THE LARC DISASTER OF THE 1974 FLOODS

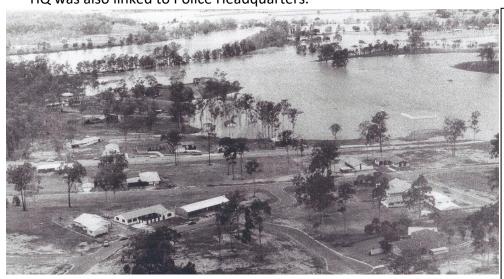
Cyclone Wanda and the floods of January 1974

The spring of 1973 had been an exceptionally wet, and by the end of October, most of southern Queensland's river systems were nearing capacity. Cyclone Wanda, a relatively weak tropical cyclone, pushed the systems to the limit, and drew the monsoonal trough southward, providing additional rainfall to the Brisbane River, Bremer River and Stanley River catchments. In the early morning of 25 January, heavy rain began to fall on Brisbane and during the next 36-hour period, 600 mm fell on the city.¹

The continual heavy rain over the Australia Day weekend led to the flood on Sunday 27 January. The Brisbane River broke its banks and inundated the surrounding areas peaking at 22 feet (6.60 m) at high tide on 29 January as recorded at the Port Office gauge. Flooding extended through to the western suburbs and areas such as Moggill and Bellbowrie were cut off from the rest of the city. In total, there were 16 fatalities, 300 people were injured, 8,000 homes were destroyed, and damages amounted to an estimated \$980 million.

The army prepares to render assistance

On Saturday 26 January, HQ 1 Military District, (1 MD) which was responsible for providing military assistance in civil emergencies, set up an Operations Room. In addition, HQ 6 Task Force (6 TF) established an operations centre and Civil Defence set up headquarters at Fred and Vanda's restaurant, Lupi of Kenmore. Fred was a member of Rotary and a public-spirited man. He made over his 200-seat restaurant and function rooms for civil defence personnel and for temporary housing of any flood victims who had lost their homes.² The Civil Defence HQ was also linked to Police Headquarters.



Aerial view of the Bellbowrie floods taken in January 1974. Moggill Rd runs across the centre and the roof of the newly opened shopping centre on the far middle right. The house in the bottom right corner is 8 Jacana Court, home of the Gilroy family who were evacuated on LARC 705. Photo: Neville Marsh

A request was first received by HQ 6 TF on Saturday for army assistance to transport food and medical supplies to "persons stranded in the Moggill/Brookfield area". Help was also requested for "evacuating persons to higher ground or hospital as necessary." Over the next 24 hours, some 1500 military personnel were mobilised for flood relief together with aircraft, vessels, vehicles, plant and equipment.³ However, at the time, bad weather conditions prevented the use of helicopters for relief work and accordingly 6 TF formed a LARC (Lighter Amphibious Resupply Cargo) detachment to carry out supply and evacuation tasks. These LARC vessels were developed in the USA and employed in the Vietnam War to provide logistical and manpower support. They were considered ideal for cargo handling in the kind of inundation which occurred in January 1974 as they had to frequently traverse dry and flooded areas. Various army staffers were contacted to organise crews: CAPT Robert Aley, from 6 TF, called LT Geoff Manley, the Training Officer for 40 Transport Platoon (Amphibian), Australian Regular Army (ARA) and sought his advice on the suitability of using LARCs for resupply in the Bellbowrie area. Geoff believed that the LARC vehicle was not entirely suitable but was prepared to take them out if the necessity arose. Obstacles, debris etc posed a problem as this could be sucked into the propeller tunnel jamming the propeller and rendering the vehicle useless. On Sunday, the Australian Army's 40 Transport Platoon (Amphibian) was readied for mobilisation to provide flood relief support for the residents of Kenmore, Moggill and Bellbowrie. 40 Transport Platoon (Amphibian) was a Citizen Military Forces unit based at Frasers Paddock, Ashgrove (now part of Gallipoli Barracks, Enoggera).

40 Transport Platoon (Amphibian) CMF photographed in late 1973. CPL Neville Hourigan is kneeling on the far left, alongside SGT Barry Hamilton and CPL Ray Ruddy. The officers standing on the right are LT Dennis Scanlan and CAPT Bob Bishop. Photo: SGT Barry Hamilton



The call for volunteers to crew the LARCs from this Active Citizen Military Forces (ACMF) Platoon was frustrated by the fact that some ACMF members were themselves flood bound and unable to report for duty. Some could not be released by their civil employers as those employers too, battled the effects of the flood, while others could not be contacted. The ACMF Platoon Commander, Captain Bob Bishop, could not be released from his civil employer, Telecom, because he was maintaining the diesel generators which kept the telephone exchanges operating. As a result, the Regular Army assumed control of the undertaking.



Papua New Guinean children watch a LARC-V retrieve Australian Defence Force equipment from Manus Island. Note the cargo carrying capability of the vehicle. Photo: Royal Australian Navy (RAN)

A preliminary operation was undertaken on Sunday to visit Damascus Barracks at Meeandah.⁴ This was to secure one hundred life jackets for civilians who needed to be transported during the operation. The truck used for this task had to negotiate its path through meters of water at Breakfast Creek on its way to Meeandah. Additionally, a reconnaissance of the floodeffected Kenmore/Bellbowrie area was conducted by MAJ Barry Rissel (ARA), posted to 1st Transport and Movement Group, HQ Northern Command. Early on Sunday morning, Warrant Officer Murphy, Regimental Quartermaster Sergeant of 10 Supply & Transport Column (10 Tpt Colm), called on LT Jim Peoples for the keys to the LARC depot. Barry then contacted Geoff Manley who managed to reach the Water Testing Officer and a quick test was carried out on

each vehicle. It was only possible to use two LARC vehicles as there were only four ARA members to man them. Barry and Geoff were accompanied by Captain Ian Kerr, ARA Training Officer, 41 Transport Company, who was the senior officer from 10 Tpt Colm involved in the task that day. From lunch time, the LARCs proceeded out to the Moggill area and carried out the first task of carrying food which was "quite successful."



LARC 07 was one of two vehicles taken out on Sunday 27 January for reconnaissance of the flooded area at Moggill. Among the crew are MAJ Barry Rissel, CAPT Ian Kerr and LT Geoff Manley. Photo: Roger Todd

Following the first trip out to the flooded area, the soldiers gathered at Fraser's Paddock in the evening and a basic briefing was provided about the next day's operation. On Monday 28 January, three of the platoon's LARC-V vessels were mobilized to provide flood relief support to the residents of Moggill and Bellbowrie. The assembling of makeshift crews was completed from seconded Regular Army officers, soldiers from other units and ACMF members of the 40 Transport Platoon. Barry Rissel later recalled "on the 28th, I gave a safety briefing (based on my experiences of the previous day), to all involved and we proceeded on mission".

The assembling of LARC crews was completed at the Civil Defence HQ at Kenmore around midday. The first LARC, identified as Vessel no. 705 with a call sign 05, was captained by MAJ Barry Rissel. Three other army personnel were on board: CAPT Ian Kerr, CPL Neville Hourigan and CAPT David Roubin. Kerr and Roubin were Regular army officers, and Hourigan was a member of the ACMF. David Roubin, a Vietnam veteran, was not part of the contingent from Fraser's Paddock but a Kenmore resident who had volunteered to join the mission. In addition

to the army personnel, LARC 05 left Kenmore with four civilians on board. These included William (Bill) Lickiss, the Member of the State Legislative Assembly for Mt Coot-tha.



William Daniel (Bill) Lickiss QGM (1924-1993) State Member of Parliament for Mt. Coot-tha (1963-1986) and Moggill (1986-1989). Photo: Queensland Government

Bill had been invited to join the LARC crew with the specific role of contacting people, ascertaining their immediate requirements of food, fuel etc and determining put-down and pick-up points for supplies. A Kenmore butcher, Glenn Suttie, had been invited by Bill to join the group for distributing food and medical supplies and he was anxious to evacuate David Teal from Bellbowrie. David ran the *Cut Price Store* in Kenmore which housed ample food supplies for "all the emergency needs." Another man, Hugh Gilroy, also asked to join the LARC as he needed to get heart medication to his father marooned in Bellbowrie. Finally, Dr Ross Jackson, a Kenmore resident, volunteered to join the crew. Ross was undertaking his first year's residency at the Princess Alexandra's Hospital (PAH) but was unable to get to South

Brisbane that day because of the floods.

Two other LARC vehicles were part of the mission: LARC 09 (Vessel No. 709, Call Sign 09) was commanded by Craftsman David Larard from 2 Field Engineer Regt Workshop, ARA, with a crew comprised of CPL Ray Ruddy, CMF and Craftsman K Thompson, ARA. The LARC was loaded with 13 or 14 crates of milk and there two milkmen on board to distribute the produce. LARC 07 (Vessel No. 707, Call Sign 07) was commanded by LT Geoff Manley with a crew comprised of Sergeant Barry Hamilton, CMF, Craftsman Edwin Spink and Private Allen Nalder, CMF. Passengers on LARC 07 included a CAPT Wolfe, from 1 MD, a warrant officer and Peter Willott, a commercial photographer. These three individuals were given responsibility to conduct a public relations exercise during the floods, filming handout of supplies to residents in the Bellbowrie area. A local dentist, Bill McDermott, who lived in Lather Road, took the

opportunity to return to Bellbowrie on the LARC where he alighted in Weekes Road to attend to a boy with toothache.



LARC 05 loaded with supplies in the morning of 28 January. The canvas sides of the vehicle are clearly seen. Joshua and Sarah Gilroy are in the foreground. Photo: Army Court of Inquiry Report. NAA ID ID 32538534

The LARCs leave Kenmore

Sometime between 1100 hrs and midday, LARC 05 and LARC 09 left Kenmore village and travelled along Moggill Road. At the foot of the hill at Misty Morn, they entered the water and passed behind the houses on the western side of the road. Allan White, who lived at 2271 Moggill Road, remembers that the wake of the vehicles washed debris against the house and broke the glass in his lower windows.⁵ The LARCs proceeded across Moggill Creek where the crew encountered a very thick electricity conductor (cable). Bill Lickiss in LARC 05 asked Barry Rissel: "I hope these wires are out" to which the reply was "Yes, all the low-tension wire is off." The cable was manoeuvred away from the vessel and Bill Lickiss noted that they continued to come into contact with metal objects which were "obviously out." As far as he was concerned, Bill "gave no more attention to that problem". A further complication to operations on 28 January was that the water level was 5 to 8 feet (1.5 – 2.4 m) higher than the day before, thus many of the landmarks sited in the reconnaissance trip on Sunday were submerged and no longer visible.

The LARCs then travelled along Moggill Road towards Bellbowrie, stopping to supply Dr James Trotter in Wybelenna Street and the emergency depot on the corner of Pullenvale Road and Moggill Road. The next stop was at Erhman's Nursery near the Mt Crosby Road turn-off where another supply depot had been created. The LARCs followed Mt Crosby and Hawkesbury Roads, before making a detour to the riverside boundary of Moggill Country Club where supplies for stranded residents were off-loaded at the golf course. LARC 05 then moved to Jacana Court to collect an 86-year-old man, Hugh Gilroy, who had a heart complaint. Ross Jackson examined Hugh and considered that he was "in a poor state of health" which required evacuation. This was the last task for the day but unfortunately LARC 05 became bogged in soft ground at the side of Weekes Road. The way through was blocked by about six cars causing the LARC to move onto the muddy grass where it became stuck. It was pulled out by LARC 09.



Moggill Country Club seen from the first tee nearest to Weekes Road looking towards Brisbane River beyond the trees in the distance. Photo: Golfpass.com

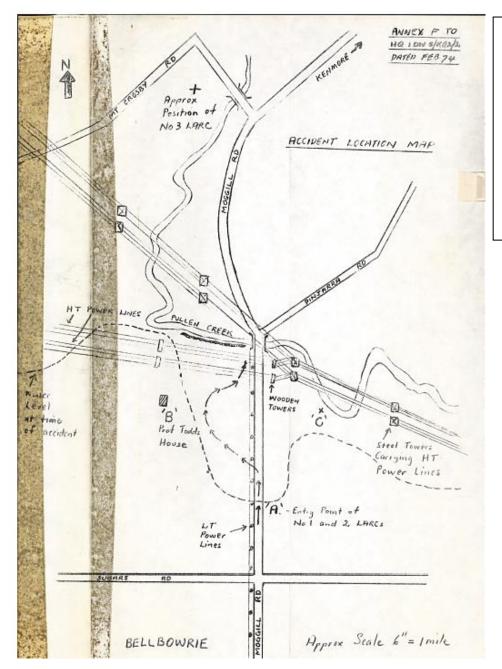
The two vehicles then drove back to the flooded part of Moggill Road in Bellbowrie at the junction with Montanus Drive. At this point, LARC 05 had further eight passengers in addition to the four who had travelled out from Kenmore (Ross Jackson, Hugh Gilroy, Bill Lickiss and Glenn Suttie). The additional passengers included Hugh Gilroy's father, also Hugh (the medical evacuee), Hugh's two children, Joshua aged five and Sarah aged seven, (and their white poodle Charlie) and a young married couple, Kay and James Vagne and their three-week-old baby Matthew. They had asked Barry Rissel if they could be evacuated as they were marooned in their property in Vanwall Street. Jim was particularly worried about the baby contracting an infection and Barry allowed them 10 minutes to collect some of their belongings. Tony Johnson, a local earthmoving contractor "who knew the area well" came on board to assist with navigation around local landmarks. Tony had swum over the flooded section that day and twice travelled the area by motorboat. Finally, a William Hutchinson, a photographer, joined the group. He lived in Layfield Street and it is likely that the LARC was heading towards

his home to collect his family on its return to Kenmore. This brought the number of occupants of LARC 05 to four army personnel/crew and 12 passengers, a total of 16 persons. Jim Vagne remembered that everybody in the vehicle "seemed to be in good spirits" and "had no doubt that there was absolutely no danger associated with the voyage at all."

The vessels travelled northwards on Moggill Road out of Bellbowrie and entered the flood waters about 200 metres north of the junction with Sugars and Lather Roads. LARC 05, was being operated by Barry Rissel and LARC 09, being operated by Craftsman Dave Larard, was some 200 metres behind and entered the water about 3 minutes after LARC 05. The third vehicle, LARC 07, had left Kenmore earlier in the day and was about 1½ miles (2.4 km) north of the other LARCs on Moggill Road in the Pinjarra Hills area. It was in radio contact with both LARCs.

The planned route was to exit the area via Mt Crosby Road and return to Kenmore by this longer route which was free of HT cables. However, there were long stetches of rough road, so Barry Rissel elected to take the much shorter route to Kenmore along Moggill Road despite knowing that HT cables crossed the inundated area.

In front of Barry, on the starboard bow of LARC 05, was Ian Kerr and on the port bow, Neville Hourigan. Ian and Neville had the responsibility of clearing debris away from the front of the vessel and lifting electricity wires, conductors and telephone cables over the craft. These were either grabbed by hand if within reach or if not, by means of a boat hook. The conductors were passed over the LARC cabin, with the radio aerial pulled down, to passengers behind who fed them over the stern of the vessel where they were dropped back into the water. Ian Kerr was holding an eight-foot (2.44 m) aluminium boat hook (catalogued by the Army as "Standard CES No 2321, Part 2, Item 25, Boat-hook single head with stave 10 foot)". The operation was carried out with "meticulous care" with Barry Rissel taking every reasonable precaution in the passage of his LARC. Ian was also in charge of recording passengers boarding and leaving the LARC and in the use of the Mae West life preserver.



Sketch map of the area under the HT electricity lines. The route of LARC 05 along Moggill Road is shown by the arrowed line. Photo: Court of Inquiry Report NAA ID 32538534

Bill Lickiss stood behind the cabin and remembers that, in his opinion, the operation was carried out as "a strict military operation (which) could not be faulted." The importance of making good use of the LARC craft was emphasised by the fact that they were unlikely to be available after 28 January. As LARC 05 approached Pullen Pullen Bridge, the craft left the line of Moggill Road and moved in a westerly direction under some low-tension electricity cables which ran parallel to the road, towards the paddock belonging to Arnold Todd (at 3077 Moggill Road). Arnold was waiting to speak to them with his family, one of whom, his son Roger, was taking photographs. Bill Lickiss asked "as to their wants" and told them that a

supply point would be set up at Moggill Store. Arnold Todd said that "they were right" and "needed no succour." Under the guidance of Tony Johnson, the LARC then proceeded on an evacuation call for a woman and children living in Layfield Road. At this point, the LARC was about 50 yards (45.7 m) south and 25-35 yards (22.9 – 32 m) west of the Pullen Pullen Creek bridge, in about 15 - 20 feet (4.5 - 6 m) of water.

The LARC then turned eastwards in the direction of a gap in the trees seen on the northern side of the bridge. The intention was to pass under the electricity cables which crossed Moggill Road running in a westerly direction between Arnold Todd's house and Pullen Pullen Creek. These were suspended from wooden poles and were assumed to be carrying low tension power. It was believed that the HT cables, which had been the major cause of concern, were carried by large steel pylons well clear of the flood.

The vessel was proceeding at a "very much reduced speed" and Barry Rissel was standing with his head through the top of the cabin. Ross Jackson, giving evidence at the Coroner's Inquiry believed the speed was "about five to ten miles an hour" (8 to 16 km/hour). Bill Lickiss was making notes on what he considered to be the food drop requirements for the following days.



LARC 05 moments before the disaster. Ian Kerr is standing on the starboard bow; Neville Hourigan is squatting on the port bow. Barry Rissel's head can be seen between the two soldiers looking out of the cabin. Tony Johnson is leaning on the cabin giving instructions to Barry Rissel. Standing behind the cabin (from left to right) is Dr Ross Jackson, Bill Lickiss and Glenn Suttie in the white hard hat. Glenn was looking across the paddock for his mare in foal. The next group is the Gilroy family with Hugh junior standing with his two children. His father can be seen on a stretcher covered in a blanket. At the rear of the vessel are Capt David Roubin and Bill Hutchinson. Photo: Roger Todd

Ian Kerr was standing on the starboard bow holding the boat hook and Neville Hourigan was squatting on the port bow immediately in front of Bill Lickiss.

Within the LARC cabin were Kay Vagne with her baby Matthew in a bassinette on the floor next to Barry Rissel. Matthew was crying because of the excessive noise of the LARC and Kay had pushed cotton wool into his ears in an attempt to soften the sound. Glenn Suttie and Ross Jackson were behind the cabin next to Bill Lickiss, who was standing on the cargo deck. Tony Johnson was leaning on the cabin talking to Barry Rissel. Squatting behind Bill Lickiss was James Vagne and Hugh Gilroy Senior on a stretcher. Hugh Gilroy Junior, who had been helping with food drops etc, was further behind on the LARC sitting with his two children on the first aid box. Finally, David Roubin and Mr Hutchinson were at the stern of the LARC.

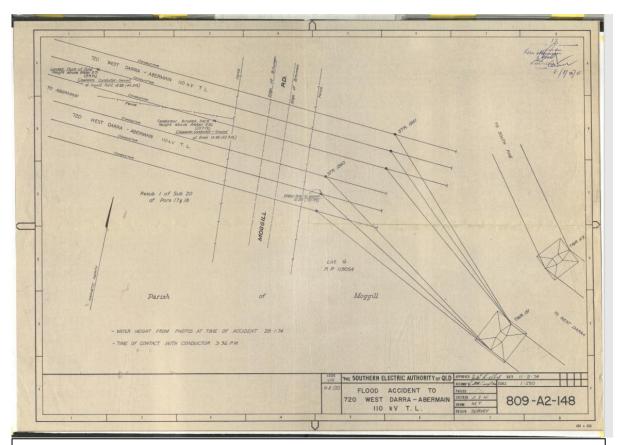
The disaster

After a brief conversation with Arnold Todd, LARC 05 proceeded on its evacuation mission in a northerly direction towards Kenmore but remained on the western side of Moggill Road. Barry Rissel ordered all passengers and crew to sit down and around 3.30 pm, the craft approached six high tension (HT) electrical conductors in two sets of three cables. Normally, these would have been suspended on wooden poles about 43 feet (13 m) above ground level but as the water was some 33 feet (10 m) deep at this point, the conductors were only around 10 feet (3.0 m) above the water. The lower conductors took the main electricity supply generated in Swanbank from the higher conductors a short distance to the east of Moggill Road and conducted the power to Mt Crosby. The main transmission lines supported by steel pylons were well out of reach of the LARC. The lower conductors would normally be carrying 110,000 volts, but Ian Kerr had reason to believe that the power had been turned off. Bill had already asked Ian if the power was off and he had replied in the affirmative: Ian had talked to his wife over breakfast that day and believed that this was the case. Subsequent enquiries

 $^{^1}$ Witness statements from the Coroner's Inquest Report show a wide range of heights above water level for the conductors, ranging from 8 inches (20 cm) (Ross Jackson), 3-6 feet (0.9 - 1.8 m) (Tony Johnson and David Roubin) to 10 feet 7 inches (3.2 m) (Trevor Stacey). Trevor Stacey was challenged over his calculations with cross examining counsel suggesting that an experienced army officer would be better at estimating heights rather than relying on a calculation from photographs.

² The main transmission lines from West Darra to Abermain were supported by steel towers up to a point on the eastern side of Moggill Road and then down to lower wooden poles. These lower poles have now been replaced with higher steel towers.

failed to determine if there was a well-founded reason to believe that the power had been turned off.



Plan of HT conductors showing the two sets of three cables and the point of impact with LARC 05. Photo: Army Court of Inquiry Report, NAA ID 32538534

As LARC 05 approached the conductors, LARC 09 was some 50 m behind. Bill Lickiss remembers a voice calling out "High Tension" as LARC 05 passed under the first set of three HT conductors (cables) suspended from the wooden posts. However, after some 20 seconds, as the LARC reached the position of the gate at the front boundary of Arnold Todd's property, it was underneath the second set of three conductors. At 1536 hrs (3.36 pm), a "massive electrical discharge occurred" as the electricity arced between the first cable (in the second set of three) and the boat hook held by Ian Kerr. The force of the discharge caused the conductor to break and the top 4 inches (10 cm) of the boat hook were blown off landing in the centre of the LARC. A massive electric shock passed down the aluminium pole and the two ends of the broken conductor then flicked across the superstructure of the LARC causing

further arcing and delivering electric shocks to other occupants of the LARC.³ As the cable hit the water, "it looked as if a torpedo had been shot off."

Bill described the explosion like "welding, static noises and electric blast furnaces." Geoff Manley and Barry Hamilton in LARC 07, who were one to $1\frac{1}{2}$ miles (1.6 - 2.4 km) away to the north on Moggill Road, heard a loud bang as well as seeing a large flash of blue light and black





Photographs taken immediately after LARC 05 had contacted the power supply. Smoke is being emitted from the vehicle. LARC 09, which had been following the stricken vehicle, is in the foreground. Photos: Roger Todd

smoke. As a result of the explosion, there was "immediate pandemonium" as many of the occupants of the LARC were burned and some thrown overboard including Ian Kerr and Neville Hourigan. Most of the passengers were in "various stages of panic and hysteria". Barry Rissel "suddenly appeared on fire" and part of the cabin was also burning. The children were largely unharmed apart from small spot burns although Joshua Gilroy's life jacket was "pitted with shrapnel." Barry Rissel was "pretty weak and faint," but he remained standing and tried to keep control. He attempted to send out a mayday call on the radio and he later recalled that his service cap disintegrated. As he left the LARC cabin on fire, Ross Jackson was able to extinguish his clothing. Tony Johnson and Glen Suttie were on the floor of the LARC, experiencing epileptic-type fits. Tony had fallen against Hugh Gilroy junior who had just inflated his lifejacket and those of his father and children. The children were clinging to their father for safety beside their grandfather on the stretcher who had been burned on the leg through his trousers. Ross Jackson cleared the airways of Tony Johnson and Glenn Suttie and

³ No witnesses actually saw the boat hook touch the electricity conductor. The voltage was sufficient to arc cross some 20 – 30 cm although Trevor Stacey when cross examined by the Army Court of Inquiry stated: "I think myself that the actual boat hook touched the cable rather than just came within close proximity"

rolled them onto their side, but he had no medical equipment to treat them further (in fact, he was only legally qualified to practice at PAH). Jim Vagne had turned towards the stern of the LARC and was bending down to search a bag of belongings for his camera so he could take photographs to keep as a record. He remembered receiving an electric shock sensation, "a mass of pins and needles" and then surfacing in the water near Pullen Pullen Creek. He inflated his life jacket but was "bewildered as to (his) exact situation." He had suffered burns to his left leg and back including some blue nylon material burned into his leg. Fortunately, Kay Vagne, who had been wearing rubber clogs, was unharmed. Baby Matthew was insulated from shock by a thick rubber mattress in his bassinette and apart from a very minor burn caused by flying debris, "was still sleeping through the whole ordeal."

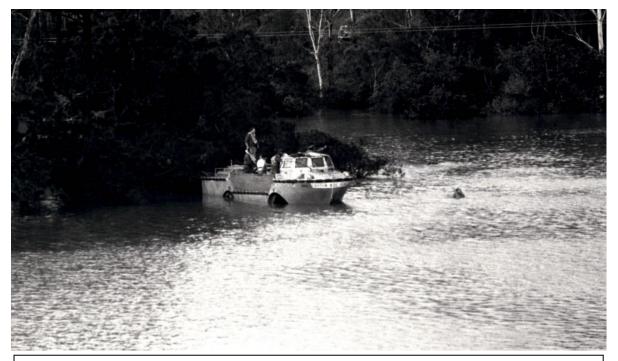
Bill Lickiss was thrown out the port side of the LARC passing over Hugh Gilroy senior on the stretcher. He was unconscious initially and after regaining consciousness, found himself some distance from the LARC. He was dazed and was unable to inflate his life vest. Having swum back to the LARC, he tried to climb aboard by putting his foot on a submerged wheel but was thrown back as the wheel turned in forward motion. He then managed to inflate his life jacket, move round to the middle of the craft at cargo deck level and climbed aboard. Only now did he see the severity of injuries sustained by Barry Rissell, Tony Johnson and Glenn Suttie, as well as hearing the cries of shocked and injured people. A voice then called out from LARC 09 behind that a person was in the water and appeared to be alive.

Bill saw a hand and head above the water about 10 yards (9.1 m) astern and 50 yards (45.7 m) to port. Mr Hutchinson threw a cork lifebuoy into the water and Bill immediately dived in and swam towards the person whom he recognised as Neville Hourigan. Jim Vagne had also swum over to Neville and realised that he was not "totally buoyant." Jim dragged him up by the hair as Neville was starting to slide under the muddy water. He was gasping for breath, his eyes were open, and he was mumbling. Jim yelled at Neville to try and take hold of the lifebuoy, but he was unconscious. Jim managed to get one hand and arm through the lifebuoy to give him support but the cross straps of the life buoy prevented him from getting the ring over Neville's body. Jim then became very concerned for the safety of his wife and child and

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⁴ The Army Court of Inquiry found that this construction of lifebuoy was dangerous and the cross straps had arisen from "a local unit embellishment." Furthermore, the lifebuoy had no line attached which was "unfortunate."

swam back to the damaged LARC. By now, Bill Lickiss had reached Neville Hourigan and managed to grasp him by the life strap of his uninflated Mae West life jacket, keeping him afloat by means of the lifebuoy. Having cleared Neville's throat, Bill swam back to the damaged LARC and managed to get aboard but could not get Neville onto the craft even though he was helped by Ross Jackson.



LARC 05 was manoeuvred away from the HT lines and secured to the trees at the edge of the creek. Bill Lickiss is in the water swimming back to the vehicle. Photo: Roger Todd

Bill jumped back into the water and swam across to the undamaged LARC 09, which was about 20-30 yards (18 - 27 m) away, as quickly as possible. Neville "proved to be a very heavy person in the water" so Bill discarded the lifebuoy and swam sidestroke back to the LARC. As they approached the vessel, Neville began to froth at the mouth and Bill was able to check that his tongue was not obstructing his throat. Bill first swam to the side of the LARC 09, which had moved to within 15 yards (14 m) of the men in the water, asking the crew to take Neville over the side by the cargo deck but this would necessitate dropping the side curtain of the LARC. Instead, they decided to take him over the bow and Bill told the crew that "they would have to work on him straightaway." Ray Ruddy and CFN Thompson started mouth-to-mouth resuscitation and heart massage as the LARC turned towards dry land on Moggill Road.

Meanwhile, Bill Lickiss, rather than accepting the offer of climbing aboard LARC 09, then swam back to the damaged LARC 05 and at this point, a small craft appeared with several people on

board offering to help. Bill advised the boat to move away on account of live HT wires. He was then pulled on board the damaged LARC 05 with the help of Hugh Gilroy Junior.

While Bill had been in the water, a voice was heard to call out: "We hit high tension wires. Get away from them." David Roubin, who had been looking after Hugh Gilroy Senior and the children, moved forward from the stern of the LARC and took the controls of the vehicle, however, he had not operated one before and called for advice. At this moment, the LARC began drifting back towards the wires. David managed to get one lever into reverse and then Barry Rissel leaned across and engaged the second lever. Although Barry was badly burned and appearing "to suffer from total shock," between them, they put the vessel into reverse and moved the LARC slowly away from the power lines and secured the vehicle to the trees alongside Pullen Pullen Creek. David then called out "Is there another driver aboard?" and in response, Ray Ruddy from LARC 09, which had stayed on the other side of the power cables, ceased applying cardiac massage to Neville Hourigan, quickly took off his shirt, boots and life jacket, and swam across.



A shirtless Ray Ruddy is hauled aboard LARC 05 by David Roubin. Ray had swum across from LARC 09. Photo: Roger Todd

Ray was familiar with the controls of the LARC and he "immediately got into the cabin and got the motor running." Ray picked a path where the power lines were well above the water and guided the LARC to safety on dry land. CFN Thompson continued to apply cardiac massage to Neville Hourigan on LARC 09. He later told the Court of Inquiry that Neville "just started going purple," there was no sign of heartbeat or breathing and so resuscitation was ceased.



As soon as possible, Ray Ruddy moved the stricken LARC 05 back towards dry land on Moggill Road. David Roubin is seen here holding the aerial. Photo: Army Court of Inquiry Report. NAA ID 32538534

When the accident occurred, Dave Larard, who was in command of LARC 09, immediately stopped his vessel and maintained a position south of the live electricity conductors. He sent out a Mayday call which was acknowledged by LARC 07, positioned some way north along Moggill Road. Kevin Wolfe received the call on LARC 07 and the caller "went into a spiel of 'This is Army LARC Zero 7 (sic). We've hit power lines – we have casualties on board with one dead ...' The caller spoke with a "very hysterical, very incoherent voice" and intermittent communications followed as a result of the caller not operating the pressell switch (on the radio) correctly. Jim Vagne later revealed at the Army Court of Inquiry that he had tried to operate the radio and identified himself as a passenger and that there was an emergency. He was unaware if the message was successfully sent. After a few minutes, the "more authoritative voice" of Ray Ruddy came over the radio and communications improved.

Arnold Todd and his family witnessed the disaster from their property a few metres away to the west. Arnold later recalled that "it seemed a miracle there were any survivors. I felt terribly helpless sitting on the bank, but there was nothing that I could do." In fact, both Arnold and his son Roger took a series of both colour and black and white photographs which captured the whole event.

The army and civil defence respond to the explosion

Geoff Manley, who was operating LARC 07, immediately drove the vehicle clear of the water onto higher ground so he could establish better communications with the other two craft. He requested a helicopter for casualty evacuation, but the call was not received by 6 TF. Geoff then drove the LARC to John Cheetham's house on Mt Crosby Road from where he established telephone communication with 6 TF Operations Centre. This was the first knowledge of the accident to reach outside the incident area at 1600 hrs (4.00 pm), 24 minutes after the event. 30 minutes later, once Geoff had heard the helicopters operating in the Bellbowrie area, he instructed Barry Hamilton to move LARC 07 via the safer but longer and "circuitous route" of Mt Crosby Road back to the accident area. This enabled Barry to render help and support to the injured while Geoff Manley remained at the farmhouse. A quick discussion was then held, and it was decided to drive the damaged LARC 05 to dry ground at the last drop point in Bellbowrie. As Ray knew how to operate the LARC, he took charge and drove out of the water and up Moggill Road towards Bellbowrie "under full power" with the LARC 09 close behind. On arrival, Dr Jackson found that Neville Hourigan had fixed, dilated pupils and no heart sounds or signs of respiration. He considered him to be deceased and attention was then turned to Ian Kerr. In the "milling confusion", no one had realised that Ian was not on board either of the LARCs. It was suggested that he had made his way to shore, however, this proved not to be the case and he was then assumed to be missing. Radio contact was made with the third LARC which made its way to the top of the hill south of Bellbowrie where the LARCs could rendezvous with the helicopters.

Bill Lickiss, together with Bruce Graham, a local real estate man, found a nearby house with a telephone. Bill then phoned the Civil Defence and advised them their situation was as follows:

One army personnel was considered dead, an army officer was missing, and that the Major and one civilian were seriously burnt and a third civilian had received some serious burns, but to the best of my knowledge, everyone else appeared to be in fair condition and that there were doctors in attendance on the site and we would require immediate helicopter evacuation and we would require other helicopter assistance and would (I) contact them (civil defence) later

The first Bell Kiowa helicopter from 161 (Independent) Reconnaissance flight at Oakey had "a fair bit of trouble finding" the location and landed shortly after 1630 hrs (4.30 pm). At the time of the explosion, the weather was dull, but no rain was falling. However, by the time the first helicopter arrived, a storm had broken out and the second helicopter although close behind, had more difficulty finding the landing area. Signal flares were fired to guide the aircraft into land. Because it was now raining heavily, there was a "lot of chopping and changing" as some of pilots did not have the appropriate instrument rating.



Four Bell OH58-A Kiowa helicopters of 161 (Indep) Recca Flt in line at Nui Dat, Vietnam, 1971 Photo:

161recceflt.org.au

David Roubin organised the two worst cases, Barry Rissel and Tony Johnson, to be carried on blanket stretchers and evacuated to the Royal Brisbane Hospital on the first Kiowa which arrived at the hospital at 1655 hrs (4.55 pm). Glenn Suttie, who had a penetrating injury to his right leg from a wire in the power cable together with the body of Neville Hourigan were evacuated on the second Kiowa arriving at the RBH at 1740 hrs (5.40 pm). A discussion then followed concerning the evacuation of Hugh Gilroy Senior because of his heart condition. It was decided that as the necessary drugs were available in Bellbowrie, he should be spared the additional trauma of a helicopter evacuation. He was taken off the LARC on the stretcher by local civilian residents to the first house going back up the hill towards Bellbowrie. A local general practitioner, Dr Raymond James, who lived nearby in Lather Road, arrived with drugs which were used to treat the injured and Dr Joan Lawrence appeared from Sugars Road. Joan was not a medical doctor and announced to CFN Thompson that "I am only a psychologist." Nonetheless, she helped with the evacuation process overseeing the removal of passengers from the LARCs. Bill Lickiss and David Roubin were evacuated in the third helicopter and

were landed at Kelvin Grove, from where they took land transport back to the Emergency Centre based at the Lupi of Kenmore restaurant.

The search for Ian Kerr began with a local estate agent, Reg Lobegeiger, assisted by Jim Eady who had been standing by with his motorboat. However, once the LARCs had discharged the injured passengers, further boats returned to the site of the explosion to help in the search for Ian.



Jim Eady's motorboat approaching Pullen Pullen Creek with Reg Lobegeiger on board, searching for Ian Kerr. Photo: Roger Todd

Visibility was very poor and as it was "blowy and rainy," the search was given up. Unfortunately, Helen Kerr heard that her husband was missing from Channel 9 TV Station before she was contacted by Army

authorities. Ian Kerr's body was found three days later by Roger Todd on the banks of Pullen Pullen Creek, about 150 m east of Moggill Road. It was later concluded that the aluminium boat hook which Ian Kerr had been holding, made contact or had come within 20 cm of the HT conductor. This led to the massive electrical explosion with considerable arcing onto the LARC. Although Ian Kerr had been exposed to a large electrical current, the *post-mortem* examination later revealed that he died from drowning.

Later on Monday evening, ACMF Platoon Commander Bob Bishop, was contacted by the Army and told that he had lost one of his soldiers earlier in the day. He was given the task of notifying Neville Hourigan's wife, Margaret, and their two children. This was a difficult job for the 25-year-old Platoon Commander. Ray Ruddy recalls that the LARCs remained at Bellbowrie that night and that the crews were billeted in local homes, fed and looked after by the grateful Bellbowrie residents.

Sgt Patrick Radford from Fortitude Valley Police Station was dispatched to Royal Brisbane Hospital where he interviewed Glenn Suttie who described the events earlier in the day. Glenn was again interviewed by army personnel on 2 February, and he recalled that the incident occurred around 1400 hrs (2.00 pm). However, he could not remember any details of the contact with electricity conductors. Sgt Radford also interviewed Tony Johnson, who was in some distress and had great difficulty speaking due to extensive burns to his face and mouth. Patrick Radford then interviewed Barry Rissel who had no recollection of the event at all, and appeared to be in a state of shock. Barry could not even remember who was operating the LARC at the time of the incident.

After the body of Neville Hourigan arrived at the hospital, Dr W Robertson pronounced that life was extinct and around 9.00 pm, Peter Conway, from 40 Transport Platoon, identified the deceased. The *post-mortem* examination was carried out by Dr Ian Wilkey, Government Pathologist, on 30 January and the cause of death recorded as electrocution.

After the incident, some of the passengers on LARC 05 found refuge in Bellbowrie. Jim Vagne, whose house in Vanwall Road had been inundated, tried unsuccessfully to join the evacuation by helicopter. He subsequently found out that civilians would not be evacuated by helicopter and that the Kiowas had already left Bellbowrie. Fortunately, the family was billeted with John & Barbara Shield until they moved into a granny flat of Peter & Hilary Galbraith in Zelita Rd where they stayed for some weeks. The Gilroy family were brought out to Kenmore by LARC on 29 January. All the other civilians dispersed and made their own arrangements to return home and the "excess (public relations) personnel" on LARC 07 made their way back to Kenmore by private boat.

Barry Rissel suffered second degree burns to his face and back and stayed at the RBH until 31 January when he was transferred to 1 Military Hospital at Yeronga. He was interviewed by members of the Court of Inquiry at Yeronga where he was found to be in considerable discomfort ... having severe burns to face, neck and back, and suffering from shock. He was eventually discharged at the end of February. Tony Johnson and Glenn Suttie also received treatment at the RBH. Tony received 30% first and second degree burns to his face, arms and legs; he was discharged on 13 February. Glenn received a shock of a lesser degree and

suffered 8% first and second degree burns to his left arm and back of the neck. He was discharged on 9 February.

Two days after the incident when the flood had subsided, Trevor Stacey, an electrical engineer with the State Electricity Authority, inspected the fallen cables at Pullen Pullen Creek. He determined that the sagging power conductor was 10 feet 7 inches (3.2 m) above the water and using photographs taken by Roger Todd, calculated that the top of the boat hook held by lan Kerr was 11 feet (3.4 m) about the water level.⁵



The electricity passed through the aluminium hull of the LARC and punched two holes in the rear of the vehicle. Photo: Army Court of Inquiry. NAA ID 32538534

Once the boat hook had come within 20 cm of the conductor, there would have been "considerable arcing" causing the conductor to break and an electric shock to pass down the

boat hook through Ian Kerr to the LARC. Trevor Stacey also examined the damaged LARC and found pitting caused by the electricity current trying to find a path down to the water and two holes "blown into the rear of the boat." There was pitting and melting of the aluminium surface of the vessel in several locations and burn marks on the deck where Ian and Neville had been located.

Following the *post-mortem* examination, funerals were held for both the soldiers killed in the incident. Helen Kerr declined a military funeral preferring to have a private funeral with an Army piper. Ian had served in the Australian Army for nearly 18 years. He enlisted first as a

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⁵ The deck level was 2 foot 6 inches above the water, and the boat hook was 8 feet long. Given that Ian Kerr was holding the boat hook, these measurements confirm Trevor Stacey's calculations that the top of the boat hook was 11 feet above the water level. The electricity cable in question was the southern conductor of the 110 kV feeder 720 from West Darra to Abermain between structures 1241 and 1243. It was repaired and reenergised on 8 February.

Private in June 1956 and by April 1968, he had worked his way through the ranks of non-commissioned soldiers to Warrant Officer 2nd Class. He was commissioned as a Lieutenant in August 1968 and promoted to Captain a year later. Neville Hourigan received a military funeral. Neville was a fitter and turner in civilian life and enlisted for part-time duty in the AMF in June 1971.

The Army Court of Enquiry

The army assembled a Court of Inquiry swiftly: the President, LTCOL W G R (Bill) Fleming, Royal Australian Corps of Transport (RACT), HQ 1 Division, was appointed at 1700 hrs (5.00 pm) on the day of the accident. Bill was based at Enoggera and swung into action immediately. He was briefed by Ray Whitrod, the Commissioner of Police, and then travelled to the Civil Defence HQ at Kenmore. MAJ E J (Ted) Charlton, also of RACT, was co-opted as a member of



the Court and together they interviewed David Roubin and then Tony Johnson and Ross Jackson at Royal Brisbane Hospital.

Ray Whitrod, Commissioner of Police (1970-1976) was considered a world leader in the way society treats victims of crime. Photo: Queensland Police Service

Early on 29 January, Bill Fleming and Ted Charlton flew by helicopter to Bellbowrie and "drove and sailed by LARC" to the accident site. They recovered the boat hook, Tony Johnson's hat and Bill Lickiss' glasses. After interviewing several of the passengers

on LARC 05 and crew members of the other two LARC vessels, they returned to Enoggera Barracks. Bill Fleming contacted the third member of the Court, MAJ George Stubbs, RACT, 10 Transport Column, and the Court assembled at 0830 hrs (8.30 am) on 30 January. The Court had wide terms of reference: to inquire into the deaths of Neville Hourigan and Ian Kerr and the injuries sustained by Barry Rissel. The terms included establishing the time, place and

cause of the accident and the resultant injuries, and also inquired into the issue of vessel command.

The Court documents contains some verbatim reports which exemplify the extreme poignancy of the moment. CAPT Wolfe had returned to Kenmore where a woman called to him "Are you my driver." He replied "no, lady, I've got a problem at the moment" to which the lady retorted "So have I" and immediately burst into tears. The woman was, in fact, the wife of one of the seriously injured men in LARC 05 and so CAPT Wolfe took her to 6 TF Operations Centre in his "own Rover (car)". It was not until midnight, when Neville Hourigan's wife was informed of his death, that full details were released to the Press.

The Court handed down its report on 14 March. The principal findings were that LARC 05 "while engaged in relief operations in the Bellbowrie/Pullenvale/Kenmore suburbs of Brisbane on 28 Jan 74, while afloat at 1536 hours came into contact with high tension wires carrying 110,000 volts of electric current." Consequently "CAPT I C R Kerr ... was electrocuted and subsequently drowned" and "CPL N B Hourigan ... was killed by electrocution." Details of the injuries to Barry Rissel and passengers on LARC 05 were listed. There was a discussion of vessel command, and it was noted that ARA (Regular) soldiers were placed in command of the LARCs in preference to more experienced drivers from the CMF. In fact, on Sunday night Barry Rissel had been told that CMF members were not to operate craft and it had been suggested that "you may as well stand your (CMF) people down."

The report included the statement made by Bill Lickiss to the effect that "advice had been received that low tension wires in the area had been turned off." Further, that Barry Rissel knew that HT wires from the large steel pylons crossed the area but did not recognise the lower wooden pylons as being HT. He considered the latter was to be safe and "thus was unable to assess whether the guide (Tony Johnson) was leading him into danger."

Interestingly, the court considered whether the use of LARCs in flood relief operations was appropriate. A letter dating from 1969 were presented from Prime Minister John Gorton to the Premier of Queensland, Sir Joh Bjelke-Petersen, suggesting that the 2½ ton wheeled amphibian DUKW vehicles (known colloquially as DUCKs) were more suitable. The DUKW was a World War 2 vehicle designed essentially for land movement "but having swimming capability". It was being replaced by the flush decked LARC vehicle which had been designed primarily as a cargo carrier. Because the LARC had no rigid sides, it was neither safe nor

suitable for the carriage of passengers and "not considered suitable for flood relief work". State Premiers were offered the "ageing" DUKWs but the offer was declined by all States.



The US-produced sixwheeled DUKW (colloquially known as Duck) supplied to Australia after World War 2. It excelled at approaching and crossing beaches in amphibious warfare attacks. Photo: Wikipedia

The 93 "ageing" Army DUKW vehicles could not be maintained in service economically for more than three or four years. As a result, it was noted that "authority existed for the use (of LARCs) in that role when considered desirable by geographical commands." The Court concluded that the LARC "can fulfil a useful flood relief role" but accepted that with the arrival of the Chinook medium lift helicopter later in 1974, the cargo-carrying advantages of the LARC would disappear.

In conclusion, the Court found that the "primary responsibility for the accident ... rest(ed) with Major Rissel" and went on that it was "unable to understand how in the conditions of good visibility ... MAJ Rissel could have considered wires suspended from such large insulators could have presented no danger." However, a study of the relevant Manual of Army Safety Training contained no ready reference on High Tension wire identification and thus no culpability rested with Barry Rissel and no disciplinary action was recommended. The final recommendation of the Court was that the use of "LARC CES No 2321 Part 2 Item 25 Boat Hook" be withdrawn and "replaced with a non-conducting one that will float on water."

The Coroner's Inquest

Three months after the incident on 6 June 1974, the Coroner, Vincent Hugh Skehan, began the inquest and examined a total of 14 witnesses over two months. Some of the witness statements taken as part of the Army's Court of Inquiry were offered to the coroner. The coroner directed that evidence and proceedings "be recorded by a mechanical device" and that the recorder should be Alan Dwyer. Sgt Gordon Schultz assisted the Coroner and David Hoare of Thynne and McCartney, Solicitors, appeared on behalf Southern Electric Authority of Queensland. Sydney Carleton, Solicitor appeared for the Commonwealth and Raymond Smith, Barrister, of Cannan and Peterson, appeared for Ian Kerr's family. Michael William White appeared as the "next friend" for Neville Hourigan's family. Kenneth Fysh from the State Electricity Commission appeared for the purposes of providing technical assistance (on electricity matters).

Vincent Skehan stressed that the purpose of the Court was to determine the circumstances of the deaths of Ian Kerr and Neville Hourigan. The first witness sworn was Barry Rissel, the operator of LARC 05. Barry was advised that he was not obliged to answer any questions which might have incriminated him. He claimed that privilege and was excused from giving any evidence which he later regretted and something he still regrets to the present day.

Evidence was given by Bill Lickiss, David Roubin, Ross Jackson, Hugh Gilroy, Jim Vagne and Trevor Stacey. None of them knew Ian Kerr and Neville Hourigan personally and their recollections of the events of the 28 January varied. None of the witnesses were looking at Ian Kerr, Neville Hourigan or the electricity conductors at the time of the explosion with Counsel noting that "if you didn't observe it, then you can't give any evidence on it."

The coroner then spent some time trying to ascertain whether the boat hook held by Ian Kerr actually touched the HT wire and whether the aerial had been lowered which, if not, would have allowed electricity to arc through this structure. The aerial had, in fact, been tied down with butcher's twine to a cabin hand grip. The twine was clearly burned during the explosion allowing it to whip upright. There was lengthy discussion on the height of the cables above the water, whether witnesses knew which cables were HT or LT and whether Nev Hourigan was alive when he fell into the water.

Vincent Skehan handed down his findings on 16 October. He summarised the route of LARC 05, the conversation with Arnold Todd, its contact with the electricity conductor, likely voltages and importantly, the causes of death. There was no suggestion of further action, legal or otherwise.

The legacy of the disaster

The army court commended some of the army personnel involved in the accident. Ray Ruddy "showed initiative and behaved in a commendable fashion in swimming across from LARC 09 to LARC 05 and in driving LARC 05 to shore." Geoff Manley showed "good sense in driving No 3 LARC immediately to a location from where he could summon help", but the report went on to say that Geoff had made "an error of judgement" for dispatching LARC 09 without him, thus losing the ability to control the operation. However, the Court stressed that "no ill effects whatsoever flowed from this error". Barry Rissel was praised for his insistence on employing safety measures during the entire operation and trying to maintain control of LARC 05 when in great pain following the accident. Importantly, though, the Court recorded that Barry allowed the LARC to be endangered in the first place by accepting that the electricity cables presented no danger.

The Coroner in his report handed done nearly nine months after the incident, commended Bill Lickiss. "On the day in question," Bill was to be commended for what he had done, "the organisation that he had carried out ... at no doubt, quite a lot of risk to his own person." Vincent Skehan alluded to the fact that "there were others who acted in a similar capacity" and that their actions be recognised."

Ray Ruddy's actions were described in detail: (he) moved the damaged LARC 05 to land where his subsequent conduct on land alone, was meritorious. Ray's cool, competent assistance to all during the evacuation of the injured was commended by the senior officer present, and by many of the civilians. One of the civilians, although unaware of the Ray's previous brave conduct in the water, went out of his way to commend him to his Commanding Officer for his conduct on land. Ray Ruddy's concern for others, his disregard for personal danger and his persistent devotion to duty were an example and an inspiration to all. Ray Ruddy was awarded the Queen's Gallantry Medal on 13 May 1975. Bill Lickiss was also awarded the Queen's Gallantry Medal.



Ray Ruddy with his parents, Gerda and Harry, holding his Queen's Gallantry Medal. Photo: Ray Ruddy

Helen Kerr, Ian Kerr's widow and Margaret Hourigan, Neville's widow, both received a lump sum payment under the *Compensation (Australian Government Employees) Act* 1971-73. In addition, a payment was made each week to each of their children up to the age of 16 or if attending full time school or college, up to the age of 21 years. Helen also received a DFRDB army pension and payment in lieu of Ian's furlough. Margaret Hourigan received a widow's pension and an Australian Military Forces Relief Trust Fund grant.

The Army Court of Inquiry handed down a number of recommendations including the unanimous decision that "intimate command and control" of a LARC should be taken by the most qualified operators, "regardless of rank or whether they are CMF or ARA." As there was considerable discussion in the Court about the possible involvement of the LARC aerial in the arcing of electricity, it recommended that a "permanent, non-flammable restraint be affixed to ... the craft" so that the aerial could be clamped down below the level of the cabin top. There were other recommendations relating to modification of the LARCs "in some fashion" to allow a person in the water to get himself aboard and that all life preservers should be of an approved non-inflatable type. Finally, the Court was unanimous that the standard aluminium boot hook used on LARC vehicles "represented an unnecessary hazard" and should be replaced by "a floatable non-conducting one".

A single detailed report of the incident appeared in the *Courier Mail* on 29 January 1974 carrying details of the deaths and injuries and a photograph of Bill Lickiss. In the days following, newspaper coverage concentrated on the loss and damage caused by the floods and the inevitable clean-up operation. Save a single reference to the recovery of Ian Kerr's body, the LARC incident passed into history.

Neville Marsh

23 January 2024

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³ Fatal Accident involving LAPC on flood relief Brisbane – plus court of inquiry report 29 January 1975. National Archives of Australia Item no. 32538534

⁴ Scanlan, Dennis, *Defence Assistance to the Civil Community Kenmore and Bellbowrie January 1974 Floods*. Emailed 13 November 2022

⁵ White, Allan. *Pers. comm.* Email dated 18 December 2022

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⁹ Vagne, Kay. *Pers. comm.* Email dated 19 December 2022