

THE FIRST RADAR DOME  
OR  
FAROE ISLAND MADNESS

With your experience and connections to the Department you should now assume the duty of concerting action to make the Faroes satisfactory for our purposes. Pray make a weekly report. DCNS will supply you with requirements. We must have an aerodrome and RDF at the very earliest moment, together with AA defence, and a few coast guns. This will be a very tempting base for a raid – (Note from Churchill's Second World War Vol. 1)

The Faroe Islands are a group of 21 bits of land which really are the tops of a chain of under the sea mountains which are probably an extension of the Highlands of Scotland. They lie 400 km north of Scotland and midway between Norway and Iceland. The wartime population was roughly 25,000. The capital is at Thorshavn on the largest island of Streymoy. The first known inhabitants was a group of Irish monks but this group did not stay and in the 9<sup>th</sup> Century Vikings were the first settlers. The Islands came under Denmark in 1380 and are today a self-governing community within the kingdom of Denmark. As Churchill indicated they were of great strategic importance to the battle of the Atlantic and there was every evidence that the Germans would have been there had the British not moved first.

The diary for November 10/11 of 1942 said "A little rough and later a little sick". It should have been "very, very rough and suddenly very sick – the sickness soon passed, the rough sea didn't".

We had sailed from Aberdeen at 5:45 pm on November 10<sup>th</sup>. There were 300 assorted troops crammed into a 1600 ton ship named the Tjaldur, supposedly named after the national bird of the Faroes, and we were no sooner beyond the anti-submarine nets, then the weather hit. In the 40 plus hour, 400 to 500 mile trip we lost a carley float and our barrage balloon, otherwise the voyage seemed uneventful.

Dawn comes late in November in that latitude and I would guess it was about 10:00 a.m. that we lay off the Island of Nolsoe and outside Torshavn Harbour. The sea was somewhat calmer but the wind was still high, and what we first took to be plumes of steam rising from the sheer face of Nolsoe were, in fact, plumes of water from small water-falls being blown back over the cliffs.

We disembarked at Torshavn and after an overnight stop at a transit camp were on our way to the RAF base on the Island of Vaagar. The trip took us through what is known as the Mykines Race, an extremely fast and very rough current passing from west to east through

the centre of the Faroe group. It is rarely a smooth passage and that day was no exception. The day was mostly clear and we did see, what would become very usual, the spectacular cliff and fiord type scenery of the Islands.

Vaagar had been chosen as the RAF base because of the long fresh water lake called Fjallavatn which afforded good landing for Catalina and Sunderland patrol aircraft of Coastal Command. They, that is British Engineer and Pioneer troops, had carved a landing strip out of the mountain at one end of the lake. Although meant to base a fighter Force it was rarely used because of weather. We had been told that #404 Canadian Squadron was to come in from Wick but it never happened.

In any case our 14 man Radio Direction Finding (Radar) crew had arrived and after a quick weapons course, and working at odd jobs, we were moved to Nolsoe Island guarding the East side of the Island and Torshavn. We hadn't been trained as Commandoes, but we managed a 20 to 30 foot cliff straight up from a bouncing small boat. It had been too rough to land at the little dock at the point of the Island.

We struggled, with our kit, up another very steep 400 feet to the light keepers' row of houses which were our living quarters. I moved on up another stiff climb to what I assumed was the Radar station. My assumption was made on the basis of a Yagi array sticking from the top of a small hut surrounded by an earth, bomb-blast wall.

It is perhaps of some interest that none of the personnel of our crew had ever worked on Air to Surface Vessel or similar types of equipment. We were all from Chain Home (CH) stations, and at least, in most cases, had never seen an ASV set. True the principles were the same, but the rest we learned from secret documents or by trial and error. It was an interesting experience.

The Faroes lie in a very strategic spot in the North Atlantic. If held by the Germans, they could have done much more damage to the North Atlantic and Murmansk convoys than they did. There was every evidence that they had intended to occupy the islands, and in fact to build a submarine base and an air base. They had the basic U-boat facility in a so-called whaling station they had built on Vaagar. In any event the British anticipated all this and moved to occupy the Islands. At this stage I have been unable to fix a date of that initial occupation. It is clear that at least in 1941 there were Radar personnel in the Islands.

The Faroe Island Force consisted of Naval, Army and Air Force elements. During 1942-43 a Battalion of the Gordon Highlanders formed the Army element along with Anti-Aircraft, Service Corps and others. The Navy had various floating Units, Motor Torpedo Boats, Motor

Launches and Corvettes. The Navy also had a refuelling base in Scalafiord near Klaksvik. The RAF (Coastal Command) had the base described earlier on the Island of Vaagar. Maintenance facilities, storage and living quarters were grouped along the stream which fed the lake.

The Radar installations were located at five sites. Mykines and Sandoy covered the West, Eide the North, Sudoroy the South and Nolsoe the East, including the approaches to Torshavn the Capital. There was a control plotting room, at Torshavn manned by Naval and Air Force personnel and links to the Ack-Ack Units.

As I indicated, we never had a fighter capability and therefore our primary job was Early Warning for aircraft, plotting of shipping and tracking our patrols. We frequently plotted enemy aircraft, from milk run "Weather Willies" (stripped down JU88's) to armed and lethal JU88's which would drop the odd bomb or strafe a target of some type.

Although the activities mentioned above were routine and usually with little excitement there were times when things took on a greater urgency and the enemy became very real. In early January of 1943 we had a series of unidentified shipping plots and suspected a submarine in the area. On January 19<sup>th</sup> we had more of this and the duty crew reported a visual sighting but could not be positive. On January 29<sup>th</sup> (The date is not certain, as diaries were taboo and therefore if you kept one, and I did, you kept the record cloudy) I was operating and a Radar response simply appeared and grew larger before my eyes. It had been a quiet watch and the only shipping was a Swedish freighter which had gone into Torshavn for Blockade inspection the evening before, I could only think of a surfacing U-boat and since it was light enough to see we did a visual. We had already passed a position to control and now we added "plotting enemy shipping". Because of our earlier activity there were two ships lying in Torshavn Fiord and they came charging around the point of our Island and U-Boat did a crash dive. He was too late as a pattern of depth charges from each of the ships (a Norwegian Gun Boat and a British Corvette) practically blew the U-boat out of the water.

The theory developed was that the U-Boat had followed the Swedish ship through the neutral shipping lane (No mines) heading for the open Atlantic. For some reason he had decided to surface and this was his fatal mistake. On January 31<sup>st</sup> we had more depth charging off our coast behind another Swede. If this was a system for getting out to the Atlantic undetected it had come to an end. We went back to routine and fighting the weather.

The Radar at four of the five stations was ASV converted to ground use. It was installed in a tent to provide darkened conditions inside a wooden shed. The aerial was a single Yagi which was mounted on the top of a shaft which in turn passes through an automobile steering

wheel which was the turning gear. The coaxial cable passed through the roof and was given a couple of loops to allow the aerial to swing 360 degrees. The wise crew installed a stop to prevent a continuous turning from snapping the cable. I can't remember the exact dipole length, but it was approximately one metre across the reflector, or 60 cm for the one half dipole. It was indeed primitive equipment, but we would (from our high cliff) cover shipping 20 to 25 miles and aircraft from 75 to 90 miles.

The fifth station at Ride on the extreme north of the Island was a 271 high frequency, Naval type set. It had a very narrow beam and perched on a 1200 foot cliff could plot shipping at very long range and with great accuracy.

We had plenty of problems from technical to supply and not least, the weather. Our power supply was a J.A.P. Generator, a little work horse but worked to extreme, and we were short of spares. The electronic equipment gave its share of problems. The transmitter valves (tubes) VT90s for instance, had cooling rings which were frequently simply falling off. Getting a new supply was often impossible, and trying to repair just as impossible. However, most of the time we remained serviceable and did our job.

The real enemy of Radar, and in fact all services in the Faroes was weather, and they big weapon in weather's arsenal was wind. They called the little group of Islands the weather cock-pit of Europe, and in fact one of our jobs was to provide weather reports to the Met people. These were apparently used to predict bombing weather over Europe. Well if weather didn't start in the Faroes, it certainly was there in spades.

Very frequently from October to May, and fairly often in the other months we would be forced to lash the aerials because of wind. I am talking of gale and storm and hurricane force winds, winds in which it took three men to do the job, one to tie the ropes and two to hold that man so he could work. All of this on a roof 20 or 30 feet from a 400 foot drop to the sea. Actually we often joked that we wouldn't hit the sea, but would end up in Norway. My diary indicated for instance "off air for wind" January 10<sup>th</sup> to 15<sup>th</sup> and again Feb. 18 "terrific winds, chunks of soil or peat from roof blown off, ship wrecked at Nolsoe village, having blown out of Torshavn, hurricane force, "became increasingly aware that there was little we could do but lash and wait it out.

We saw RT aerials, guyed to withstand winds of 130 mph twisted like so much match wood. We saw well lashed aerials have the shaft broken at the root by motion we could not stop. Wind was indeed the enemy.

We had been told that a new type of Light Warning Radar was coming. In fact two Canadian Officers, trained on the gear, had arrived to supervise the installation. The officers, Mr. Robinson and Mr. Carnes never did see the gear in the Faroes, and in July or so of 1941, were posted back to U.K.

I had gone on leave, and when I returned in early August the new gear had arrived. For the second time I was faced with a Radar type I had never seen, and I was placed in charge of putting it together. We had a crew and using the Secret Documents, we assembled the set in a hanger. In comparison to the old ASV converted, we had a very sophisticated piece of Radar-gear. It was more powerful; it had a sweep scan of P.P.I. The aerial was a stacked Yagi which gave us a height finding capability. It was also a full continuous sweep aerial working through a slip ring mechanism. The power supply was a 2 cylinder Douglas Generator, a much superior motor compared to our old JAP's. so, we had several new Early-Warning (portable) Radar sets and there had been a plan to replace the old units. What do we do?

The officer commanding signals at that time was a Fl/Lt Pond. He was not Radar but was interested and felt we should get on with installations. I agreed, but i wanted to try the set out of the hanger, and have one more run through on assembly as well as have an operational period. Mr. Pond agreed and we selected a site at the foot of the lake above the falls. The set gave good coverage of the approaches from the West to the Lake and the airfield. It allowed us to work closely with operations and with the ACK-ACK battery covering the area.

Even in summer the wind can be a problem and we began to think about ways we might deal with it. I think it was Fl/Lt. Pond who asked if we could use some type of shield against wind. The Radar types didn't know but we had been able to get some ground responses from outside the hanger and felt something might work. Someone finally suggested plexiglass and the idea developed from there.

The Radar was set up in its tent and we decided to build a support frame around the tent with a platform on which we could erect the dome or wind-screen. The support frame was formed from metal scaffolding and was a fairly solid affair. On the scaffold we built a platform of plywood. This platform was at a level where the aerial mast came out of the tent.

We were fortunate, as for some reason there were large sheets of plexiglass in the stores at Vagar. We assumed they were there for aircraft repairs, but in any case we were able to requisition and obtain these. We built a wooden frame to hold the plexiglass and with much effort soon had a completely encircled, stacked Yagi aerial.

We had been operational long enough to have a good pattern of our area of coverage. We had kept a “spotted-dog”, a map with all plots shown and this gave us an area of coverage, ranges, etc. thus we were ready to go operational with the shield, screen or dome and to confirm whether or not we could in fact get results.

My diary of Tuesday, August 17/43 states “worked down the lake on dome or wind shield for aerals. August 18/43 Got wind screen up and gear going as good as ever”. So we appeared to have succeeded. Now it was a matter of comparison of results. It is interesting to note the aerals were now protected but we as crew were living in tents, cooking in the open and even sleeping in the boxes in which the gear was packed. We did 48 hour shifts and then had a day in base camp.

On August the 24<sup>th</sup> we set a record distance plot of 86 miles. All I remember is it was a Sunderland, and they did give a good response, but it did prove you could send a Radar beam through plexiglass. The next day we had another pick up at 89 miles, and on August 25<sup>th</sup> we hit 100 miles. My comment was “damn fine gear”.

The station at Vagar continued to operate through August and into September. We had plenty of opportunity to check that the dome actually worked in the wind. We never shut down because of wind even though on one occasion we lost a tent blown over the cliff. It was however an experient, although at one stage there was talk of building a permanent Station on that site, it was not done. We eventually dismantled the dome and the gear on September 30, 1943.

The new Light-warning gear had proven itself, and I was sent out to do two installations, one at Akraberg on the southern Island of Sudoroy and another at my old station of Nolsoe. The installation went smoothly with good results, much superior to what the old ASVs had obtained.

Although our crew had been split during the year, we were posted back to the U.K. together. It had been a long and often rough year, but it was an interesting and on occasion an exciting experience. The challenge had included mastering strange types of Radar we had never seen before dealing with the violence of the weather. It was this that put up the challenge to set up a unit that could operate, wind or no wind. We did it and I do believe it was, in fact, the first primitive Radar Dome or perhaps it was just Faroese Madness.

F/O Earl D. Moore  
R.C.A.F. Reserve