

## HISTORY OF THE NAVAL AIR RADIO INSTALLATION UNIT – 1942-45 – BY LAWRENCE HAYWARD



*Above; Several Avro Ansons, a Fairey Swordfish and a Bolton-Paul Defiant, of the Naval Air Radio Installation Unit, RAF Christchurch 1944-45. The photo was taken from the top of a Grumman Avenger Mk III, that may have arrived for modification in preparation for Operation Meridian I and II in January 1945.*

### Introduction

*In the history of the Fleet Air Arm in WW2 there were many shore-based units that supported the FAA with its operations at sea, around the world. One such unit was the Naval Air Radio Installation Unit, (N.A.R.I.U.), which I have researched over the years and have been privileged to meet with former members and record some of their experiences and day to day activities. That research was carried out with former members, over 30 years ago and sadly none of them are with us today. They had incredible memories of what they did some fifty years before and one former member of the N.A.R.I.U. was able to recall the names of all 70 personnel! The N.A.R.I.U. lasted until the 1970s but that is for other members to record.*

### Formation

The N.A.R.I.U. was formed, initially at RNAS Lee-On-Solent (*HMS Daedalus*) in early 1942, commanded by Lt Cdr Dennis H.C. Scholes, but it seems there wasn't room for them, so they were transferred to RNAS Worthy Down (*HMS Kestrel*) near Winchester. Worthy Down was equally overcrowded. It held No.1 Air Gunnery School, the School of Aircraft Maintenance and an Engine Handling Unit plus a Reserve Aircraft Storage Unit. In addition, Vickers Supermarine had a Test Flying Works at Worthy Down, which included testing Seafires, so there wasn't much room for anything else. Consequently, the N.A.R.I.U. didn't stay long at Worthy Down, and found a new base at RAF Christchurch, from July 1942. By coincidence, the Air Ministry moved the Telecommunication Research Establishment from Worth Matravers to Malvern, and the RAF moved their Telecommunications Flying Unit from RAF Hurn and RAF Christchurch (as a satellite) to RAF Defford, in case the Germans staged their own version of the 'Bruneval Raid on the coast of Dorset.'

Earlier in the war, an Admiralty forecast of the period, had suggested that the expansion of the FAA, it would need many new Shore Stations to house an extra 1,200 naval aircraft, by the end of 1943. The Air Ministry was therefore 'persuaded' to give up some RAF airfields for the FAA and to provide lodger facilities at others. Not surprisingly, due to the inter-service rivalry that existed even in wartime, the Air Ministry retained its best airfields and handed over the 'unwanted' ones! Therefore, as RAF Christchurch was vacant, apart from the Airspeed Factory, it was added to the quota, as it was ideal for a non-operational flying unit, with smaller sized aircraft. Possibly connected with the move to RAF Christchurch, RNAS Worthy Down then ceased to be a base for the FAA. It is said this was due to the poor orientation of the grass runway on the aerodrome at Worthy Down, built on undulating and sloping ground, that made take-offs and landings 'interesting'! RAF Christchurch aerodrome had hardly changed from its pre-war state, apart from the addition of a few hangars and

workshops and with a maximum take-off run of only 800 yards it was too small even for fully loaded heavy or medium bomber aircraft already in RAF service. The presence of the Airspeed factory, on the airfield, producing Oxfords and Horsas was also a factor, as the RAF didn't like basing Operational Squadrons on factory airfields. What better way for the Air Ministry to add to their quota, than let the Fleet Air Arm, have an airfield they didn't want!

Despite providing the Fleet Air Arm with lodger facilities, Christchurch airfield remained an RAF Station, initially under the control of No. 70 Group RAF. The Station CO, Sqn Ldr Theobald, had been appointed in late 1941, and he had approximately 150 RAF personnel under his command. He was responsible for the airfield, its defences, bulk fuel and the provision of crash rescue / fire cover but had no jurisdiction over the Royal Navy, which had a separate chain of command.

All Royal Navy units lodging on non-Naval bases had their administration and accounting carried out by a parent Station. For the N.A.R.I.U. at Christchurch, this was carried out (once again) through *HMS Daedalus* at RNAS Lee-on-Solent. As a 'tender' Christchurch became *HMS Daedalus II* (as written on the waxed paper service record of LAF (A) Joe Waterman). This arrangement lasted for two years but on 23rd May 1944 control passed to *HMS Raven* at RNAS Eastleigh and thereafter Christchurch also became known as *HMS Raven*. In theory, Christchurch should have been *HMS Raven II* or *III* etc but so far there is no evidence that this full title was ever used. At RAF Christchurch there were circa seventy Naval Officers and Ratings (and Wrens). Of these, about thirty-five belonged to the N.A.R.I.U. The others were part of the Naval Air Section at Christchurch. Although they supported the N.A.R.I.U. they could be asked to work at their parent base, if the need arose.

### **Arrival at RAF Christchurch in July 1942**

On arrival, in July 1942, the N.A.R.I.U. took over the workshops laboratories and hangars which had previously been used by the TFU and the Telecommunications Research Establishment scientists, changing some buildings to suit their own requirements. As with the RAF, there was no accommodation on the aerodrome for the personnel. However, Sqn Ldr Theobald and his men, were able to assist the newly arrived naval personnel by arranging billets for them. Many men were billeted with local families in Mudeford and Stanpit, or in unoccupied properties next to the aerodrome.

An amusing incident relating to the billeting arrangements, occurred at RAF Christchurch; Petty Officer F. Arthur Ablet was billeted with a local widow and remembers; *"On one occasion we were at the mercy of the foul mood a Senior Naval Officer, who following an inspection of the base, decided that as he wasn't happy with our work or our lack of tidiness or something. Consequently, some of us were forbidden from going ashore, as it was called when leaving RAF Christchurch, and were confined to barracks, which my landlady found most amusing, at the thought of having me confined to her front room doing nothing! After the Naval Officer had left the base, we all simply ignored his 'order' and returned to work!"*

Most personnel had to walk from their billets to the aerodrome although some of the luckier ones were issued with Phillips Roadster bicycles, but care had to be taken that they weren't 'borrowed' by others. As most of the airfield infrastructure came under the jurisdiction of the RAF, the N.A.R.I.U. had very little need for motor vehicles. However, it is believed that the Royal Navy had the use of two General Service trucks (one 10 ton and one 5 ton), a 10 hp 'Tilley' pickup truck and a motorbike and sidecar. The RAF provided a Fordson N tractor and towed petrol & oil bowsers, for aircraft refuelling, as well as a Crossley Q30 'crash tender' for firefighting.

Despite being called the Naval Air Radio Installation Unit, the N.A.R.I.U. was not just involved in installing radio equipment; in fact, it carried out a number of tasks that were very important to the Fleet Air Arm. Many Fleet Air Arm aircraft were fitted with radio by the Manufacturers or at Maintenance Units, but during the aircraft's service life numerous modifications were introduced and more powerful or up-dated sets were developed. The Ministry of Aircraft Production authorized many retrospective modifications to aircraft on the production lines, but these took time to introduce and did not cover aircraft already in service. The N.A.R.I.U. as a MAP technical establishment was therefore given the specific job to design the new or additional installation and specifications for existing service aircraft that were urgently needed.

Representatives of the FAA, the manufacturers, and the MAP would then examine all trial installations. If these modifications were approved, the N.A.R.I.U. would prepare draft 'Technical Leaflets' and drawings for a 'crash' programme to get the required aircraft modified as soon as possible. Apart from the MAP, the N.A.R.I.U. also had strong links with the Royal Aircraft Establishment (RAE) at Farnborough and the TFU at RAF Defford, with aircraft being detached to and from these establishments on many occasions.

As the war progressed, radio and radar equipment became less of an afterthought and became more integrated into the design of aircraft, but in certain types of aircraft, repositioning of radio or radar equipment was still required for operational reasons. Lease-Lend aircraft from the USA, were modified to suit FAA requirements, as were the RAF aircraft that were taken on charge for training. Often these requests necessitated changes to the structure of an aircraft and the unit's technicians would therefore design the modifications. Although Lt Cdr Scholes, as OC N.A.R.I.U., was a skilled Radar Officer, he spent much of his time supervising the unit's technical programme. Much of the design work at the N.A.R.I.U. being done by two talented Wrens; 3rd Officer M Cundy WRNS, and 2nd Officer F J Glendenning WRNS, both of whom were highly proficient in electronics. Before implementation, the required alterations to FAA aircraft with modified radio or radar equipment would be flight-tested. For this purpose, the N.A.R.I.U. had two Test Pilots and from 1943 these were Lt Reginald Gardiner RNZNVR, previously with 784 Sqn FAA and Lt M.J.J. 'Jerry' Harris RNVR, who had been with 749 Sqn FAA (in Piarco, Trinidad) and later CO of 710 Sqn FAA from May to October 1943, when the NAS was disbanded.

Both pilots it's assumed were on 'rest tours' and had to contend with flying many different types of British and American naval aircraft. As no other aircrew personnel were available, naval ratings were 'borrowed' to act as flight assistants especially for the larger aircraft.

### **Fairey Fulmar Mk IINF with Air Interception Radar**

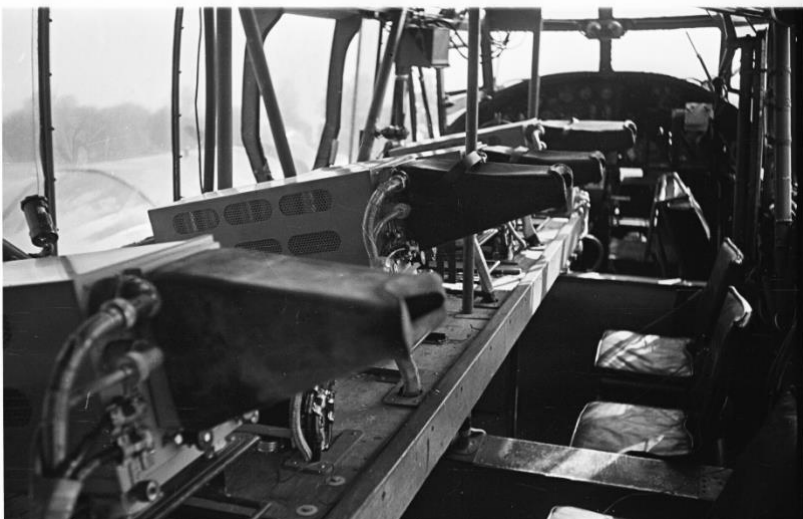
Apart from its trials work, the N.A.R.I.U. was also given the job of converting aircraft for the FAA, especially when only limited numbers of conversions were required. One of the first tasks of the N.A.R.I.U. at Christchurch, was to convert a small number of Fairey Fulmars Mk II to NF, (Night Fighter), standard by fitting AI Mk IV (Airborne Interception) radar. In the early years of the war, the FAA had no real requirement for AI radar. However, following the introduction of *HMS Audacity* in 1941, Escort Carriers such as this demonstrated their effectiveness in reducing the threat to shipping from U-Boats and Focke Wulf Fw 200 Condor aircraft. Many more Condors would have been destroyed had they not been able to hide in cloud when attacked by Grumman Martlet fighters of 802 Sqn from *HMS Audacity*.

The Admiralty therefore issued the requirement for a Carrier based 'poor weather' fighter fitted with AI radar. Initially a single seat fighter was considered with AI Mk VI (which had a pilot interpreted radar display) but as the radars' performance was unacceptable an alternative had to be found. In RAF service AI Mk IV radar was well proven and was therefore recommended to the Admiralty. But because AI Mk IV required a two-man crew, the choice fell on the Fulmar as it could carry the required load and had sufficient performance to catch the Fw 200 Condor. The first trial installation of an AI Mk IV set, in Fulmar N4072, was carried out by the TFU at RAF Hurn in January 1942 and thereafter the N.A.R.I.U. took on the task of converting other Fulmars to Mk IINF standard during the summer of 1942. As it



happened, the threat from Fw 200 Condors declined and the FAA did not immediately use the Fulmar Mk IINF in its intended role. However, in order to provide aircraft for AI training, the first Fulmars converted by the N.A.R.I.U. were issued to 784 Sqn FAA which formed in June 1942 at RNAS Lee-on-Solent as a Night Fighter Training Sqn. Some references suggest that a N.A.R.I.U. team went to Lee-on-Solent to do the first installations, which may have been an interim measure due to the impending move to Christchurch. A small number of Fulmars were also converted to 'NF' standard for 746 Sqn FAA that formed in November 1942 at RNAS Lee-on-Solent as the Naval Night Fighter Interception Unit. Originally the FAA had a requirement for eighty-six Fulmar Mk IINF aircraft with AI Mk IV radar but as the Mk IINF was a conversion of the standard Mk II, it is not known how many were actually built, that were fitted with AI.

*Below; An Avro Anson Type C fitted out as an AI Mk IV Radar Trainer, for three students and one instructor.*



So far only about thirty Fulmars have been identified as having AI Mk IV fitted, which is consistent with a recently suggested total of fifty Fulmar Mk IINF aircraft, required by 746 Sqn and 784 Sqn. (Many other Fulmars used by these two Squadrons were simply 'targets' for the trainees without AI being fitted). With the increased use of AI and ASV, (Air to Surface Vessel) radar, by naval aircraft, the need for suitable training aircraft soon became apparent. A number of Avro Anson Mk I training aircraft were therefore diverted by the MAP or transferred from RAF stocks to the FAA, for conversion to AI radar trainers and flying classrooms (*see photo left*). Much of this conversion work on the Ansons was carried out at Christchurch by the N.A.R.I.U. in conjunction with Portsmouth Aviation Ltd, which had a factory

in Scott's Hill Lane, Purewell, Christchurch and a hangar at Warren Avenue, beside the airfield. In the course of this conversion work at Christchurch, the main planes were usually removed and stored in one of the hangars, so that the aircraft fuselages could be towed along the Somerford Road, to the Portsmouth Aviation Ltd works. There, the Ansons were fitted with the necessary fittings to provide 'work-stations' for three students and one instructor. Once completed the aircraft were returned by road for re-fitting of the wings. The N.A.R.I.U. then took over and installed the radar and radio equipment and after testing, the aircraft were ready for delivery. In FAA service, they were known as the Anson Type C and were variously equipped with either AI Mk IV or ASV Mk IIN depending on the role of the Training Squadron to which they were delivered. The first converted Ansons with AI Mk IV went to 784 Sqn FAA from August 1942 at RNAS Lee-on-Solent before it moved to RAF Drem in October 1942, in order to supplement the Fulmars already used for AI training.

By January 1943 several crews from 784 Sqn had been sent to the N.A.R.I.U. either for familiarization or testing of this 'new' type. Modified Anson Type C trainers also went as radar trainers, to 735 Sqn, 737 Sqn, 766 Sqn and 783 Sqn most of which were based in the north of England or Scotland. In all approximately ninety-five Avro Ansons were modified in several batches from 1942 by Portsmouth Aviation Ltd and the N.A.R.I.U. at Christchurch.



*Above; An Avro Anson Type C, converted at the N.A.R.I.U. in WW2 and seen in use postwar.*

### **Vickers Wellington ASV Trainers**



During 1943 small numbers of Vickers Wellingtons were sent to the N.A.R.I.U. in order for ASV radar to be fitted. Two of these aircraft, L4303 a Mk I and Z8399 a Wellington II with Merlin engines were fitted with ASV Mk IIN and these were issued to 783 Sqn RNAS Arbroath which was the principal ASV Training Squadron of the FAA. In addition to the Wellington ASV trainers previously converted, at least three Wellington aircraft were received from 1943, for conversion to Wellington T Mk XVII flying classrooms for AI training. Wellingtons MP543, MP547 and MP549, were all ex-407 Sqn RCAF Coastal Command and had probably been partly modified at a MU. Petty Officer Michael Boivin of the N.A.R.I.U. remembers that these Wellington aircraft arrived with their front turrets already replaced with Mosquito type bulged nose cones. The N.A.R.I.U. team was therefore only responsible for the installation of the AI Mk X radar set (American built 10 cm SCR720).

What use the FAA made of these AI Mk X equipped Wellington aircraft is unclear, as they don't appear to have been used in their intended role. Records show that MP547 went to 762 Sqn FAA at RNAS Dale for only a few months, before joining the Station Flight at RNAS Yeovilton, while MP549 went to 765 Sqn FAA at Lee-on-Solent for less than a year. Possibly the FAA had intended to form an AI Mk X Radar Training Squadron but with the availability of the American dual-purpose ASH radar sets, the need for AI Mk X equipped Wellingtons declined. There have also been suggestions that the AI Mk X radar suffered greatly from electrical interference when fitted in these Wellingtons and this took some time to resolve.



On 4th June 1943 Lt Reginald Gardiner RNZNVR had to belly-land a Fulmar Mk II DR724 at Christchurch owing to hydraulic failure, but luckily the aircraft was not written off and was later repaired. Lt Gardiner was unhurt.

*Left A Bristol Beaufort with ASV seen at Christchurch with the Special Duty Flight. A few Beauforts were also on charge with the Fleet Air Arm after the RAF left in 1942.*

In another incident, PO Arthur Ablett was tasked by Lt M.J.J. Harris RNVR to act as a crewmember in a Bristol Beaufort, belonging to the FAA. PO Arthur Ablett remembers; *“We took off in a Bristol Beaufort powered by Bristol Taurus engines and I was sat in the cockpit near the pilot. We had not gone very far when one of the Bristol Taurus engines started playing up and*

*then failed, so Lt M.J.J. Harris shut down the fuel to the troublesome engine and we returned to the airfield”.* Apparently, the FAA were given Bristol Beauforts for non-operational flying, that the RAF did not want, and the Bristol Taurus engines were notoriously troublesome, often resulting in engine fires.

In October 1943, on land adjacent to Christchurch airfield, which had been the radar trials ground for the Air Defence Research and Development Establishment, US Army Engineers transformed it into an Advanced Landing Ground in preparation for D-Day. Although the initial construction work, had only a minor impact on the existing grass airfield, it ultimately extended the airfield and provided the N.A.R.I.U. (and Airspeed) with a new 1600 yd mesh runway, which would be available from early 1944. However, the airfield then became very busy with too many movements but no control office!

During the time that the Fleet Air Arm used Christchurch airfield, there were many instances when Allied aircraft had to make emergency landings for a variety of reasons, such as battle damage, mechanical problems or bad weather. As the major service unit using the airfield, the Navy personnel were often called upon to help. In one memorable incident an RAF Short Stirling bomber landed at Christchurch, with damage to its fuselage and with wounded crew members on board, after a raid. As soon as the aircraft landed, the crewmen in need of medical attention were taken to hospital and the uninjured men made arrangements to return to their base by other means. The Stirling bomber was then left in the care of PO Boivin and his team, which carried out temporary repairs. A few days later, a lady pilot of the ATA arrived to collect the aircraft, so it was said, for a ferry flight to Speke. As she was not very tall, PO Boivin had to make wooden blocks to attach to the rudder pedals in order for her legs to reach them! This incident may date from November 1943 onwards when PO Michael Boivin arrived at Christchurch. The Squadron to which the aircraft belonged is unknown but may well have been either 149 (East India) or 218 (Gold Coast) Squadron that used the type at this time. Probably because FAA personnel were seen working on the Stirling, a few local spotters reported that the type was now issued to the Fleet Air Arm!

Shortly after arriving at *HMS Daedalus II*, PO F.A. Ablett also witnessed another arrival, an RAF target towing Bolton Paul Defiant, crewed by a Polish crew of two. *“At the best of times the short grass runway at Christchurch could catch pilots out with its dips and bumps, and on this occasion the BP Defiant landed late in the landing run and bounced up in the air and came crashing down on an island in a lake beside the Airspeed Factory. The lake was in fact a dammed part of a stream that was made available to act as a water source for firefighting if the factory was ever bombed. The crew got out of the Defiant OK but then had to get across the ‘lake’ as best they could, arguing with each other in Polish!”*

Although the N.A.R.I.U. had mostly finished converting Fulmars to Mk IINF standard, by 1943, it still converted a few Fulmars right up to May 1944. Despite the inferiority of the Fulmar Mk IINF at this stage in the war, the Admiralty was keen for AI equipped fighters to be used for operational trials. 784 Squadron therefore lent a few of its Fulmars to 813, 825 and 835 Sqns FAA during 1944 for operations aboard Escort Carriers protecting the Arctic Convoys to Russia. Some Fulmars were also lent to the Northern Ireland Night Fighter Flight at RAF Ballyhalbert in 1944. It is likely therefore that the 1944 conversions were required to make up the numbers still needed for training.

The majority of aircraft sent to the N.A.R.I.U. were there only for a short time whilst modifications were carried out. However, the unit is thought to have had a few aircraft on semi-permanent strength. These are said to have included an Airspeed Oxford, an Avro Anson, a Fairey Barracuda, a Stinson Reliant and two Vickers Wellingtons. To keep these aircraft airworthy and those sent for modification, servicing was carried out by an Air Engineering Team, part of the Naval Air Section of approximately twenty-five fitters and engineering staff under Lt D.I. Thompson RNVR.



On 1st March 1944, Lt Gardiner overturned a Stinson Reliant I, (FK917), (similar to that shown left) after the aircraft bounced whilst attempting a crosswind landing. The Stinson was badly damaged but was repaired. The aircraft was said to belong to an RNAS Communications Flight at Christchurch but was flown by the pilots of the N.A.R.I.U. as one of their own.

On another occasion a rather silly accident happened when Petty Officer Arthur Ablett was working on the engine of a visiting RAF Tiger Moth. Arthur Ablett remembers; “One day an RAF pilot on a ‘jolly’ (as unofficial flights were known in the services) arrived in a Tiger Moth to visit family or

friends in the local area. The Tiger Moth was left on the airfield overnight but when the pilot returned in the morning it would not start. The pilot tried a few times to get the engine started without success so the FAA personal also tried but still without luck. I was therefore asked to help, so the aircraft was pushed into the Bellman hangar for me to check the engine timing. The process involved lifting the magneto cover which made the system live, so the switches were moved from ‘off’ to ‘on’ and the coil starter in the engine was fully wound up. Unfortunately, while I was working on the aircraft a friend of mine came into the hangar and asked if I was coming for dinner and happened to rest his hand on the propeller. However, moving it just a few degrees made the coil click into action and the engine started when I was standing between the propeller and the lower wing!

Without the precaution of chocks in place, the aircraft then started to move forward and I was knocked over and dragged along by the aircraft while hanging on underneath. My friend was lucky too as he was missed by inches by the spinning prop and managed to jump out of the way. There was now nothing to stop the Tiger Moth moving forward and therefore it crossed the hangar floor and smashing into the side of a Fairey Swordfish that was required for an important test the following day! Inside the Swordfish were three ratings working on it and they got out of it in double quick time! Luckily there wasn’t any serious damage to the Swordfish and only the fabric was ripped on the fuselage. Consequently, a Court of Enquiry was convened, and I was asked why an aircraft with fuel in it was allowed inside the hangar, and why no chocks were in place and various excuses were offered. Luckily for me the RAF pilot wasn’t supposed to be using the Tiger Moth and so he wanted no fuss and bother and hoped the matter could be forgotten, so in the end it was hushed up and not reported through normal channels!

On another occasion PO Arthur Ablett was acting as a flight assistant in a Wellington aircraft flown by Lt M.J.J. Harris on a test flight that took them inland and north of Christchurch.

During the test flight the pilot’s airspeed indicator in the cockpit went unserviceable, so it was agreed that Lt Harris would throttle back the engines bit by bit to establish his airspeed in the hope of finding the normal landing speed. Lt Harris asked me, as the only other person on the aircraft if I was any good at estimating air speed, as he was unfamiliar with the aircraft type. Sadly, I wasn’t and told him so! Lt Harris then instructed me to go aft and see if the air speed indicator in the secondary control panel was reading OK. Sadly, the aircraft had no internal communications or even a radio so I was asked to press some form of switch on the secondary control panel that would light up a red light on the pilots control panel as a way of communicating and once the required speed in knots was shown on my panel, I would press the light switch to show the pilot, he was at the exact speed he required to land. However, I sat there watching the panel, but nothing registered at all on the air speed indicator so I never pressed the switch, as it was also unserviceable. Lt Harris continued to throttle back when suddenly the Wellington stalled and seemed to just fall out of the sky. Luckily for both of us, Lt Harris regained control. After that he decided to land as soon as possible at the nearest airfield. A large airfield with crossed runways was spotted and Lt Harris lined up on approach to land. However, this was met by volleys of red very-pistol warnings and the RAF crash tender even moved on to the runway. Lt Harris then pulled the aircraft out of the approach and went around again, and this time selected the other runway to land. As expected, the landing run was at high speed, to avoid a stall and Lt Harris used the full length of the runway to bring the Wellington to a stop. This landing either caused the brakes to overheat or use up all the air pressure in them, because the aircraft then started to roll on its own accord, down a very slight slope at the end of the runway at about 3 mph towards the boundary fence. I was told to jump down from the front nose hatch and try and put a chock under one wheel to turn the aircraft round. Once this was done, Lt Harris managed to taxi the Wellington back in the direction of the RAF technical site. The RAF kindly gave us lunch and repaired the aircraft, the fault being an ‘olive’ wasn’t connected to the pipework behind the cockpit instrument panel, which prevented air speed information being sent from the pitot tube.

Unfortunately, the previously mentioned incident was not the last to involve the N.A.R.I.U. as Lt Gardiner was the pilot of Wellington Mk XI MP564, which crashed on landing on 25th May 1944. The Wellington was used as a ‘trials’ aircraft fitted with ASV Mk IIN. While landing in a NE direction over the harbour, it is thought that Gardiner’s landing was prevented by an American aircraft or vehicle crossing the runway. In the attempt to go around again the aircraft suffered a starboard engine failure and suddenly veered to starboard at low level.

The Wellington cleared the NE boundary fence, but the starboard wing hit the ground and the aircraft crashed in a field 500 yards beyond the aerodrome over the other side of the Lymington Road. The crash crew from the 405<sup>th</sup> Fighter Bomber Group was first on the scene, closely followed by AF (E) Douglas Jones and other Naval Personnel. Despite both wings being torn off the aircraft, Lt Gardiner suffered only cuts and bruises and later returned to duty with the N.A.R.I.U. However, AF (E) E R Horlick who was acting as flight assistant was thrown out by the force of the crash and ended up in a tree still strapped to his seat. He was knocked unconscious and remained in a coma for nearly two weeks. Because of his injuries, Horlick stayed in hospital for some time and did not return to the unit.

The Air Engineering Team soon arrived to start clearing up the mess. Petty Officer F.A. Ablett also arrived at the Wellington crash site and remembers;

*“The Wellington had been completely wrecked; all the debris from it was set out like an Airfix kit with the wings beside the fuselage and Mr Grey the farmer arrived on the scene, worried about the clearance of the wreckage to enable him to get a crop in. His eyes lit up when informed that we had to get the fuel out. Due to the position of the tanks, access the fuel cocks was not accessible so we tried to puncture the tanks with the aircraft’s escape axe, but this was almost impossible with the self-sealing type of tank. The farmer was not pleased when he saw our attempts to let the fuel just soak into the ground. However, with the promise of as much free fuel as he wanted, he soon changed his attitude and sped off back to the farm to find as many containers as he could carry!”*



*Above; A Vickers Wellingtons Mk X, HE274 of 765 NAS, and one of a handful of Wellingtons used by the FAA, Courtesy of the Fleet Air Arm Museum.*

Prior to D-Day, LAF (A) Joe Waterman, of the Air Engineering Team, often used to see black painted Westland Lysander aircraft arriving at Christchurch airfield but had no idea why they were there. There is the possibility that these aircraft were used in connection with the Special Operations Executive (SOE) for secret flights to France, to collect and take agents to the French Resistance. Typically, RAF Tangmere was used as a forward base by SOE flights, but a mission further west in France may have necessitated the use of Christchurch. PO Michael Boivin was occasionally tasked with escorting the ‘passengers’ who had arrived by civilian car and out to the waiting aircraft. These Lysander flights are said by some sources to have occurred in 1942 however as LAF (A) Joe Waterman and PO Michael Boivin both arrived at the N.A.R.I.U. in November 1943 the flights probably continued up to D-Day. Operational flights by 138 Sqn RAF or 161 Sqn RAF, which carried out secret missions for SOE, have so far not been traced to Christchurch, so they could have been for training or even in connection with SOE at Beaulieu or by an unrelated RAF unit!

At some time in early 1944, a number of Fairey Barracuda Mk II aircraft were received by the N.A.R.I.U. for various modifications. One Barracuda was certainly at the N.A.R.I.U. prior to D-Day as AF (E) Douglas Jones remembers that while on a test flight over the Solent with Lt MJ Harris in a Barracuda he saw a ship towing a barge 'as big as a block of flats' and wondered what it was. He subsequently learnt that it was part of the 'Mulberry Harbour used to support the 'D-Day' landings. Despite being very busy with all kinds of radio and radar installation work at this time, the FAA personnel were always happy to help the Americans as much as possible, with the provision of tools and equipment. Lt Cdr Scholes therefore offered some of his FAA personnel to USAAF to help with various duties. Sometimes these tasks could be quite hazardous. Due to shortages of US equipment, the 405th Fighter Bomber Group made their own bomb-racks but until sway braces were fitted, the uneven mesh runway often caused bombs to shake free on take-off. Before the rest of the wave of P-47D Thunderbolts could take off, these bombs had to be removed from the runway and as Petty Officer F.A. Ablett remembers, FAA personnel were ordered to drag the live bombs clear; a task for which they received absolutely no training at all!

### **The Foxwood Avenue Disaster**

In addition to the cover provided by the USAAF crash crew during their stay, the Royal Navy also helped by manning the RAF Station's own Crossley Q30 four-wheel drive crash tender and this duty was done by RAF personnel and Naval ratings detailed on a daily rota basis, rather than as specialist fire-fighters. Regrettably in carrying out this roster duty on 29th June 1944, four of the Fleet Air Arm men (and one RAF crewman) were killed, in the worst accident to occur in the history of the airfield and probably the Ninth Air Force in the UK.

The sequence of events started, at about 06.45 hrs, when 2nd Lt. Vincent R. James of the 509th FS, attempted to take off in a P-47D, 42-76425 'G9-G' with a full war-load but failed to get properly airborne and hit the roof of a bungalow in Foxwood Avenue, Christchurch. Luckily the bombs did not explode and although the aircraft was badly damaged, it did not catch fire and Vincent James was unharmed. However, the bungalow was severely damaged. Later the same afternoon, Lt. James was given a second mission to fly, which some accounts suggest was customary in the USAAF, in order that a pilot wouldn't lose his nerve after a crash. At approximately 14.00 hrs Lt James once again attempted to take off in a replacement P-47D for an armed recce mission, complete with a full war load, including two 500 lb bombs.



*Above; The 405<sup>th</sup> Fight Bomber Group, was sent to Christchurch in 1944, in advance of the D-Day landings, and a long steel mesh runway was constructed near the old grass aerodrome, which Airspeed and the N.A.R.I.U. also used from their dispersal sites on the north side. The dispersal shown on the south side, near 405<sup>th</sup>'s HQ at Bure Homage House was for the 511st Fighter Squadron (previously Fighter Bomber Squadron until 18<sup>th</sup> June 1944)*

However, Lt James once again failed to gain sufficient height on take-off and his P-47D hit a second bungalow alongside the first he had hit earlier. This time, one bomb went off on impact, killing Lt. James instantly and ignited fuel from the tanks. Then 0.5-inch ammunition began firing off, sending bullets in all directions. The full force of the blast also caught some civilians who were removing furniture from the first crash site. As if the situation wasn't bad enough, the explosion also blew Captain William Chapman, out of the air and caused him to crash as well, as P-47D aircraft took off in pairs!



Luckily Captain Chapman was able to crash land his stricken P-47D on waste ground in Mundeford. He survived with burns to his face and hands and other minor injuries but did not fly again in the ETO. In response to the emergency in Foxwood Avenue, the local NFS fire engine and the RAF Station crash tender were quickly on the scene. Some American personnel also rushed to the spot as did people from the Airspeed Factory. Unfortunately, as these people arrived in Foxwood Avenue, the other bomb that was lying in the road in an unstable state exploded. The RAF crash tender, manned by a mixed RN/RAF crew took the full blast, killing the four Naval Ratings from *HMS Raven* and one RAF Sergeant, (F/Sergeant Horace F. Siebert, RAuxAF, 5011th ACS) who was the driver. The four Naval Ratings who died were FX.87847 LAF(E) Arthur R.A. Eastwood, RN, FX.79649 AF(A) Basil E. Holroyd, RN, FX.98192 AF William Norris, and FX.109554 AF Robert H. Smith, RN. Later the RN ratings were given a posthumous award of a Mention in Despatches, but F/Sergeant H.F. Siebert wasn't.

Another RAF airman was badly wounded. Several Officers and men of the 510th FS tried to warn people in the vicinity, of the danger and while doing this they themselves were caught in the explosion; Lt. Arthur Williams caught the full force of the blast and was killed, Lt. Charles Mohrle was 'skinned' by bomb fragments and Lt John Drummond had his ear pierced by a splinter. Private First-Class John H Johnstone, who had been working nearby was badly wounded and died the next day in Hospital. The death toll both military and civilian was circa sixteen people.

### **Flying unofficially with the USAAF**

Nearly four weeks after D-Day it would have been apparent to the men of the N.A.R.I.U and the Naval Air Section, that the 405<sup>th</sup> Fighter Group would soon be moving to Normandy to an Advanced Landing Ground, as a Advanced Party had already left Christchurch, and had arrived in France on 25<sup>th</sup> June 1944. It seems that in view of the impending move, Lt M.J.J. Harris RNVR cheekily asked the 405<sup>th</sup> FG if he might fly on a mission with them in one of their P-47D Thunderbolts. At his point its worth mentioning, that such a move would have been highly irregular and fraught with danger, not only to Lt Harris, but also to the rest of his 'Flight' and the careers of the Senior Officers in the RN and the USAAF, if such a plan was instigated. At the time I heard the story from Sgt Reg Nolte, of the 405<sup>th</sup> FG at Christchurch I did not believe it. Interestingly, those Ex-N.A.R.I.U. and Ex-Naval Air Section members at Christchurch, who knew Lt M.J. Harris, were of the opinion that he was a highly experienced pilot and that he actively sought new types of aircraft to fly, and that he would have relished the opportunity. Lt Harris's chance of such a flight were fading with their likely move 'anytime soon'. I was sceptical, until I was able to read the microfilmed Operational Records for the 405<sup>th</sup> Fighter Group, held in USAF archives in Alabama, in the 1990s. Amazingly in the Operational Records for 511<sup>th</sup> FS under Field Order No.434C for Blue Flight it says '*Had Lt Harris with us who became lost and landed on a beach on Cherbourg Peninsula. Returned Safely*'. I honestly thought the incident would have been covered up but it wasn't.

It transpired that Lt MJ Harris did in deed talk his way in to flying a P-47D Thunderbolt, with the 511<sup>th</sup> FS on an operational sweep over Laval – Nantes area, armed with two 500 lb bombs, and led by Major T.A. Bohr. Apparently, he was also given the chance for a short 'circuit of the airfield beforehand to prove he could handle the P-47D. However, on the actual mission it is said that Lt Harris was so engrossed with his surroundings that he failed to keep a look out for this 'American friends' and became lost. It may be that it was planned for Blue Flight to refuel at Advanced Landing Ground A-10, but Lt Harris could not find it and landed on the Cherbourg Peninsula and arranged with some American soldiers, to be refuelled before flying back to Christchurch. It seems therefore that Lt MJ Harris did make such a flight and was probably the only Fleet Air Arm pilot in WW2, to fly operationally with the USAAF.

### **Help for the Fleet Air Arm in the British Pacific Fleet**

In the late summer of 1944, the war in Europe going 'more or less to plan' after the successful D-Day landings, Churchill was keen for a British Pacific Fleet to join the Americans in the fight against the Japanese. This was purely for political reasons to guard against any post-war 'interference' with British interests in the area.

Despite the objections of the USN Admirals in the Pacific, such a proposal could hardly be rejected, by the US President from a most loyal ally! Consequently, plans were put in place for the British Fleet to be assembled in the India Ocean and sail to the Pacific and attack Japanese oil installations on the way. The N.A.R.I.U. therefore received urgent orders in August 1944 to design and install a new VHF radio system into a Grumman Avenger aircraft. This modification was aimed at repositioning the Observer into the cockpit with his ASV set and the compass, where he had a better view and could fulfil his tactical responsibilities more easily, than from inside the fuselage. As a new location was required for the radio, radar and the seat for the crewman, extensive and drastic alterations were needed to the centre section of the aircraft. This work was essential to the FAA in order to allow Avenger Squadrons to have better communications and navigational abilities to strike at the Japanese held oil fields in Sumatra, later to become Operations Meridian I & II in January 1945.

*Below; A photo taken by an FAA recce aircraft showing the effects of an attack by Grumman Avengers on the Japanese held oil fields in Sumatra, as part of Operations Meridian II in January 1945. The Avengers dived down from 6,000 ft through a barrage balloon screen, shown as black dots at the top of the photo. In my original photo, an Avenger may be seen climbing away in the top left of the large white cloud in the centre of the photo, at perhaps 500 ft. The operation was a great success, and severely disrupted the supply of oil for 6 months or more, almost until VJ Day. (LPH collection)*



LAF (A) Joe Waterman was part of the team under PO Boivin, which was responsible for this important task. He remembers that in preparation for the Top-Secret operation a new Avenger was delivered from the USA specifically for the experimental conversion but unfortunately, this aircraft crashed on landing at RNAS Lee-on-Solent and this setback caused serious problems for top level Royal Navy Commanders. A most Secret meeting with the PM, Winston Churchill, present, was convened at *HMS Victory* Portsmouth, and a few selected people were invited, including PO Michael Boivin from the N.A.R.I.U. The gravity of the situation was explained in respect of the Fleet Air Arm's requirements and the N.A.R.I.U. was requested to give the work top priority to maintain the original schedule, this being emphasized personally by the PM.



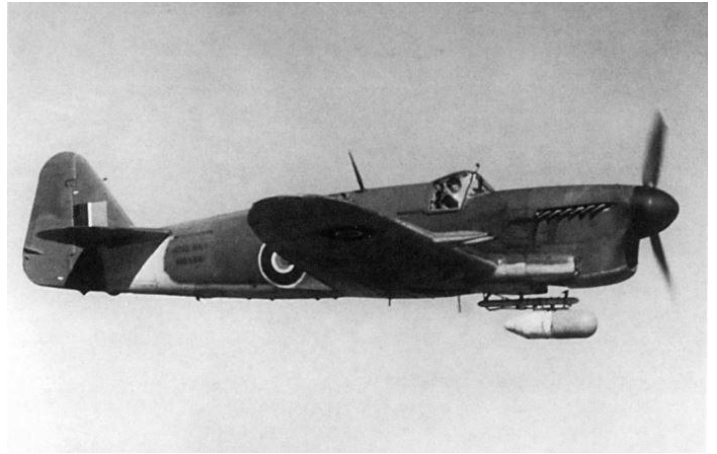
*Above left; This Grumman Avenger Mk III was the aircraft at NARIU, from which the heading photo was taken. It had a serial in the JZ range. Above Right; An Avenger takes off during Operation Meridian 1945.*



A second Avenger (*similar to that above*) was 'requisitioned' and arrived safely at Christchurch and in order to achieve the target date for completion, the N.A.R.I.U. personnel worked continuously for fourteen days and nights with very little sleep. For his personal efforts relating to this work, PO Michael Boivin was later awarded the BEM. Exact details of the above-mentioned urgent task are hard to establish but it is known that Avenger JZ149 of 849 Sqn FAA was delivered to Christchurch in August 1944 for 'VHF and centre section modifications.' Originally the Avengers supplied to the British in 1943, were modified to suit the Fleet Air Arm's requirement whereby the Observer sat within the fuselage. However, it was soon realised that the best place for the Observer was up in the second cockpit behind the pilot, rather than within the

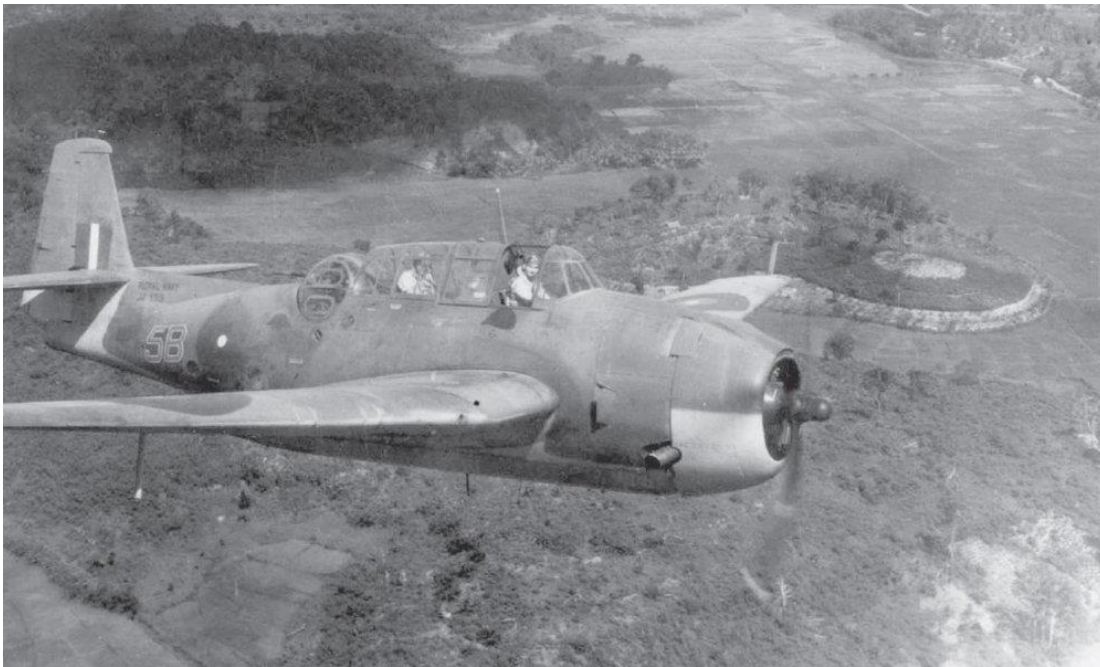
fuselage. Whatever the nature of the modifications this work was certainly vital for Operation Meridian, as after completion in early September, JZ149 was hoisted aboard HMS Rajah, which set sail for Ceylon on 9th September 1944. The modified Avenger would act as a model for the Squadron's maintenance crews to modify other aircraft on route or on arrival in Ceylon. When HMS Rajah arrived, 849 Sqn FAA was transferred to HMS Victorious for the attacks on Sumatra. Records also show that a second Avenger, JZ224 was flown from the N.A.R.I.U. to Turnhouse, near Edinburgh at the same time. Douglas Jones, an Air Fitter (E) of the Air Engineering Team, well remembers the delivery of the additional Avenger to the N.A.R.I.U. It was delivered late in the day and with PO Vic Webster in charge, Douglas Jones was ordered to prepare the aircraft for a pilot to move it to another part of the airfield. In the semi-darkness, the engine was started but disaster nearly struck. As the radial engine on this Grumman type was unfamiliar and very powerful, Douglas Jones did not hold the control column back far enough, when starting the engine, which allowed the tail to rise and it nearly tipped the Avenger on its nose! In view of the loss of the first Avenger, any damage and delay to this vital aircraft would have almost certainly resulted in a Court-Martial for him and PO Webster!

While at Christchurch, PO Michael Boivin and LAF (A) Joe Waterman both remember other experimental work being carried out on a sonar submarine detection system, possibly called ASX (Airborne Sonar Experimental?). The system used small parachute buoys, which were dropped in a pattern over the sea, through a chute in the aircraft. The buoys then released a sensitive microphone into the sea underneath and a transmitter aerial on the buoy above the surface. Sounds picked up from a U-Boat were transmitted to the aircraft's receivers and plotted from the pattern of the sound frequencies. The work carried out by the N.A.R.I.U. involved tests on the release mechanism with drops being made over the airfield from an Airspeed Oxford. It is likely that this experimental ASX work took place in late 1944 or early 1945. No doubt the work carried out at the N.A.R.I.U. contributed to the post war development of this means of hunting submarines.

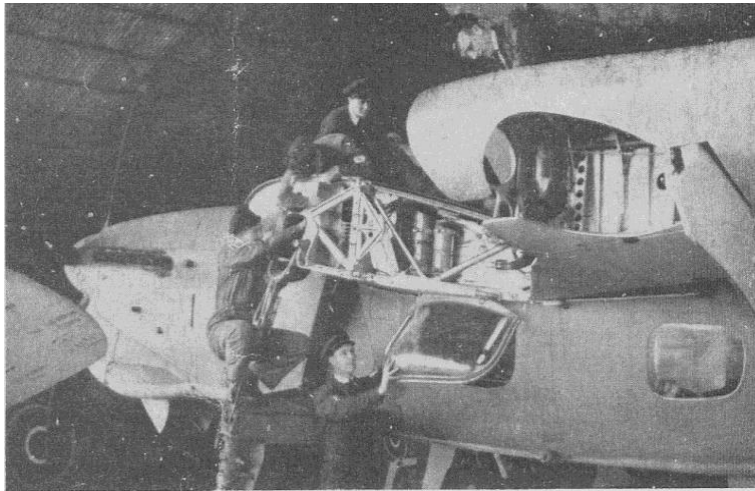


By 1944 most of the Fleet Air Arm's Barracudas were equipped with ASV Mk IIN radar sets, which had Yagi aerials above each wing. However, in the autumn of 1944 the N.A.R.I.U. received a Barracuda Mk II in order to fit a US built 3cm wavelength ASH (AN/APS-4) radar. ASH radar was specifically designed for naval aircraft and combined the functions of AI and ASV, in one radar set. To overcome the lack of space in Naval aircraft this radar set was mounted externally in a streamlined bomb shaped casing. ASH could be carried on a bomb rack and was designed for quick fitting with only one co-axial cable plug connection. Everything was extensively miniaturized with a net weight of only 180 lbs.

Because of the extensive miniaturization and the combined AI and ASV use, there was some loss of performance in each function but the radar worked effectively for the FAA and remained in service well into the 1950s. This type of radar was known as ASV Mk IX and AI Mk XV in British service and it was supplied under Lend Lease arrangements following complaints by the Royal Navy that the RAF got priority for everything! This new radar, being dual purpose was installed in both Fairey Barracuda Torpedo Bombers and Fairey Firefly NF I Night Fighter aircraft from late 1944 (*shown above right*). With ASH radar being urgently required for service with the front-line Squadrons, it was necessary to update the Avro Anson ASV Trainers to meet the demand for training ASH operators. The N.A.R.I.U. therefore started installing the new radar to these aircraft from July 1944 until the spring of 1945.



*Above; A Grumman Avenger during operations in the Far East in 1945, showing the observer in the modified cockpit, behind the pilot and not housed inside the fuselage, as originally conceived.*



*Left; The only known photo of the N.A.R.I.U. personnel, at work which was posed, as if they were working on a Barracuda.*

The work of the N.A.R.I.U. was extremely varied; while some types of aircraft were received for the fitting of radio and radar to a standard pattern, others were sent individually for experimental modifications.

Some of the less well documented tasks of the N.A.R.I.U. included work on an Anson in October 1943 to fit one of the first American 3 cm AN/APS-15 radars received by the FAA. This version of ASV was known as ASV Mk X and was eventually fitted into Fairey Barracuda Mk III aircraft in a blister radome below the rear fuselage. Whether or not the Anson had a similar

blister radome is unknown. It is also known that some Fairey Swordfish had ASV Mk X or the similar ASV Mk XI installed by the N.A.R.I.U. in a bulged under fuselage dome (*shown above*). Perhaps for that reason, Swordfish NR946 arrived to carry out trials on ASV Mk X. Unfortunately, it was hit in a taxiing accident by Whitley LA933 from 15 MU on 5<sup>th</sup> January 1945. Strangely the Whitley was written off whereas the Swordfish was repaired. One such Swordfish with Mk XI was seen in the photograph of the airfield taken in February 1945, which the censor has removed from the photo.

In October 1942 the Director Naval Air Division (D.N.A.D.) began searching for a method for providing airfield facilities more quickly and more economically, both in labour and in materials. It was at this time that the idea of a Mobile Naval Airfields Organisation was born. It would be the middle of 1944 before sufficient resources became available to begin assembling the first Mobile Naval Air Base, and *HMS Raven* at Christchurch was tasked with some of the conversation and outfitting of specialist Radio and Radar vehicles for the Mobile Naval Airfields Organisation (based at RAF Ludham, Norfolk). N.A.R.I.U. was responsible for the design and fitting of and testing of equipment in to containerised Radio & Radar workshops that were shipped to the Far East. These 'containers' were produced using standard RAF signals type bodies on Ford WOT-1 or Austin K6 6x4 trucks, to produce a readymade Radar or Radio workshop for use near a MONAB airstrip. Such vehicles were in short supply as priority for vehicles and equipment when towards the build-up for the D-Day landings in Normandy in June. Work was slow and as a result the first MONAB to be assembled, experienced problems with getting their Radio & Radar van allocation and had to sail for Australia without some key elements which had to follow by later transports. Another task involving an Anson in June 1944 was the trial fitting of twelve different kinds of radio sets into the aircraft but the reason behind the tests is unknown.

An important task carried out by the N.A.R.I.U. in the spring of 1945, was to assist the Signals Research and Development Establishment, an Army Establishment, located on the edge of Christchurch airfield, with trials of the Liquid Oxygen-Petrol, Guided Anti-Aircraft Projectile (LOPGAP). The job of flight testing the telemetry of the guidance system of this missile was given to SRDE but as the Establishment had no aircraft of its own, it was necessary to borrow an Avro Anson and a few personnel from the N.A.R.I.U.



*Above; An Avro Anson of the N.A.R.I.U. assisting with trials of the Liquid Oxygen-Petrol, Guided Anti-Aircraft Projectile, (LOPGAAP) which was suspended backwards on the bracket used to hold the ASH radar, for telemetry tests, at RAF Christchurch in May 1945.*

For the trials in May 1945 the missile was mounted back to front underneath the aircraft on a modified ASH radar mounting in order that the movement of the control vanes could be monitored during the tests. One of those involved was LAF (E) Jim Flack who was part of a small 'Projectile Team' assembled by the N.A.R.I.U. for the trials.

Strangely, the 89 Elementary Gliding School started gliding at Christchurch on 19th August 1944, under the command of Sqn Ldr JV Yates of the ATC Glider Wing, which was rather strange as the airfield was still used by the N.A.R.I.U. and Airspeed and as an emergency airfield for USAAF Medium Bombers returning from missions over NW Europe.

Air Cadets also attended Summer Camp on the Airfield late in the war and when not gliding, a few lucky Air Cadets, got rides in N.A.R.I.U. aircraft. It was on such an occasion, that an Air Cadet sitting in an Avenger rear turret, pulled the pin out of the escape hatch in the turret, which duly fell out over Christchurch luckily without killing anyone! The hatch was not recovered.



By the spring of 1945 the workload for N.A.R.I.U. diminished considerably so Lt Cdr Scholes, found time to enjoy himself with flying with 89 Elementary Gliding School. However, it is believed that Lt Cdr Scholes injured his back in a heavy 'landing' after stalling on take-off in one of the gliders, which everyone on the Station considered very bad luck, considering all the flying he had done in FAA machines throughout his Naval career without any problems!

In the summer of 1945, at least two de Havilland Mosquito B Mk 25 aircraft were at the N.A.R.I.U. for radio installation trials, prior to the Mosquito entering front-line service with the FAA in September of that year. A Vultee Vengeance Target-Tug BD320 (*similar to that shown left*) also turned up for modifications on 3rd August 1945 shortly before the war in the Far East

came to an end, following the dropping of the atomic bombs on Hiroshima and Nagasaki a few days later. Any proposed work carried out may well have been cancelled by 15<sup>th</sup> August!

Once the war in the Far East came to an end, the FAA began to greatly reduce in size and consequently the N.A.R.I.U. had little to do. Many of the original personnel were quickly demobbed, while others were drafted in to *HMS Raven* at Christchurch to await their demob from the FAA. Keeping up morale and keeping busy was therefore an important task for every Naval unit at this time and jobs were often found to keep people busy with jobs that did not need doing.

One of those waiting for 'civi-street' in the late summer of 1945 was Air Fitter (A) Ken Baylis who was drafted to Christchurch on return from two years' active service in India. He remembers that when he reported to Lt Thompson, he happened to mention that he had experience with FAA Bolton-Paul Defiant Target Tug aircraft in the Far East, but wished he hadn't, as he was immediately given the job of restoring a Defiant TT (like the one shown below left) to flying condition, which had been lying in a neglected state on the north side of the of the airfield. The aircraft could have been one of several



Defiant Target Tugs used by the FAA or even one from 667 Sqn RAF that was a lodger unit at Christchurch during 1944. The aircraft had been used for spares and was therefore a bit of a 'Christmas Tree' with many parts missing. After several weeks of seeking missing parts, including some from the aircraft dump at RNAS Eastleigh, the aircraft was finally ready for an air-test. However, the FAA test pilot, a Northerner and possibly a replacement for one of the original pilots, refused to fly the aircraft saying, "I'm not flying that bloody thing, the war's over now!"

Therefore, Ken Baylis never saw 'his' Defiant fly and later learnt that it was dismantled and taken away by the

RAF on a low-loader lorry to be scrapped.

By the end of October 1945 some *HMS Raven* personnel, including a few of those under Lt D I Thompson, were transferred to *HMS Flycatcher* at Middle Wallop for demob, although the last personnel of *HMS Raven* left Christchurch airfield by December 1945.

The N.A.R.I.U. was officially transferred back to *HMS Kestrel* at Worthy Down; although the exact date is unknown and some sources have suggested the start date at Worthy Down, was 1<sup>st</sup> January 1946. The N.A.R.I.U. carry on in the FAA to the 1970s.

The Royal Navy's use of Christchurch therefore came to an end, although a link with the Fleet Air Arm would continue with the production of the de Havilland Sea Venom and Sea Vixen at the Airspeed Division factory as part of de Havilland, in later years.



*Lt Cdr Dennis H.C. Scholes, back row, in front of the prop, with some of the personnel in front of a Fairey Barracuda.*



*Above Left; Joe Waterman, kneeling in the front row, far left. It is believed that this is the N.A.R.I.U. Installation Team  
Above Right; PO Arthur Ablett, on the right helps strap in ATA Pilot, Vera Strodl into a Fairey Barracuda, prior to a delivery flight at Christchurch. Vera was of Danish parents, and was a great hit with the men whenever she visited!*



*The Air Engineering Team at HMS Raven (RAF Christchurch) under the command of Lt DI Thompson RNVR who is standing fourth from the right and fifth from the right is Lt Reginald Gardiner RNZN VR on of the NARIU test pilots*