SEMAPHORE

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SEA RIDING ON *AURORA AUSTRALIS*

In order to maintain an amphibious capability, the Australian government chartered the research and resupply vessel, the icebreaker *Aurora Australis*, from P&O Maritime Services as a possible humanitarian assistance vessel over the period 8 May to 12 August 2011.[1] While on standby for that tasking, the RAN used the vessel for sea familiarisation training with a number of such voyages undertaken during the charter.

The Australian Antarctic Division (AAD) also leases *Aurora Australis* to resupply its Antarctic and Southern Ocean bases, and had a voyage to Macquarie Island scheduled for July-August 2011. The purpose of the voyage was to complete a personnel exchange, deliver cargo, and recover a significant amount of refuse that could not be disposed on the island including: four Squirrel helicopters for planned maintenance in Hobart; 54 drums of aviation fuel that had passed their use-by date; and a lighter, amphibious, resupply, cargo (LARC) vehicle that was due for servicing and refurbishment.[2] The RAN saw this particular voyage as an opportunity for its 'Gap Year' participants, as well as a variety of other junior sailors, to sea ride and gain valuable experience.[3] Thirty one trainees and a naval staff contingent of five, along with the crew of *Aurora Australis* and AAD personnel, undertook the resupply voyage to Macquarie Island, some 810nm south of Hobart.[4]

Aurora Australis departed Sydney at 1500 on Monday 11 July for passage to Hobart. Sea conditions for the first day and night were good, but deteriorated in the afternoon of Tuesday 12 July when *Aurora Australis* left Gabo Island behind and ventured into Bass Strait, where seas were very rough and the trainees quickly discovered what it is really like to be at sea. The weather, as well as many of the trainees, did not improve until late the following day, when *Aurora Australis* was in the lee of Flinders Island and Tasmania itself. There was a slight detour to Port Arthur on Thursday 14 July where many went ashore and spent the afternoon wandering around the historic site before *Aurora Australis* weighed anchor late in the day and arrived in Hobart alongside Macquarie berth number 3 early on Friday 15 July. She moved to Macquarie berth number 4 at 0700 on Tuesday 19 July to enable the loading of stores and equipment and sailed for Macquarie Island at 1610. A major pest eradication program was underway on Macquarie Island; so many personnel onboard the ship spent the transit cleaning their clothes and equipment with virkon (multipurpose disinfectant) prior to arrival.

Aurora Australis arrived off Macquarie Island just before sunrise on Friday 22 July. Weather conditions were too poor to allow helicopter operations, but watercraft operations in the morning saw the embarked LARC as well as the shore-based LARC begin moving the aviation fuel drums from shore to the ship, and moving some personnel and cargo. A member of the RAN contingent with suspected appendicitis along with the ship's doctor, were also landed. In the early afternoon the wind picked up leading to a halt in watercraft operations, with the LARCs remaining ashore with some ship personnel, and *Aurora Australis* in Buckles Bay with winds gusting at 50 knots. The weather temporarily abated as one weather system passed over the island, so one LARC attempted to ferry personnel to the ship, but was forced to turn back when the swell picked up. At 1630 all operations were cancelled due to poor weather and light, with *Aurora Australis* leaving Buckles Bay and heading out to sea for the night, sheltering in the lee of the island.

Saturday 23 July provided the trainees with an example of typical Southern Ocean weather, with a swell of 6 metres, a Force 10 wind, and a temperature of -4° C plus wind chill, hail and snow. The weather made the decks very unsafe, so upper deck access was limited to essential personnel only, and the trainees spent the day working in various parts of the ship. The poor weather also meant *Aurora Australis* could not enter Buckles Bay to continue operations; instead she steamed up and down the coast, which was relatively smooth, until she had to turn across the swell when reversing direction.

Sunday 24 July saw improved weather and operations recommenced. One of the shore-based Squirrel helicopters was used for transporting personnel and cargo until poor weather shut down operations again at 1130 and *Aurora Australis* was forced to steam down the coast to Sandy Bay where conditions were more settled. When the weather ashore improved slightly, operations recommenced at 1240, albeit from Sandy Bay, and continued for four hours during which all cargo was moved ashore, all personnel were exchanged, and one helicopter was packed away; with the remaining three helicopters to be recovered the next morning. That evening, *Aurora Australis* was advised by the Australian Rescue Coordination Centre that FV *Janas* was nearby (about 32nm southeast of Macquarie Island) with a broken engine, but did not require assistance.

Early on Monday morning, *Janas* contacted *Aurora Australis* to advise that engine repairs were still underway, but at 0700, as *Aurora Australis* was approaching the anchorage in Buckles Bay to receive the remaining helicopters, *Janas* issued a distress call, seeking a tow to the lee of Macquarie Island. *Janas* could not repair her engine and was drifting further away from *Aurora Australis*, the only vessel close enough to render assistance. *Aurora Australis* altered course towards *Janas*, with the crew debating whether it was still possible to quickly embark the three helicopters from shore (it was not) and she sighted *Janas* at 0930 and joined at 1000. Notwithstanding the quick response of *Aurora Australis* there was a delay of four to five hours as the lawyers from the respective companies negotiated the legalities of *Aurora Australis* taking *Janas* under tow. P&O Maritime Services gave the go ahead, and after a number of attempts over a couple of hours, as the light was fading about 1615, *Aurora Australis* managed to grapple the second messenger deployed by *Janas* (the first having parted) and commenced the transfer of the towing hawser (with the trainees assisting in hauling it onboard). At 1717,

Aurora Australis began the slow tow back to Macquarie Island to seek refuge from the impending poor weather.

Given the sea conditions, the tow back to Macquarie Island was at a speed of about 6 knots and it was not until 0300 on Tuesday 26 July that the ships were close enough to Macquarie Island to gain some respite from the winds and sea. That said, the conditions remained too rough (40-55 knot winds, showers, hail and snow) to do anything but remain under tow in the lee of the island, steaming up and down the east coast at 2-3 knots. The crew of *Janas* continued with efforts to repair their engine, but the poor weather precluded *Aurora Australis* from transferring personnel and equipment to help with the repairs (although both *Aurora Australis* and Station personnel provided advice by radio).

During Wednesday 27 July, *Janas* continued efforts to repair its engine, while in the afternoon *Aurora Australis* recovered the three helicopters. She steamed up to the coast inside Buckles Bay to lessen the effects of the weather on the helicopters, clothed the naval contingent in polar protection gear and issued them with shovels, and had them scrapping and sweeping the ice and snow off the heli-deck; in an hour, all three helicopters and crew were onboard. However, conditions remained poor and *Aurora Australis* had to leave its LARC behind as it could not be recovered. As *Janas* could not repair her engine under current weather conditions, it was decided that a safe harbour was needed, the closest being the Auckland Islands (350nm from Macquarie Island). *Aurora Australis* sent its fast boat to *Janas* to pick up engine parts for its engineers to both repair and fabricate spares as well as charts for the Auckland Islands. So, at a towing speed of 6 knots, and departing Macquarie Island at 1730, it took about 63 hours for both vessels to reach the Auckland Islands.

During the transit, the crew of *Janas* continued work on their engine, using engine parts repaired by *Aurora Australis*. Their major activity was cleaning the engine, as their previous repair attempt had mixed oil together with water. Just after lunch on Friday 29 July, *Janas* started her engine and kept it running for the rest of the day, albeit without any pitch on the propeller. Onboard *Aurora Australis* the appendicitis case had worsened and it was decided that a medi-vac to a New Zealand hospital was necessary and this was requested through New Zealand's Rescue Coordination Centre.

On the morning of Saturday 30 July, *Janas* successfully applied pitch to its propeller and about 0830 slipped the bridle with *Aurora Australis* recovering the towing hawser. *Aurora Australis* left *Janas* to undertake a series of engine trials and slowly proceeded into Port Ross, navigating carefully past nearly 300 Southern Right whales that were frolicking nearby. About noon, two Squirrel helicopters from *Southern Lakes Helicopters* arrived after a 450km open ocean flight to effect the medi-vac; some 80 minutes later after refuelling and with the patient onboard, they departed for Dunedin Hospital, arriving four hours later.[5] *Janas* also entered Port Ross confident that her engine repair had been successful, as did a vessel from New Zealand carrying spare parts. The New Zealand Department of Conservation lifted its bio-security requirements to allow *Aurora Australis* personnel to set foot on the world heritage listed Enderby Island; albeit there was frantic cleaning of clothing (and helicopters in case they were needed) before visiting the island. The highlight for many was watching 12 month-old albatross chicks still sitting in their nests, being buffeted by the strong winds. *Aurora Australis* then anchored deeper in Port Ross for the night in case she was needed again by *Janas*. She was not and *Janas* was able to continue her three month voyage fishing for Patagonian Toothfish in the Southern Ocean.

Sunday 31 July saw *Aurora Australis* commence her transit to Dunedin in very rough weather conditions. The pilot boarded her around 1000 on Monday 1 August to guide *Aurora Australis* into Port Chalmers and at 1215 she was alongside Beach Street Wharf and by 1400 many personnel were going ashore. Many New Zealanders left the ship here and flew 'home' while some cargo was also unloaded.

On Tuesday 2 August around 1300 the lines were let go and *Aurora Australis* began her transit back to Hobart. The weather conditions were favourable and many spent their time cleaning their cabins before *Aurora Australis* tied up at Macquarie berth number 4 around 1400 on Friday 5 August, concluding the cruise.

While gaining valuable time at sea, and the rare opportunity to work on a civilian vessel in the Southern Ocean, what did the trainees learn? The RAN has not operated in support of AAD since HMAS *Stalwart* undertook a resupply mission to Macquarie Island in December 1985; and while the RAN has also undertaken the occasional fisheries patrol (to intercept illegal fishing vessels) in the Southern Ocean; it is now rare to venture that far south.[6] A major lesson was the impact of weather on ship operations, and in this particular case, its impact on the ability of *Aurora Australis* to resupply personnel on Macquarie Island.[7]

A more important lesson was that all seafarers are essentially battling the elements each time they go to sea. For that reason, there is a centuries old tradition, which long predates the *International Convention on the Safety of Life at Sea*, that ships will come to the aid of other vessels that are in distress. The assistance provided by *Aurora Australis* to *Janas* is but a recent example of this tradition, one to which the RAN adheres.

Lieutenant Commander Tony Paterson, RANR

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1 *Amphibious Ship Update*, Defence Media Release, MR129/11, 11 May 2011; and *Decommissioning of HMAS Kanimbla*, Defence Media Release MR234/11, 18 August 2011.

2 The lighter, amphibious, resupply, cargo (LARC) vehicle can operate on both land and water and is thus invaluable for Antarctic and Southern Ocean resupply missions. The LARCs were previously owned/operated by the Australian Amy and eight were sold to AAD in 2009.

3 The ADF Gap Year provides an opportunity for individuals aged between 17 and 24 years of age who have completed high school to experience military training and lifestyle during a 12 month program.

4 This account draws heavily on *Aurora Australis'* daily situation reports <http://its-app3.aad.gov.au/proms/public/schedules/voyage_sitreps.cfm?season=1112&voyage_no=E1> (30 August 2011).

5 She returned to Australia on a commercial flight on 3 August, accompanied by a medical officer.

6 Surveillance and enforcement is now conducted with leased civilian vessels by Border Protection Command. For RAN operations see Andrew Forbes, 'RAN Activities in the Southern Ocean*, Semaphore,* Issue 18, 2006.

7 See Andrew McCrindle and Rebecca Jeffcoat, 'The Effects of Weather on RAN Operations in the Southern Ocean, *Semaphore*, Issue 13, 2006.