

NFLA's review, and actions, on the 2020 MAIB
REPORT on the near miss, "close proximity"
incident between a UK Nuclear Submarine &
Stena Ferry "Superfast VII" in the North
Channel/Irish Sea (Nov 2018)

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Stena Superfast VII



UK Nsub (missile carrier)



MAIB summary of The Close Proximity Incident: Nov 16th 2018

A UK nuclear powered submarine, based at Faslane, Clydeside was at sea and submerged at periscope depth in the North Channel of the Irish Sea.

Undergoing dedicated training in preparation for its next operational deployment, following a period of maintenance and a significant change of crew members.

Came into "close proximity" with the Ferry Stena Superfast VII and a collision was narrowly avoided.

It was only due to the quick thinking of the ferry's crew that the proximity of the submarine was noticed and collision avoidance action was taken.

Further details of the submarine and whether or not it was a nuclear missile carrier have not been made public.

Background to the incident

North Channel holds a permanently established exercise area for submarine training (west coast of Scotland and northern Irish Sea)

The 2018 incident took place close to the coast of south west Scotland in a sea area known as “Beaufort”, an area of the North Channel permanently allocated and designated as a “submarine training area” (STA).

The training area is clearly marked as such on relevant charts

The wider sea area : Northern Irish coast/S.W Scotland long history of negative interactions between N. Subs and civilian vessels ...especially MFVs

The area of the North Channel is a busy crowded sea area

- A “choke point” where commercial marine traffic is regionally heavy and constricted due to the narrow nature of the channel.
- Traffic separation scheme in place
- Marine traffic in the area includes many fishing vessels with nets deployed and/or en route for Atlantic grounds,
- Tankers and other cargo vessels moving into, through and out of the Irish Sea,
- Multiple cross channel ferry routes with vessels transiting each route up to several times per day (*1.2 million passengers & 300,000 cars per year*).
- The STA also includes the Beaufort Deep (1000ft deep) where additional hazards include explosive/chemical weapons dump and designated deep water submarine exercise area

Background to the incident

- NORTH CHANNEL FERRY ROUTES in the year of the incident

• Route	Operating company	Number of vessels	Crossings per day
• Belfast – Cairnryan	Stena Line	2	12
• Belfast – Liverpool	Stena Line	2	4
• Belfast – Heysham	Stena Line	2	4
• Larne – Cairnryan	P&O	2	14

- Under normal operating circumstances, all routes starting or terminating at Belfast, Larne or Cairn Ryan must inevitably transit of the allocated/designated submarine training area
- At peak periods, there may be as many as 30 cross channel ferry transits of the North Channel region per day (each passing through the STA)
- Ferries have very clear defined routes which are highly predictable and repeated on an almost daily/hourly basis

Basic vessel stats:

- *Stena Ferry : "SUPERFAST VII" Cairn Ryan to Belfast*
- *Built 2001: Germany 5,915 tonnes (dwt)*
- *Length 203 metres draught 6.6metres (22ft)*
- *Speed 30.5 knots/35 mph cargo 1,200 passengers, 662 cars &110 trailers/containers*

UK Nsubs using Irish and UK waters

- *(UK) Trafalgar Class (Hunter killers): 5,300 tons, 20 knots submerged*
- *(UK) Astute Class (Hunter killers): 97 metres long, 7,400 tons, 30 knots submerged (most recent class)*
- *UK) Vanguard Class (Nuclear missile sub), 150 metres, 15,900 tons, 25 knots submerged*

UK sub operations attracts others especially during major Exercises eg:

- *(US) Ohio Class (nuclear missile): 170 metres, 18,450 tons, 25+ knots submerged, (ie + 29mph)*
- *Un-named: non-described **Russian** Nsubs frequently claimed to be present in UK waters (MOD has occasionally blamed Russian Nsubs for UK vessel sinkings)*

Initial investigation

- **In the aftermath of the incident the Navy's Defence Safety Authority Accident Investigation Branch determined that, in the context of the information made available to them, a full investigation was not required.**
- **However, the Chief Inspector of the UK MAIB concluded that, given the potential seriousness of the consequences of a laden ferry colliding with a nuclear powered submarine, the matter should be the subject of a formal MAIB safety investigation conducted with the co-operation of the Royal Navy.**
- **After an 18 month investigation the MAIB made their findings public.**

MAIB analysis of the incident

- Submarine's command team detected and tracked the ferry (visual, sonar and automatic information system data while Radar Silence was observed)
- At "onset", they estimated that the ferry was at a range of 9 to 10,000 yards and on a heading likely to cause collision with the submarine.
- **Watch Officer reported potentially dangerous situation to Commanding Officer & announced "close quarters procedure" and intention to "go deep" should the ferry approach within 2,500 yards.**
- **Based on the picture displayed by the submarine's computerised tactical picture system, the CO over-ruled the "close quarters procedure" and ordered that the submarine remain at periscope depth rather than "go deep" to its safe depth.**
- As the ferry's range reduced, the submarine's WO altered course to avoid it, at which stage it was estimated that the ferry was 6,000 yards away from the submarine.

Incident Report

- **However, the direction of this turn was mistakenly towards the ferry and reduced the time available for the submarine to keep out of the ferry's way.** At this stage in the event the ferry was travelling at 21 knots and covering 6,000 yards in 8 mins 34 seconds.
- **BUT: submarine's OW had also mis-calculated the ferry's speed as 15 knots and that it would take the ferry 12 minutes to travel the 6,000 yards. This led to action based on the assumption that there was more time to take avoiding action than was the actually the case.**
- **The Navy refused to divulge the submarine's speed: so MAIB base their conclusions on guesstimate that it was travelling at 6 knots (*this is almost certainly a conservative estimate*)**
- The 2 vessels began converging at a combined speed of (at least) 27 knots and were on a collision course, with the submarine and the ferry likely to converge in 6 minutes 40 seconds.
- At about this time, Stena Superfast VII's lookout spotted a submarine periscope close on the port bow, and alerted the officer of the watch, who took immediate action (rapid change of course away from the periscope) to avoid collision.
- After taking avoiding action, the ferry's crew (based on their photographic and visual evidence) reported that the closest point of approach with the submarine was about 250 yards, which was clearly unsafe and constituted a "near miss" scenario.
- However, the submarine's CO believed the passing distance to be about 1000 yards, or four times the actual range.

View of the Submarine's periscope from the Ferry's bridge



MAIB CONCLUSIONS

- The MAIB analysis agreed with the ferry's report of 250 yds
- The MAIB reported that the close proximity/near miss had occurred because the submarine's CO and OW had over-estimated the ferry's range and under-estimated its speed.
- MAIB reported that the submarine's CO and its OW made safety-critical decisions based on inaccurate information.
- The MAIB concluded that during safety training in the North Channel the command team of the submerged submarine failed to take sufficient action to prevent the ferry STENA SUPERFAST VIII passing inside its "go deep range."
- The MAIB report concluded that this was an unsafe event which had placed the ferry's crew, passengers and cargo and also the submarine's, crew and contents in "immediate danger". *Only rapid and effective action by Stena Superfast VII's bridge team reduced the risk of collision.*
- The MAIB report noted that two previous collisions between Royal Navy submarines and surface vessels had also shown that key decisions on board the submarines had been based on an insufficient appreciation of the location of surface ships in the vicinity.
- The Royal Navy has taken a series of actions in response to this incident, and previous similar incidents. As a result, this report makes a safety recommendation to the Royal Navy to undertake an independent review of its actions taken to ensure that such actions have been effective in reducing the risk of collision between dived submarines and surface vessels."

NFLA RESPONSE ACTIONS

- **This is not a new issue for the NFLA, as there have been a number of incidents involving submarines and fishing trawlers in the Irish Sea and other locations, profiled in previous meetings of the NFLA All Ireland Forum.**
- This incident emphasises to NFLA members that there remains a real and present danger of a collision between a Royal Navy nuclear-powered submarine and either a passenger ferry, a fishing trawler or oil / cargo tanker. The recommendations of the MAIB report need to be implemented by the Ministry of Defence and the Royal Navy as a matter of urgency.
- **The NFLA has written to the Ministry of Defence / Royal Navy, the MAIB and the International Maritime Organisation on these matters now that the report has been published, seeking to follow up on these recommendations.**
- In the context of this incident and a number of other previous events to the MOD / Royal Navy: the NFLA also makes its own specific recommendations

NFLA Recommendations

- In “choke points” and areas of heavy surface commercial vessel activity, nuclear submarines should either travel at “safe depth” or on the surface.
- No more "training exercises" should be held in “choke point” areas (such as the Irish Sea North Channel, St George’s Channel, the Dover Straits and the Straits of Gibraltar).
- No more "training exercises" should be held in areas of heavy surface commercial vessel activity, passage through such areas should only be undertaken by fully trained crew
- There must be a major reassessment/redesign of computerised tactical picture systems by the Royal Navy.
- There must be improved and more intensive shore based simulator training for such events of RoyalNavy submarine personnel.
- The use of radar when transiting “choke points” at periscope depth must be mandatory.