0.5% to -10% relative to distance encroached. This can also be affected by the correct SPMs being taken, if machinery breakdown caused the encroachment. In the future it is also intended to incorporate an adjustment for environmental factors that affect the ship handling, ie wind speed, direction and tidal stream.

Finally the reports themselves are undergoing a review. It is now policy to provide ships with a 'quick look' printout of basic, raw results; this in addition to presenting the final reports in what is hoped to be much easier to understand the format.

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## **STAFF WARFARE OFFICER (PRECISE NAVIGATION & ROUTE SURVEY)**

*By Lt Cdr Andy Swain*

On the PN side of the desk a considerable amount of work is going on in the background, involving not only Cdre MFP but also DOR (SEA), Platform and Equipment Projects. It is hoped that these actions will mean new PN equipment operational in MMs at the start of the New Year. Until that time RACAL SKYFIX will be provided to ships conducting Route Survey and major deployments. On the not very PN part of the desk all MMs have now been fitted with QYF, this system will give a positional accuracy of +/- 18m, 95% of the time. If used it correctly, applying, Datum shifts, Weapon Datum Offsets and common sense it will greatly aid your safe navigation. But, if trusted above all else QYF may leave you high and dry!

It is with regard to Route Survey that the Mine Warfare team onboard should be seeing the biggest difference by the time you read this edition of MAD. The Mine Warfare Data Centre (MWDC) will be officially established at the United Kingdom Hydrographic Office (UKHO) in Jan 2000.

The Route Survey DataBase (RSDB) is already established and all data rendered to UKHO is being added to the big picture. Within one month of Route Survey

data being received at UKHO ships will receive a detailed report stating what they got right and what they got wrong. The report will cover everything from correct classification of records and secure packaging to the details contained in the Magnetic Tape and Formex 101. If anyone is unsure which records are required check out the new Route Survey MOTI 0204. But, Route Survey is not just about collecting the data, every MM that is tasked to survey an area for which survey data already exists will receive the latest data available in hard copy and/or digital format depending on the task.

This will speed up the Route Survey task and allow more ground to be covered but always remember RSDB is only a very expensive computer. Garbage in equals garbage out.

The system relies on the onwatch operators to ensure data is accurately recorded at all times.

Good Hunting!

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## **STAFF WARFARE OFFICER COMMUNICATIONS (SWO(C)) - LT GEOFF ELSOM**

### **NEW EDITION TO CDRE MFP WARFARE DEPARTMENT**

Lt Geoff ELSOM joined Cdre MFP from Captain Naval Operational Combat Systems (CNOCS) in March this year and was instantly seconded into the Warfare Department in the post of SWO(C). Responsible for all aspects of communications, his primary concerns are to ensure that all MM/PP Flotilla units are fitted with the necessary communications enhancements to enable them to be interoperable with different elements of the task group and the management of the MCM Commanders Communications Manpower Pool. Other tasks include the introduction of the long awaited HF communication modernisation programme and the installation of NAVYLINK into ships.

### **HF MODERNISATION**

Phase 1 of this programme is set to commence roll-out in Mar 00 with HMS BROCKLESBY programmed as the first-of-class vessel. By fitting new modems into the MCO and replacing the ageing teleprinter or Stand Alone Filter Unit (STAFU) terminal with an Intelligent Message Terminal (IMT), platforms will be able to receive all National and NATO broadcasts at the increased speed of 300 baud's as opposed to the existing 75. The 2<sup>nd</sup> phase, which addresses the Ship to Shore message path, is now gathering momentum and is set to be introduced in 2003. However, a minor trial being conducted in HMS' CHIDDINGFOLD and PENZANCE during Argonaut 99 will test the benefits of this concept and, it is hoped, will add more impetus to the programme timeline.

### **NAVYLINK**

The majority of MWVs have now been fitted with the necessary laptop computers and modem cards to facilitate NAVYLINK operation via INMARSAT, where fitted, at sea and the BT/MOD networks whilst alongside. This provides ships with a high-speed communication path via the hub at Ensligh and enables the reception and transmission of e-mails plus attachments, news and weather information and Familymail. NAVYLINK will also act as a future bearer for NOMIS OC (CAPES replacement).

Further information on these or any other communication matters can be gleaned from SWO(C) by calling PNB 26318 or alternatively, why not pay him a visit next time you are in the vicinity of Lancelot Building.

## **CDRE MFP's MINING TEAM - WHO, WHAT, WHERE & WHEN**

### **THE TEAM**

5 members who currently are:

WO(MW) Simon Mansell (Staff Mining OFFICER (SMINO)).  
PO(MW) Tony Smith (Assistant Staff Mining Officer (ASMINO)).  
CPO(SR) Dicky Dorrington (Precise Navigation).  
LS(MW) Jan Gaffney.  
OM(MW) Archy Archbold.

### **THE JOB**

Precise laying (normally to + or - 2m) and recovery of mines in support of a minimum of 8 major exercises a year and several small ones. Secondary tasks involve assisting with trials involving pre-production minewarfare targets. Working on a TRV under contract from SERCO Denholm during the first 6 months of the year the team has laid in excess of 100 mines for 2 WPA fields off Campbelltown and 2 JMCs mainly in the Loch Ewe/Shaint Bank areas. Using a chartered ROV the team has also recovered 30 mines that remained on the sea bed for various reasons following exercises.

### **THE HQ**

The team are a lodger unit within DM Crombie. Time in office is often limited and is spent on preparing the next outload booking TRV/ROVs for future deployments or on essential maintenance. The introduction of the VEM 2 into service will give the team the ability to turn around the mines themselves at a fraction of the cost of the VEM 1.

### **THE FUTURE**

Far closer working relationships with civilian staff within DM Crombie in order to meet the increased demand for minewarfare targets. Deployments to France, the Gulf, Lisbon and Madeira are all in the offing.

Stocks of the old iron mines will soon be exhausted and there will be further development and then introduction of more recoverable mine targets with the priority being on the Manta. The aim is for future minefields to be self recoverable cutting down on expensive ROV and ship time, while at the same time ensuring these targets are as efficient and as cost effective as possible.

## GETTING INTO A TIGHT SPOT

By Lt T. J. Lambie RN OIC NDU 01

The Enclosed Space Diving System (ESDS) and the associated principle of entry and exit to enclosed spaces has been around for a number of years, in many different guises. It was first introduced as a concept in 1993 by with equipment manufactured from readily available items of diving stores, combined to form the outfit that has been used operationally and as a prototype ever since. As a consequence of some shortfalls with the prototype equipment, and the formulation of a more structured requirement, a Cardinal Point Specification(CPS) was raised and offered to manufacturers for tender. As a result of the responses several companies were invited to provide equipment suitable for purpose as detailed in the CPS. Out of the many manufacturers involved, 3 were selected to continue competing for the contract and provide Project with a working set for evaluation by DERA(A) and NDG. It quickly became apparent that two contenders were compliant and fit for purpose with the final choice, after long and heated deliberation, being the Divex solution.

The purpose of ESDS is to enable divers to gain access to confined spaces, and also to gain access to larger spaces with restricted access, to enable survey operations, maintenance and defect rectification to be conducted, in support of the Fleet.

A diver wearing the set is capable of fitting through a rectangular hole of dimensions 510mm by 525mm, and an oval hole of 607mm by 457mm.

The equipment meets the ESDS requirement, being capable (each outfit) of simultaneously supporting four divers conducting hard work, to a depth of 30msw. The bailout system is capable of supporting a diver conducting hard work for seven minutes at 30msw.

SofD approved the Production Proving Trials, which were conducted in 2 parts, firstly at DERA Alverstoke between 15 & 26 Mar 99 and finally at NDG from 12 & 23 Apr 99. NDG personnel were augmented by SDG for both periods. The completion of Platform Proving Trials 17 - 21 May 99, will lead into acceptance and introduction into service.

The primary purpose of the trial was to confirm that equipment met the CPS and the shortcomings identified during the earlier user trials had been resolved. To achieve this the equipment had to be thoroughly exercised through the full range of it's operating criteria, that were laid down in the CPS, using manned dives to a maximum of 30 metres. Apart from simply proving the equipment, the trial also had four objectives:

- A. The validation of ESDS SOPs for BR2806 inclusion.
- B. Validation of BR2807(U) equipment handbook.
- C. Introduction to SDG personnel of the equipment, it's maintenance and operation.
- E. Production of a provisional Six Part Training Documentation.

WO(D) Brunton was appointed Trial Director, with CPO(D) Thompson as his senior supervisor. The trial was conducted for WE128 on behalf of SWS115 (submariners!) who sponsored the procurement.



## **EQUIPMENT**

The equipment, designed to fully conform to all relevant HSE regulations, consists of:

### **A. Control Panel**

Two Control Panels that are supplied with each outfit, and consist of a transport/stowage case, with a Surface Air Supply Panel in the base and a Communication Unit, with 2 Depth Monitor Displays as well as an Audio Communications Panel mounted in the lid. The Panels are supplied with breathing quality air from either, two portable cylinders or one portable cylinder and ship's HP supply. The HP air is reduced from 205 Bar to a nominal 10.5 Bar above bottom, via an adjustable regulator. Each panel can support 2 divers in the water column to a maximum of 30msw, when performing hard work.



### **B. Umbilical**

Four Umbilicals are supplied with each outfit, and they consist of an air hose, communications cable, depth cable and a combined camera / light cable. Each cable is 60m long (neutrally buoyant) with durable protective sleeving at each end, and comes in it's own dedicated transport case. The umbilical is routed from the Control Panel, through the harness to a changeover manifold, with breathing air being delivered to the diver through an AGA low volume facemask with second stage regulator and oral/nasal.

### **C. Diving Set complete with Bailout**

Four diving sets are supplied, consisting of a hard hat, weight belt, face mask and a harness to which the umbilical is attached. A manifold with supply changeover valve and two 232 Bar air cylinders that contain the Bailout air are mounted on the harness. The manifold also supplies air to the diver's suit to compensate for buoyancy, through a direct feed connection. The set is supplied in it's own dedicated transport case. The ESDS harness is worn on the upper body and thighs of the diver. The harness has two webbing shoulder straps coloured yellow and red to identify the front part of the harness, which the diver can pick up, put his arm through and adjust for fit. The Bailout Cylinders are housed in fabric pockets with leg straps on the side, so that the cylinders are at thigh level, with the shut-off valves and regulators angled inwards so they don't snag. Each cylinder is fitted with a pressure gauge. The Bailout is designed to provide the diver with sufficient air to return to the surface from 30msw when performing hard work. A pressure transducer is fitted to the harness in a Velcro sealed pocket at the diver's left hand side. A separate weight belt needs to be worn to compensate for the buoyancy of the diver's suit and this is supplied with each outfit, being of the lead shot variety. A standard AGA low volume mask is supplied as well as a Pinnochio mask for emergency use. The AGA is fitted with a hard wired comms system to enable hands free communications between the diver and surface as well as diver to diver.

### **D. Emergency Breathing System**

The Emergency Breathing System (EBS) consists of a stand alone 7 litre 232 Bar cylinder fitted with pillar valve, first stage regulator, contents gauge and demand valve with second stage regulator. A short LP hose allows the EBS cylinder to be quick connected to the harness mounted Bailout Manifold to avoid the need to ditch the facemask. A half mask is provided in the event that the diver is forced to ditch the facemask. The EBS is supplied in a harness and is weighted slightly negatively buoyant and is similar in principle to the XBS for use with CDBA.

### **E.TV Video System**

One TV Video System is supplied with each outfit, comprising underwater camera, monitor/recorder, Video Typewriter and Underwater Lights. The UW camera may be mounted on the diver's hard hat, or hand held. The Monitor/Recorder unit may be used to view and record underwater activities; facilities to "videowrite" and "audiodub" are also available. Two underwater lights are supplied with each TV/Video system, which are powered from the monitor recorder unit, which has a dimmer control for each light supply, one is mounted on the diver's hard hat and the other on that of the Standby diver.

### **F.Tool and Test Kit**

A tool and test kit was not supplied on the first few days but a standard KMB tool kit was sufficient. A tool and test kit will be supplied in a water proof Pelican box, incorporating everything needed to set up the ESDS for use

## **PROBLEMS ENCOUNTERED**

As we all know, underwater communications have never quite performed in the way the glossy brochure describes. It was therefore not surprising that communications or sometimes the lack of any, was one of the most frequent problems encountered. However, the manufacturer was proactive, and with some sterling work done by the on-site Divex engineer, things improved as the trial progressed. An amusing problem arose with the harness due to the range of sizes of those participating in the trial, the solution is now in the hands of the manufacturer. A few other minor glitches presented themselves, such as position of the head mounted light and length of direct feed hose, but these minor defects were resolved on-site.

## **CONDUCT OF THE TRIAL (PHASE I AT ALVERSTOKE)**

The trials at Alverstoke were conducted over two weeks and in two parts. Week one was unmanned trials and week two was manned with NDG and DERA personnel. The first week consisted predominantly of diving the set in the breathing machine, in water, over a range of temperatures and breathing rates. The temperatures went from +40 to -15°C, not what can be expected even in sunny Faslane, but what can regularly be found in Building 19 at DERA. The second week consisted of ergonomic trials with divers trying the equipment on and proving freedom of movement. An integral part of week 2 was the Rhyme Test Communications Assessment where the kit performed reasonably well (30%) apart from when Thommo tried it and achieved 8.8%. These trials were the first time that the equipment had been seen by the customer, since the Divex solution was selected, and gave them a valuable initial look prior to the first use at NDG.

## **CONDUCT OF THE TRIAL (PHASE II AT NDG)**

Firstly, the trial could not have been completed without the help from SDG. The diving phase started in Faslane swimming pool, practising drills i.e. Ditching, EBS drills, trouble drill and companion diver drill. During this period, Cdr Hilton visited and dived the set. The next serial in the trial was conducted in Gareloch carrying out the same drills at 15m and quickly progressing to 30m and conducting once more the drills that would be needed for the simulator. No problems were encountered and it was used as a confidence booster for entering the Enclosed Space Simulator, adjacent to NDG HQ, where the equipment would be fully tested.



The simulator is a mini-con with a bench fitted inside to make entry more difficult and space inside more restricted. At first, entry and exit had to be trialed then once confidence was gained by the team we moved onto drills inside the simulator. Finally we had to carry out diver recovery from inside the simulator both with and without the casualties diving set, which proved to be a lot easier than first envisaged.

### **INTRODUCTION INTO SERVICE**

Platform Proving Trial (at NDG) were successful and delivery to the user is envisaged during Summer 1999. This new equipment will entirely replace the interim ESDS supplied to NDG. Outfits will be issued to NDG and SDU 1, submarine defect rectification.

### **TRAINING FOR FLEET DIVING SQUADRON**

DDS have been involved in the structuring of future training programmes, with attendance during the trial, but training for future users will be devolved to individual units. Regular maintenance of diving and supervisory practice is essential with ESDS and CAPES will be amended to reflect this.

### **PARTICIPANTS**

Trial Director	WO(D) Brunton	ESDS Simulator	AB(D) Lorimer
Senior Supervisor	CPO(D) Thompson	Lights/Video	AB(D) Chapman
Buffer/Data Collection	CPO(D) Rickard	CPO(D) Assistant	AB(D) Bryan
Maintainer No.1	LS(D) Main	Boatman	Mr McGarva
Boats/Ancillaries	LS(D) Wrens	Training	
Victuals and Maintainer No.2	LS(D) Batterby	Documentation	Mr Kerr

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## **2 DAYS IN THE LIFE OF ..... THE SOUTHERN DIVING UNIT 1 MINE DISPOSAL AT GUERNSEY, FEB 99**

*By Able Seaman Diver D JONES.*

During a busy and diverse week which involved a mortar bomb in Barmouth, and several hundred flares at various locations, the duty team were tasked to Guernsey where a local fisherman had trawled more than just his usual catch.

On reaching harbour, the local police informed him that the rusty drum shaped object on his deck rather resembled a depth charge. Not amused, the fisherman rolled the offending article off his boat into the murky depths of St Peters Port harbour. Within the hour the duty team were en-route, courtesy of a 771 Squadron Sea King helicopter, arriving at the picturesque harbour just as dusk settled.

Having decided that the disposal operation would take place at first light, the Peninsular Hotel was 'home' for the evening - a stroll along the promenade and a half pint of the local beer completed acclimatisation. A hearty breakfast marked the start of another day in the Diving Branch, followed by a short journey to the harbour where the local authorities were more than pleased to see us.

In order to reach the search site, we had to walk along a pontoon, guarded by an important looking cormorant. He didn't seem to mind us, and followed along to the end of the planking where he curiously eyed the diver making his preparations, seemingly ready to offer advice. After a short brief, the diver entered the water, closely followed by the cormorant. Everyone fell about laughing, and as the diver left surface, the cormorant followed, then led the way down amongst the lobster pots, discarded nets and finally to the ordnance. It then left the diver to identify a MK 7 depth charge - the filling clearly visible through the corroded casing.

Deemed safe to transport, the charge was taken out to sea and harmlessly destroyed - an impressive plume of spray marking the end. A few hours were left to enjoy lunch and grab a bottle of perfume for my wife before the friendly faces of 771 Squadron conveyed us home.

## **STANDING NAVAL FORCE CHANNEL IN THE CLYDE - EXERCISE ANGLER 99**

*By Lt Cdr Phil Ireland, Staff Minewarfare & Clearance Diving Officer to FOSNNI.*

### **BACKGROUND**

Standing Naval Force Channel (STANAVFORCHAN) first deployed to the Clyde for Operation Pike in Jan 96, and has since returned annually. Initially the deployment was run very much along the lines of the national operation, but has latterly been developed into a more wide-ranging exercise including the following:

FOST (MPV) staff covered MCM (36 hours per MM)  
FOST(MPV) BOARDEX/SALVEX  
Weapon Practice Analysis (WPA) and exercise mine recovery  
Detailed route survey  
Multi-ship gunnery/winches (819 Squadron)/RAS

To reflect the differences between this and RN Group Pikes, the deployment was re-named EXERCISE ANGLER in 1998.

During Exercise ANGLER 99 (2 - 18 Feb) the force comprised HNoMS VIDAR, HNoMS RAUMA, BNS CROCUS, FGS FRANKENTHAL, HNLMS DORDRECHT and HMS SANDOWN. COMSTANAVFORCHAN at that time was Cdr(sg) Geir Flage RNoN who assumed Command in May 98 as the force celebrated its 25th anniversary. He is the first Norwegian to have been appointed to the post which is held for a year on a rotational basis by participating nations; it will next be filled by a UK representative in 2002-2003. The first 3 months of Cdr Flage's tenure featured a landmark deployment to the USA, Canada and Iceland including visits to Norfolk, New York, Halifax, St. Johns and Reykjavik.

The flagship, HNoMS VIDAR, was the first of 2 coastal minelayers in the Royal Norwegian Navy, commissioned in 1977. She has a standard displacement of 1500t, is 65m in length and has a weapon fit of 2 x 40mm guns and Mk46 torpedoes. The ship is capable of carrying 300-400 mines (dependent on type) on 3 decks, one of which was fitted out with a false wooden deck and bar area purely for the many cocktail parties hosted by "STANAVFORCHAN".

### **PLANNING**

STANAVFORCHAN was berthed at Glasgow in mid-Oct 98, immediately prior to participating in JMC 983, so SMCDO FOSNNI and SOO FOST (MPV) (Lt Cdr Jason Poole) took the opportunity to meet COMSTANAVFORCHAN and other members of his team to discuss what training could be offered. His SOO, Lt Cdr Lars "LG" Christiansen RDN, had only very recently relieved our own Al Stangroom in the post and understandably had more questions related to the JMC than ANGLER. However, a skeleton plan was hatched and SMCDO, caught in a weak moment, undertook to produce a serialised programme for the period 2-18 Feb.

Saving the travel budget once again, a team from FOSNNI/FOST (MPV) comprising Phil Ireland, Lt Allan Kerr (SWO(MW)2), CPO(MW)(O) George Coyle and CPO(MW)(O) George Hogg conducted a briefing onboard VIDAR during STANAVFORCHAN's work up in the Forth Exercise Areas in Jan 99. Respective budget managers simply laughed off our suggestion that a week long series of visits to participating units' base ports was essential. We even managed to save on the cost of lunch thanks to the generosity of VIDAR.

### **CONDUCT**

Port visits to Ipswich, Falmouth and Liverpool followed before STANAVFORCHAN was greeted by the standard Clyde welcome of driving rain, high sea state and 40 knot winds. These factors made for interesting and ultimately successful berthings at NPD Campbeltown on 2 Feb.

For much of the exercise weather remained a predominating factor with 4 days of 17 lost due to severe conditions. Despite this, and the loss of BNS CROCUS due to defects for the final week, 75% of routes allocated in the MCMOPDIR were surveyed; a very creditable achievement. XMT SANDOWN only paper records were forwarded to UKHO to populate the Route Survey Database (RSDB). It is hoped that RSDB will achieve NATO compatibility prior to ANGLER 00 such that the force's records can be more efficiently incorporated.

BNS CROCUS and HNLMS DORDRECHT took advantage of the shelter offered by Ettrick Bay (Isle of Bute, NW coast) to conduct live disposal of 5 items of old ordnance. CROCUS positively identified a further 9, the co-ordinates of which have been widely promulgated to the MW community by FOSNNI for future EOD effort on an opportunity basis. HMS SANDOWN (Lt Cdr Paul Jones) also got in on the act achieving high order detonation of a torpedo found in 140m of water off Stranraer.

All except CROCUS participated in FOST (MPV) staff covered MCM training periods. This was very well received and the inclusion of AAW procedures in the multi-threat scenarios, a first for all non-RN units, was felt to be particularly beneficial. In the weeks leading up to ANGLER the force heavily table-topped and practised salvage and boarding, which are operations not normally conducted by non-RN MMs, and this preparation showed through in individual ship's performances. The speed and thoroughness of STANAVFORCHAN's minehunting also impressed CST.

FOST (MPV) staff also gained much from seeing the Norwegian Navy's newest minesweeper at work; RAUMA is an ALTA Class sweeper and was commissioned in 1996. The GRP catamaran design utilises an air cushion created by the surface effect of the two hulls and, powered by diesel engines and water jets, this 375t displacement vessel can achieve a speed of 21 knots. At the time of writing there remained significant teething problems with the Agate acoustic and Elma magnetic sweeps. The hunter variant of the same basic hull design is called the OKSOEY Class.

FGS FRANKENTHAL, HNLMS DORDRECHT and HMS SANDOWN achieved WPA under the tutelage of the outgoing SANO, Lt Cdr Richard Hill, and his relief Lt Neil Holden. Dickie was saddened to be leaving the Craighard Hotel, Campbeltown where he had managed to achieve semi-permanent residence status over the last 4 years, but the proprietor has promised to re-name his favourite suite "Ben Richard". A/SANO, Tony Potts, turned the records round in very short order to have them distributed to STANAVFORCHAN prior to their Easter dispersal.

As ever the team at NPD Campbeltown, under the leadership of Charlie Gothard, provided a most flexible and helpful service which received much praise in COMSTANAVFORCHAN's End of Deployment Report.

### **LOCAL LIAISON**

A cocktail party was hosted onboard VIDAR at the fuelling jetty for 40 invited guests (50 appeared on the night - well, they don't get out much in Campbeltown). During the course of ANGLER 99 COMSTANAVFORCHAN also hosted 2 lunch parties; reciprocal events were organised by local solicitor and Secretary of the Clyde Fishermen's Association, Mr. Patrick Stewart, which were very much appreciated by Commander Flage.

On any one day there was at least one vessel alongside either at NPD or the Town Jetty throughout the exercise. Relations with the local population were particularly cordial, as was the case during MCM2's group Pike the previous month. The odd incident still occurs in Campbeltown, but no more so than in any other port regularly visited by Naval vessels. More often than not local fishermen were particularly accommodating and deconfliction between one vessel and DORDRECHT was eased by a bottle of Jenever.

## **FUTURE DEPLOYMENTS**

Feedback from STANAVFORCHAN indicates that early face to face meetings, provision of a wide ranging programme and the SXA's excellent MCM training facilities combined to provide the force with its best OC training of the year. ANGLER's reputation within NATO as an exceptional exercise has helped to make it a standard annual deployment. ANGLER 2000 is already inked in next year's Schedule of Operations, and CDRE MFP has offered a 12-day exercise in 2001 plus an invitation to participate in JMC 011.

It's been a long time coming but, by the time of going to press, the force should have been re-named MCMFORNORTH at the Change of Command Ceremony at Den Helder in May 99. During the same month a new NATO force, MCMFORMED, will have been activated with units provided by UK, Belgium, Germany, Italy and both Greece and Turkey. Lt Cdr Martin Woolley (formerly CO NDG) assumes the role of SO STANAVFORCHAN at Northwood in Jun 99. He is the first non-Belgian/Dutch officer to fill the post.

## **OPERATION PIKE**

The future conduct of Operation Pike is under review, concurrent with the ongoing study into the future of RN route survey operations across the board. CDRE MFP has already moved the emphasis towards predominantly single ship deployments tasked directly by FOSNNI. It is intended totally to divorce PIKE and Exercise ANGLER by producing separate oporders by the end of 99. Watch this space.

## **SCOTTISH EXERCISE AREA TRAINING OPPORTUNITIES**

Outside OST ("probably the best minefields in the world") and PIKE these excellent training areas are there to be used for Squadex, single ship shakedown, trials and deep dive work ups. FOSNNI issues regular update signals detailing the status of possible live ordnance positions and exercise mines earmarked for recovery and we even recover MDCs left behind by our English cousins! (No names, no packdrill).

## **AREA POINTS OF CONTACT**

FOSNNI	SMCDO	Lt Cdr P C Ireland(Phil)	93 255 6510
FOST(MPV)	SOQ/SWO(MW)	Lt Cdr S M Elliman (Simon)	4459
	SWO(MW)2	Lt A T F Kerr (Alan)	6995
	SWO(MW)3	Lt J A Craig (John)	4408
	OPS(MW)1	CPO(MW)(O) G G Coyle (George)	4439
	OPS(MW)2	CPO(MW)(O) J W Takel (Jan)	3776
	OPS(MW)3	CPO(MW)(O) N Smith (Nick)	6985
MFP CROMBIE	SMINO	WO(MW) S Mansell (Tins)	93 385 2517
NDG	CO	Lt Cdr D Turner (Dave)	93 255 6870
	WO(D)	WO(D) N A Brunton (Andy)	4017
	OIC NDU 1	Lt T J Lambie (Tim)	6554
	CPO 1	CPO(D) T Heald (Terry)	6361
	OIC NDU 2	Lt R J Dowker CAF (Richard)	4016
	CPO 2	CPO(D) D W Southwell (Dave)	3878
NRO SNI	D/NRO	Cdr W D Steele RN(rtd) (David)	93 35 65535
	A/NRO	Lt W Gauson RN(rtd) MBE (Bill)	65595

## AUSTRALIAN SOFTWARE

*By Lt Patrick O'Brien RAN, HMAS WATERHEN*

Last year, I upgraded my GirlFriend 5.0 to GirlFriend 5.1, which installs itself as Fiance 1.0. Recently, I upgraded Fiance 1.0 to Wife 1.0 and it's a real memory hog. It has taken up all my space, and Wife 1.0 must be running before I can do ANYTHING ! It is also spawning Child Processes which are further consuming system resources. Some applications, such as PokerNight 10.3, BeerBash 2.5, and PubNight 7.0 are no longer able to run in the system at all.

Additional Plug-ins were automatically installed, such as Mother-In -Law 55.8, and there is no uninstall feature for these plug-ins. No mention of these behaviours was discussed in the brochures or documentation, although other users have reported similar problems.

Because of this, some users that I know have decided to avoid the headaches associated with these upgrades, and simply move from GirlFriend 5.0 to GirlFriend 6.0. Unfortunately, this is not without peril as well, as all traces of GirlFriend 5.0 must be removed from the system before installation of the upgrade.

Even then, GirlFriend 6.0 will repeatedly run system checks (usually in the background, and often late at night when the system is asleep) to find evidence of previous versions. To cap it off, GirlFriend 6.0 apparently has a nag feature reminding about the advantages of upgrading to Wife 1.0. However, I do like some of the features that you are planning to include in the upcoming GirlFriend 6.1 release: A "Don't remind me again" button. Minimize button. Shutdown feature. An install shield feature so that GirlFriend can be completely uninstalled if necessary (so you don't lose cache and other objects).

Unfortunately, since I've already upgraded to Wife 1.0, I don't think I will be able to take advantage of any of these new features, unless you decide to include them in the next Mistress release. But, of course, there is a whole raft of problems associated with the use of Mistress 1.0 and Wife 1.0 on the same system, most notably are systemwide conflicts and continual disk thrashing, which starts shortly after Wife 1.0 detects Mistress 1.0.

Interestingly enough, all versions of Personal Lawyer still work fine.

Finally, Wife 1.0 apparently deletes all MSMoney files before uninstalling itself; following that, Mistress 1.0 will refuse to install, claiming insufficient resources.

I personally find all these new tools and conflicts to be too confusing and time consuming. I'm sticking with Dog 1.0V3. It slobbers and chews up the paper, but all in all these bugs are tolerable. It is simple to operate and we get along fine.



## **LIFE IN THE FREEZER**

*By LS(D) Ginge Fullen*

Due the dreaded sea-draft I actually took direct action and put in for a ship. Not a sane move I hear you say, but after 5 years shore side and with a draft of my choice I had no complaints. I joined HMS Endurance in July 1998 relieving LD Taff Boyd.

The ship deployed in October visiting such exotic places as Brazil on the way down and Peru and the Caribbean on the way back, all very different and much more enjoyable ports of call than the MW rates on board and I were used to. The Diving team consisted of myself and 9 ship's divers, having served with some relatively inexperienced ships divers before it was nice to find a varied and enthusiastic team onboard.

There were plenty of opportunities to dive during the deployment. Diving jobs varying from engineering work on the Ship's hull to working jobs laying moorings and erecting tide poles in support of the Survey Department. We also got in over 12 diving hours mending a sluice gate in a very cold fresh water dam at King Edward Point in South Georgia for the Army.



Antarctica is a spectacular place which few people have had the chance to visit let alone to dive. We dived in the warm volcanic waters inside Deception Island a massive volcanic crater now filled with water to the below freezing waters south of the Antarctic circle. The highlight of the deployment though and one of the most amazing and potentially dangerous dives I have ever done was during work period three operating around Dundee Island just off the Antarctic Peninsular when a number of dives were conducted in the company of Leopard seals.

Little is known about Leopard seals except as David Attenborough says during one of his documentaries "many people believe that the Leopard seal is the most dangerous killer in Antarctic waters and it would be suicidal to get in the water with one". We carried out several dives with leopard seals. Since the Leopard seal is the only seal reported to stalk and attack humans without provocation getting in the water with this very sinister looking four metre long half ton plus animal takes a little bit of bottle.

I've participated in some risky dives before, some including other big sea dwellers. When I briefly visited Hong Kong the one and only Darby Allen thought it was a great idea and highly amusing to dive in the same bay that 3 people, one diver and two swimmers only days before and been attacked and killed by a massive Tiger shark. I certainly didn't find it amusing but looking back it was a great experience. Likewise with the leopard seal, when one opens its mouth inches away from a camera that you are holding to your eye and you can count its many teeth, also its mouth is big enough to fit your head in and you begin to wonder whether this is really a good idea. It was a dive worth surviving in order to spin the dit.



Endurance is getting to be a popular draft for divers. If you do not mind being away for several months and want to do the unusual in the more unusual places, diving climbing and swimming with Hump Back whales (I didn't know Hump Backed whales could climb - Ed) then this could be the draft for you.

## **HMS PENZANCE (or SANDOWN CLASS RS TURBO!)**

*By Lt Cdr Chris Ashcroft RN*

### **CO HMS PENZANCE**

HMS PENZANCE was accepted into operational service by Cdre B A L GOLDMAN RN (CDRE MFP) on behalf of FOSF on 12 February 1999. Although this was somewhat later than the originally planned ODMA date of mid-Oct 98, it was still almost 5 months ahead of BRIDPORT, the last Sandown Class MM to be built.

### **INTRODUCTION**

No longer referred to as SRMH, and never to be called a Batch II (in case you didn't already know) PENZANCE is the first of seven Follow On or Build II Sandown Class Vessels. As with previous ships of the Class, PENZANCE was built by Vosper Thornycroft (VT) at Woolston. Improved management and production techniques allowed her to be completed in record time though the record is unlikely to stand for long with PEMBROKE and GRIMSBY already off the starting blocks! Key dates for PENZANCE were:

25 Sep 95	Keel laid by Vice Admiral Sir Robert Walmsley KCB
11 Mar 97	Launched by HRH Princess Michael of Kent
22 Jan 98	Accepted into RN Service (PAD)
14 May 98	Commissioning Ceremony - Guest of Honour HRH Princess Michael of Kent
12 Feb 99	Accepted into Operational Service (ODMA)

### **BACKGROUND**

The design for the seven new vessels was based on HMS BRIDPORT but with a significant number of operationally essential improvements:

#### *Improved construction techniques;*

- TMCC(Type C)/CDBA
- Colour NAUTIS
- Gemini Davit
- Improved RCMDS Crane
- Dedicated female accommodation
- Bigger Voith Schneider Propulsors and uprated engines
- Strengthened Hull
- Partial Tropicalisation (but no RO Plant!)

For PENZANCE, this gave AD/MCM's Project Team a difficult task due to the relatively short build time in which to approve and implement the changes. This was exacerbated by the introduction of further design changes post contract award and delays to the delivery of key Government Funded Equipment (GFE). In other words, the pressure was on from the outset!

### **CONSTRUCTION TECHNIQUES**

In the period between completing the construction of BRIDPORT and beginning PENZANCE, VT developed an advanced moulding system for the production of GRP panels. Known as SCRIMP (Seemann Composite Resin Infusion Moulding Process), its use offers cost and weight savings over conventional methods of production. Rather than laying individual layers of fibre glass and covering each one with resin until the required thickness is achieved, all layers are placed together and the resin is sucked through. The panel so formed is then cut to the required size and shape to be made into bulkheads. The incorporation of a copper mesh into the panels negates the need for the zinc groundplanes which were prone to failure in hulls 01-05, and appears to give better EMC screening. Although the use of SCRIMP in PENZANCE was limited, it may be extended in follow-on vessels.



## **DIVING EQUIPMENT**

The Type C Chamber was introduced for safety reasons and necessitated major changes to the design, including structural modifications and changes to the HP Air System. Details were not finalised until well into PENZANCE's construction. With space at a premium and concerns over weight distribution, the chamber's 32 HP Air bottles had to be installed in the Schottel (Bow Thrust) Compartment, some distance away from the Pot Well. CDBA has also been introduced which will, in time, give an 80m diving capability. Again, alterations were required to accommodate the new kit, resulting in a redesign of the Diving Store. There were significant delays to the delivery of the Chamber and CDBA, both GFE, which resulted in the fit falling outside the build period. Instead, a six week period was programmed into the Part IV Trials schedule and PENZANCE returned to Woolston in July 1998 to allow installation concurrent with defect rectification.

## **RCMDS DAVIT/GEMINI CRANE**

PENZANCE has been fitted with an improved crane for recovery of Mine Disposal Vehicles. Changes include: Lower magnetic signature, increased factor of safety on structure, Maximum SWL at full extension, Improved load sensing and speed of operation.

The most visible change to Build II vessels is the inclusion of a Gemini Davit. The davit is positioned on 01 Deck port side aft, immediately behind the Gemini, and will ensure that the ships meet SOLAS requirements. The davit can be operated remotely, by use of a wandering operator console, from either the boat deck or the port waist, and is cleared for emergency recovery of a PAP.

## **FEMALE ACCOMMODATION**

Female accommodation for all ranks was introduced to the Build II vessels. For Senior and Junior Rates this required a major redesign of 2 Deck. A 3 berth Female JR dormitory has been incorporated into existing space, but the inclusion of separate female heads/bathroom and a 2 berth Female Senior Rates Cabin was at the expense of office space. In PENZANCE this 2 berth cabin has been converted into a Technical Office. In order to comply with the requirement for female Senior Rate accommodation proposals have been made to convert the 6 berth PO's Cabin into 2 & 3 berth cabins. PENZANCE presently has a WSTD, WCH and WOM(C) who are all thoroughly enjoying their draft!

## **MACHINERY**

The propulsion train in the new Sandown Class vessels differs significantly from Hulls 01-05. The benefits of the new system include reduced Voith propulsor wear and improved max speed (13 kts). The new Voiths are bigger 18" units and incorporate a bevel drive instead of the worm drive featured in earlier Sandowns. Accommodation of the new propulsors required larger diameter shafts and the introduction of a ZF gearbox. The main machinery rafts had to be extended to cope with the gearboxes and structural bulkheads were altered to allow for the revised position of the input shafts. Finally, additional main engine and Voith cooling has been included as part of the tropicalisation package.

## **WEAPON SYSTEMS**

Delays to the delivery and the poor quality of some GFE dogged the final stages of build. For the first time, Sonar 2093 was supplied as GFE, to be set to work by the Weapon System Tuning Group (WSTG), based in COB II at Portsmouth. Unfortunately PENZANCE's sonar was not delivered on time and the Ship was accepted at PAD without a Towed Body(TB), no change there I hear you say! This caused the most significant delays to the programme and setting to work of the equipment had to be moved from Part III (build) to Part IV (Trials). Initially an unmodified TB was installed to allow setting to work to progress, with PENZANCE's own TB finally being fitted in April 98. WSTG did a fine job of setting to work the system and it was eventually ready for sea trials in September, some 8 months after the Ship was accepted but still ahead of our predecessors! Predictably, this was not the end of the saga and a replacement TB had to be installed later to complete trials.

Originally intended to be "Fit to Receive" 30mm, PENZANCE had her gun installed in parallel with the fitting of the Type C Chamber.

## **SEA TRIALS DIARY**

Following PAD on 22 Jan 98, PENZANCE spent almost 8 months alongside whilst setting to work and late alterations were completed. Exceptions to this were one or two days at sea for minor trials (1007 Radar, UHF,VHF), Preliminary Safety Training under FOST(MPV) and the inaugural visit to Penzance. With ODMA now planned for late November PENZANCE finally sailed for full sea trials on 17 Sep 98. DG Ranging and Noise Ranging went well, with significant improvements in signature over early Sandowns, and the Gun achieved Installation Test Firing. The Ship then moved to BUTEC for the most important part of the trials programme; 2093, RCMDS 2, Nautis and MHSA 3 Sea Trials. With Outfit QYF still not available and unable to process Differential GPS, PENZANCE was left relying on Hyperfix. Proper targets were not available, but the combined corporate knowledge of WSTG (Frank Moore and Andy Cotterill) and WO Pete Whitehead (CWTA) kept the trials on track using old targets laid for the trials of the Saudi SRMH. All did not go well! Hyperfix did not seem to be operating correctly and much time was lost trying to bowl out errors of upto 130m. The MHSA 3 trial had to be abandoned when it became clear that the stated trial requirements could not be achieved. The trial has never been completed successfully in a UK Sandown and the requirements for/purpose of the MHSA 3 trial are currently being re-evaluated by MoDPE SS223. Unfortunately, a major defect on the TB Azimuth Drive and a malfunctioning Towed Body Locator halted any further trials and PENZANCE returned to FASLANE for defect rectification. After a lot of high level discussion PENZANCE was fitted with a replacement TB and it was decided to repeat Sonar 2093 trials, further delaying ODMA.

With a new date set for 12 Feb 99 PENZANCE returned to BUTEC after Christmas Leave. By this time MoDPE had managed to find funds to provide the required target mines and these were laid and surveyed in time for the repeat Sonar trials. Again, problems were experienced with Hyperfix but DERA BUTEC assistance brought the errors down to a tolerable 13m and the light finally appeared at the end of the tunnel. Sonar 2093 passed sea trials on 3 February 1999 and the Ship returned to Faslane to prepare for ODMA.



## **THE END RESULT**

PENZANCE is now operational and, by the time you read this she will have completed BOST, JMC 992 and possibly even an On Call Force Deployment. What about all the niggling problems you may have heard about; NBCD markings, Health & Safety Signs, static build up, Hypox decks? Some of them are still there, but most have been resolved. They do not detract from what is a fine Ship with many improvements over her predecessors; no doubt PEMBROKE, GRIMSBY etc will continue the evolution!

Without wishing to offend the multitude of people and organisations involved with PENZANCE's trials, special thanks must go to WO(MW) Dixie Dean MBE (WE123) and WO(MW) Pete Whitehead (CWTA), whose knowledge, experience and support were invaluable.

## FOST COMMON SHORTCOMINGS

By Jan Takel

The list below is by no means exhaustive and is updated and passed out in a letter via FOST HQ dispatched in June / July annually. Standards are high and all evolutions are judged from the brief onwards, the brief can sometimes be the first stumbling point which sets the serial off to a bad start and usually goes

down hill from there. Once again prior planning is the key, a well researched and briefed evolution saves the day, reading the BR the night before can alleviate most problems and shortcomings can be avoided. Briefing off the back of a fag packet or from memory must be avoided.

### COMMON SHORTCOMINGS - DIVING AND DEMOLITIONS

SUBJECT	STATUS	COMMON SHORT COMINGS	CATEGORY	SUGGESTED REMEDIAL ACTION
DIVING WORK- UP	CRITICAL	Ships arriving at OST unable to dive to max depth under Minehunting Rules.	MANPOWER	Conduct a dedicated work-up before arrival, or progressively work-up the divers from OST minus 3 months.
EXCEEDING GEMINI HOISTING LIMITS	MAJOR	Hoisting and lowering limits being regularly exceeded when the Gemini is rigged as a diving boat.	EXECUTION	Review procedure for loading / unloading the boat, with particular reference to a casualty.
SURFACE D	MAJOR	Poor appreciation within the Ship as to what the evolution entails and why it is not an emergency.	EXECUTION	Regular practice as a whole ship evolution.
FCD3 Planning	MINOR	Planning of ship's diving teams' training appears to be reactive to CAPES printouts, rather than pro-active to individual/collective requirements.	EXECUTION	Establish a planning grid to help better maintain the team's OC.
DIVING LOGS	MINOR	Old style logs incorrectly completed, and often following different formats.	MATERIAL	Adopt the new format. Change to new log.
DEMOLITIONS KIT	MINOR	Not held, or holding equipment inappropriate to the task.	MATERIAL	Consult BR338(1).
BRIDGE FILE	MINOR	Diving Section of this document is usually very poor, predominantly containing photocopies of sections from BRs, with no explanation to the layman.	MATERIAL	Diving Officer to take great interest in its completion.

### THE TEAM

The MW team now consists of:

LT CDR S Elliman SDO, LT A T F Kerr SWO2,  
LT J A Craig WO3, CPO G G Coyle OPS MW1,  
CPO J W Takel OPS MW2, CPO N A Smith OPS MW3.

The old guard have now moved on making way for some new faces, LT Alan Kerr SWO2, Lt John Craig SWO3, CPO Jan Takel OPS2 and CPO Nick Smith OPS3. The team is looking forward to CPO Pete Mills joining in June, relieving George Coyle, who says see you all at the minewarfare BBQ at Dryad in the summer.

### WE ARE HERE TO HELP

Prior Preparation is the key to a successful OST whether it is for general phase training or minewarfare. Full details and requirements are given to relevant Depts during liaison

visits and are all laid down in the OST guide VOL 2. The only stupid question is the one that should have been asked so don't hesitate to give the Minewarfare shop a call if you are in any doubt about operational procedure or the approach to adopt when preparing for OST.

### FOST MPV TELEPHONE NUMBERS

93 255 ext (MOD NETWORK)	01436 674321 EXT (BT)		
<b>TITLE</b>	<b>RANK</b>	<b>NAME</b>	<b>EXT</b>
SOO(SWO)(MW)	LT CDR	SIMON ELLIMAN	4459
SWO(MW)2	LT	ALAN KERR	6995
SWO(MW)3	LT	JOHN CRAIG	4408
OPS(MW)1	CPO(MW)(O)	GEORGE COYLE	4439
OPS(MW)2	CPO(MW)(O)	JAN TAKEL	3776
OPS(MW)3	CPO(MW)(O)	NICK SMITH	6965
FAX: Direct Dial 01438 677221 or Ext 3696			

**COMMON SHORTCOMINGS - MINEWARFARE**

<b>SUBJECT</b>	<b>STATUS</b>	<b>COMMON SHORT COMINGS</b>	<b>CATEGORY</b>	<b>SUGGESTED REMEDIAL ACTION</b>
HOVERING	CRITICAL	More emphasis is to be placed on all OO/W's to ensure an acceptable standard is maintained.	EXECUTION	Navigators to start making up handy hovering tips
RECORDS	MAJOR	Lack of detail in compilation of correct manuscript and magnetic media records, vital for post task analysis.	EXECUTION	MWO/MHD to be familiar with BR8513(2C1) (MHSC) and BR8413(2A,2B) (MHC)
RTPME	MAJOR	VQS procedures in accordance with BR's	EXECUTION	SOP's are contained in relevant operating handbooks, MHD's take note
HVME	MAJOR	Insufficient corporate knowledge in use of equipment to optimise threat reduction.	EXECUTION	More use to be made of system and associated publications. Relevant personnel to complete the PJT (ME36C)
FORMATTED SIGNALS	MAJOR	More familiarisation required when using pre formatted Mine warfare Messages.	EXECUTION	MWO/MHD and Comms staff to be familiar with APP4 Vol 2.
SONAR DRILLS	MAJOR	a. Correct drills not used i.a.w. Class BRs  b. Contact marking during Classification does not reflect perceived orientation of target.	EXECUTION	a. Onboard education, Ops room formality and MHDs to enforce standards.  b. Operators to mark length of target depending on orientation, not simply left to right across screen with bias turned down (unless appropriate)
PN FAIL	MAJOR	Poor level of procedural knowledge	EXECUTION	Familiarisation and practice
NAVPAC	MINOR	Poor utilisation and knowledge of setting up / limitation.	EXECUTION	Improve education and practice
KOM CALIBRATION	MAJOR	Ships are arriving at OST with Kite Otter Multiplanes incorrectly calibrated	EXECUTION	Allocate sufficient time during shakedown period to ensure KOM's are calibrated.
MCM STATEBOARDS	MINOR	Stateboards are not being updated during watches or on change of task.	EXECUTION	MHD's to ensure stateboards are updated.
WATCH HANDOVERS	MINOR	Insufficient detail being passed between key players at handover.	EXECUTION	MWO/OO/W/MHD's to ensure relevant details covered (use of aide-memoire is recommended)
CAAIS FAILURES	MAJOR	Bosun's unable to restart system after system failure resulting in DWEO being shaken to rectify problem.	EXECUTION	Bosun to take a more active part in setting up for minehunting.
MCM TOOLS	MINOR	MWO's not fully conversant with MCM Expert and A&B predictor are becoming distracted during minehunting tasks. We are there to train, however, serial time can be wasted whilst teaching MWO's MCM tools Problems or difficulties should be highlighted sooner rather than waiting until the start of task	EXECUTION	MWO's to familiarise themselves with the system therefore discovering problems before starting OST.

## THE YARN OF THE 'NANCY BELL'

By W S Gilbert.

*'Twas on the shores that round our coast  
From Deal to Ramsgate span,  
That I found alone, on a piece of stone,  
An elderly naval man*

*His hair was weedy, his beard was long  
And weedy and long was he;  
And I heard this wight on the shore recite  
In a singular minor key:*

*"Oh, I am the cook and a captain bold,  
And the mate of the Nancy brig,  
And a bo'sun tight, and a midshipmate,  
And the crew of the captains gig."*

*And he shook his fist and he tore his hair,  
Till I really felt afraid,  
For I couldn't help thinking the man had been drinking,  
and so I simply said:*

*"O elderly man, its little I know  
Of the duties of men of the sea,  
And I'll eat my hand if I understand  
However you can be*

*"At once a cook and a captain bold  
And the mate of the Nancy brig,  
And a bo'sun tight, and a midshipmite,  
And the crew of the captains gig!"*

*Then he gave a hitch of his trousers, which  
is a trick all seamen learn,  
And having got rid of a thumping quid  
He spun this painfull yarn:*

*"Twas in the good ship Nancy Bell  
That we sail'd to the Indian sea,  
And there on a reef we come to grief,  
which has often occur'd to me*

*'And pretty nigh all the crew was drown'd  
(There was seventy-seven a'soul);  
And only ten of the Nancy's men  
Said 'Here I' to the muster-roll,  
'There was me, and the cook and a captain bold  
And the mate of the Nancy brig,  
And a bo'sun tight and a midshipmite,  
And the crew of the captains gig."*

*"For a month we'd neither vittles or drink,  
Till a - hungry' we did feel,  
So we drew a lot, and, accordin', shot  
The captain for our meal.*

*"the next lot fell to the Nancy's mate,  
And a delicate dish he made;  
Then our appetite with the midshipmite  
We seven survivors stav'd*

*"And then we murder'd the bo'sun tight,  
And he resembled pig;  
Then we wittled free, did the cook and me  
On the crew of the captain's gig*

*Then only the cook and me was left,  
And the delicate question, 'Which  
Of us two goes to the kettle?' Arose,  
And we argued it out as sich.*

*"For I loved that cook as a brother I did,  
And the cook he worshipp'd me;  
But we both be blow'd if we'd either be stow'd  
In the other chap's hold, you see.*

*'I'll be eat if you dines off me?' says Tom.  
'Yes, that' I say, 'you'll be.  
I'm boil'd if I die, my friend,' quoth I;  
And 'Exactly so,' quoth he.*

*"Says he: 'Dear James, to murder me  
Were a foolish thing to do,  
For don't you see that you can't cook me,  
While I can - and will - cook you?"*

*"So he boils the water, and takes the salt  
And pepper in portions true  
(Which he never forgot), and chopp'd shallot,  
And some sage and parsley too.*

*"Come here, 'says he, with a proper pride,  
Which his smiling features tell;  
'Twill soothing be if I let you see  
How extremely nice you'll smell."*

*"And he stirr'd it round and round and round  
And he sniff'd at the foaming froth;  
When I ups with with his heels,  
and smothers his squeals,  
in the scum of the boiling broth.*

*"And I eat that cook in a week or less,  
And as I eating be  
The last of his chops, why I almost drops,  
For a wessel in sight I see.*

*"And I never Larf, and I never smile,  
And I never lark nor play;  
But I sit and croak, and a single joke  
I have - which is to say:*

*"Oh, I am the cook and a captain bold,  
And the mate of the Nancy brig,  
And a bo'sun tight, and a midshipmite,  
And the crew of the captains gig."*

## **SURF ZONE VERY SHALLOW WATER DIVING - A RESPONSE**

### **DEAR DOUGIE THE DIVER,**

I thoroughly enjoyed your spoof article on SZ/VSW Mining. It was cleverly thought out and well crafted; like all good hoaxes it fooled a significant number of people for a long time. Presumably you began with the recommendations and then worked backwards, constructing the arguments to support them.

The first recommendation was a gem (Paragraph 22 as I numbered it): **'MCM resources should be focused at the most likely and dangerous threat to the amphibious assault and only then should surplus resources be allocated to counter peripheral threats.'** Nothing wrong with that - providing you have correctly identified the most likely and dangerous threat to the amphibious assault, of course. Some of your readers clearly didn't think about the relative ability of say, HMS OCEAN or a Landing Craft, to withstand a mine detonation, the built-in damage control features and the trained fire fighting parties. Or the impact which such damage would have on the overall mission.

The second recommendation was wonderfully confusing: **'As SZ and VSW MCM become increasingly effective'**. (The twist of course, is that they will only become increasingly effective if sufficient resources are allocated, and the whole thrust of your article was to question whether they should be applied at all - wasn't it? Was this the 'oxymoron' of the title?)... it should not be **viewed as an enabling capability to the detriment of more proficient action recommended by doctrine.'**

Lovely, but what did it mean? VSW MCM IS an enabling capability. If there are mines in the VSW area of a beach approach it CAN disable the capability to land: clear them and the landing can take place (except for the mines OFFSHORE, I know) But they are a completely different problem, (and should be regarded as such) although I did like the way you kept interchanging them to cleverly confuse the issue.

The final part of that sentence was outstanding

**'...to the detriment of more proficient action recommended by doctrine.'** More proficient than what? And why is VSW MCM going to be detrimental to it? What doctrine? Of course some people didn't ask those questions and accepted the point as gospel. It was that word 'doctrine': few people are even sure what it means let alone prepared to argue it.

The conclusions were neat too.

One of the best was the statement that SZ and VSW mining **'...has not been employed since WWII'** (para 19). But the two previous paragraphs had been about about VSW mines in the Korean and Persian Gulf Wars!

(The Gulf War paragraph is a classic in itself and I shall digress for a moment. You opened it with the sentence **"During Operation Desert Storm an amphibious landing was not considered feasible because of the sheer size of the Iraqi forces and the limited strength of the Marine assault units."** Not considered feasible? Can't talk about SZ and VSW mining there then, can we? However in the Introduction at paragraph 1 you did report that **'US forces perceived such a threat and considered that they were unable to deal with it, consequently amphibious operations were inhibited.'** I thought you a little naughty trying to have it both ways but - brilliantly - both quotes are listed in the Bibliography and - even better - they're both from the same Author! Wonderful.

Better was yet to come at paragraph 8, where Admiral Krowe is quoted with **'no amphibious operation was mounted against Kuwait predominantly due to the mine threat'** The paragraph also says **'a line of MANTA mines which are arguably better suited to VSW...'** but this is balanced with the next line in the conclusion paragraph **'SZ and VSW mining is an inefficient use of weapons which are more potent in deeper water'**. A nice sprinkling of reasons which contradicted one another. All the clues were there for us to see - just a pity one or two people missed them.

Incidentally, I thought you cheated a little in citing WWII operations. In many ways it was too recent for people to dismiss as historically irrelevant and therefore difficult to spot the flaw: satellite communications weren't used during WWII either - do we need them today? ('Traffic chaos - Romans blamed' would have been too obvious, of course, but you could have mentioned WWI or the Boer War.)

The final sentence of paragraph 11 pulled it all together for me: ***'The majority of Allied casualties were inflicted by regular German Army units (RAF waste of time then?)... and the landing forces found influence mines in deeper water the real threat, not contact mines found in the SZ and VSW'***. But why? Was it perhaps the ***'... massive layered defence'***, or was it because the influence mine found in the deeper water ***'... could not be swept'***. (paragraph 12, last sentence). Perhaps a real threat is one that cannot be (or is not) countered.

Of course, after WWII resources WERE focused at the most likely and dangerous threat - and, as we all know today, Minehunting was borne. That was the Minewarfare lesson of WWII. Now, of course, we need to apply the same lesson today. So, where is the current most likely and dangerous threat to our forces?

No one could miss the blatantly false statement:

***'Landing Beaches and their approaches are normally expansive. Thus they do not offer choke points favoured by the miner for concentration and economy of effort.'*** (Para 7 last two sentences.)

Of course you have to know a little about amphibious operations to spot the full impact of that one. Some clearly didn't consider the problem from the amphibious planners point of view: the need for the ideal beach to have the right gradient, a sea bed without rocks or coral, minimal seaweed (clogs the screws), be wide enough to take the landing force, be firm enough to support laden vehicles and have reasonable beach exits. (Try driving your car on the shingle beaches of Southsea) These are the topographical factors affecting beach selection. There are many others: proximity of the enemy, degree of defence, proximity of roads, Helicopter landing sites, marshes, jungles, towns etc. - so many in fact that an entire NATO publication is dedicated to discussing them. In short, the number of SUITABLE beaches is, in reality, limited.

The defenders can also reduce the number of landing sites by using the same logic, and plan accordingly. Whichever beach is chosen it will definitely have a land/sea interface and be used by Landing Craft (small, heavily laden vessels, with poor damage control capabilities, likely to be laden with mission essential equipment. It will also belong to the enemy and he can do what he likes to it.

The anchorages offshore on the other hand, have considerably greater flexibility. They can be from, say, 45 degrees on one side of the beach, through the perpendicular to 45 degrees on the other: a huge arc. Their distance offshore can range from a couple of miles to Over The Horizon (OTH) in water too deep to use ground mines; it could be an enormous area to mine. Additionally, it may be in international waters AND heavily defended, so the choke point is not offshore, it is close to the beach!

There were other anomalies too: ***'...that of an inexpensive nuisance'***. (paragraph 17) didn't quite gel with ***'...80% of E-boat kills were caused by the mines they laid.'*** (paragraph 11).

The concept was also subtly sacrificed. Without Host Nation Support any long range operation must be performed 'from the sea'. Hence Secretary of the Navy H Lawrence Garrett's assertion (Paragraph 1) that future amphibious assaults would be more probable.

Furthermore, current (and foreseeable) conflicts will not just be 'low intensity', they are also likely to be 'low tech'. In addition to costing considerably less than '*...shore based anti-ship missiles*' (paragraph 16), mines are more easily made - by car mechanics and welders for instance (even easier if they modify all those land mines that have recently gone out of vogue)

Laying them IS a problem but it is easier to lay the low tech modified land mine in small numbers, just off your own beach, than the higher tech ground mines in the possible anchorages miles offshore.

All beautifully spun together to form a fabric that looked substantial but wasn't. I could highlight a lot more of your little gems Dougie but that would be spoiling it for everyone. I'll leave them to reread your article and find them for themselves.

Well done though for a really good spoof; I look forward to the next.

Mike the Mensan

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### ROYAL NAVY DIVERS GOLF CHAMPIONSHIP 1998

By WO(D) Spike Hughes.

The Royal Navy Divers Golf Championship goes from strength to strength and this year, the competition's thirteenth, was no exception. During a brief respite from the unusually inclement weather, a record ninety six entrants played the 36 holes at the vastly improving Southwick Park Golf Club. After a tightly fought contest at the top of the field, the competition saw CPO (D) AJ Wheeler retain the Divers' top prize emulating last year's score of 150 over two rounds. Hot on his heels was Commodore Richard Moore Retired who was eventually runner up again, shooting a creditable 152. Fullerton Sherwood Stableford Champion with 77 points was CPO(D) Dave Southwell who shot an impressive gross 180 off 15 handicap. Ebinger UK's first Division winner was Lt Tug Wilson with the runner up ex-WO(D) John Dadd scoring 65 and 63 points respectively.



CPO (D) C Richardson, L/S (D) B Lothian, PO (D) R Tatt and PO (D) T Orton in their four ball prior to teeing off.

Other major prizes included, Carleton Technologies Second Division winner AB(D) Bill Bailey and runner up Lt Cdr Nigel Hill. The winner of the Trelleborg Beadles Guest Trophy was Lt Malcom Payne and the ever popular Solent Divers Team Trophy went to the Moore or Less AJ's. The Championship culminated in barbecue, prize-giving and disco. As ever, the prizes were presented by Commodore Moore. Many thanks to everyone who helped make this year's event a total success and along with putting competition and raffle, raise £300 for ex-LS Diver Scouse Donoghue.

Organisers wish to thank the following for their continued sponsorship: Solent Divers, Carleton Technologies Ltd, Fullerton Sherwood, Divex, MARA Engineering Ltd, MSI-Defence Systems Ltd, Molecular Products, Pressure Products, David Williams Engraving and O'Donnells Bar Oban.

**INDIVIDUAL WINNERS 1998**

**Clearance Divers:**

RN Clearance Divers Golf Champion	A J Wheeler
Fullerton Sherwood Trophy	
Overall Stableford Champion	D Southwell
Ebinger Trophy	
1 <sup>st</sup> Division Stableford Winner	G Wilson
Carleton Trophy	
2 <sup>nd</sup> Division Stableford Winner	D Bailey
Mick Fellows Pairs Shield	
Pairs Champions	J Dadd / D Southwell
Divex Lowest Aggregate Par. 3's Decantor	R Moore

**Guests:**

RN Divers Guests Champion	M Payne
Guests 1 <sup>st</sup> Division Stableford Winner	P Little
Guests 2 <sup>nd</sup> Division Stableford Winner	D Settle
Lowest Aggregate Par 3's	M Payne

**All Competitors:**

Solent Divers Team Trophy Winners	Moore or Less AJ's
	R Moore / AJ Wheeler
	AJ Owen / P Owen

MARA Engineering Trophy	
Best 24 Handicapper	V Anderton
Veterans Champion	G Martin
David Williams Wooden Spoon Trophy	P Hayes
Charity Hole Nearest the Pin Gallon of Whiskey	J Peters
Putting Champion	G Wilson

**Others:**

Nearest The Pin 2 <sup>nd</sup> Hole	M Williams
Nearest The Pin 12 <sup>th</sup> Hole	A Creed
Nearest The Pin 15 <sup>th</sup> Hole	M Williams
Longest Drive 1 <sup>st</sup> Hole	P Owen
Longest Drive 11 <sup>th</sup> Hole	P Owen



**SOUTHERN DIVING UNIT 2... THE LAST SIX MONTHS.**

Well here comes summer, so I thought that I would take this opportunity to let you all know what's been going on at the "Pompey Bomb Team" during the dark and cold winter months.

As usual its been a case of "Busy, busy, busy" for long periods of time followed by much shorter periods of quiet during which the more mundane tasks such as equipment maintenance and paperwork could be brought up to date.

The object of this article is to give you some idea of how many Conventional Munitions Disposal (C.M.D.) tasks were carried out, the number of Improvised Explosive Device Disposal (I.E.D.D.) tasks we attended and what we did under the ships in Portsmouth harbour and around the world.

During October, only fourteen C.M.D. tasks were carried out, but one of them attracted massive media interest. This was a German S.C. 250 Kg bomb found by the dredger ADMIRAL DAY on the 21st October whilst dredging the River Yare

in the centre of Great Yarmouth in order to increase the depth of the berths. The dredger was using a crane fitted with a bucket to lift the mud and deposit it through a large grid on the deck of the ship. Just before the contents of the bucket were dropped, a crew member spotted a large metallic bomb shaped object in the grab and it was lowered gently to the grid and dredging operations were stopped. Because of a south westerly force eight gale the ship could not put to sea and had to go alongside. The police confirmed it was a large bomb, requested EOD assistance and a unit from Southern Diving Unit 2 consisting of Lt Cdr Jenrick and LS(D)'s Jackson, Kasapi, and Knowles were tasked at 11.40. Due to the size and location of the bomb, Southern Diving Unit 2 advised Great Yarmouth police to cordon and evacuate out to 400m. On arrival the bomb was positively identified but the fuze was badly damaged making identification impossible. Because of this the worst possible case was assumed (Electrical Clockwork Timer with a Zus 40 anti-withdrawal device) and Render Safe Procedure (RSP) formulated, by which time 600 people had been evacuated from their homes.

To carry out the RSP specialised kit was needed, and so CPO(D) Gale and PO(D) Carss hailed a passing Lynx helicopter and delivered a Micstethoscope and a Fuze Immunising S-Set to the scene. At 2015, after briefing the TV and press Lt Cdr Jenrick and CPO(D) Gale listening on the Micsteth, Lt Cdr Jenrick began to drill the fuze stopping only because CPO(D) Gale thought he heard a whirring sound (probably loose bowels!!). Once drilled, the fuze was immunised and when the "soak time" had elapsed the bomb was lowered back into the water, the dredger moved away, and the cordon collapsed to 100m at 2345.

The weather the next day was calm enough for the bomb to be lifted using an enclosed mine lifting bag and towed 2.4 miles offshore and destroyed with a 4lb P.E. pack. This is the first time that the S-Set has been used in anger by the Royal Navy for around 30 years, unless, of course, you know different!

Other tasks that month included a German Type D mine off West Mersea, a 25lb fuzed shell found by bait diggers in Stiffkey, Norfolk, and another on Holme Beach near Hunstanton in Norfolk.

On the diving front, a Deep Dive Work Up was carried out in the Kyle of Lochalsh, and several Underwater Engineering Tasks (UWE) were completed on ships varying from hull surveys to packing stabiliser glands.

November was a very busy month for Southern Diving Unit 2 with 33 CMD tasks, mainly shells and marine flares, and one call out for a suspected IED which turned out to be a shopping bag, and later, a shopping bag with big holes in it!

An IED Operator from Southern Diving Unit 2 passed the Home Office re-licensing exercise SATON FORCE at Catterick.

UWE was again busy with several jobs including, hull video surveys on HMS RICHMOND and plenty of inspection work on the other warships.

On the subject of inspections, the team was looked over by the Inspector of Diver's team and due to a lot of hard work and preparation by everyone, the team was assessed overall as GOOD.

On the 16th November CPO(D) Richardson relieved CPO(D) Gale as 20IC Southern Diving Unit 2.

December was a relatively quiet month for the team with only 12 CMD tasks and IED's the largest task being a German SC 50 kg bomb found on the beach at Winterton in Norfolk which was destroyed in situ. Both IED's turned out to be false. At the end of the month the team broke up for two weeks well deserved Christmas leave but staying on cover for both CMD and IEDD.

January was another quiet month for EOD work with only 14 non-significant tasks. Two operators went on relicensing at exercise DEMON BEACON in B.A.D. KINETON near Banbury, Oxfordshire, both passed and were awarded their Home Office licence to conduct IEDD on mainland Great Britain.

Tasks conducted underwater included two ropeguard fits on HMS GLASGOW, these took a great deal of time, resulting in late finishes for several nights. The team carried out an underwater lighting trial for KMB 18 and Superlite 17b with very favourable results, these lights will be in service soon.

Again very few CMD tasks were conducted by the unit during February but a "Milk Run" took place and over 4000 pyrotechnics were burned at Shoeburyness in Kent. During the "Milk Run" an EOD presentation was given to 30 Auxilliary Coastguard Officers from the Norfolk sector, the presentation was about ordnance recognition. The team also played host to a Schools Liaison Officer, PC Hooker, and pupils "at risk to offend" to show then aspects of Health & Safety in the workplace.

One IED was attended which turned out to be a hoax. UWE saw us doing ropeguard fits on HMS CARDIFF, cathodic protection change on HMS EDINGBURGH, and LS(D)'s McKenna and Kasapi flew out to Dubai to assist with a stub fit on HMS TURBULENT.

March was devoted to various training exercises and to the handover of Command from Lt Cdr Jenrick to Lt Wilson, only 23 non-significant CMD tasks were attended. The old target barge that was raised at the Continental Ferry Port in Portsmouth provided us with a constant stream of 6" black powder filled shells to dispose of.

Easter leave started on 26th March and finished for most on the 12th April, however Lt Wilson, PO(D) Fitzjohn, and myself were recalled five days early to fly out to Singapore to replace the seal on the rudder post of HMS GLASGOW, (its tough but somebody had to do it!) we were joined by three members of the Southern Diving Unit 1. Unfortunately, all priorities for spares and delivery were for ships in the Adriatic and so half the spares required to do the job didn't turn up. Having done as much underwater engineering as possible and briefing the Ships Diving team on possible future work that might be required, there was time to go for a cultural run ashore with a couple of quiet beers. And a few noisy ones!

The most significant task of April so far has been the discovery of a German type D mine 300m from the end of Southend Pier, it had been trawled up and lowered again by the fishing vessel GANNET. Again there was much media attention so CPO(D) Richardson was deployed with spare kit to handle the PR side of things freeing up the operator PO(D) Meekin, to concentrate on the job itself. The anchorages for entry into the Thames were cleared of shipping and the pier evacuated. The mine was stropped up and then lifted remotely with an enclosed mine lifting bag and towed 2.2 miles offshore where it was lowered and fitted with a 4lb PE pack. Permission was not given by Thames Port Authority (TPA) to detonate the mine as there was a build up of traffic waiting to enter the estuary but once these had passed a one mile exclusion zone was put into place and the mine detonated. Ten minutes later the Thames was reopened and the team returned to unit in time for tea and medals!

So far April has been quite busy with a German type C mine at Bradwell-on-sea, a WW2 B17 "Flying Fortress" being unearthed full of 50 cal ammunition and possible full bomb load, and an IED in the middle of Chichester. Work has been carried out on HMS BRISTOL and FEARLESS. Teams have also been to Sicily and Gibraltar to assist with UWE on British warships.

This month saw the departure of AB(D) Meddoms on Operation LONGLOOK, there won't be a woman in all Australia safe from his slippery charms! In his place we got LS(CD) Matthews RAN, who so far seems to be having a good time in the UK.

Below is a table of the tasks carried out by Southern Diving Unit 2 since October 1998.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
CMD	14	33	12	14	27	23	25	148
IEDD	NIL	1	2	NIL	1	3	1	8
UWE	7	5	4	5	5	5	7	38



**SHOCK TRIALS OFF ROSYTH. MAY 99**

*"Navy bombs own ship" - Daily Record headline.*

*By PO (MW) (O) Sebright PA,*

**OBJECTIVE**

HMS PEMBROKE was nominated to carry out a series of non-contact underwater explosion trials of increasing severity as part of the contractual performance check. The intention of the trial was to demonstrate the vulnerability of the ship to shock and identify systems, equipment and fittings that fail prematurely in order to expose any weakness that would effect the ship's operational effectiveness.

Sailing from Portsmouth on the 12 April we wondered what the future would hold for us, since we had heard so many stories and rumours from previous trials. In good naval fashion all turned out to be wildly exaggerated.

We arrived 23 Apr to a very deserted Rosyth; the days of Hunt Class MCMV's sandwiched in for leave periods are long in the past. Other than HMS ARGYLL, emerging from refit, and a few merchant vessels, we had the dockyard to ourselves.

## **PREPARATIONS**

The explosions are made by detonating Mortar MK8 charge cases. Shots are either single or double charges submerged at 18 metres and placed approximately 45 metres from the ship; a distance that looked ominously close, but very necessary to reproduce the requisite shock factor. Two of the shots were approaching half of the shock factor normally associated with mission abort.

There was a plethora of preparations to complete prior to each shot and I was amazed at how much equipment the boffins brought onboard to monitor the trial. Most of the electronic equipment had to be suspended by thick bungy cord to allow three dimensional movement and absorption of shock. A technique out of vogue with RN thinking but, nevertheless, proved to be very effective in this controlled environment. Most of the recording and data gathering equipment was housed in the SCC and the hanger, but there seemed to be equipment of some description in every compartment. Two sets of bellybands were also fitted, positioned fwd and aft and joined longitudinally along the waterline, assisting in the correct positioning of the charge at the mooring. Many items, mainly associated with habitability were removed from the ship before each shot. Careful consideration had been taken in drawing up this list and, as it turned out, it struck just the right balance.

## **THE SHOTS**

Four shots over a four-week period were planned. The most important aspect was to ensure that the explosions occurred at slack water so that there was minimum blast migration owing to tidal stream. Early starts were needed to embark the boffins, sail and position at a four point mooring so that enough time was available to rig the charge. One hour before detonation Action Stations was piped and the ship closed down to 1Z. At about 30 mins to go, it was reassuring to see the firing officer embark, this made us feel a little more secure knowing that the person with the firing button was as close to the charge as we were.

Five minutes prior to firing, a scare charge was detonated, giving all things swimming a chance to reposition. This was only feet from the ship and quick calculations revealed that the actual explosion would be over a thousand times larger. The explosion of the first shot was severe but not as intense as the second and third. You can call it indoctrination, good training or human instinct but suffice to say that you really did want to conduct a blanket search afterwards. Despite the adrenaline flow, the training at OST and the DRUI takes over and reports were calmly fed back to HQI. Whilst the initial shock is violent and severe, it is not until the gas bubble collapses that the ship starts to lurch heavily. It was a lesson learned after the first shot that the 'stand to' should be delayed for about 10 seconds until this phenomena has passed. Once searches were completed a full set of SOC's were conducted. Damage was restricted to 'nuisance' defects; eg shot two caused a minor breach in the firemain going through the Ships' Office, much to the dismay of the coxswain! The Captain's cabin also suffered as his bookcase and stereo landed squarely on his desk, causing only minor scratches.

## **CONCLUSIONS**

Shock trials are part of the evolutionary process involved in new ship design. It was very interesting, to experience the effects of a large explosion at very close hand. Witnessing numerous MDC's do not prepare you for the ferocity of such a large explosion so near. It has given me even more incentive to instil good MDR discipline. There is also a vast amount of planning, much of which is very much behind the scenes, encompassing many departments. We thank all those involved for sharing their knowledge, experience and boosting our victualling, it is amazing the number of people who all of a sudden have a burning reason to visit the ship! Although it is never wished for, it is very reassuring to know just how resilient these vessels actually are.

## **EXERCISE BLUE GAME – FLEET DIVING UNIT 3 PARTICIPATION**

*By CPO (D) S Strange FDU 03*

FDU 03 were tasked to participate in the NATO Maritime Exercise BLUE GAME 99 at FREDERIKSHAVN Denmark from 18 April 99 to 3 May 99. FDU 3's role in the exercise would be area underwater searching and clearance (harbours, anchorage's etc.) a task historically conducted by FDU 2 but with role changes in the Fleet Diving Group (see MAD August 97) now also conducted by FDU 3. In addition it would be the first time CBDA would be used in an exercise environment as the primary Diving set to conduct long and frequent endurance swims in the UIW search role. Therefore, important data would be gathered on the suitability of CBDA in this role and the logistics of gas/protosorb used and reliability of the equipment.

The Unit deployed from RAF LYNEHAM on the 18 Apr 99 in 2 C130's landing in AALBORG Denmark, with a short drive to FREDERIKSHAVN Naval Base, our base for the duration of the Exercise. After briefing with MCM 2 staff, our TA for the Exercise, the team set up camp and prepared for the exercise proper.

Monday 19 April was taken up by dive and safety briefs from the Danish sponsors, meetings with the divers from WALNEY and ATHERSTONE and introductions to the CDT's from the USA, Denmark, Norway and Canada. Our task in consultation with the TA would be to clear FREDERIKSHAVN Naval Base in its entirety. We commenced diving on Tuesday 20 Apr, the search chosen as the most suitable for the task was light jackstay with 3 swimmers, the middle swimmer roving, clearing any snags as the search progressed.

The harbour was divided up into basins and jetties to clear and the team gave itself clear objectives of what to achieve each day to fulfil the aim of clearing the harbour by exercise end. Concerns over the suitability of CBDA in this role had been expressed in some quarters, however this was quickly dispelled in the first couple of days of swimming, dives of 60-70 minutes were the average with no complaints of bad backs or fatigue. EOD play was a major part of the shore based CDT exercise scenario.

With only 2 operators (OIC and CPO), due to gapping, the team were tasked more than once when the Boss was holding the 288 and the Chief was in the water or vice versa. The EOD tasks were an interesting break from swimming and very realistic, a chance for the operator and number 2 to get out in the Landrover and sort out a problem on a beach. The Directing Staff from German, US and Danish EOD units set up tasks virtually every day for the land based teams which proved realistic and appropriate to the scenario. 6 EOD tasks were carried out in all ranging from a STINGER SAM missile to a KB KRAB buoyant mine on a beach. A great deal of quality training was gained from these tasks with good critique from the staff and the exercises proved useful in honing the teams MIE and EOR skills.

A visit on Wednesday 22 April by Commodore MFP to the Exercise ended with a short visit to the Naval base and an introduction to FDU 3 at work. 2 ground mines that had been located by the team that day, were being lifted by means of the interim enclosed mine lifting bag during his flying visit.

The clearance of the harbour was kept on schedule during the exercise period despite challenging seabed conditions (poor visibility and very soft silty mud). The team allowed itself a well deserved and needed days care and maintenance in the middle of the exercise, being on schedule to complete the task. The kit held up remarkably well during the exercise, including the outboard, which the team's tiff inadvertently immersed in 7 metres of water after allegedly fixing it.

By exercise end the team had cleared the 200,000 square metre harbour, having found 2 exercise ground mines and 1 A/S Hedgehog mortar. A total of 90 dives were conducted of average 60 minutes duration, logistically using only 5 x 150 cu ft cylinders of oxygen and 4 x 150 cu ft cylinders of diluent. In conclusion this successful exercise for FDU 3 proved invaluable for the development of the team in this role and additionally vital data was gathered on the logistics requirements and Operational capability of CBDA.

## **ODE TO CDBA**

*By Kevin Stockton*

*As the end of my appointment finally draws near,  
And the prospect of the PWO Course is filling me with fear,  
I would like to report to all out there in a certain poetic way  
Of the 2 year acquaintance that I have had with CDBA.*

*November 97 was when we first met,  
I stood all aghast as I looked at the set.  
There were whips and connections and gauges abound,  
It took three tubs of proto and the cylinders were round.*

*The first time we swam together was to the lock gate,  
I could see this relationship was going to be love - hate  
Finding it difficult to breathe and with whole body ache,  
I was glad when I pulled myself out of the lake.*

*Disappointment was short lived, I soon wiped away my frown  
As I got on the shot rope and started to go down,  
It quickly got darker and I could feel some suit squeeze  
But I was finally at eighty metres and totally at ease.*

*I switched on my headlamp, a new world I could see  
And I'd got all the way down here, totally hands free,  
It was a matter of sinking, the set did the rest  
CDBA was amazing, it had certainly passed the test*

*Eighteen months passed and we'd dived many a shot rope,  
Our future together, there was definitely hope,  
There was only one obstacle now left in our way  
An area search together, we dreaded the day.*

*Blue game 99, the opportunity was now here,  
Frederikshaven naval base was a large area to clear,  
So united again only time it would tell,  
Lightjackstays with snaglines and thick mud as well.*

*Six thousand minutes later, totaling over ninety dives.  
We'd cleared the whole Naval harbour and were all still alive,  
Of tiredness and back ache nobody did complain,  
So hats off to my partner, it had passed the test again.*

*Take a step back, let's not be blind and blacken out our masks  
CDBA is not totally suited to all our diving tasks,  
VSW ops and MCT are very specialist roles,  
But LEBA mixed gas and also LAR V are fulfilling these loopholes.*

*So to all you sceptics out there, and critics of the set,  
You have not dived it long enough to form opinions yet,  
Just give it time to settle in, enjoy diving together,  
Just treat with tenderness and care, the bond will last forever.*

## **EIGHT GO MAD IN LONDON TOWER OF LONDON - THE START**

*By PO (MW) (O) Paterson*

Transport left HMS Dryad at 0900hrs for the short trip to Havant Railway Station and after the usual queue to purchase tickets, it was off to London Waterloo. Excitement and frivolity was in evidence throughout the journey, which was up to British Rail's infamous standards.

On arrival at Waterloo, the party made the short trek to the Union Jack Club (U.J.C). However, as we checked in, we were informed politely that keys to the rooms were not available until 1300hrs, because the rooms were not yet ready. The Exped. Leader, PO Paterson, immediately brought Plan BRAVO into force, and after placing luggage in the Baggage Room at the U.J.C the party retired into the "Wellington" Public House, (a nearby hostelry), for lunch.

At 1500hrs, after consuming a good "pub" lunch, keys were drawn from the reception, and confusion ensued after the wrong lift was used. Future courses should take note- The lifts to the left of reception only go up to the 9<sup>th</sup> floor, the course was accommodated on the 17<sup>th</sup> and 18<sup>th</sup>.

Accommodation was basic, but comfortable, with a panoramic view of London. Baggage was unloaded, and after PO Paterson had returned with a security guard to let him back into his room - this was due to the door being spring loaded and not having the built in ability to pass you your key before closing! The group, having first changed into suitable attire, then met in the foyer.

### **"TO THE TOWER"**

After a short discussion, the "Tube" was selected as the preferred mode of transport to the Tower of London. The journey was delayed for a short time, until an old lady had finished giving PO Simmons (M) one to one instruction in the operation of the ticket machine - Due to £10.00 note not fitting in the coin slot! Pity was taken on him at this point, and a whip round supplied £3.00 for his troubles.

On arrival at the Tower's main entrance, a decision was made that PO Paterson approach the nearest "Beefeater" and engage "Major Waffle Mode" - The mission proved successful - Entrance Fee = £0.00. The subsequent tour took in all the major features of the Tower, and the famous Ravens were sighted. On completion of the guided tour, a perusal of our Nation's Crown Jewels and the Norman Keep was undertaken.

With the evening drawing on, refreshments, of a Non Alcoholic variety were required. These were provided by a "typical" English Street Vendor - who proceeded to "fleece" several members of the party of their hard-earned cash- £1.00 for a tin of imported Coke, obviously bought on mass during a recent "duty free" excursion to the continent - *Even Dick Turpin had the decency to wear a mask!*

The return to the U.J.C was again by Tube - it was noted that there was a distinct lack of nubile young office secretaries returning home from work. Whilst on the Tube, several members of the party had the decency and good manners to give up their seats for the elderly and infirm present. It should, however, be noted that had PO Bennion chosen to do such a chivalrous act, several more seats would have become available!

The Party split into smaller groups on arrival back at the U.J.C, for the evening's repast. PO Simmons (M) retired to "Burger King" again, to increase his shareholdings, whilst PO's Atkinson, Bennion and Dewing found a delightful "open air eatery" - the local park - to enjoy "Fish & Chips - Al Fresco." The more "mature" members chose to dine in the much acclaimed fish restaurant "Fishcoteque" - as recommended by CPO Moores - their choice of meal? - Chips on a plate!

## **THE CEREMONY OF KEYS**

The muster time for the evening excursion was 2000hrs in the U.J.C bar, having cleaned into Night Clothing.

Due to lack of male showers on the 18<sup>th</sup> floor, and having contacted reception to locate the said ablutions, PO Bennion proceeded to the 17<sup>th</sup> floor via the fire escape stairs - future U.J.C guests take note - the fire doors are all one way opening - having no handles fitted to the stair well side of the doors.

After making his way barefoot, clad only in a towel, down 18 flights of stairs, Hotel guests were treated to the sight of a "Sumo" like figure-clutching a Gemini Repair Kit Dhobey Bag and room key making it's way across Reception to the waiting lifts, trying desperately not to attract attention to himself!

When he eventually arrived to join the rest of the group in the bar, confusion arose as it transpired that he was dressed identically to the hotel bar staff. Refreshments were then taken, and the course was soon flying through the London night in a Handsome cab bound for the Tower.

On arrival for the Ceremony of Keys, the course armed with "Gizzits", fell in an orderly fashion with the rest of the invited guests. It should also be noted that the standard of dress was impeccable compared with other guests.

On gaining entry, and surrendering the invitation -Future Exped Leaders should be aware that the use of the phrases, "obviously" and "for drinks" is not recommended - as the duty "Beefeater" tends to take umbrage. Having explained that we were guests of the Chief Yeoman Warder, himself, access was granted.

After a short precis of the forthcoming ceremony, the guests assembled at "Traitors Gate". The Escort to the Keys (4 in number soldiers from the "Princess of Wales" Regiment) mustered at the "Bloody Tower" and collected the Chief Yeoman at 21 53hrs precisely. This is a tradition that has been carried out for the last 700 years, every night without fail.

After the locking of the two gates, the party was ushered towards the "Tower Green" to witness the traditional end to the ceremony the sounding of the "Last Post" and the salute to the Keys. This was carried out with impeccable army timing, as the 2200hrs chimes of "Big Ben" echoed through the still London air.

We were then directed as guests of the Chief Yeoman Warder to the Yeoman Warders Mess. PO Paterson made a presentation of framed photographs of HMS Dryad to Mr Keith Hanson, Assistant Chief Yeoman Warder, H.M Tower of London. A further presentation was made by Mr Hanson to the PO's course, of a mounted Yeoman's Coat of Arms, (to be engraved and forwarded to the Mine Warfare section at a later date).

A wonderful social evening was then enjoyed, with the course being entertained by anecdotes from the Yeoman Warders, and CPO Moores - angling for the possibility of future employment on his retirement from the RN. On completion of the evening, the course made its way back to the U.J.C.

## **DAY TWO THE IMPERIAL WAR MUSEUM**

First on the agenda for the next morning, was a hearty breakfast. This was obtained from the dining room at the U.J.C for the meagre price of £4.75 for all you can eat. However, two members of the course worked on the assumption that breakfast was charged on a cost per item basis, thus failing to capitalise on this generous offer - a fact that was pointed out by the rest of the members of the course, once seated at the breakfast table.

After breakfast the course checked out of the U.J.C. utilising the baggage facility again, and proceeded on the short walk to the Imperial War Museum.

On gaining entry PO Paterson again engaged "Waffle Mode" this time however, it proved unsuccessful - No Freebies! The course then separated into small groups for independent tours, arrangements having first been made to reassemble in the "Wellington" prior to rail departure.

### **OVERALL**

The Tower of London and the "Ceremony of Keys" is certainly well worth a visit and the liaison between the Assistant Chief Yeoman Warder and the Exped. Leader helped to make this an enjoyable visit.

The course felt that the Imperial War Museum was well worth the entrance fee of £5.20 and would recommend it to any London visitors.

Overall the expedition was a success and was thoroughly enjoyed by all members.

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### **AN APOLOGY TO LT CDR CHRIS DAVIES**

Due to some technical problems (read - cockup with proof reading) the concluding paragraphs to Lt Cdr Chris Davies excellent article on exercise Analysis and a chunk from the middle of his article on Command and Control of MCM Forces at Sea were omitted from the 1998 Edition of the MAD Mag. The Editorial Staff apologise unreservedly for this omission and, whilst we do not have space to reprint the two articles in entirety the missing sections now follow.

The Exercise Analysis continues on from page 29 para 15 of 1998 edition and Command and Control continues on from page 30 para 6.

#### **EXERCISE ANALYSIS**

Role of the Minewarfare Working party

15. All FERs produced are sent to the MWWP which sits annually (October) within the NATO HQ at Brussels. The MWWP is split into a number of panels which cover specific areas (ie Panel 1 publications/Panel 2 technical issues and Panel 3 which covers exercises). All the FERs produced are presented, the conclusions and recommendations discussed and if raising a serious concern placed into the CREME(MW). A suitable body to take corrective action is then identified (hopefully) and the issue passed to them for action.

16. For example:

A. During Northern wedding in 1994 the uninhibited movement of DD/FF units through minefields was raised in several FIRs and ultimately the FER. Raised at the MWWP as a further example of the lack of integration between minewarfare and other warfare disciplines it was placed into the CREME and passed to the SACLANT Research Centre for Action. SACLANTCEN eventually designed and developed the Electronic Minefield Referee (EMIR) programme which was introduced into NATO Livexs and JMCs in late 96 and has proved very successful in forcing DD/FFs to give greater consideration to minewarfare.

B. On a less successful note; the ongoing work to examine how accurately ships predict values of A and B has been hampered due to the poor quality of records produced by units during several recent Livex's.

17. It can sometimes appear that the wheels of NATO grind very slowly - well that's because they do! The staffing process that is followed does undoubtedly take time and could probably be improved. Most working parties only sit once per year due to cost and if an FER is not received in time the issues raised within the report will not be discussed for a further 12 months. Also remember, to change a tactical publication etc will need the agreement of all the NATO nations and this will also take time but it is normally eventually achieved.

### **Conclusion**

18. At the end of a long, tiring exercise the last thing on anyone's mind is the production of exercise records and forms. However, much work will have gone into identifying the Analysis Objectives required to support ongoing work. Your views and comments do count and will be actioned - eventually!

## **COMMAND AND CONTROL OF MCM FORCES AT SEA**

6. It should be noted that the above will result in a significant change for each of the single service organisations. In future operations CINCFLEET will retain full Command and Control of maritime units and will be responsible for providing military capability (operational readiness, training etc) and support to enable combat effective forces to be deployed, sustained and recovered from an area of operations (AOO) but will have no operational control.

### **Component Commanders**

7. Beneath the JFHQ lie the various Component Commanders (CCs) required to undertake the operation eg Land Component Commander, Maritime CC, Air CC plus Special Forces CC, Logistics CC etc dependent on the scale required. Obviously, from a naval perspective it is the Maritime Component Commander (MCCs) and his staff that exercise the most control of our day to day tasking once in theatre. The MCC will usually be embarked in a Flagship normally a CVS (One is always nominated as the Fleet Flagship) or alternatively a Batch III Type 22 Frigate.

### **Maritime Component Commander Staff**

8. The UK has a number of "Battle Staffs" earmarked to undertake the Maritime Component Commanders (MCCs) role in either exercises or operations. They are:

Principle - Commander UK Task Group (COMUKTG). This is a 2\* appointment currently Rear Admiral I A FORBES CBE.

Alternative - Flag Officer Surface Flotilla (FOSF). This is the alternative 2\* commander currently Rear Admiral P M FRANKLYN MVO.

Each of these has a 1 \* alternative for smaller scale operations:

Principle - The Director of the Maritime Warfare Centre (MWC) currently Commodore G K BILLSON.

Alternative - The Deputy Flag Officer Surface Flotilla (DFOSF) currently Commodore L C HOPKINS.

9. The respective staffs of COMUKTG/Fleet Alternative Battle Staff (FABs) are organised along very similar lines. Each comprises of:

A. An Operations Division - These personnel conduct their duties from the Force Operations Room under the direction of the "Battle Watch Commander" (BWC), who is normally a post drive FF/DD Commanding Officer. The BWC is responsible through the Flag Captain (Normally the Captain of the Flagship) to the MCC for the conduct of ongoing operations

as laid down within the current intentions Signal (See below). The BWC is assisted by the Group or Force Warfare Officer (GWO/FWO) who deals with the above water battle and the Anti Submarine Warfare Co-ordinator (ASWC) who deals with the ASW or more correctly UWW battle. A number of specialist staff (Air Element Co-ordinator/Force Helicopter Controller) assist and additional operators of specialist equipments (eg Semi Automatic General Operations Plot (SAGOP)) are also embarked to enable a Group/Force wide picture to be maintained.

In recent years we have been well served within the Battle Staff's Operations Divisions with a number of GWCs/FWOs being MCD qualified.

*B, A Plans Division - (continues page 31, 1998 Edition underneath OPERATIONS DIVISION Line diagram)*

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## **RN OFFICER'S RAN PRE-JOINING TRANSLATION PAPER (OR SO YOU THINK AUSSIES SPEAK ENGLISH)**

*By Lt Martin Mackee RN*

To determine your suitability as a candidate for an exchange posting to Australia you are to translate the following passage. You may use the Concise Oxford English Dictionary to assist with the translation, but it won't help!!

Scene: Woop Woop, which is further out than the black stump. (Question - Where is this?)  
Characters: Blue Dog (Question - What colour is his hair?) and Bruce, and Blue Dog's wife, Shirli.  
Time of Day: The Arvo

**Bruce;** *G'Day mate, how's it going?*

**Blue;** *Yeah, good mate, yourself?*

**Bruce;** *Yeah, not bad mate, what's going on?*

**Blue;** *Ahh! not much mate, Shirli's whingeing as usual. Going on about me getting some new singlets, stubbies and thongs mate. Told her I needed some new pants as well but she just went off. Thought she was happy as last night; T'day it's a different story, but. Anyway, na worries she's a good sort, fair dinkum. Chuck us another stubby from the esky. Ha about you, mate?*

**Bruce;** *Can't grumble. Had to send off me rego to the RTA today; got to sort out me pink and green slip, but. The old 4B's a bit of a bomb and sounds a bit rough after I took it out bush and started to chuck a few uays. Anyhow the Ute's still running a treat so I'll use her for the time being, can't knock the old Holden, but.*

**Blue;** *Watch any of the footy last night?*

**Bruce;** *Yeah, how good are those Broncos mate, those fellas must be all over 6 foot, mate. Makes the Socceroos look like a bunch of sheilas.*

**Blue;** *My oath, mate. Me mate's oldies are club members, and I got a guernsey for the match next week.*

**Bruce;** *Bull mate, your always spinning furthpys. Dave the garbo's got more chance of going than you.*

**Blue;** *Na mate it's fair dinkum. You always whinge when I get something good. Bring any tucker, mate?*

**Bruce;** *Ya got buckleys, mate. Since when you guys been BYO.*

**Blue;** *Ahh Na worries. Shiela's going to flash up the barbie soon, mate. We've got to go and pick up some chook, snags, nissoles, yabbies and barramundi mate. We might stop off at the bottlio and get another slab of Tooheys stubbies mate. Take your Ute?*

**Bruce;** *No worries, we got time to stop off in the RSL for a few schooners or are you still drinking middies, you 2 pot screamer? Anyhow, fancy me chances on the Pokies, but.*

**Bruce;** *Yeah, mate. How ya going to run the pokie mate, thought ya were skint as, ya bludger.*

**Blue;** *Gave the old Lotto a burl mate and came up trumps.*

**Bruce;** *Ybah, right. Reckon you stole it ya jackass. How much for me not to dob ya, mate.*

**Blue;** *No offsider of mine would dob me in mate. Call yourself a mate?*

**Shirli;** *You fellas going stop yarping on and get a move on before I do me nut. Don't forget the lollys and chips for the kids. With the cold nights coming Blue, you'll need to pick up a new dooner from the manchester at Grace's. Get a move on.*

## **THE FUTURE OF MINEWARFARE TRAINING AT SMOPS**

### **INTRODUCTION**

In the post-SDR climate, it seemed relevant to review MW training within SMOPS to find the optimum system to meet the demands of the MM flotilla: 11 Hunt (4 MCM, 4 FPS and 3 NI) and 11 Sandown hulls. The current policy of training all career courses in the HUNT Class system, with a SANDOWN Class PJT where necessary, no longer satisfies the requirements of the forecast mix of the MM flotilla.

### **THE REQUIREMENT**

A review of MW training has been conducted to meet the following criteria:

Maintain TPS, but focused on the post-SDR requirements of the MM flotilla.

Retain a common sweeping module, irrespective of stream, to ensure sufficient expertise is always available within the MW branch, at every rate. (Cdre MFP requirement).

Retain the capability and flexibility to cross train students between drafts or appointments

### **THE OPTIONS**

After wide consideration of all training options, including maintaining the status quo and a "flip-flop" to Sandown career training, it was decided that some form of Streamed Training was the only viable long-term option to provide a successful training structure for minewarfare officers and ratings. Its introduction was considered cost effective and efficient and would focus instruction into tailored training for students to meet challenges of the next appointment or draft. The report also recommended that its introduction should be made at the earliest opportunity.

### **STREAMED MW TRAINING**

Students will be "streamed" prior to the start of career training or early in their course. Each will receive a common module (basic aspects of mining, generic minehunting, and HUNT class minesweeping systems & operations), followed by a module in either HUNT or SANDOWN minehunting system/AIO/ operations. The advantages of this system are seen as:

Adherence of the "just enough, just in time" principle.

The provision of a common minesweeping package.

Better instructor/student ratios during stream modules.

No further requirement for SANDOWN Class PJTs.

### **IMPLEMENTATION**

It is widely recognised that a changeover, to Stream Training will rely on four discrete factors: notice for appointment/drafting of students; availability of instructors; revised course programmes and documentation; availability of classrooms.

*Appointing/Drafting Notice.*

Both DNOA(X)(SEA) and NMA have indicated that appointing and drafting by stream could be possible, given 9-12 months notice.

**Availability of Instructors.**

Adopting the new system will require a reorganisation of MW section staff but no overall increase to the SOC. The current gapping situation, at senior rate level, is assessed as critical but NMA has indicated that there should be a steady improvement with sufficient instructional staff to meet Stream Training introduction; this progress remains essential to successful introduction.

**Revision of MW Training Plan and Course Documentation.**

Drafting of new MW training plans and documentation is currently being undertaken by the MW staff at SMOPS.

**Availability of Classrooms.**

The advent of stream training will require ten dedicated classrooms and this requirement has been addressed in the "Coniston Extension" proposal, which remains under review with FOTR.

**STREAMED TRAINING INTRODUCTION**

The study report has been circulated and received broad support, consequently it has been decided to proceed with the first stages of its introduction through the NRTA process. Given a steady improvement in the manning levels of the MW section and the approval for the Coniston Extension, it is hoped to introduce Stream Training, as the optimum method for MW training, by the start of the Summer Term 2000.

**FEED BACK**

*Here is your chance to tell us what you think of this years MAD mag and to contribute to the next issue..*

**Dear Editor,**

*I have read this edition from cover to cover and I think...*

*Please find attached my contribution towards Minewarfare and Diving 2000..*

*All text submissions should be single spaced typed, preferably in Microsoft Word, and supplied on disk with a hard copy. Any accompanying pictures should also be sent as hard copy, scans cannot be accepted.*

NAME ..... RANK / RATE .....

UNIT / ADDRESS ..... JOB TITLE .....

..... TEL / FAX. ....

..... SIGNED .....

**CONISTON CHRONICLE - LIFE IN THE MW SECTION AT SMOPS**

By Lt Cdr Tom Chambers SO(MW)

**CAREER COURSES/PJTS**

<b>COURSE</b>	<b>COURSE AIM</b>	<b>PERIODICITY/ STUDENTS PER CSE</b>	<b>COURSE LENGTH</b>	<b>CAPACITY ACTUAL THROUGHPUT 98/99</b>
Advanced Minewarfare Course (AMW)	Prepare senior LT/LT CDR for SMCDO/MCM SQN SOO Appointments. (Elements of course are weaved into bespoke training for MCM CDRs DESIG)	3 per year/2-5 (including NATO officers)	7 weeks	15/8
Minewarfare Officer/LMCDO module (MWO/LMCDO)	Prepare Lt for first MW appt. in MM, (or as final module of Cse in MCD course (post Diving/EOD Modules)	2 per year 5-8 (including NATO officers)	13 weeks	16/15
PO(MW)	Prepare students to act as Mine Hunting/Sweeping Director.	3 per year/ 3-6	5 weeks	18/17
LOM(MW)	Prepare students for duties as LOM(MW)	3 per year/ 3-6	7 weeks	18/17
OM2(MW)	Prepare students in all aspects of MW (hunting/sweeping), for their first sea draft.	6 per year/ 8-10 (MI 14)	9 weeks	60/78
HUNT PJT	Prepare officers, senior and junior rates in specific HUNT Class MW systems	6 per year/ 3-8	4 weeks 2 weeks	48/10 48/14
SANDOWN PJT	Prepare officers, senior and junior rates in specific SANDOWN Class MW systems	6 per year/ 3-8	4 weeks 2 weeks	48/28 48/24
MM/PP CODC PJT	Prepare officers for command in MM/PP	6 per year/ 3-8	5 weeks	48/33
MM/PP XODC PJT	Prepare officers as Executive Officer of MM/PP.	6 per year/ 3-8	6 weeks	48/28
MM/PP COXN PJT	Prepare senior rates for COXSWAIN of MM/PP or as XO of P2000.	6 per year/ 3-8	4 weeks	48/33
RNR STAFF CSE	Prepare RNR officers and senior rates for duties within an MCMTA.	1 per year/ 8-12	2 weeks	12/14
INT AMW CSE Course (IAMW)	Prepare senior MW students for SMCDO/MCM SQN SOO Appointments	1 per year/ 2-6	7 weeks	6/0 (SEP99/RSDf)
INT MWO CSE	Prepare Lt for first MW appt. in MM.	1 per year/5-8	16 weeks	8/0 (MAY00/RSDf)
INT PO(MW) CSE	Prepare students to act as Mine Hunting Director.	1 per year/3-8	16 weeks	8/0 (MAY00/RSDf)
INT MW SONAR OP CSE	Prepare students in all aspects of MW (hunting) for their first sea draft.	1 per year/6-10	9 weeks	10/0 (MAR00/RSDf)

## **COURSES**

### **CURRENT TRAINING AND STAFF**

Current training is based on HUNT Class career courses with SANDOWN Class PJTs where necessary. Course planning, administration and execution was assessed as "very satisfactory" in the last two audits (Internal – Nov 98/FOTR – Mar 99) and student feedback remains very positive and encouraging. Close liaison with the prime customer, Cdre MFP, is maintained through regular scheduled meetings, where course amendments can be discussed and swiftly actioned. The current staff comprises of 6 officers (MCD/MWO), 1 WO(MW), 8 CPO(MW), 4 PO(MW), 1 OM1(MW). Accepting the policy of 15% gapping across the FOTR estate, the MW section has seen a steady improvement in gapping since APR 99 (47%) to our current situation (29%), and a much brighter forecast by NOV 99 (11%).

**Advanced Minewarfare Training.** MWTAC: Lt Cdr G Collins (tbrb Lt Cdr Jonathan Lee). Throughput remains at minimum numbers with supplementary students (AUS/CAN) joining for specific section of the course. MWTAC is also responsible For International/RNR staff courses and MW tactical systems.

**LMCDO/MWO Training.** MW1: Lt Cdr Nigel Hill. For LMCDOs, the format has reverted to the original order of modules (Diving/EOD/MW), which should help identify "high risk candidates" early on in modules that have historically shown higher failure rates. This course remains very tough with a great deal of modular failure and back-classing. Qualification of MWOs is via the MW module of the LMCDO course. When failures are combined with a reduced "cake-split" of trainees (DNOA(X) problem) coming onto MW officers' courses, throughput is barely sufficient to meet the target strength. The coordination of the three modules is a delicate balance that occupies a great deal of time and effort by MW1. This burden will be extended when International MWO courses (RSDF) commence in May 2000.

**POMW(O) Training.** MW3: Lt Cdr Richard Hill. Training proceeds with good numbers on course.

**LOM (MW)(O) Training.** MW3: Lt Tim Russell (SEP 97/NOV00). Numbers on course have started to decrease as the "recruiting black hole" works its way up through the RN.

**OM2 Training.** MW4:WO(MW) David Smith Will continue to run at a minimal increase of 14 (optimum 10) for the foreseeable future; all courses are fully subscribed. However, CENTURION is having great difficulty in finding initial drafts for these ratings, causing a delay between Part 3 training and first sea draft, with a resultant "skill fade" which remains a concern.

**MM/PP CO/XO/GO/COX'N Courses.** All run at near maximum capacity with courses tailored to meet the individual's needs; a mixture of common core training and specific visits/instruction by ship type. MW Section retains full sponsorship for all of these courses.

**Trainers/CTT.** Careful scheduling of trainer usage is required to de-conflict the differing needs of internal career courses; prioritization and compromise currently ensures success. Spare trainer capacity is offered to match CTT requests, which are all presently being met. This places the COTs on maximum loading throughout the entire year.

**External Training.** The bulk of external SMOPS commitments are borne by SO(MW)/MWTAC but remains achievable. These duties include Staff Capt (PWO Courses) and instruction to PWO/SWO/FF-DD CO DESIG/SMAC courses and visits. The Section retains an excellent profile within the SMOPS organization, which is reflected in the number of high-ranking visits, which we undertake.

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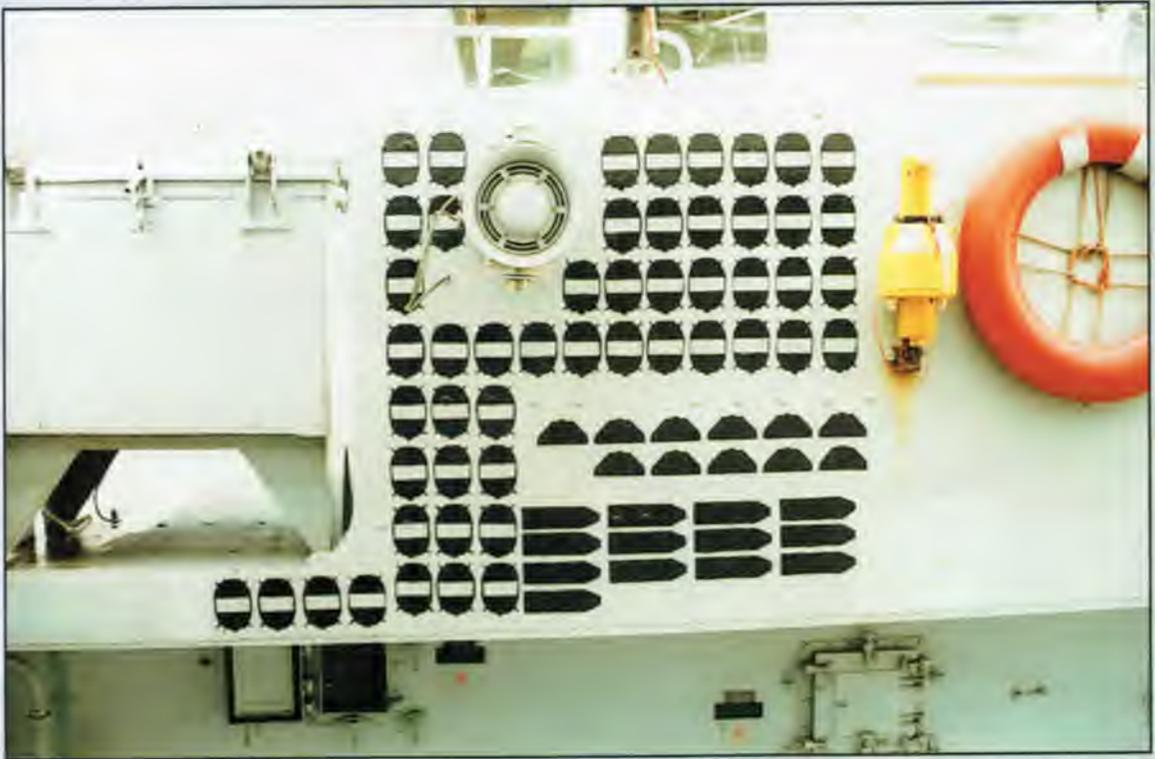
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