

**The Nella Dan Story**  
**Courtesy of Dr Stefan Czordas. (Dec)**  
**President of the ANARE Club Inc.**

Quote:

The Nella Dan story really started in 1946 when, at Sir Douglas Mawson's request, the Australian Government decided to initiate an Antarctic program. On the 4<sup>th</sup> of January 1947, an Executive Committee Exploration and Exploitation was appointed. The Committee recommended that scientific station should be established at Heard and Macquarie Islands and maintained for at least 5 years and that a suitable site be found for a permanent Antarctic base. The main problem was to find a suitable ship. Two ships were recommended: HMAS Watt Earp and LST 3501, later renamed HMAS Labuan. Both were old. Wyatt Earp broke down in 1947 and Labuan in 1951. The replacements were the River Fitzroy which managed only one trip to Macquarie and MV Tottan which was used until 1954. Tottan was too small for an extended program. The hunt for a more suitable ship continued. The Committee even considered the building of an Australian Polar ship.

In 1952, the Westralian farmers Transport Ltd, The Antarctic Division's shipping agents in London informed Dr P. G. Law, the director of the Antarctic Division, that a Danish shipping firm J Lauritzen had just completed the building of an ice-going vessel. MV Kista Dan for voyages between Denmark and Greenland during the northern summer. Dr Law thought that she could be used for the Australian National Antarctic Research Expeditions (ANARE) during the southern summer. The head of the Lauritzen company liked the idea and Kista Dan was chartered for the 1953-54 summer to carry out the change over on Macquarie and Heard Islands and to establish a permanent Australian Base in MacRobertson Land. With this charter a long and very useful and friendly association began between the Lauritzen Company and the Antarctic Division. Danish seamen and Australian explorers became very good friends and many of the Danes joined the ANARE Club.

Kista Dan, under Captain Hans Christian Petersen, arrived in Melbourne on 1<sup>st</sup> December 1953 and berthed at No3 North Wharf. She was the result of a successful experiment to construct a combined cargo and passenger vessel for polar conditions. She was approximately 213 feet long with a gross tonnage of 1239 tons. The hull was all welded with very thick shell plating, stiffened by heavy ice frames arranged at half the normal spacing. This construction introduced in the forepart of the ship a local strength approximately 16 times greater than that of a ship constructed along conventional lines. The all-welded construction gave the greatest protection against leakage to which riveted vessels are exposed in heavy ice conditions.

A crow's nest was fitted at the top of the foremast and provided with all the necessary navigational instruments. The elevated position allowed an excellent view of the ice both at long range and in the immediate vicinity of the ship. Also from the crow's nest, all manoeuvring could be carried out, such as operating the steering gear and adjusting the main engine revolutions as well as propeller pitch.

As maximum manoeuvrability was vital in the ice pack, the length of the Kista Dan was restricted, the rudder area increased and the steering gear constructed and re-inforced so as to provide double speed when manipulating the rudder. The vessel was also equipped with a specially constructed variable and reversible pitch propeller mechanism. For work in the ice, the requirements of this propeller were that it should fit without any projections, the hydraulic mechanism controlling the pitch should be inside the hull to enable repairs without having to dry dock the vessel and construction should be very strong and able to withstand any pressure. The ship was strengthened for navigation in the ice to the standard Finnish Ice Class 1A. She had accommodation for 24 passengers. She was originally painted pure white but because it was difficult to spot a "white ship" from an aeroplane in the vast ice field, Lauritzen changed Kista Dan's colour to red before her third trip. That was the beginning of the famous "little red ships of Lauritzen".



Encouraged by the success of Kista Dan and knowing that during the International Geophysical Year (IGY) more ships would be needed, Lauritzen decided to build more polar ships and to establish a department of Polar shipping. The Australian Antarctic program expanded and it became obvious that Kista Dan was too small, so for the 1957-58 change over, the division chartered the new and bigger Thala Dan (2160 tons). Her engine was supercharged and she carried 36 passengers. Kista Dan was chartered by the Falkland dependency Survey for Graham land. Another new ship, the Magga Dan was chartered by the British Transantarctic Expedition for 1956-57 and 1957-58 seasons.

When the IGY ended, Australia inherited the American Wilkes base. One ship was not enough to supply four stations, (Macquarie, Mawson, Davis and Wilkes) so Magga Dan was added to the Australian Antarctic Fleet. Using two ships made it possible to visit Macquarie Island twice, enabling scientists to spend the summer there carrying out short term studies. For example, in 1964, five physicists and three biologists spent the summer on Macquarie.

Besides Thala and Magga Dan Lauritzen built three more polar ships, Anita Dan, Erica Dan and Perla Dan. Anita Dan was purchased by the British Government, renamed Endurance and used by the British Antarctic Survey. Perla Dan was also chartered by the British Antarctic Survey. Erica Dan worked for the Belgian Antarctic Expedition.

In 1962 Lauritzen built and launched their last polar ship, Nella Dan (2193 tons). Built at Lauritzen's own yards at Aalborg, she was named after Dr Law's wife Nel. Although almost the same dimensions as Magga and Thala, she differed in having the engine two thirds of the way aft and being provided with a double hull approximately half her length. The space between the shell plating of the two hulls was used as oil tanks, increasing her bulk oil carrying capacity and endurance. Nella Dan had a more powerful main engine than her predecessors; a permanent steel helicopter deck was fitted aft and had facilities for 42 passengers apart from her crew of 32. All in all, she was very well equipped for her work in the Arctic and Antarctic Oceans with her icebreaking bow, ice knife and ice fins protecting the propeller.

Nella Dan had a somewhat unfortunate start in 1961 when during her first trip to Greenland, a heavy forklift truck broke loose in No.1 tween deck, bursting through the steel wall between the hatch and the saloon. Next, during the northern summer she became wedged in ice for seven days. The complete steering mechanism was torn from the heavy steel foundations. When the ice pressure slackened, the engineers were able to jack the heavy mechanism back into position and she was able to sail for Denmark. In the dry dock they found that the main rudder post was 14 degrees out of alignment!

Nella Dan made her first trip under ANARE charter in January 1962. She replaced Magga Dan which went to work for the Belgian-Dutch Expedition. The Australian Antarctic Bases kept on expanding. Old buildings had to be replaced by much more up to date constructions. Extensive building programs were going ahead on all stations. The original American Base, Wilkes, had been replaced by the new station Casey, named after Lord Casey. The old system of a single round trip carrying out the changeover and resupplying the stations had to be changed. Both ships, Nella and Thala had to start earlier, in October-November, and had to do several trips to all stations. The early start brought the danger of getting stuck in the ice--- on the other hand, it made it possible to send summer expeditions to the continent and re-open Heard Island for the Summer Months.

The Lauritzen ships gradually grew old and the company eventually informed Antarctic Division that it did not intend to build any more polar ships. When it became necessary to charter a third ship, to carry out the very busy extended program, another Danish ship, The Nanuk S, was chartered from another company. In 1982, Thala Dan was sold to the Brazilian navy and renamed Barro de Teffe. As temporary, a German built Canadian ship Lady Franklin was chartered for 1982-84.

In 1984, Nanuk S had to be replaced. A brand new German ship, Icebird, was chartered and had her maiden voyage in December 1984. To further complicate the shipping problem, the Lauritzen informed



the Antarctic Division that Nella Dan was to be withdrawn from Antarctic service and that the 1987-88 changeover would be her last trip. This news forced the Government to decide urgently whether to build Australia's own polar ship or to commence an air service to Casey base. It was decided that a ship should be built.

In 1986, at a reception in the Australian Embassy in Copenhagen, the Australian Ambassador presented a "Letter of Appreciation" to the Captain and the Chief Engineer of the Nella Dan for the 25 years of service the ship had provided for the Australian Antarctic Program. The Ambassador stressed that the cooperation with the Nella Dan contributed to a better relationship between Denmark and Australia and that her duties were an inspiration to both old and young adventurers.

Nella Dan had served ANARE for 26 years. During this time she had travelled 910,000 kilometres and carried about 5000 expeditioners on 85 voyages. Considering this long service under extremely difficult conditions, she had very few accidents and she became a very important part of the history of Australian Antarctic Exploration. For many years Dr Phillip Law had tried very hard to establish an Australian Antarctic Museum in Melbourne, hoping to get one of the Lauritzen ships as a floating exhibit. In 1983 the Kista Dan came up for sale. As we know, Kista Dan helped to establish Mawson and Davis stations and carried out early and extensive explorations of the coast of the Australian Antarctic Territories. Kista Dan would cost ten million dollars to build in 1983, she could have been bought for a few hundred thousand dollars. Unfortunately the politicians hesitated too long and she was sold to a Greek company. I believe she was converted into a tourist ship---what a horrible end for a historic ship! When Dr Law heard that the Nella Dan was going to retire, he thought that this would be a second chance to get a museum ship and he tried very hard to convince everyone of the importance of keeping Nella Dan in Australia. Every thing was looking promising but unfortunately fate intervened.

Nella Dan left Hobart on 27<sup>th</sup> of November 1987 to carry out the staff changeover and resupply of Macquarie station, to undertake a marine science program between Hobart and Commonwealth Bay and to complete the construction of the new summer base at Commonwealth Bay. Nella Dan arrived at Buckle Bay (on the west coast of Macquarie's northern tip) on Tuesday 1<sup>st</sup> December and immediately commenced to unload cargo and refill the station fuel tanks through a floating hose. These activities continued until 10am of Thursday 3<sup>rd</sup> December when, due to worsening weather conditions (gale force easterly wind) general cargo unloading was suspended. The refilling of the station tanks continued. At 7pm she started to drag her anchor and was driven onto rocks near the station about 50 metres from shore. On Friday morning, the wind and waves pushed the ship another 50 metres closer to shore where she became wedged firmly against a rock, parallel to the beach and listing 11 degrees to starboard.

Immediately following the grounding, the owners of the Nella Dan and their insurer made plans to salvage the vessel. An oil rig tug, the Lady Lorraine, was chartered by the salvage company AUSTPAC to transport the salvage team and their equipment to Macquarie. Lady Lorraine arrived on 13<sup>th</sup> December. At first light on the 14<sup>th</sup> December, divers inspected the hull. The visible damage around the sides was not as bad as anticipated and the salvage team began the first important task of removing the oil from the ship. When that was completed, they concentrated their effort on sealing up and filling the various hold compartments with compressed air, and pumping water out of the flooded spaces including the engine room and shaft tunnel. Throughout this period, hopes were high that the vessel could be repaired and put back into service. The owner analysed a range of options, including towing the ship to Hobart to form part of an Antarctic Museum.

The high tide on the evening of 20<sup>th</sup> December was used to swing the Nella's bows seaward and on the evening tide of the 21<sup>st</sup>, she was towed off the rock. Divers again conducted an underwater inspection and found serious damage to the bottom of the hull. On 23<sup>rd</sup> December, the owners of the ship announced that they were left with no option but to scuttle the ship in deep water. At 4pm, the vessel suddenly listed more severely by the starboard quarter, the Salvage Master ordered everybody to abandon ship and the



“Lady Lorraine” began towing the Nella Dan out into deep water where it was expected she would sink very quickly. Early next morning, she was still afloat, Captain Sorensen, captain of the Nella Dan, remarked “She was from a time when ships were built to last and she had a mind of her own”. Suddenly she caught fire and burnt throughout the day. It was not until the fire was almost out that the Salvage crew were able to go aboard and release the compressed air providing most of the buoyancy in the forward compartment. Captain Sorensen remarked : “She had a Viking funeral”

An investigation was carried out by the Department of Transport and Communications into the grounding of the Nella Dan. Here are some important points of their findings:

Given the southerly wind that developed on 2<sup>nd</sup> December and subsequently increased in intensity on 3<sup>rd</sup> December, the anchorage position was too close to the lee shore and shoal.

The First Officer was significantly at fault in that he failed to advise the Master that in his opinion the ship was dragging anchor.

First and Second Officer did not properly plot the ship's position whilst at anchor and apparently the Master did not require them to do so.

The Master's decision to continue the transfer of oil after dry cargo operation had been suspended and continue the operation into the afternoon was an error of judgement.

Though the steering motor and all necessary auxiliary equipments were running, he did not start the engines and leave them in zero pitch, so that the ship was immediately manoeuvrable.

He did not warn the duty engineer of the weather being experienced or alert the engineering staff to the potential risk of remaining at anchor.

The conclusion of the report was: That the ship grounded through the Master's error of judgement in not exercising seaman skills given the extreme weather conditions.

It appears that there were differences of opinion between the owner and the salvage company regarding the salvageability of the ship. The owners desperately wanted to save her and were willing to spend \$3million (six times the market value ) to get her back to Hobart.. On the other hand, the media reported that the salvage operators stated before going to Macquarie that there was little chance of salvaging the ship. The captain and officers of the Nella Dan were convinced that the vessel could have been saved.

Was it really necessary to dispose of the ship so hurriedly? Dr Law who investigated the situation very thoroughly, said “No”. The ship floated for almost three days after being towed off the rock, and when they tried to scuttle her she definitely refused to sink.

When the ship was lying aground there were two options. The first was to haul her off the rock, and after the fuel oil had been pumped out, sink her. The other was to leave her aground while further investigations were made.

The first option was adopted and the Nella Dan sank in 5,000 metres of water at 5.45pm at a position 54°37.5' south 159°13.3' east on the 24<sup>th</sup> December 1987. Sinking the ship in such deep water was surely unnecessary, since the criteria applying to scuttling a ship in normal seaways of continental waters have little relevance to a remote island as Macquarie. Sinking her at such a depth made any future attempt to raise her impossible. The first option appears to have been adopted with undue haste and it closed off certain other later options, in particular the possibility of carrying out repairs on the stationary grounded ship. The salvage operators argued that if the ship was left aground it would break up within two years. This seems to have been a very exaggerated statement—a wreck at that position could remain there for fifty or even one hundred years. A good example is the story of the James Craig. She was an iron sailing vessel which was beached in Tasmania and left there for over thirty years. The Sydney maritime Museum eventually refloated her and towed her to Sydney where she is under restoration and is a valuable exhibit at the museum.

Dr. Law's views were clear. “What was needed of course, was for the Commonwealth Government to have taken over all responsibility for the ship. This would have involved negotiation with the owner, a



“waiver” agreement with the insurance company absolving it from any claim arising from subsequent salvage operations, a different set of instructions to the salvage company and, if it were not prepared to place the required men on the ship for the tow back to Australia, a call for volunteers from Australia. I know a number of ex-ANARE men who gladly would have taken the risk of such a salvage voyage”.

Finally if all attempts to refloat the ship had ended in failure, Nella Dan could have rested at Macquarie Island as a monument to the history of Australian Antarctic Exploration.

Unquote: