

## A Bit of a Glitch

If you are one of the "early-birds" to our gathering you will be aware that a certain amount of preparation takes place before the party gets underway. At Christmas there are bare tables being given a seasonal look and candles being lit. At the spring events preparation tasks are much easier: there are only a couple of additional tables to be erected and positioned for the buffet to be set out, after which those involved usually head to the bar for some well-deserved lubrication before the main bulk of our colleagues arrive.

At our last event on 9th June, however, there was a bit of a "glitch": the bar did not open until almost 11.45!

The bar manager had been slightly delayed, but soon had initial thirsts sated and, despite this set-back, we believe this spring reunion was probably one of our best. Colleagues tended to circulate much more and the buffet, while having more of a seafood theme, had a wide selection of dishes. Moreover, the desserts included a very healthy plum tart cum flan for those who tend to feel a little guilty about taking a double helping of the rich creamy selections!

There is always a surprise or two at our events and this one was no exception. Colin Game, who had not



**Peter Horrocks chats  
with Joe Cleall**

been seen for some time, came along. We learned that Colin had recently taken up caravanning and was seeking advice on his new found hobby! Another interesting fact, not revealed at this gathering, is that Colin went to the same school in Surrey as the ex-prime minister John Major. On the academic



**John Davis and Colin Game**

time-scale, however, there was quite an age difference, so they were not exactly close friends!

Our colleague, who was the furthest from home, was Neil Buchanan for the second consecutive year.

Of our older colleagues we were glad to see Joe Cleall back in circulation. Moreover, George and Eileen Scutt who missed the Christmas Party were back with us although Eileen was still recovering from a hip replacement. By the time you read this

George will be well into his 91st year!

Joe Cleall was in particularly good form and once again came up with a snippet of MoD(N)/ Dockyard history concerning the Radio Equipment Section (RES). While most of the electrical employees were experienced in refitting ships and installing new electrical equipment there were few who had expertise in repairing and testing radio equipment. So, how did the dockyard acquire its early expertise? Employment of ex-service personnel was certainly one way, and many ex-naval senior rates found their way into the RES.

Other civilian workers, however, started their dockyard careers following an Admiralty "trawl" of the local radio shops such as Weston Hart. Although Joe had been in the Royal Navy, he was recruited from a local radio shop in the late 1940's and found himself working for J.O.N Burrows (the first leader of the WSTG Sea Slug team) repairing and aligning B28 and B29 receivers. Later Joe was to go on the HMS Collingwood "Long Radar Course". He eventually became one of the first Technical Grade 3 diagnosticians; in 1961 he brought his expertise to WSTG.

By 1954 the various radio/electronic sections that had their origins in Portsmouth Dockyard, Funtingdon, and Belmont (Bedhampton) were installed in No2 Electrical Shop where many of us younger employees

started our careers in radio and weapons engineering.

It is quite remarkable how casual reminiscences at our reunions throw up another bit local dockyard history.

We will do our best to keep recording it where it has had an impact on WSTG. ♦



**Kath Wright with  
George Scutt**

## Foreign Flags



During its nearly fifty years of existence WSTG set to work equipment on over 150 warships of around twenty different classes; this does not include minor ships built in pleasant places like Appledore, Aberdeen and Lowestoft, nor the many actual foreign vessels WSTG worked on.

Frequently when foreign countries purchased warships from British shipyards, in the contract would be a demand that the ship must be built making use of the normal facilities available to RN vessels in build, i.e. the overseeing staff, CWTA and WSTG.

In 1955 Egypt had purchased two Z class destroyers, and by 1963 these needed modernising. Samuel White got the contract. Radar 960 was to be fitted and the tracker radar 275 and fire control director 6M brought back to life.

WSTG was asked to set to work the latter. Eric Shoemsmith, who had some knowledge of the equipment and I were sent to Cowes. We discovered that all safety interlocks had been shorted out and that after a few seconds of switching on the equipment a loud crack took several fuses out and the gear died! With lights out in the compartment and all covers off we could see the offending EHT shorting to earth.

Problem solved and we carried on to get trials standards achieved at HATs and SATs. Working on the ship with university educated Chief POs had been an interesting experience; it was no surprise to hear that the ship was later sunk by the Israelis.

A far more professional outfit was the South African navy who purchased three Type 12M Rothesay class frigates in the early 1960s. As built they had the same fit as the RN vessels and again WSTG was involved in the STW of the radar, sonar, comms etc. They were called the President class, Kruger and Pretorius being built at Yarrows and Steyn at Stephens. Not everyone was in favour of sales to South Africa and I recall the ships were berthed in secure places on the Clyde.

The fine picture (right) shows Royal Australian Navy submarine Oxley in Sydney harbour. She is name ship of the class of six, all built at Scotts in Glasgow 1964 -1973. With a weapon fit similar to the RN Oberon class, WSTG was again involved. Adrian Wright can remember working on the Comms which were all stand alone.

In the early 1970s the Argentinians contracted Vickers at Barrow to build a Type 42 with a second to be built in Santiago. On our first visit to Barrow to STW radar equipment on HMS Sheffield we were astonished to find that Vickers engineers were already into the STW. Representations to Geoff Bridgeland produced the answer that they were in training for work on Hercules and we should impart all of our knowledge to them.

Fortunately they were reasonable chaps but the policy of them STW

Hercules fell apart as they felt unable to join the Hercules when she moved south for trials. And so, WSTG helped out, Norman Dibley getting a commendation for his work on radar 965.

Another Commonwealth country to buy British equipment was the New Zealanders. They purchased two Type 12s in the late 50s and then in the 1960s two Leanders, Waikato and Canterbury from Harland and Wolff and Yarrows. Pleased with their Leanders they acquired two ex RN vessels Bacchante and Dido renaming them Wellington and Southland. With Dido they now had an Ikara system designed by their near neighbours, Australia [see heading photo]. There was more work for WSTG as the two ships went into refit at Vospers in Southampton.

This is not a complete list of foreign exports that WSTG worked on, but the Upholder submarines deserve a mention. After being STW by WSTG they were declared surplus to requirement and bought by Canada. WSTG were



HMAS Oxley

involved in the subsequent refit and one of those involved in the work went to Canada with the boats.

A request during a lunch break at HMS Collingwood Museum for Ex WSTG staff to search their memories for tales of working on foreign warships produced answers from everyone, but Pat Cross' story was the best. He recalls doing sea trials on an Indonesian ship during a gale force 10.

CWTA searched in vain for ships staff on the bridge and in the Ops room. Pat said they were to be found prostrate in every corner, unused to going to sea in any condition. The trial was carried out with CWTA on the bridge, Pat in the Ops room and Eric (Shoey) Shoemsmith in the Radar office. Standards were achieved of course!

The point of filling the Newsletter with our work experience is that one day we hope that our archives will go to a good home and someone may ask how STW on new build warships was done so cheaply.

◆ I.R.W

## WSTG's small part in "Computerising RN Ships"

Although there were a number of sophisticated computers in RN ships before the "digital era", they were analogue based units comprising electro-mechanical and electronic devices. They provided solutions, for example, for gunnery control and for early missiles - target interception. As a result of technological advances in radar and other ship-borne equipment, handling, (Organising) "Action Information" became increasingly more intensive. Much more tracking information became available and the weapons, and aircraft, under the control of every major sea-platform had expanded. Early improvements to Action Information Organisation (**AIO**) occurred in the late 1950's following installation of Radar Type 984 in HMS Victorious. Here, the technique of storing track-information from that 3D-radar in analogue stores, and making it available on demand to operators, was introduced. This improvement was part of the Comprehensive Display System (**CDS**). The late 1950s also saw considerable advances in digital computers and their use. Moreover, the possibilities of employing fast, powerful computers to better organise "Action Data", and reduce operator input was being pursued by ASWE Portsdown in conjunction with the Ferranti Computer Division. With the introduction of the **Poseidon computer** and equipment to process outputs automatically from the 984 Radar, the first Action Data Automation

**ADA** system, DAA, was operational in HMS Eagle by 1964. Stored data, (now in binary form) was fed to displays known as Labelled Plan Displays (LPDs) and Totes.

As far as is known WSTG had little responsibility for setting to work of the first ADA system but DMJ (Knocker) White was an ADA watchkeeper in HMS Eagle and brought his experience into WSTG in 1966. There was however a computer/ops room team led by Ivor Taylor and with Malcolm Eascott, Peter Horrocks, Derek Bond and Joe Cleall as some of the early members. They



HMS Eagle was fitted with 3 Poseidon Computers

were preparing for the next computer based system (DAB) to be fitted on the second batch of the County Class destroyers. Here, WSTG undertook its responsibilities for the setting to work in these new ships. Although attempts at weapons control with DAA were not really successful, DAB encompassed some elements of weapons control together with data handling for air, surface and sub-surface sensors. However each weapon undertook its own (mainly analogue) computations.

An equipment developed for use with surveillance, target indication (TI) and height finding radars was the general purpose auto extractor – **SPADE** (Simple Processing and Detection Equipment). It was central to designating targets and providing range and bearing to the principal surface weapons. Data from sonar equipment was also input to the computers and outputs/computations used in sub-surface actions. With the system providing inputs/control to the ship's weapons, ADA graduated to **ADA Weapons System**, and DAB on the DLGs became **ADAWS1**. Displays were supplied by Pye Ltd.

By the time HM Ships Fife and Glamorgan were ready for setting to work more technical grades had been recruited into WSTG and subsequently sent on extensive courses at ASWE and HMS Collingwood (later recruits).

Training was a lengthy process for that time (circa 1966-68).

The WSTG section leader, Ivor Taylor had achieved class to class promotion and he was replaced by two newly promoted Grade Bs, Ray Hayhoe and Ken Hoad, as the section was preparing not only for the next ADAWS developments, but for a system developed for smaller ships.

The team, whose names will be familiar as long serving WSTG members were broadly divided to deal with DAB in the following manner:

Peter Horrocks, Malcolm Eastcott, Trevor Mitchell and Gerry Green responsible for the two **Poseidon** computers and interface equipment **Proctor**. Joe Cleall, Ron White and Roger Phillips

responsible for the Input and Output equipment - **Bulldogs**.

Knocker White, Rod Howes and Alf Huntley specialised on **Spade**. Everyone worked on the Displays.

The developments of computer based systems which began around 1963 proceeded along two distinct paths although, as always happens, ambitions with regards to ship orders and equipment fits were curtailed!

The development path for the ADAWS series was centred on a new Ferranti computer, the F1600, incorporating weapons control functions, and was linked with a very much improved display system provided by Plessey. Both common hardware modules and software packages were to be used in the many new platforms and conversions that were to come into service over several years.

The other development path led to a less expensive computer based system for AIO on smaller ships, known as a Computer Assisted Action Information System (**CAAIS**). This was based on the Ferranti computer FM 1600B, which although a smaller unit used the same engineering and software techniques as the larger F 1600. The display system too, was of a less exacting requirement. Overall, this system provided sufficient data capacity for small platforms and helped staff carry out tasks more efficiently. The system once again was fitted on many ships and provided WSTG work for several years. Two WSTG teams were now required: one to undertake the responsibilities for setting to work of **ADAWS/DA** systems and the other for **CAAIS/DB** systems.

Some of those who made up the ADAWS team and worked on HMS Bristol (DAC) and HMS Sheffield (DAD) were: Malcolm Eastcott, DMJ (Knocker) White, Trevor Mitchell, Rod Howes, Geoff White and David Sherris. They were later joined by Keith Parke, yours truly and Colin Goff.

The early CAAIS team comprised Peter Horrocks, Gerry Green, Joe Cleall, Roger Phillips, Alf Huntley and Ron White, and later Roy Woolgar. Early ship-fits were DBA1 on the batch 2 Leanders and DBA2 on the Type 21 frigates. Early training courses for DA and DB systems was arranged by the project management teams for RN staff and WSTG.

Initial setting to work experience was gleaned on the factory floor for both teams at Cairo Mill Oldham Lancs. On "Trevor's Page" (ref. wstg.co.uk) he mentions travelling to Oldham during the "winter of discontent". For WSTG staff the "great toilet roll shortage" and country-wide petrol shortage and power-cuts were a source of much discontent!

Later recruits, including me, (circa 1971) were trained at HMS Collingwood after what seemed like endless preliminary courses including the Ferranti programming language: FIXPAC.

My own contribution to the ship work was time on HMS Bristol with Knocker White where we had "fag -breaks"! A pleasant spring and summer spent working in HMS Sheffield at Barrow and stints on HMS Birmingham. Beside the setting to work aspects there was a management task for DAE in the Ikara Leander conversions not taken on by Devonport Dockyard. Memorable, was a very rough sea

during trials in HMS Aurora! Computer work kept WSTG fairly busy well into the 1980s, and two WSTG staff actually joined Ferranti when the staff run down and MoD policy changes occurred. *K. W* ♦



**V T Clements**  
**1934 – 2011**

It is with great sadness that we report the death of Vincent T Clements. "Vic", as he was known to WSTG colleagues, had been poorly for some time and died on Wednesday 24th August 2011 as a result of a chest infection, following long standing heart complications.

Vic Clements' career with MOD(N) followed a period of service with the Royal Navy. He first joined the Production Pool, and following some time at Copenacre transferred to WSTG at Portsmouth in 1971. He worked for many years in the radar section as a PTO3 and PTO2. Ivan Winter recalls that one of Vic's first periods of detached duty was in HMS Bristol during build at Wallsend.

In the mid-1980s', with the WSTG re-organisation and reduction of staff, Vic transferred to the Trials and Ranges group where he worked on the degaussing of ships.

Vic's final post in his long MOD service was with DGSW(N), based at Portsmouth. By this time he had been promoted to SPTO. He joined the Radar Type 1007 project team, returning to one of his initial areas of "hands-on"

expertise - navigation radar.

In 1994 Vic retired and for a few years enjoyed green bowls at Cosham Bowling Club and ten pin bowling both at Portsmouth and Bedhampton where he helped to set up the retired members bowling group.

Vic led a very active social life in Portsmouth and helped organise social events for WSTG. Of particular note were the (9-pins) skittles evenings held for WSTG friends and family. He was a familiar figure at the Civil Service Club where he enjoyed a few drinks and regularly played, and for some time captained the WSTG team in the Civil Service skittles league.

Despite some health problems and major surgery the new century brought a change in life style: Vic moved house to West Wales. There he continued to play bowls and did charity work for the blind. He occasionally visited Portsmouth, attending our first Christmas Party in 2004.

He started to write poetry and spent time learning the Welsh language. Vic was indeed Welsh but originated from the South and did not naturally speak the language.

In recent years, his visits to the area to see his first grandson were frequently coupled with visits on old friends.

Our sympathy is extended to his wife, Gwen, who spent much time nursing him at home, and his family. ♦