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Warhead convoy movements summary 2020

The log below is based principally on observations by Nukewatch, but complemented by deduction as to the purpose of each convoy journey and whether or not warheads were carried.

Nukewatch considers that during 2020 at least three loaded convoys travelled between the Coulport nuclear arms depot in Scotland and the Atomic Weapons Establishment (AWE) at Burghfield in Berkshire, and at least eight loaded convoys travelled in the opposite direction. We estimate that between nine and eighteen nuclear warheads were returned to AWE and between fifteen and forty-four warheads dispatched to Coulport. Our best estimate is that nine warheads were returned to AWE and twenty-two were dispatched to Coulport.

The picture of convoy movements during the year represents a broadly similar level of activity when compared with activity over the past four years. The number of convoys carrying nuclear weapons during 2020 is similar to last year, but is substantially higher than the annual number of such convoys in the first part of the decade, when operations were conducted at the baseline level necessary to allow the movement of nuclear weapons for maintenance and surveillance purposes.

During 2020, as with the previous five years, a net surplus of warheads was delivered to Coulport when compared with the numbers returned to the Atomic Weapons Establishment. A considerably larger surplus was observed this year. These observations are consistent with a programme of manufacturing and deployment of new Mark 4A Trident warheads to replace the original Mark 4 model.

Special Nuclear Materials (SNM) convoys

The Ministry of Defence also transports special nuclear materials and high security cargoes in the same vehicles that are used to move nuclear warheads. Nukewatch has observed one movement of these convoys, which is shown in the log below. One SNM convoy was observed travelling between RNAD Coulport and AWE Aldermaston in July, possibly returning tritium bottles to Aldermaston.

Nukewatch does not monitor all SNM convoys, and further unmonitored SNM convoys are likely to have also made journeys over the year.

Convoy exercise activities are also thought to have taken place in September and possibly also July.

Impact of COVID-19 pandemic

To limit transmission of the COVID-19 virus, England was placed under lockdown over the period 23 March – 10 May, with non-essential movement prohibited. Scotland remained under lockdown until 29 May. No convoy movements took place over this period, but a warhead convoy assembled at AWE Burghfield immediately the English travel movements were relaxed (11 May), departing soon afterwards to travel to RNAD Coulport in Scotland in a continuous run with no overnight stop. This journey took place in apparent conflict with UK government guidance which stated that: "When travelling to outdoor spaces, it is important that people respect the rules in Scotland, Wales and Northern Ireland and do not travel to different parts of the UK where it would be inconsistent with guidance or regulations issued by the relevant devolved administration."

A second lockdown in England took place over the period 5 November – 2 December, with more relaxed restrictions on movement. During this period one warhead convoy travelled from AWE Burghfield to RNAD Coulport and back.

Throughout the year all convoy monitoring by Nukewatch was conducted in compliance with government COVID safety guidelines.

NUKEWATCH
2020 Truck Cargo Heavy Duty (TCHD) Warhead Convoy Log

Trip purpose	Date Out	Date In	From	To	Load	No trucks	Route
	Tues 07.01.20	Tues 07.01.20	AWE Aldermaston	AWE Burghfield	Unladen	?	
	Tues 14.01.20	Tues 14.01.20	AWE Burghfield	AWE Aldermaston	Unladen ¹	?	
	Wed 04.03.20	Wed 04.03.20	AWE Aldermaston	AWE Burghfield	Unladen	4	
3 Trident up	Fri 06.03.20	Sat 07.03.20	AWE Burghfield	RNAD Coulport	Laden	4	M40 A46 A1 A69 M74 M8
	Thurs 12.03.20	Fri 13.03.20?	RNAD Coulport	AWE Aldermaston	Unladen	2 ²	M8 M74
	Mon 11.05.20	Mon 11.05.20	AWE Aldermaston	AWE Burghfield	Unladen	3	
2 Trident up	Wed 13.05.20	Wed 13.05.20	AWE Burghfield	RNAD Coulport	Laden	3	A34 M40 M6 M8
SNM	Mon 18.05.20	Tues 19.05.20	RNAD Coulport	AWE Aldermaston	Laden	1	M6 A66 A1 M18 A34
Vehicle return	Wed 03.06.20	Thurs 04.06.20?	RNAD Coulport	AWE Aldermaston	Unladen	3 ²	
	Tues 16.06.20	Tues 16.06.20	AWE Aldermaston	AWE Burghfield	Unladen	4	
3 Trident up	Sat 20.06.20	Sun 21.06.20	AWE Burghfield	RNAD Coulport	Laden	4	M40 A46 M1 A1 A68
	?	?	RNAD Coulport	AWE Aldermaston	Unladen ³	4	
	Mon 06.07.20	Mon 06.07.20	AWE Aldermaston	AWE Burghfield	Unladen	4	
3 Trident up	Wed 08.07.20	Thurs 09.07.20	AWE Burghfield	RNAD Coulport	Laden	4	A1 A69 M74 M8
3 Trident down	Tues 14.07.20	Wed 15.07.20	RNAD Coulport	AWE Burghfield ⁴	Laden	4	M74 A1 M18 M1 A34
2 Trident up?	Sun 26.07.20	Mon 27.07.20	AWE Burghfield?	RNAD Coulport	?	3	M6 M74
	?	?	RNAD Coulport	AWE Aldermaston	Unladen	?	
	Mon 07.09.20	Mon 07.09.20	AWE Aldermaston	AWE Burghfield	Unladen	4	
3 Trident up	Wed 09.09.20	Thurs 10.09.20	AWE Burghfield	RNAD Coulport	Laden	4	M1 A1 A68
3 Trident down	Tues 15.09.20	Wed 16.09.20	RNAD Coulport	AWE Burghfield ⁴	Laden	4?	A68 A1 A46 M40
Exercise	Mon 21.09.20	Mon 21.09.20	AWE Burghfield?	MoD Wethersfield	Unladen	?	
	?	?	MoD Wethersfield	AWE Aldermaston	Unladen	?	

Trip purpose	Date Out	Date In	From	To	Load	No trucks	Route
	Fri 20.11.20	Fri 20.11.20	AWE Aldermaston	AWE Burghfield	Unladen	4	
3 Trident up	Thurs 26.11.20	Fri 27.11.20	AWE Burghfield	RNAD Coulport	Laden	4	A34 M40 A46 A1 A66 M74
3 Trident down	Wed 02.12.20	Thurs 03.12.20	RNAD Coulport	AWE Burghfield ⁴	Laden	4	A74M A1 A34
3 Trident up	Thurs 10.12.20	Fri 11.12.20	AWE Burghfield?	RNAD Coulport	Laden?	4	
	Fri 18.12.20	Sat 19.12.20?	RNAD Coulport	AWE Aldermaston	Unladen	4? ²	

Notes to table:

- ¹ Journey to Coulport believed to have been cancelled at short notice, possibly as the result of adverse weather during Storm Bertha.
- ² Journey made as dispersed vehicles, not travelling in convoy.
- ³ Convoy support vehicles spotted by a member of the public on Monday 22 June on A9 near Perth, possibly en route to an exercise at RM Condor, Arbroath.
- ⁴ Convoy vehicles believed to have remained at AWE Burghfield for next trip, without returning to their base at AWE Aldermaston.

Trident up: The indicated number of Trident warheads was believed to have been transported from the Atomic Weapons Establishment for handover to the Royal Navy at RNAD Coulport.

Return Trident: The indicated number of Trident warheads was believed to have been transported to the Atomic Weapons Establishment for inspection / maintenance / refurbishment.

SNM: Convoy believed to have been carrying special nuclear materials or other sensitive material associated with the Ministry of Defence's nuclear programmes.

Exercise: Convoy believed to have been participating in an exercise, training initiative, or convoy operating procedures inspection.

IF YOU SEE A CONVOY PLEASE RING ONE OF THESE NUKEWATCH NUMBERS AS SOON AS POSSIBLE:

South: 0345 45 88 364
North: 0345 45 88 365
Mobile: 07796 226 488
Mobile: 07790 409 339

We need to know what you saw, when you saw it, where, and what direction the convoy vehicles were travelling in.

For more information please see the Nukewatch website at www.nukewatch.org.uk

Overview of the United Kingdom's nuclear weapons programme during 2020

Introduction and context

The United Kingdom (UK) was one of the original participants in the Manhattan Project to build the first atomic weapon, and has been a nuclear armed state since 1952. The nation's nuclear weapons programme has become increasingly technologically dependent on the United States of America, and since 2010 the UK has also co-operated with France on nuclear warhead science.

Under the terms of the 1962 Nassau Agreement, one of the conditions for American support for the UK's programme is that the UK's nuclear weapons are assigned to NATO's nuclear forces and could only be used independently when supreme national interests are at stake. The UK does not have a policy of no-first use, deeming such a posture to be incompatible with NATO's nuclear doctrine.

The UK did not participate in negotiations on the Treaty on the Prohibition of Nuclear Weapons and the government has categorically stated that it will not sign or ratify the Treaty.¹ The extensive modernisation programmes for the UK's nuclear weapons systems are an indication of the country's intention to retain nuclear weapons indefinitely, contrary to its disarmament obligations under the Non-Proliferation Treaty and despite its claim that it is committed to the long-term goal of a world without nuclear weapons.²

Current status

UK nuclear doctrine and policy is outlined in the 'National Security Strategy and Strategic Defence and Security Review 2015'.³ The UK's sole nuclear weapons system is the Trident system, based around the submarine launched Trident D5 missile procured from the USA. The missiles are deployed on four Vanguard class submarines, one of which is constantly on patrol while two others are working up to or recovering from patrol, with the fourth undergoing refit. Each armed submarine carries eight Trident D5 missiles and a total of 40 nuclear warheads. The UK has no more than 120 operationally available nuclear warheads. This is part of a larger stockpile of less than 225 warheads. The Ministry of Defence has indicated that it will reduce the overall stockpile to no more than 180 warheads by the mid-2020s.⁴ Observations of warhead convoy movements undertaken by UK Nukewatch during the first half of the decade suggested that warheads were gradually being removed from service at a rate of around three warheads per year to meet this stockpile reduction target,⁵ although this reduction now appears to have halted.⁶

Modernisation

In July 2016 the UK Parliament reaffirmed its decision to replace the Trident-armed Vanguard class submarines,⁷ which are currently intended to leave service by the early 2030s (significantly beyond their original design life). The successor submarine, known as 'Dreadnought', entered the design phase in 2011 and the programme is currently in delivery phase 2, which will run until March 2022⁸. Work is now under way on construction of the first two of the four planned new submarines.⁹ £1.6 billion was spent on the Dreadnought programme during the 2019-20 financial year, and to date a total of £8.5 billion has been spent.¹⁰

¹ Foreign and Commonwealth Office: 'The Non-Proliferation Treaty remains essential to maintain peace and security'. Statement by Ambassador Jonathan Allen, UK Deputy Permanent Representative to the UN, at the Security Council briefing on the Non-Proliferation Treaty, 26 February 2020. <https://www.gov.uk/government/speeches/the-non-proliferation-treaty-remains-essential-to-maintain-peace-and-security>

² 'National Security Strategy and Strategic Defence and Security Review 2015', November 2015, para. 4.79 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/478933/52309_Cm_9161_NSS_SD_Review_web_only.pdf

³ 'National Security Strategy and Strategic Defence and Security Review 2015', op cit. P. 34-36.

⁴ Ibid.

⁵ Rob Edwards: 'UK's nuclear warheads being dismantled under disarmament obligations'. The Guardian, 11 August 2013. <https://www.theguardian.com/uk-news/2013/aug/11/uk-nuclear-weapons-dismantled-trident>

⁶ See above: Nukewatch UK: 'Warhead convoy movements summary 2020'.

⁷ Rowena Mason and Anushka Asthana: "Commons votes for Trident renewal by majority of 355". The Guardian, 18 July 2016. <https://www.theguardian.com/uk-news/2016/jul/18/mps-vote-in-favour-of-trident-renewal-nuclear-deterrent>

⁸ Ministry of Defence: 'The United Kingdom's future nuclear deterrent: The 2020 update to Parliament'. 17 December 2020. <https://www.gov.uk/government/publications/the-united-kingdoms-future-nuclear-deterrent-the-2020-update-to-parliament/the-united-kingdoms-future-nuclear-deterrent-the-2020-update-to-parliament>

⁹ Ministry of Defence: 'The United Kingdom's Future Nuclear Deterrent: The 2019 Update to Parliament'. 20 December 2019, p2.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/854379/2019_Nuclear_Deterrent_Update_to_Parliament.pdf

¹⁰ Ministry of Defence: 'The United Kingdom's future nuclear deterrent: The 2020 update to Parliament', op cit.

The Ministry of Defence anticipates that the first submarine will enter into service in the early 2030s (postponed from an earlier target date of 2024) but has been deliberately vague on a precise date.¹¹ The intention is for the new submarines to remain in service until the 2060s. The new vessels will be the largest submarines ever constructed for the Royal Navy and will each have 12 missile tubes. This leaves open the possibility that the number of missiles carried could be increased.¹²

The submarines will be powered by a new third generation pressurised water reactor (PWR3), which is being developed with US support and is believed to be similar to the S9G reactor which powers the US Navy's Virginia class submarines.¹³ The Trident warhead, although UK built, is believed to be similar to the US W76 warhead and contains a mixture of UK and US elements. The high explosive in the warhead is British.¹⁴ Three key components are supplied from the US.¹⁵ This warhead is being upgraded to a new Mk4A specification and the Mk4A version will be in service until the 2040s. The modernised warhead will have a new arming, fuzing, and firing system, which will enhance its capability and make it more effective against hardened targets. Evidence from UK Nukewatch based on the monitoring of warhead convoy movements indicates an update in operating tempo over recent years, suggesting that production of the Mk4A warhead is under way and that newly manufactured warheads are being delivered to the Royal Navy for entry into service.¹⁶ Nukewatch considers that two submarines have now been loaded with Mk4A warheads.

In February 2020 Admiral Charles Richard, commander of US Strategic Command, told the Defence Committee of the US Senate that work on the proposed new W93 warhead “will also support a parallel replacement warhead programme in the United Kingdom”.¹⁷ Responding to events, the Secretary of State for Defence, Ben Wallace, shortly afterwards notified the UK Parliament of the government's intention to replace the existing Trident warhead.¹⁸ In April Wallace wrote to members of the US Congress urging support for the W93 warhead, which he stated was “critical to the success of our replacement warhead programme and to the long-term viability of the UK's nuclear deterrent”.¹⁹ The Atomic Weapons Establishment (AWE) has conducted research into development of a future warhead and over £100 million has already been spent on technology studies to support refurbishment of the current system and explore options for a future warhead.²⁰ The Ministry of Defence has indicated that a replacement warhead “is not required until at least the late 2030s, possibly later.”²¹

The United States is extending the life of the D5 Trident weapon system, updating all the Trident subsystems: launcher, navigation, fire control, guidance, missile, and re-entry.²² The UK is participating in this life extension programme and the US will supply the UK with upgraded Trident D5LE missiles, modernised fire control and navigation systems, and spare missiles to support the UK's stock entitlement. Deployment of the life-extended missiles on UK Vanguard class submarines is believed to be under way and Nukewatch considers that at least one, and possibly more than one, Vanguard submarine has been loaded with D5LE missiles. The life extension programme for the D5 will only sustain the missile until the early 2040s; thus the UK government has acknowledged that “investment in a replacement ballistic missile would eventually be needed.”²³

¹¹ John Ainslie, 'The Trident Shambles', Scottish CND, March 2016.
<http://www.banthebomb.org/images/stories/pdfs/shambles.pdf>.

¹² Ibid.

¹³ Julian Turner: 'Deep impact: inside the UK's new Successor-Class nuclear submarine'. Naval Technology, 29 July 2013.
<https://www.naval-technology.com/features/feature-nuclear-submarine-successor-uk-royal-navy/>

¹⁴ The UK Trident warhead contains EDC37, a British explosive, rather than the American equivalent, PBX9501. Ainslie, John: 'The Future of the British Bomb'. WMD Awareness Programme, October 2006.

¹⁵ The UK has purchased three W76 components—the Arming, Fuzing and Firing System, Gas Transfer System and Neutron Generator—from the US. 'Trident missiles'. Parliamentary Written Question. Official Report, 3 December 2009, Column 911W. <http://www.publications.parliament.uk/pa/cm200910/cmhansrd/cm091203/text/91203w0014.htm#09120373000543>

¹⁶ Nukewatch UK: 'Warhead convoy movements summary 2020'.

¹⁷ Jamie Doward: 'Pentagon reveals deal with Britain to replace Trident'. Observer, 22 February 2020.
<https://www.theguardian.com/uk-news/2020/feb/22/pentagon-gaffe-reveals-uk-deal-replace-trident-nuclear-weapon>

¹⁸ 'Nuclear Update: Written statement - HCWS125'. 25 February 2020.
<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2020-02-25/HCWS125/>

¹⁹ Julian Borger: 'UK lobbies US to support controversial new nuclear warheads'. Guardian, 1 August 2020.
<https://www.theguardian.com/world/2020/aug/01/uk-trident-missile-warhead-w93-us-lobby>

²⁰ 'Trident'. Parliamentary Written Answer 122607, 23 January 2018.
<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-01-15/122607>

²¹ National Security Strategy and Strategic Defence and Security Review 2015, op. cit., p35.

²² Statement of Rear Admiral Terry Benedict, Director Strategic Systems Programs, Subcommittee on Strategic Forces of the Senate Armed Services Committee, 9 February 2016.
https://www.armed-services.senate.gov/download/benedict_02-09-16

²³ 'The United Kingdom's Future Nuclear Deterrent: The Submarine Initial Gate Parliamentary Report', Ministry of Defence, May 2011.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/27399/submarine_initial_gate.pdf

Almost all of the UK's infrastructure for deploying, developing and building nuclear weapons is being rebuilt or refurbished.²⁴ £1.3 billion will be spent over the next ten years to upgrade the Trident submarine base at Her Majesty's Naval Base Clyde; a £300 million programme is under way to construct new facilities at the BAE Systems shipyard at Barrow-in-Furness where the Dreadnought submarines will be built, and around £1.5 billion has been allocated to construct a new Core Production facility at the Rolls-Royce factory in Raynesway, Derby, where PWR3 reactor components will be produced. The Nuclear Warhead Capability Sustainment Programme, a long term infrastructure upgrade programme, has been under way at the Atomic Weapons Establishment since 2005 and new joint Anglo-French hydrodynamic research facilities for warhead research work are under construction at Valduc in France under the auspices of Project Teutates.²⁵

Budget

The National Audit Office has published a figure of £5.2 billion for the annual cost of the Ministry of Defence's nuclear enterprise, which includes procuring and supporting submarines (including nuclear powered but non-nuclear armed submarines as well as nuclear armed submarines), missiles and warheads, propulsion systems, nuclear-related infrastructure, and managing the enterprise.²⁶

Replacing the Trident submarines is expected to cost £31 billion.²⁷ Another £10 billion has been put aside to cover any extra costs or spending over this estimate. In addition, extending the life of the current Trident missiles into the early 2040s will cost around £350 million.²⁸ Keeping the current Trident submarines in operation until the early 2030s, a period significantly longer than planned when they were first built, is also expected to cost between £1.2 and £1.4 billion.²⁹

The annual operating costs of Trident are expected to consume about 6% of the defence budget, currently equating to about £2.2 billion.³⁰ In addition to this, a further £20 billion will be spent on operating and rebuilding the Atomic Weapons Establishment over the period 2000 – 2025.³¹

Perspective

Weaknesses in safety performance and programme management which have dogged the UK's military nuclear programme over the past decade remained unresolved in 2020, attracting critical comment from regulators, financial watchdogs, and politicians.

In January the National Audit Office, Parliament's public spending watchdog, published a highly critical report on the Ministry of Defence's performance in delivering infrastructure projects supporting the UK's military nuclear programme.³² The report highlighted delays in the construction of Project Mensa (a new nuclear warhead assembly / disassembly facility at the Atomic Weapons Establishment Burghfield); Core Production Capability facilities at the Rolls-Royce submarine reactor production plant at Raynesway; and the Primary Build Facility to support submarine construction at the BAE Systems shipyard in Barrow-in-Furness. Auditors found that costs for the three projects had risen by a total of £1.35 billion with delays running at between 1.7 and 6.3 years. The Chair of Parliament's Public Accounts committee described MoD's performance in managing the projects as "completely unacceptable".³³

²⁴ Ministry of Defence: 'The United Kingdom's Future Nuclear Deterrent: The Dreadnought Programme. 2017 Update to Parliament', op cit.

²⁵ Nuclear Information Service: 'AWE: Britain's Nuclear Weapons Factory. Past, Present, and Possibilities for the Future', June 2016. <https://www.nuclearinfo.org/sites/default/files/AWE-Past%2C%20Present%2C%20Future%20Report%202016.pdf>

²⁶ 'The Defence Nuclear Enterprise: a landscape review'. National Audit Office, 22 May 2018. <https://www.nao.org.uk/report/the-defence-nuclear-enterprise-a-landscape-review/>

²⁷ National Security Strategy and Strategic Defence and Security Review 2015, op. cit., p37.

²⁸ Ministry of Defence: 'The United Kingdom's Future Nuclear Deterrent: The Dreadnought Programme. 2017 Update to Parliament, op cit.

²⁹ 'Replacing the UK's 'Trident' Nuclear Deterrent,' House of Commons Library, 11 July 2016, <http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7353>.

³⁰ Claire Mills and Noel Dempsey: 'Replacing the UK's strategic nuclear deterrent: progress of the Dreadnought class. House of Commons Library, 31 January 2018. <http://researchbriefings.files.parliament.uk/documents/CBP-8010/CBP-8010.pdf>

³¹ Nuclear Information Service: 'AWE: Britain's Nuclear Weapons Factory. Past, Present, and Possibilities for the Future, op cit., p18.

³² 'Managing infrastructure projects on nuclear-regulated sites'. National Audit Office, 10 January 2020. <https://www.nao.org.uk/report/management-of-nuclear-licensed-infrastructure-projects/>

³³ 'Poor contracting at MoD leaves taxpayer to shoulder ballooning costs'. House of Commons Public Accounts Committee, 13 May 2020. <https://committees.parliament.uk/work/36/defence-nuclear-infrastructure/news/119778/poor-contracting-at-mod-leaves-taxpayer-to-shoulder-ballooning-costs/>

The Infrastructure and Projects Authority's annual report on government major projects indicated that three major nuclear projects face "significant issues". Delivery prospects for the Clyde infrastructure programme deteriorated to an 'amber' rating. The Core Production Facility project and Dreadnought programme were also rated as amber, showing no improvement on the previous year.³⁴

The Office for Nuclear Regulation (ONR) determined that the Atomic Weapons Establishment sites and the Devonport Royal Dockyard, where submarine refit work takes place, would remain under a regime of "enhanced regulatory attention" because of persistent safety issues at these sites.³⁵ The regulator's report reflects long-term concerns over safety performance and project delivery at the Atomic Weapons Establishment. In November the Ministry of Defence finally responded to these concerns and announced that it had terminated its contract with the private sector consortium AWE Management Ltd for the management and operation of the Atomic Weapons Establishment. AWE will now revert to a direct Government ownership model, with transition to the new arrangements expected to have been completed by the end of June 2021.³⁶

In March Tobias Ellwood, Chair of the House of Commons Defence Committee and a former defence minister, claimed that a Vanguard class submarine had been undergoing repairs at the Faslane naval base for over a year, leaving the Royal Navy "limping on" with only two operational nuclear missile-carrying submarines conducting alternating missions and threatening the credibility of the UK's posture of having a nuclear-armed submarine at sea at all times.³⁷

Once again, the Ministry of Defence refused to publish the annual report from its Defence Nuclear Safety Regulator (DNSR) on nuclear safety assurance, raising further questions about safety performance in the military nuclear programme and doubts about the UK's commitment to openness and transparency in its nuclear weapons programme. During the year it was revealed that DNSR was facing an 11 per cent shortage of staff - described internally as a "significant shortfall" - in 2020-21.³⁸

Safety-related matters of note during the year included the following:

- An investigation by the Marine Accident Investigation Branch into a near-miss collision between a Royal Navy submarine submerged at periscope depth and a car ferry in the Irish Sea in November 2018 concluded that the vessels were at "serious risk of collision".³⁹ Although the submarine was not named in the report it was subsequently identified as Trident-armed HMS Vengeance.⁴⁰
- In December 2020 the Atomic Weapons Establishment was fined £660,000 for breaking health and safety law following an incident in June 2019 when a contractor narrowly avoided electrocution.⁴¹
- A Royal Navy officer in charge of nuclear weapons on board the submarine HMS Vigilant was relieved of his responsibilities after turning up drunk for duty.⁴²

During the year operations were shut down at the Nuclear Fuel Production Plant site at the Rolls-Royce submarine reactor production site at Raynesway following a series of related incidents.⁴³ Following an investigation the Office for Nuclear Regulation issued an enforcement letter requiring that safety improvements be made in relation to criticality control.⁴⁴

³⁴ Rob Edwards: 'Trident programme labelled a 'deadly farce' by Scots campaigners'. The National, 2 August 2020.

<https://www.thenational.scot/news/18622688.trident-programme-labelled-deadly-farce-scots-campaigners/>

³⁵ 'Chief Nuclear Inspector's annual report on Great Britain's nuclear industry'. Office for Nuclear Regulation, November 2020. Page 15. <http://www.onr.org.uk/documents/2020/cni-annual-report-1920.pdf>

³⁶ 'Defence Update'. Parliamentary Written Statement HCWS544, 2 November 2020. <https://questions-statements.parliament.uk/written-statements/detail/2020-11-02/hcws544>

³⁷ Lucy Fisher: 'Repairs left two in four Trident subs out of action'. The Times, 1 April 2020.

<https://www.thetimes.co.uk/edition/news/repairs-left-two-in-four-trident-subs-out-of-action-07jkwgtbj>

³⁸ Rob Edwards: 'Revealed: fire safety and staff problems at nuclear sites'. The Ferret, 6 December 2020.

<https://theferret.scot/nuclear-fire-safety-staff-problems-mod/>

³⁹ 'Accident Investigation Report 13/2020. Near miss between ro-ro ferry Stena Superfast VII and Royal Navy submarine'. Marine Accident Investigation Branch, 16 July 2020. <https://www.gov.uk/maib-reports/near-miss-between-ro-ro-ferry-stena-superfast-vii-and-royal-navy-submarine>

⁴⁰ Marco Giannangeli: 'Submarine that nearly hit UK passenger ferry 'was nuclear''. Daily Express, 19 July 2020.

<https://www.express.co.uk/news/uk/1311452/royal-navy-submarine-ferry-nuclear-missiles>

⁴¹ 'AWE pleads guilty to Health and Safety offence'. Office for Nuclear Regulation, 7 December 2020. <http://news.onr.org.uk/2020/12/awe-pleads-guilty-to-health-and-safety-offence-2/>

⁴² Jerome Starkey: 'Off His Warhead: Royal Navy officer in charge of 16 nuclear missiles turned up 'staggering drunk' and scoffing BBQ chicken'. The Sun, 18 October 2020. <https://www.thesun.co.uk/news/12961073/royal-navy-officer-drunk-bbq-chicken-nukes/>

⁴³ 'Chief Nuclear Inspector's annual report on Great Britain's nuclear industry'. Office for Nuclear Regulation, op cit, page 38.

⁴⁴ 'Improvement Notice served on Rolls-Royce Submarines Ltd'. Office for Nuclear Regulation, 8 July 2020.

<http://news.onr.org.uk/2020/07/improvement-notice-served-on-rolls-royce-submarines/>

Warhead convoys experienced two high-profile breakdowns in 2020. During a warhead convoy journey on Saturday 20 June the convoy made an unscheduled 15 minute stop on the slipway at Junction 24 of the M1 (Kegworth Interchange), closing the slipway to traffic and causing a tailback. During a warhead convoy journey on Wednesday 8 July a convoy escort vehicle broke down at Junction 48 of the A1(M), causing the convoy to make an unscheduled stop and causing traffic to tail back for two miles.

In 2020 the Government announced it would be conducting an 'integrated review' of the UK's foreign, defence, security and development policy.⁴⁵ The review, which has been delayed as a result of the COVID pandemic, will be underpinned by commitments to continue to exceed the NATO target of spending 2% of GDP on defence and to maintain the UK's nuclear weapons. As an early outcome of the review the government announced an increase in military spending billed as "the biggest programme of investment in British defence since the end of the Cold War", which it claims will see an increase of £24.1 billion over four years compared to last year's budget. The settlement is a unique multi-year deal outside the normal spending review process which applies to the public sector, representing an across-the-board general increase in military spending rather than funding for a costed programme.⁴⁶

The UK hosted and chaired the "P5" conference of the Non-Proliferation Treaty nuclear weapon states to discuss preparations for the 2020 NPT Review Conference (subsequently postponed) in February.⁴⁷

Impact of COVID-19

In its annual report to Parliament on the UK's nuclear modernisation programme, the Ministry of Defence acknowledged that the COVID-19 pandemic had "impacted the future nuclear deterrent programme, although the full impact has yet to be fully quantified". The Ministry claims that the programme has now "achieved a return-to-scale equivalent to around 95% of pre-Covid-19 output" and that the Dreadnought ballistic missile submarine programme remains within overall budget and on track for HMS Dreadnought to enter service in the early 2030s. However, as a result of uncertainty in industrial partners and supply chains caused by the pandemic, the next significant milestone in the Dreadnought programme, Delivery Phase 2, has been delayed from March 2021 until March 2022.⁴⁸

The Royal Navy has introduced cleaning, hygiene, quarantining, and isolation measures to minimise the risks from COVID-19 to submarine crews.⁴⁹ Despite these precautions, the media reported outbreaks of COVID infections at the Faslane submarine base in March⁵⁰ and December⁵¹, and the entire crew of nuclear-armed submarine HMS Vengeance was reportedly evacuated when quarantine was breached in December.⁵² Crew members from HMS Vigilant were reported also to have been infected with the virus when they disobeyed orders and left the submarine during a visit to the Kings Bay US Navy base.⁵³

⁴⁵ 'Integrated Review of Security, Defence, Development and Foreign Policy'. Parliamentary Written Statement HCWS126, 26 February 2020. <https://questions-statements.parliament.uk/written-statements/detail/2020-02-26/HCWS126>

⁴⁶ 'PM to announce largest military investment in 30 years'. Prime Minister's Office, 19 November 2020. <https://www.gov.uk/government/news/pm-to-announce-largest-military-investment-in-30-years>

⁴⁷ Sebastian Brixey-Williams : 'The P5 Process: The United Kingdom's coordination in 2019-2020.' European Leadership Network, 30 April 2020. <https://www.europeanleadershipnetwork.org/commentary/the-p5-process-the-united-kingdoms-coordination-in-2019-2020/>

⁴⁸ Ministry of Defence: 'The United Kingdom's future nuclear deterrent: The 2020 update to Parliament'. 17 December 2020, op cit.

⁴⁹ 'Submarines: Coronavirus: Written question - 42123'. 1 May 2020. <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2020-05-01/42123/>

⁵⁰ Jake Wallis Simons: 'Exclusive: Coronavirus crisis at UK's nuclear submarine base as twenty staff show COVID-19 symptoms and are forced into isolation'. Daily Mail. 19 March 2020. <https://www.dailymail.co.uk/news/article-8131755/Coronavirus-crisis-UKs-nuclear-submarine-base.html>

⁵¹ 'Covid in Scotland: Outbreak at Faslane nuclear submarine base'. BBC News Scotland, 5 December 2020. <https://www.bbc.co.uk/news/uk-scotland-glasgow-west-55186400>

⁵² Jerome Starkey: 'Sub Hit By C-19: Nuclear-armed submarine crew evacuated over Covid outbreak fears'. The Sun, 3 December 2020. <https://www.thesun.co.uk/news/13367835/nuclear-submarine-evacuated-covid-outbreak/>

⁵³ Jerome Starkey: 'Deep Trouble: Scandal-hit nuclear sub sees a quarter of its crew catch coronavirus after sailors breached rules to go boozing'. The Sun, 13 October 2020. <https://www.thesun.co.uk/news/12922840/nuclear-sub-covidiot-crew-virus-breaching-boozing/>