



## 4th Royal Navy Squadron: Introduction of the Oberons



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Cover image  
HMAS Tabard 1968 in the Sydney Harbour.

# The 4<sup>th</sup> RN Submarine Squadron and the Introduction of *Oberons* into the RAN

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In October 1959 the Defence Joint Planning Committee agreed to the introduction of a submarine force in the Royal Australian Navy (RAN). Australia subsequently ordered four *Oberon* class conventional submarines from the United Kingdom (UK). Along with building the new submarines, the UK would also train Australia's new submariners to crew the vessels. However, more than just a simple building and training transaction, this represented the end of one chapter, and the start of another in the Royal Navy's (RN) submarine relationship with the RAN. Since 1949, the RN had based in Australia the RN 4<sup>th</sup> Submarine Squadron. This paper will examine, briefly, the role of the 4<sup>th</sup> Submarine Squadron in Australia. It will then look at how the RN helped prepare and train the RAN to establish its new submarine service. It will look at training, personnel exchange, submarine maintenance, and finally the case of HMS *Odin* and her service with the RAN for three years. To finish, it will look lastly at role and legacy of these activities on the journey of Australia's submarine capability that followed.

## The 4<sup>th</sup> RN Submarine Squadron

Australia and the RAN faced the Cold War without a submarine service. The RAN had attempted to establish an enduring submarine capability prior through earlier submarine classes without success. The downside of this was the RAN did not have its own submarines with which to train the surface fleet and Royal Australian Air Force (RAAF) aircraft in Anti-Submarine Warfare (ASW). Until May 1948 a RN submarine from the 'Far Eastern Fleet' had been sent to Australia periodically for the RAN to train in ASW, but with the withdraw of RN submarines from the area in May 1948 this left a gap in Australian and New Zealand ASW training.<sup>1</sup> In July 1949 the Minister for the Navy wrote to the Minister for Defence to advise him that the Admiralty had offered to base three RN submarines in Sydney to be employed for ASW training of Australian and New Zealand naval and air forces. The cost of basing and operating the submarines would be shared between Australia and New Zealand, with the pay of the crews, victualling and refit costs remaining an Admiralty liability.<sup>2</sup> At a 26 July meeting of the Defence Committee it was

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<sup>1</sup> Letter Minister for the Navy to the Minister for Defence, 'Basing of R.N. Submarines on Australia for A/S Training of Australian and New Zealand Naval and Air Forces', 14 July 1949: NAA A5954, 1504/7, 'Basing of Royal Navy submarines on Australia for A/S Training of Australian and New Zealand Naval and Air forces'.

<sup>2</sup> Letter Minister for the Navy to the Minister for Defence, 'Basing of R.N. Submarines on Australia for A/S Training of Australian and New Zealand Naval and Air Forces', 14 July 1949: NAA A5954, 1504/7, 'Basing of Royal Navy submarines on Australia for A/S Training of Australian and New Zealand Naval and Air forces'.

recommended that the offer be accepted as it would be invaluable for ASW training in Australia and New Zealand.<sup>3</sup>

The original agreement for the basing of the 4<sup>th</sup> Submarine Squadron was for the period 1949 to 30 November 1960. During this time, the normal operating expenses were met by the UK, and it was only the additional expenses that came with operating out of Australia that were paid for by Australia and New Zealand.<sup>4</sup> The second iteration of the agreement ran from 1 December 1960 until 30 November 1963, though it was not formally ratified, merely agreed to in principle. For this period, Australia and New Zealand bore two thirds of the cost of operating the submarines.<sup>5</sup> Final extensions to the agreement were obtained in late 1963 and early 1964 to extend the Squadron out until 28 February 1968.<sup>6</sup> This final extension was done in light of the RAN ordering the *Oberons* and would ensure there was no gap between the 4<sup>th</sup> Submarine Squadron departing and the RAN's submarines becoming operational in Australia.

Two facets of the agreement were of great significance for the RAN as it moved towards operating its own submarines. Firstly, the RN submarines of the 4th Squadron were 'under the operational command and local administration of the Flag Officer in Charge, East Australia Area' who was an RAN officer.<sup>7</sup> This local administration included providing the RN personnel with shore accommodation, victuals, and for the families of accompanied RN personnel, medical services to the standard of the UK National Health Scheme, and reasonable educational facilities.<sup>8</sup> Secondly, Australia was responsible for maintaining the RN submarines to 'full R.N. standards'. Australia was to ensure that refits on the RN submarines 'the materials used, and the workmanship are of at least the same standards as are adopted in the United Kingdom and that the full series of tests and trials prescribed by Admiralty regulations are

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<sup>3</sup> Minute, Defence Committee, 'No. 143/1949 – Basing of R.N. Submarines on Australia for Anti-Submarine Training of Australian and New Zealand Naval and Air Forces', 26 July 1949: NAA A5954, 1504/7, 'Basing of Royal Navy submarines on Australia for A/S Training of Australian and New Zealand Naval and Air forces'.

<sup>4</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964: NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

<sup>5</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964: NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

<sup>6</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964: NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

<sup>7</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964, Attachment 'Heads of Agreement for the Service of the Fourth Submarine Division in Australasian Waters', Annex C, 'Command': NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

<sup>8</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964, Attachment 'Heads of Agreement for the Service of the Fourth Submarine Division in Australasian Waters', Annex D, 'Personnel': NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

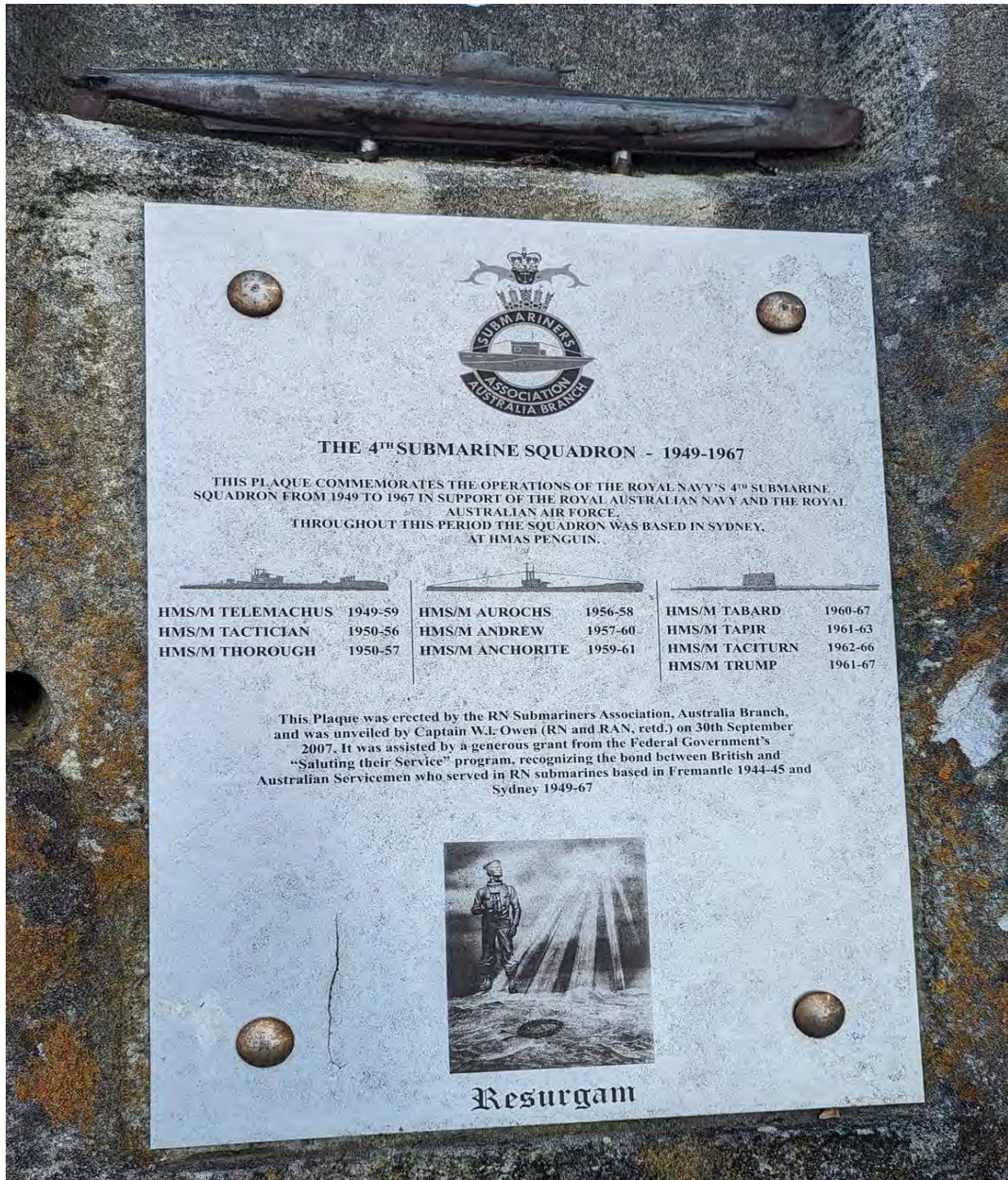
carried out on completion of every refit'.<sup>9</sup> Along with the shift in cost being borne primarily by Australia (and New Zealand), the final agreement for the operation of the 4<sup>th</sup> Submarine Squadron in Australia shows a growing maturity in Australia's ability to cater for a submarine capability before the arrival of the RAN's own submarines.

The final transition for the RAN was a dedicated submarine base. The 4<sup>th</sup> Submarine Squadron had operated out of HMAS *Penguin* in Balmoral. It was not an ideal location for submarine basing, and with a decision to purchase submarines for the RAN, in late 1964 Neutral Bay was selected as the preferred site for the RAN's new submarine base. This new base was commissioned HMAS *Platypus* on 18 August 1967.<sup>10</sup> Two RN submarines of the 4<sup>th</sup> Squadron operated out of *Platypus* before their departure, *Trump* and *Tabard*, and it would host all six of the RAN's *Oberon*'s until decommissioning on 14 May 1999. The construction and operation of *Platypus* as the RAN took delivery of its own submarines was a crucial milestone in the effective operation of a submarine arm. The final transition came on 10 January 1969 when HMS *Trump* departed *Platypus* and the 4<sup>th</sup> RN Submarine Squadron was disbanded. In its place was the 1<sup>st</sup> Australian Submarine Squadron and the first two RAN *Oberons*, *Oxley* and *Otway*.

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<sup>9</sup> Letter, Department of the Navy to the Secretary, Attorney General's Department, 1606/201/29, 'R.N. Submarines Stationed in Australia', 20 August 1964, Attachment 'Heads of Agreement for the Service of the Fourth Submarine Division in Australasian Waters', Annex E, 'Maintenance': NAA: A432, 1963/171, 'Agreement of operation of Royal Navy Submarines in Australia - Clause for loss or damage'.

<sup>10</sup> Sea Power Centre – Australia, 'HMAS *Platypus* History', <https://www.navy.gov.au/hmas-platypus-history>



Memorial Plaque at HMAS Penguin - 4th Submarine Squadron 1949-1967

### Building a RAN Submarine service – initial training and commissioning

Having placed an order for four submarines, the RAN quickly turned to the matter of training its future submariner force. This would of course need to occur overseas, and the natural choice was to do so with the Royal Navy at their submarine training school at HMS *Dolphin* before consolidation in RN submarines. Thinking moved rapidly, and by 1 October 1965 there was a total of 165 sailors and 14 RAN officers training in Royal Navy submarines in preparation of the RAN commissioning the four new *Oberons*. This initial tranche of training would see 350 Australian sailors receive submarine training from the RN.<sup>11</sup>

<sup>11</sup> Royal Australian Navy, 'R.A.N.'s First Sub. Launched' *Navy News*, Vol. 8 No. 20, 1 October 1965.

Additionally, extra technical staff were sought for the Australian Naval Representative United Kingdom (A.N.R.U.K.) staff to help oversee the *Oberon* building program, as well as the integration of newly trained RAN submariners.<sup>12</sup>

Having completed training ashore at HMS *Dolphin*, the prospective RAN submariners were posted to RN submarines for their continuation training and final qualification as submariners. Once this had been completed, they were posted to the RAN submarines that were then under construction as the commissioning crews. All this training, consolidation and then new posting as commissioning crew required the RAN personnel be present in the UK for a long time. The Reports of Proceedings (ROP) for the first four *Oberons* clearly indicate that the first RAN submariners were posted to the UK for periods anywhere between four and six years.<sup>13</sup> The Commanding Officer noted that upon arrival in Australia, 85 per cent of the crew were at the maximum of six weeks foreign service leave.<sup>14</sup> This leave entitlement accrued at one week per year of overseas service, and the fact that 85 per cent of the crew had accrued the maximum is indicative of how much time was required to train the core group of RAN submariners.

Furthermore, it is also clear from the ROPs that married members of this first cohort were accompanied by their families for at least the final period of their time overseas. HMAS *Oxley* mentions conducting a family day on 19 May 1967 for those family members still in the Clyde area,<sup>15</sup> and both *Otway* and *Ovens* mention families living in the area and being present at their commissioning ceremonies.<sup>16</sup> *Onslow* does not explicitly mention families being present for commissioning, but the fact that there were 250 guests present, as well as a later comment that wives were present at a London cocktail party hosted by the Earl and Countess of Onslow in April the following year strongly suggests that *Onslow's* families were living in the UK.<sup>17</sup> Not unexpectedly, some RAN personnel returned to Australia with UK spouses, again an indication of the significant time they spent away from Australia.<sup>18</sup> The main family issue that was encountered was in resettling the families back into Australia. *Oxley's* September ROP makes a recommendation to the next submarine in line to return to Australia, *Otway*,

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<sup>12</sup> Letter, Australian High Commissioner London to Secretary, Department of Defence, *Establishment of R.A.N. Staff in the United Kingdom*, 9 July 1963: NAA: A1813, 22/201/84, 'Services Overseas Staff – London'.

<sup>13</sup> HMAS *Otway*, 'Report of Proceedings – 23 April – 22 July 1968', 8 August 1968: AWM78 285/1 – April 1968 – December 1970.

<sup>14</sup> HMAS *Ovens*, 'Report of Proceedings – 18 – 31 October 1969', 4 November 1969: AWM78 286/1 – April 1969 – December 1970.

<sup>15</sup> HMAS *Oxley*, 'Report of Proceedings – 21 March – 30 June 1967', 5 July 1967: AWM78 287/1 – June 1967 – December 1969.

<sup>16</sup> HMAS *Otway*, 'Report of Proceedings – 23 April – 22 July 1968', 8 August 1968: AWM78 285/1 – April 1968 – December 1970; HMAS *Ovens*, 'Report of Proceedings – 15 April – 31 July 1969', 4 November 1969: AWM78 286/1 – April 1969 – December 1970.

<sup>17</sup> HMAS *Onslow*, 'Report of Proceedings – 22 December 1969 – 12 April 1970', 14 April 1970: AWM78 282/1 – April–December 1970.

<sup>18</sup> HMAS *Ovens*, 'Report of Proceedings – 1– 31 January 1970', 6 February 1970: AWM78 286/1 – April 1969 – December 1970.

that sailors who are not from Sydney should have their families arrive from the UK once the sailors themselves arrived back in Australia to assist with finding accommodation. *Oxley's* ship's company had problems, in that families arrived in Sydney before the submarine did and they had trouble finding suitable accommodation.<sup>19</sup> These problems appear to have been rectified by the time *Onslow* and her families arrived in Sydney in July 1970, though the expense of living in Sydney nevertheless proved unexpected and troublesome.<sup>20</sup> It was perhaps an issue that few had given any thought to in advance, but was an important consideration when posting RAN personnel overseas for extended periods of time. Notably, by the time the final two O-Boats that had been ordered for the RAN, *Orion* and *Otama*, were commissioned in 1977 and 1978, respectively, their Reports of Proceedings indicated that the crews travelled to the UK unaccompanied and were not in the UK for longer than necessary to take custody of the boats, commission, and sail back to Australia. This suggests a strong maturity in the RAN's training and crewing continuum by this stage.

### **Building a RAN Submarine service – continuation training**

Even after the first four Australian *Oberons* were crewed, commissioned, and sailed back to Australia there was obviously still a need to train new submariners. This training remained in the UK at HMS *Dolphin* for Parts 1 and 2 of training, the ashore component, and then in RN submarines for Part 3, the final, at sea, component of submariner training.

This training arrangement soon changed, and it took a mere two years before the at-sea component of the training shifted responsibly to Australia and RAN submarines. From the third quarter of 1969, sailors requiring Part 3 training were posted to HMAS *Platypus* and were then temporarily posted to the 1<sup>st</sup> RAN Submarine Squadron for 12-16 weeks Part 3 Training.<sup>21</sup> However, it does appear that, for officers at least, HMS *Dolphin* remained partly involved, as there is mention of two Sub-Lieutenants (SBLTs) completing Part 3 training in *Oxley* and *Otway*, but sitting 'examinations set and marked by the Submarine School, HMS *Dolphin*'.<sup>22</sup> HMAS *Oxley* noted in October 1973 that a Lieutenant (LEUT) passed his final Submarine qualification exam and received notification from HMS *Dolphin* that he had passed.<sup>23</sup> As an indication of training numbers, HMAS *Platypus* reported that there were 25 Sailors on course at

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<sup>19</sup> HMAS *Oxley*, 'Report of Proceedings – 1–30 September 1967', 1 October 1967: AWM78 287/1 – June 1967 – December 1969.

<sup>20</sup> HMAS *Onslow*, 'Report of Proceedings – 4–31 July 1970', 20 August 1967: AWM78 282/1 – April – December 1970.

<sup>21</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 30th September 1969', 6 October 1969: AWM78 441/1 – August 1967 – December 1970.

<sup>22</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st March 1970', 1 April 1970: AWM78 441/1 – August 1967 – December 1970.

<sup>23</sup> HMAS *Oxley*, 'Report of Proceedings – 1–31 October 1973', 31 October 1973: AWM78 287/4 – March – December 1973.



HMS *Dolphin* as of the third quarter of 1974.<sup>24</sup> Thus, while this suggests a good liaison between *Dolphin* and *Platypus*, later correspondence indicates any direct communication between the two establishments may have been limited. *Platypus*' third quarter ROP for 1975 mentions that informal agreement had been reached to improve communications and liaison between the Submarine School at HMS *Dolphin* and HMAS *Platypus*, moving towards a direct liaison authorisation.<sup>25</sup> This arrangement was ratified in the first Quarter of 1976, establishing a direct liaison between *Platypus* and HMS *Dolphin*. Interestingly, the ROP hints at one of the ongoing issues that resulted in this new arrangement, saying that 'this should help improve the expertise of Technical sailors joining their first submarines, as gaps in their knowledge after the Part 2 course at HMS *Dolphin* have to be made good at *Platypus*.'<sup>26</sup> From this we see that although the UK was still responsible for the ashore training component of RAN submariners, the two submarine services had begun to diverge in some matters, with UK training no longer proving complete for the RAN's needs. This is not a slight on the UK training, merely to illustrate that the RAN's capability and training had matured and was starting to diverge from the needs of the RN's submarine service.

Moreover, continuation training continued to be conducted by the UK, sometimes with RAN personnel travelling to the UK, and sometimes UK personnel travelling to Australia. For instance, between 8 to 17 November, 1969 the Commanding officer of the RN Submarine Attack Trainer, Commander T.D.A Thompson, RN, visited the Australian Squadron. He was there to 'observe and instruct' the command teams of HMAS *Oxley* and *Otway* and to provide up to date information on 'current submarine tactical developments and command team techniques', which included a week at sea aboard both submarines during an exercise.<sup>27</sup> The following year saw a visit from Lieutenant Commander (LCDR) G.T. Swales, RN, from the Submarine Command Team Trainer. Between 16 to 24 October, 1970 he lectured the command teams on the 'latest thoughts and trends in attacking', as well as going to sea in *Otway*, *Ovens*, and *Onslow* for MK 23 torpedo firings. That the tactical training was conducted with the MK23 wire-guided and homing torpedos and not the straight-running MK8 demonstrates that the RAN was operating at an advanced level rather than learning the basics. The ROP notes that 'The danger of the R.A.N. Submarine Arm becoming out of touch with modern attacking principles is always present, and these visits from the U.K. Command Team Trainer are invaluable.'<sup>28</sup> In January 1972, *Onslow*'s command team visited the

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<sup>24</sup> MAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 30<sup>th</sup> September 1974', 9 October 1974: AWM78 441/4 – January–December 1974.

<sup>25</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 30<sup>th</sup> September 1975', 1 October 1975: AWM78 441/5 – January – December 1975.

<sup>26</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31<sup>st</sup> March 1976', 9 April 1976: AWM78 441/5 – January – December 1976.

<sup>27</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31<sup>st</sup> December 1969', 31 December 1969: AWM78 441/1 – August 1967 – December 1970.

<sup>28</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31<sup>st</sup> December 1970', 5 January 1971: AWM78 441/1 – August 1967 – December 1970.

UK for pre-workup training at Faslane.<sup>29</sup> A critical development for the RAN's Submarine training came at the end of 1975 with the opening of the Submarine Command Team Trainer at HMAS *Watson*. The first submarine command team to make use of the facility was actually that of the RN submarine HMS *Odin*, at the time on loan to the 1<sup>st</sup> RAN Submarine Squadron (see below).<sup>30</sup> HMAS *Otway*'s command team made use of it soon after in January of 1976 and the general consensus was that it was an excellent facility.<sup>31</sup> The establishment of a command team trainer in Australia helped solidify the independence of higher level warfare training in the RAN. This is not to say that there were no discussions or liaison between the RAN and the RN or USN, but that RAN submarine command teams could now be trained in Australia as required.

It is also apparent through the first decade of RAN *Oberon* operations that RN officers and sailors were regularly posted to Australian submarines under command and control structure of the RAN 1<sup>st</sup> Submarine Squadron. For example, the commissioning CO of *Onslow* was a Royal Navy officer. *Onslow* would again be under the command of an RN officer in 1976.<sup>32</sup> In 1970, HMAS *Oxley* had one RN LEUT posted to the ship in February, though illness delayed his posting aboard.<sup>33</sup> In August 1970 an RAN officer replaced an RN officer as Navigator, A.S.L. Smith, RN, the same who would later become CO of *Onslow*.<sup>34</sup> May 1976 records the changeover of the Sonar Officer, an RN LEUT replaced by an RAN one.<sup>35</sup> As for sailors, in 1974 HMAS *Platypus* reported that an agreement had been reached for nine RN submariners for service to the RAN for a period of two and a half years.<sup>36</sup>

Finally, it is worth noting that although information is sparse, there are interesting hints at how closely trained and qualified RAN and conventional USN submariners were at the time. HMAS *Otway* reports sailing on 13 April 1969 for technical test and evaluation with the US conventional submarine USS *Baya*. Onboard *Otway* were two US scientists from the Naval Undersea Research and Development Center in San Diego. Trials were conducted with USS *Baya* and the hydrographic ship USNS *Davis*. As part of this, two officers and 14 sailors were exchanged between the Australian and the US submarine

<sup>29</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st March 1972', 6 April 1972: AWM78 441/3 – January 1972 – December 1973.

<sup>30</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 August 1975', 10 September 1975: AWM78 281/3 – January – September 1975.

<sup>31</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st March 1976', 9 April 1976: AWM78 441/6 – January–December 1976.

<sup>32</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st December 1976', 20 January 1977: AWM78 441/6 – January–December 1976.

<sup>33</sup> HMAS *Oxley*, 'Report of Proceedings – 1– 28 February 1970', 3 March 1970: AWM78 287/2 – January – December 1970.

<sup>34</sup> Perhaps not as coincidental as it might seem and indicative of some RN officers having a close affinity with Australia and the RAN. HMAS *Oxley*, 'Report of Proceedings – 1– 31 August 1970', 10 September 1970: AWM78 287/2 – January – December 1970.

<sup>35</sup> HMAS *Oxley*, 'Report of Proceedings – 1– 31 May 1976', 31 May 1976: AWM78 287/6 – January–December 1976.

<sup>36</sup> 3 Ordnance Artificers, 4 RTS equivalent Junior Sailors, 2 LSRO. HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 30 June 1976', 6 July 1976: AWM78 441/6 – January–December 1976.

for several days. *Otway's* CO noted that: 'Exchange personnel carried out ship's duties and kept watch in the host ship. There were no problems in this respect which is indicative of the common doctrine and established submarine operation procedures.'<sup>37</sup> So while the RN provided the RAN's shore and at-sea training at the time, so close were the three navies that RN-trained RAN submariners could be exchanged aboard US conventional submarines without issue, highlighting the close relationship between the three navies from the outset of the RAN's new submarine capability.

### **Cockatoo Island and submarine sustainment**

One of the most critical aspects of the RAN standing up a new submarine force was the sustainment of the new submarines. In this respect the stationing of the Royal Navy's 4<sup>th</sup> Submarine Squadron in Australia had been of great benefit. The burden of refitting RAN submarines would be borne by Cockatoo Island and Garden Island, with the former responsible for hull work and outfitting, and the latter responsible for internal weapons and communications systems.<sup>38</sup> Importantly, the arrival of the RAN's O-Boats did not herald the start of submarine refits in Australia. Since 1961, Cockatoo and Garden Islands had been conducting refits on the 4<sup>th</sup> submarines Squadron's T-Boat submarines.

Between 1961 and 1966, Cockatoo Island conducted five T-Boat refits. The first T-Boat refit was HMS *Tabard*, which along with *Trump* conducted two refits, while HMS *Taciturn* conducted one.<sup>39</sup> These refits were comprehensive and extensive, including work on the fins, casings, saltwater systems, and pressure hull plates. In the case of *Taciturn's* refit 15 January 1963 – 28 March 1964, a 27x5 foot pressure hull was replaced entirely.<sup>40</sup> These were just the major refits undertaken by the T-Boats of the 4<sup>th</sup> Submarine Squadron. Other maintenance and repairs were conducted at Cockatoo Island as required, with the last work on a RN T-Boats completed there in 1969. The T-Boats were mechanically less complex than the O-Boats, and this would cause issues when it came time to service the RAN's newer and more technically complex O-Boats. However, the experience gained over the 10-year period before the first major refit of a RAN O-Boat was invaluable and ensured there was a workforce prepared and able to do submarine maintenance in Australia.

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<sup>37</sup> HMAS *Otway*, 'Report of Proceedings – April 1969', 3 May 1969: AWM78 285/1 – April 1968 – December 1970.

<sup>38</sup> Radio and sonar systems, torpedo control systems, gyro compasses, masts, and main batteries.

<sup>39</sup> John Jeremy, *Cockatoo Island: Sydney's Historic Dockyard*, UNSW Press, Sydney, 2005, p. 242.

<sup>40</sup> Jeremy, *Cockatoo Island*, 2005, p. 242.



HMS *Tabard* in Cockatoo Island Dockyard 1961/62. NAA.

As the main refit facility for submarines, Cockatoo Island needed modernisation, even during the period where it was refitting T-Boats. The shortcomings of the facility had been accepted knowing the T-Boats of the 4<sup>th</sup> Squadron would soon be departing Australia, and indeed would soon be decommissioned.<sup>41</sup> Additionally, upgrading the facility while still conducting refits of the submarines would prove too difficult and disruptive. Taking into consideration the fact that the last T-Boat refit would be in 1968 and the first O-Boat refit, *Oxley*, wasn't scheduled to begin until 1971, it was decided this gap would allow for an upgrade of Cockatoo Island.<sup>42</sup> The greater complexity of the new submarines would require new workshops and specialist equipment, and would take over some of the work that had previously been done at Garden Island. A RAN technical mission visited the United Kingdom and Canada to

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<sup>41</sup> Minister for the Navy to Cabinet, Cabinet Submission No. 124, 'Cockatoo Island Dockyard – Modernization of Submarine Refitting Facilities', 13 June 1968: NAA A5868, 124.

<sup>42</sup> Minister for the Navy to Cabinet, Cabinet Submission No. 124, 'Cockatoo Island Dockyard – Modernization of Submarine Refitting Facilities', 13 June 1968: NAA A5868, 124.

investigate the scope of the equipment and facilities required.<sup>43</sup> Approved by cabinet in August 1968, the \$5.9 million modernisation program commenced.<sup>44</sup>

It did not take long for the base staff of HMAS *Platypus* to note that workload for an O-Boat was 'considerably greater' than for a T-Boat, by a factor of two for the Weapons Electrical Department.<sup>45</sup> It was perhaps not aided by the fact that many of the spare parts required for the new O-Boats had not yet arrived from overseas. Nevertheless, submarine maintenance continued was starting to diverge from the RN. HMAS *Oxley* recorded in January 1969 that they had moved from the RN system of six maintenance periods a year to the Australian system of four annually. This allowed for more comprehensive maintenance and for more crew respite.<sup>46</sup> This marks a swift change in maintenance scheduling practice from that of the RN, demonstrating a rapid adaptation to what was required in the RAN. It also demonstrated a wide capacity to assist and repair. A Royal Navy Submarine, HMS *Rorqual* [*Porpoise*-class], from the 7<sup>th</sup> Submarine Squadron, was attached to the 1<sup>st</sup> Submarine Squadron for the period 22 October to 23 December 1969. Exercises were delayed because of a technical issue in the submarine, a technical issue that was diagnosed and rectified in Cockatoo Island Dockyard.<sup>47</sup> This is significant in that it demonstrates a technical capacity by the dockyard, even before its upgrade, to diagnose and fix a technical problem with a submarine of a type not of the usual class or from one of the RAN-based squadrons. Finally, a Technical Cooperation Panel on Submarine Systems for Canada, the UK, US, and Australia met at *Platypus* 29 October – 5 November 1969.<sup>48</sup> This again demonstrates a good technical relationship between the different navies.

The new facilities being built at Cockatoo Island were not yet complete when *Oxley* went in to begin refit in March 1971. While from our modern vantage point, it may be hard to understand that O-boats were significant step up in complexity from the T-boats with "new" technologies especially in the weapons, sensors and communications. Having worked on refits for T-Boats for some time, the dockyard still had to adjust to the new complexities of an O-Boat refit. This first refit was planned for 64 weeks, but it took 104 to complete. The causes of this were an ill-defined work package, incomplete facilities, and a lack of technical information.<sup>49</sup> Despite the delays and trepidations of the first RAN submarine refit, it was

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<sup>43</sup> Minister for the Navy to Cabinet, Cabinet Submission No. 124, 'Cockatoo Island Dockyard – Modernization of Submarine Refitting Facilities', 13 June 1968: NAA A5868, 124.

<sup>44</sup> Cabinet Minute, Decision No. 449(GA), 22 August 1968: NAA A5868, 124.

<sup>45</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st March 1968', 1 April 1968: AWM78 441/1 – August 1967 – December 1970.

<sup>46</sup> HMAS *Oxley*, 'Report of Proceedings – January 1969', 28 February 1969: AWM78 287/1 – June 1967 – December 1969.

<sup>47</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st December 1969', 31 December 1969: AWM78 441/1 – August 1967 – December 1970.

<sup>48</sup> HMAS *Platypus* and First Australian Submarine Squadron, 'Report of Proceedings – Quarter Ending 31st December 1969', 31 December 1969: AWM78 441/1 – August 1967 – December 1970.

<sup>49</sup> Jeremy, *Cockatoo Island*, 2005, pp. 148-149.

completed, and Cockatoo Island was able to handle all subsequent the RAN's O-Boat refits as required. The refit philosophy was a comprehensive one. As John Jeremy notes in his history of Cockatoo Island, 'The refit philosophy adopted in Australia for the support of the *Oberons* borrowed much from that used for nuclear submarines. The aim of each refit was to restore the submarine to 'as new' performance and reliability.'<sup>50</sup> In the first few years there was also the issue of supply chain. The supply of spares was always a problem, with some 30,000 individual items required for an O-Boat refit. This was slowly rectified over time, and 'Whilst early refits depended heavily on the supply of spares from the United Kingdom, local industry gradually became qualified for the supply of some parts, reducing this dependence.'<sup>51</sup> Unsurprisingly then it was a combination of facilities, training and experience, and a reliable supply chain that was required to ensure effective maintenance and refit of submarines in Australia. Thanks to the refitting of the RN 4<sup>th</sup> Submarine Squadron in Australia for a full decade before the first RAN submarine required a refit, despite all the teething problems with the first one, Australia proved it could maintain its own fleet of submarines, in Australia. They did not have to start from scratch and gained invaluable experience ahead of time.

### **HMS *Odin* in Australia 1972-75**

An important episode highlights the cooperation between Australia and the UK in developing the RAN submarine service. The RN *Oberon* submarine HMS *Odin* sailed from the UK on 6 September 1972 and arrived in Sydney on 3 December where she was assigned to the 1<sup>st</sup> Royal Australian Navy Submarine Squadron for just under three years, departing Australia on 15 September 1975, to return to the UK. *Odin* had been sent to Australia to fill a gap in the Squadron as HMAS *Oxley* went into her first major refit. Essentially, the loan of *Odin* was a de-risking strategy in the event that *Oxley*'s refit – the first major refit of an O-Boat in Australia – ran over time.<sup>52</sup> This ensured that the 1<sup>st</sup> RAN Submarine Squadron was able to maintain a force of submarines, while ensuring the refit of *Oxley* was not unduly pressured by the need to return her to the fleet. Rather, it allowed for this first O-Boat refit to proceed as planned and for the RAN and the dockyard to conduct the work as required and not be tempted to cut corners for the sake of maintaining four submarines.

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<sup>50</sup> Jeremy, *Cockatoo Island*, 2005, p. 150. Appendix 11 lists all the submarine refits conducted at Cockatoo Island dockyard, from 1919 through to 1991.

<sup>51</sup> Jeremy, *Cockatoo Island*, 2005, p. 152.

<sup>52</sup> As was the case. See above.

HMS *Odin* sailed from Gosport on the morning of 6 September while 'The Royal Marine Band played both appropriate and inappropriate tunes on the jetty.'<sup>53</sup> Sailing west and through the Panama Canal, after several port visits she arrived in Pearl Harbor on 30 October. Here two incidents highlight the connections that existed between the RN submarine force and Australia. In the first, a junior sailor was so excited to see his girlfriend in Perth that he went AWOL to do so, and after punishment was returned to the UK. In the second incident, one of *Odin's* Chief Petty Officers was unfortunately attacked and robbed while ashore, and after initial treatment was flown to HMAS *Penguin* for convalescence.<sup>54</sup> This is interesting as it shows that by this time the administration of *Odin* and the ship's company was already being managed by Australia.

Since *Odin* was to spend almost three years overseas, the ship's company was accompanied by their family to Australia. Families were housed in a place known as Meredith Court, in Epping. Perhaps foreshadowing the more modern emphasis on the wellbeing of both crew and families, *Odin's* ROPs indicate this was a cause of significant tension and almost constant morale and discipline problems in the first few months. In one example, these challenges led to a sailor and his family returning to the UK after only four months. The Commanding Officer noted that from the beginning the ship's company had been warned that bad behaviour on the part of the sailors or equally their family could result in a return to the UK.<sup>55</sup> Unfortunately, these issues would plague *Odin* throughout 1973 and into the next year, making it as far as a Television news story in March 1974.<sup>56</sup> However, after this family issues appeared to settle, most likely because the families were moved out of Meredith Court into more decentralised accommodation. This highlights one of the issues of a submarine/ship on long-term exchange overseas, though in this case family administration was managed by the RN rather than the RAN.<sup>57</sup> These family issues, though more serious, hearken back to the first RAN O-Boat crews and their families returning to Sydney from training in the UK and similarly found it difficult to adjust. It helps demonstrate that there are many considerations involved in standing up a new capability; issues that may seem less important, but

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<sup>53</sup> HMS *Odin*, 'Report of Proceedings – 6 September – 3 December 1972', 10 April 1973: AWM78 281/1 – September 1972 – December 1973.

<sup>54</sup> HMS *Odin*, 'Report of Proceedings – 6 September – 3 December 1972', 10 April 1973: AWM78 281/1 – September 1972 – December 1973.

<sup>55</sup> HMS *Odin*, 'Report of Proceedings – 1–31 March 1973', 2 April 1973: AWM78 281/1 – September 1972 – December 1973.

<sup>56</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 March 1974', 6 April 1974: AWM78 281/2 – January – December 1974; One incident in December 1973 would result in court action against one of *Odin's* sailors. HMS *Odin*, 'Report of Proceedings – 1– 31 December 1973', 3 January 1974: AWM78 281/1 – September 1972 – December 1973.

<sup>57</sup> The August 1973 ROP indicates that complaints made against RN families were being investigated by the RN, not the RAN. HMS *Odin*, 'Report of Proceedings – 1–31 August 1973', 10 September 1973: AWM78 281/1 – September 1972 – December 1973.

which can have an ongoing impact on effectiveness. These historical experiences highlight that the modern emphasis on crew and family is well placed.

On a more positive note, on the operational side HMS *Odin* integrated seamlessly into the RAN's 1<sup>st</sup> Submarine Squadron. She conducted collective training, exercises with the RAN and RAAF as required and in all respects was operationally employed the same as RAN submarines of the Squadron. She was even put on notice to sail as a possible power source for relief operations Darwin in the wake of Cyclone Tracy, with the crew being recalled on Boxing Day and prepping the submarine to sail on the 27<sup>th</sup>, though they were soon after stood down.<sup>58</sup> Not to trivialise the operational aspects of *Odin's* time with the 1<sup>st</sup> Squadron, there was nothing remarkable about the deployment, so seamless was its service. This itself is important, for it is perhaps the highest measure of how mature the relationships between the RAN and RN were at that time and that the RAN had taken another step up the ladder towards fully independent submarine operations. This article is, however, focused more on some of the training and personnel aspects of *Odin's* time with the Squadron.<sup>59</sup>

Unsurprisingly, *Odin* was used as a training platform for RAN sailors conducting their Part 3 (at sea) training. There are several cases of RAN sailors being sent to *Odin* for their final training competencies.<sup>60</sup> Importantly, this included RAN officers as well as sailors.<sup>61</sup> Crew integration went beyond training, and it is notable that *Odin* did not appear to have sailed over or otherwise included any spare crew in its compliment and thus relied on sourcing Operational Relief crew members from HMAS *Platypus* as required.<sup>62</sup> *Odin* even ran an open day at Garden Island naval base for any RAN personnel interesting in becoming Submariners, hosting some 60 officers and sailors.<sup>63</sup> Throughout her time in Australia, *Odin's* ship's company did cycle through normal postings, and any crew members that were ruled unfit for sea on a long term basis were posted back to the UK and replaced by a RN member, with an RAN member providing operational relief in the meantime. Indeed, the CO posted out routinely in March 1973, replaced by LCDR G.T. Swales, RN, the same officer who had visited Australia in 1970 to update Australian submariners on up-to-date attack tactics (see above).<sup>64</sup> Lastly, as mentioned above in

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<sup>58</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 December 1974', 3 January 1975: AWM78 281/2 – January – December 1974.

<sup>59</sup> For an overview of operational service while in Australia, it is worth consulting HMS *Odin's* and HMAS *Platypus's* Reports of Proceedings for the period, which are available in digital format on the Australian War Memorial's website.

<sup>60</sup> HMS *Odin*, 'Report of Proceedings – 1– 30 April 1974', 3 May 1974; HMS *Odin*, 'Report of Proceedings – 1– 31 May 1974', 4 June 1974: AWM78 281/2 – January – December 1974.

<sup>61</sup> A LEUT R Lawrence, RAN, completed his Part III training aboard *Odin* and was subsequently posted to HMAS *Ovens* on completion: HMS *Odin*, 'Report of Proceedings – 1– 31 May 1975', 2 June 1975; HMS *Odin*, 'Report of Proceedings – 1– 31 August 1975', 10 September 1975: AWM78 281/3 – January – September 1975.

<sup>62</sup> HMS *Odin*, 'Report of Proceedings – 1– 30 April 1974', 3 May 1974; HMS *Odin*, 'Report of Proceedings – 1– 30 June 1974', 3 July 1974: AWM78 281/2 – January – December 1974.

<sup>63</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 July 1974', 3 August 1974: AWM78 281/2 – January – December 1974.

<sup>64</sup> And again demonstrating a seemingly tight-knit relationship between RN and RAN submariners and submarine service.



August 1975 HMS *Odin*'s command team became the first unit to make use of the new Submarine Command Team Trainer at HMAS *Watson*. Significantly, the Commanding Officer commented that 'the excellent facilities and organisation of the SCTT resulted in two extremely valuable days training'.<sup>65</sup> It is not just the facility that was considered excellent, but also the organisation of the facility. This demonstrates a new level of maturity for the RAN submarine service, a progression of not only having its own facility to train submarine command teams, but also possessing a sufficiently experienced staff to progress this aspect of training from being UK based, to being an in-house RAN capability. It very much represents a progression of RAN training and increasing maturity in the organisation.

Finally, but importantly, there is the issue of maintenance. In this respect we see too how mature the RAN's submarine arm had become in a few years. A serious defect which occurred while operating with the RAAF and RNZAF in the Jervis Bay area saw the need to go into Cockatoo Island dockyard earlier than expected for repairs and refit.<sup>66</sup> There were some supply issues as well as an unexpected number of defects, but refit work done by Cockatoo Island, Garden Island, and HMAS *Platypus* was concluded satisfactorily and to all the standards required.<sup>67</sup> Before returning to the UK at the end of 1975, *Odin* undertook an intermediate level docking at Cockatoo Island 1 to 14 August. This proved to be a 'most satisfactory docking period', with the CO crediting the timely undocking to the 'excellent liaison which was maintained between the Dockyard staff, the Principle Naval Overseer's Officer and ship's staff'.<sup>68</sup> Although there were major issues with HMAS *Oxley*'s refit (see above), this was unsurprising and by the time *Odin* left Australia – present in Australia because of *Oxley*'s risky first refit – it was clear that Cockatoo Island and the other RAN maintenance and refit facilities at Garden Island and *Platypus* had matured in those few years. That the Australian facilities were able to conduct dockings and refits on a RN submarine is demonstrative of burgeoning technical domestic capacity. It was again one more step on the ladder leading up to a fully realised RAN submarine capability, less than a decade after the reintroduction of submarines into the RAN.

This episode highlights the evolving maturity of both the RAN's submarine capability and the RAN's relationship with other important allies, in this case the UK. It is not a case of the RAN being reliant on an ally. It shows the RAN being able to leverage its close relationship with the RN to fill a gap in capability, but it is also a demonstration of the UK seeing the value in maintaining the RAN's 1<sup>st</sup>

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<sup>65</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 August 1975', 10 September 1975: AWM78 281/3 – January – September 1975.

<sup>66</sup> HMS *Odin*, 'Report of Proceedings – 1–31 March 1973', 2 April 1973: AWM78 281/1 – September 1972 – December 1973.

<sup>67</sup> HMS *Odin*, 'Report of Proceedings – 1–30 April 1973', 4 May 1973: AWM78 281/1 – September 1972 – December 1973.

<sup>68</sup> HMS *Odin*, 'Report of Proceedings – 1– 31 August 1975', 10 September 1975: AWM78 281/3 – January – September 1975.

Submarine Squadron at a full capacity of four submarines. Having instituted the 'East of Suez' policy, the UK saw Australia and the RAN as a means by which they could remain engaged in the region. Moreover, it demonstrates that the RN was comfortable with the RAN's ability to effectively operate and maintain one of their submarines. It was a mutually beneficial arrangement, and an important step in Australia's journey towards a mature and independent submarine capability.

### **Submarines in the RAN - Challenges Old and New**

The challenge of introducing a new capability into Navy is not new. In fact, the introduction into the RAN of a conventional powered submarine force, with the assistance of UK, offers an illustration of how such an introduction can be planned and be successful. There are several lessons on offer from even just a brief examination of this episode of the RAN's history especially evident when shown in a capability transition plan view (Figure 1).

The value of hosting RN vessels in Australia prior to and during the introduction of the RAN's submarines was immeasurable. Although the 4th RN Squadron was based in Australia long before the decision to acquire RAN submarines, once that decision had been made the continued presence of the RN submarines ensured the RAN could gain exposure to them in the context of future operators. Australia was able to build a new dedicated submarine base, HMAS *Platypus*, which supported the 4th RN Squadron into the transition to the 1st RAN Squadron. Even more important was the opportunity to conduct maintenance and refit on these submarines. Even though these RN submarines were less technically sophisticated than the O-Boats, it was nevertheless a critical step in the RAN's journey towards the RAN becoming self-sufficient in submarine operations and sustainment. This was critical experience for both the RAN and industry. This episode showed the value of RAN officers and sailors embedding and exchanging with the RN, and vice versa. This was especially true for the technical submariners, and engineering officers in particular, who required many years of experience before they were able to begin supervising technical departments and major maintenance work. Finally, the temporary basing of the RN submarine HMS *Odin* to the RAN was indicative of not only the close relationship between the two navies, but also the rapid maturity of the RAN's own submarine arm. That Australia could maintain the submarine while it was with the RAN, as well as provide all the other necessary logistics, including spare personnel, shows the rapid development of the RAN submarine service. In all these ways we can see how the RAN went from zero submarines to a self-sufficient four-submarine service in less than a decade.

### **Epilogue**

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This successful transformation was only the beginning in the rise of Australia's conventional powered submarine capability. Sometimes history tends to view naval vessel classes as discrete 'chapters' with the most interesting period being the middle of the chapter and the transitions as a tale of 'in with new, out with old'. This can inadvertently discount the role of the preceding class in preparing and enabling the next class through the accumulation of naval and national experience in the underlying fundamentals of technology involved – a tale instead of 'on the shoulders of giants'. Recasting Australia's modern submarine history, albeit in short form, and measuring this accumulation as a sum of in-service submarine years illustrates the depth of national knowledge at key junctures.

In 1967, on the eve of the commissioning and arrival of the UK built RAN O-boats, between 1949 and 1967 Australia had accumulated a total of 57 submarine years of experience supporting RN submarines in Australia (see Figure 2). The arrival of the RAN's submarine capability was thus a transition, not a wholesale day one capability inception. This proven maturity was further reinforced when two more O-Boats were ordered, taking the RAN submarine arm to six boats by 1978. Nor was this the case when the far more technologically advanced *Collins* class submarine was introduced to replace the *Oberons*. Indeed, in this case the submarines were built in Australia, marking another progression in capability, despite the initial challenges common to any new class of submarines. Although the progression to a nuclear-powered submarine capability represents an undeniable step-up in technology, it should be seen as a further transition point rather than as some unprecedented step into the unknown. As this paper has tried to illustrate, the RAN once went from operating zero submarines to a fully-fledged capability in less than a decade. Both the UK and the US assisted in this transition; then both of their navies successfully moved from conventional to nuclear powered submarines. Here in 2023, it is worth pausing and reflecting that Australia has been continuously operating and sustaining its own sovereign conventional powered submarines for an accumulated total of 294 submarine years.

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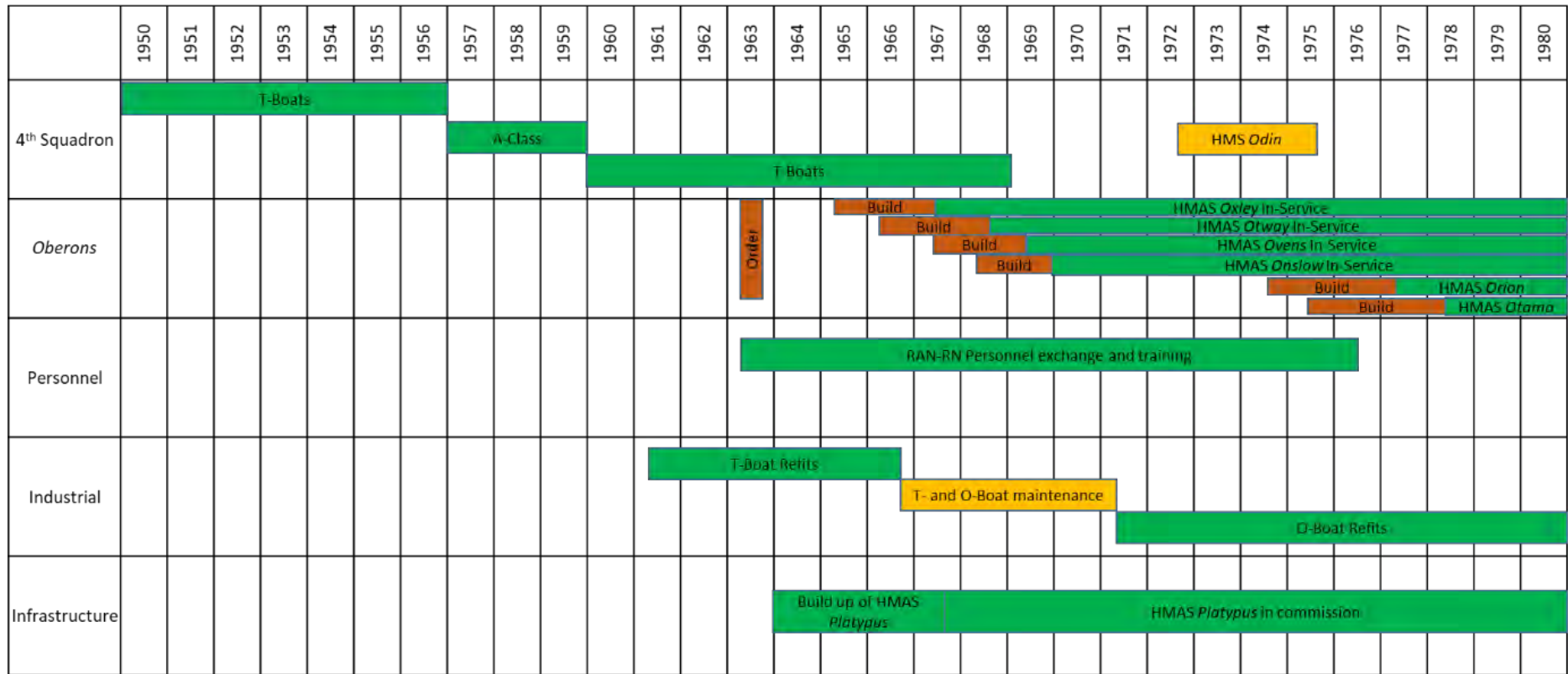


Figure 1: Submarine Capability Introduction Plan – Transition View 1950-1980

