

## **Briefing: Aspects of UK Nuclear Weapons Possession**

This briefing covers four areas: i) UK nuclear weapons modernisation ii) the UK-US nuclear relationship iii) UK nuclear use policy in the context of the Russia-Ukraine war iv) UK action on nuclear arms control and disarmament.

### **1. Modernising the UK's nuclear weapons programme: rising costs and risks**

The total cost of replacing the UK's nuclear weapon system between 2019 and 2070 has been estimated to be at least £172bn.<sup>1</sup> This figure includes: i) the cost of replacing the four main parts of the programme (submarine, missile, warhead, and associated infrastructure) ii) ongoing maintenance and in-service costs iii) some support costs e.g. from the Astute attack submarine programme. Many projects within the UK's nuclear weapons programme have gone vastly over their original budgets. New funding is being poured in to meet project cost increases.<sup>2</sup> The programme is also facing severe delays, raising questions about the UK's ability to produce this weapons system.<sup>3</sup>

#### 1.1 Submarine construction is underway but prone to problems and delays

The UK is building four Dreadnought class nuclear-missile-launcher submarines (SSBN) to replace its Vanguard class SSBNs, following a July 2016 vote in the House of Commons.<sup>4</sup> Construction of the third new SSBN began in February 2023. The first Dreadnought submarine is expected to come into service in the early 2030s and to be retired in the 2060s.<sup>5</sup> The Infrastructure and Projects Authority's annual report for 2022-23 gave the Dreadnought project an 'amber' rating, meaning 'successful delivery appears feasible but significant issues already exist, requiring management attention'.<sup>6</sup> A Common Missile Compartment—developed with the USA for the UK's new SSBNs—faced production delays, but delivery is now underway.<sup>7</sup>

The Core Production Capability is being built by Rolls Royce to deliver the reactor cores for Dreadnought submarines. This project has, for the second year running, been rated as 'red' by the Infrastructure and Projects Authority, meaning that 'successful delivery of the project appears to be unachievable'.<sup>8</sup> Construction delays on the Dreadnought SSBN programme may disrupt the UK's ability to maintain continuous-at-sea-deterrence (CASD) in the 2030s if the required number of submarines

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<sup>1</sup> David Cullen (2019), [Nuclear Information Service](#), Trouble Ahead: Risks and rising costs in the UK nuclear weapons programme

<sup>2</sup> [National Audit Office](#) (2023), The Equipment Plan 2023 to 2033

<sup>3</sup> Tim Street (2022), [Nuclear Information Service](#), An update on UK nuclear weapons modernisation

<sup>4</sup> [UK Parliament](#) (2016), UK's Nuclear Deterrent

<sup>5</sup> [UK Government](#) (2021), Dreadnought submarine programme: factsheet

<sup>6</sup> [UK Government](#) (2023), Infrastructure and Projects Authority Annual Report 2022-23

<sup>7</sup> [US Government Accountability Office](#) (2021), Columbia Class Submarine Delivery Hinges on Timely and Quality Materials from an Atrophied Supplier Base; George Allison (2021), [UK Defence Journal](#), All missile tubes now delivered for HMS Dreadnought; [Defense-aerospace.com](#) (2023), NAVSUP FLC Norfolk Supports Common Missile Compartment Program with UK

<sup>8</sup> [UK Government](#) (2023), Infrastructure and Projects Authority Annual Report 2022-23

are not ready for service. In addition, CASD may be at risk if one or more of the ageing Vanguard SSBNs unexpectedly require repair.<sup>9</sup>

### 1.2 A new nuclear warhead is being developed / the warhead stockpile cap has increased by 44%

The UK is developing a new nuclear warhead which will be carried by Trident missiles. The UK's warhead programme, which has entered its 'concept' phase, will run parallel to the USA's new W93 Trident warhead development programme.<sup>10</sup> The UK Government has not provided an official cost estimate and timetable for the project, but the warhead is likely to come into service during the late 2030s or early 2040s.<sup>11</sup> The UK's new warhead is likely to have a higher yield, but there may also be a lower yield variant.<sup>12</sup>

In 2010, the UK Government made a commitment to reduce the total number of the UK's nuclear warheads to no more than 180.<sup>13</sup> The UK's 2021 Integrated Review reversed this decision, increasing the UK's nuclear warhead stockpile cap to 260. This move was officially justified as a response to the worsening international security environment.<sup>14</sup> The House of Lord's International Defence and International Relations Committee was left unsatisfied by this explanation and, in its January 2023 report on UK defence policy, asked the Government to clarify its rationale for the warhead cap increase.<sup>15</sup>

### 1.3 Ballistic missile life extension: manufactured in the USA, leased by the UK

The life-extended version of the Trident D5 ballistic missile began to be brought into service in 2017. A further life-extension is scheduled, to last around twenty years, passing through concept, design and deployment phases. A review of this upgraded missile is expected in 2025, followed by ground testing and a first test flight in 2032, before early production begins.<sup>16</sup>

### 1.4 Rebuilding and refurbishing nuclear weapons infrastructure: under pressure

Much of the UK's infrastructure for developing, building and deploying nuclear weapons is being rebuilt or refurbished.<sup>17</sup> Several of these projects have experienced significant cost increases and delays. For example, in March 2021 the Ministry of Defence (MOD) approved funding to restart the troubled Project Pegasus. This project involves building a new enriched uranium production facility at the Atomic Weapons Establishment (AWE) Aldermaston.<sup>18</sup> Project Mensa involves the construction of

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<sup>9</sup> Toby Fenwick (2018), [BASIC](#), (Dis)Continuous Deterrence; Toby Fenwick (2018), [BASIC](#), Blowing up the budget

<sup>10</sup> UK Government (2023), [Cabinet Office](#), Integrated Review Refresh 2023: Responding to a more contested and volatile world

<sup>11</sup> Claire Mills (2021), [House of Commons Library](#), Replacing the UK's nuclear deterrent: the long-awaited warhead decision

<sup>12</sup> Matthew Harries (2020), [War on the Rocks](#), Will America help Britain build a new nuclear warhead?; Matthew Harries (2021), [RUSI](#), The UK's New Nuclear Warhead: Issues for Parliament; David Cullen (2022), [Nuclear Information Service](#), Extreme Circumstances: The UK's new nuclear warhead in context

<sup>13</sup> [UK Government](#) (2010), Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review

<sup>14</sup> UK Government (2021), [Cabinet Office](#), The Integrated Review 2021

<sup>15</sup> UK Parliament (2023), [House of Lords Library](#), UK defence policy: International Relations and Defence Committee report

<sup>16</sup> Tim Street (2022), [Nuclear Information Service](#), An update on UK nuclear weapons modernisation

<sup>17</sup> Tom Plant and Matthew Harries (2020), [RUSI](#), No Go for GOCO: The UK Renationalises Its Nuclear Warhead Factory

<sup>18</sup> Tom Plant (2020), [RUSI](#), Britain's Nuclear Projects: Less Bang and More Whimper; Stephen Lovegrove (2021), [Ministry of Defence](#), Project Pegasus Accounting Officer Assessment; David Cullen (2021), [Nuclear Information Service](#), Work restarts on AWE uranium facility

a new warhead assembly and disassembly facility at AWE Burghfield.<sup>19</sup> In 2020 the National Audit Office criticised the MOD and AWE for management failures on the project.<sup>20</sup> Anglo-French hydrodynamic research facilities for warhead research work, in place of nuclear explosive testing, are under construction in France under Project Teutates.<sup>21</sup> In December 2022, the MOD also approved Project Aurora: a new plutonium component manufacturing facility at AWE.<sup>22</sup> Other infrastructure modernisation involves submarine basing and manufacture, and nuclear reactor construction.<sup>23</sup> For example, the Clyde Infrastructure Programme involves an extensive upgrade of the facilities at Faslane and Coulport—and has significantly increased in cost.<sup>24</sup>

In the 2023 Integrated Review refresh the Government announced £3 billion in funding for the nuclear enterprise; this included new money for ‘the construction of industrial infrastructure at Barrow, Derby and the Atomic Weapons Establishment’.<sup>25</sup>

## 2. The UK-US nuclear relationship

The UK relies on US technological support and expertise to maintain its status as a nuclear power. Key documents underpinning the special nuclear relationship include the 1958 Mutual Defence Agreement (MDA) and 1963 Polaris Sales Agreement (PSA).<sup>26</sup>

### 2.1 The UK is dependent on the USA for the procurement of nuclear weapons technology

The MDA and the PSA—subsequently amended for Trident—lock the UK into dependence on the USA for the procurement of nuclear weapons.<sup>27</sup> This reliance constrains the UK’s ability to develop independent national security policies for fear of destabilising its relationship with the USA and jeopardising the nuclear alliance. In terms of equipment, the UK’s new nuclear warheads and Dreadnought class submarines will borrow from US designs; and efforts have been made to align the two nations’ replacement programmes.<sup>28</sup>

### 2.2 The UK’s nuclear weapons are only as independent as the USA wants them to be

The USA has supported Britain’s nuclear programme by providing a range of essential hardware and assistance with nuclear material.<sup>29</sup> In practice, the UK’s technical dependence on the US would

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<sup>19</sup> Ministry of Defence (2020), The Defence Equipment Plan 2019: Financial Summary

<sup>20</sup> National Audit Office (2020), Managing infrastructure projects on nuclear-regulated sites

<sup>21</sup> Peter Burt (2013), Nuclear Information Service, UK–France nuclear co-operation: The ‘Teutates’ project; Ministry of Defence (2020), The United Kingdom’s future nuclear deterrent: the 2020 update to Parliament; CEA / MOD / AWE (2023), The France-UK Programme: Teutates

<sup>22</sup> David Williams (2022), Ministry of Defence, Project AURORA Accounting Officer Assessment

<sup>23</sup> David Cullen (2019), Nuclear Information Service, Trouble Ahead: Risks and rising costs in the UK nuclear weapons programme; Rob Edwards (2023), The Ferret, Trident nuclear project can’t be delivered, says watchdog

<sup>24</sup> George Allison (2023), UK Defence Journal, Clyde infrastructure programme cost rises

<sup>25</sup> UK Government (2023), Cabinet Office, Integrated Review Refresh 2023: Responding to a more contested and volatile world

<sup>26</sup> John Simpson (2013), BASIC, Deterrence, Disarmament, Non-Proliferation and UK Trident; Trident Commission (2014), BASIC, Concluding Report

<sup>27</sup> Nigel Chamberlain et al (2004), BASIC, US-UK Nuclear weapons collaboration under the Mutual Defence Agreement: Shining a torch on the darker recesses of the special relationship; Paul Ingram (2014), BASIC, What’s behind the deepening US-UK nuclear weapon cooperation?; Claire Mills (2014), House of Commons Library, UK-US Mutual Defence Agreement; Peter Burt (2014), Nuclear Information Service, Reform not Renewal: The US-UK Mutual Defence Agreement, How it works, and why it needs to be reformed: Summary Briefing

<sup>28</sup> Matthew Harries (2020), War on the Rocks, Will America help Britain build a new nuclear warhead?

<sup>29</sup> John Ainslie (2005), WMD Awareness, The Future of the British Bomb

constrain any attack to which Washington objected. For example, the UK is reliant on American software for all aspects of nuclear targeting. British nuclear weapons are almost entirely dependent on the information provided under the MDA. The Atomic Weapons Establishment has therefore described the MDA as ‘fundamental’ to the maintenance of the UK’s nuclear weapons system.<sup>30</sup>

### 2.3 The MDA is up for renewal at the end of 2024 and requires parliamentary scrutiny

The MDA is a formal treaty and has been amended a number of times over its 65-year history. Most recently it has been renewed on a regular ten-year cycle. This has allowed arrangements for the transfer of special nuclear materials and non-nuclear components of nuclear weapons. The MDA was last renewed in 2014 when it was extended until December 2024. Up to now British governments have pushed renewal of the Agreement through parliament with minimal scrutiny, trying to avoid debate and discussion on the aims and consequences of renewing the treaty.<sup>31</sup>

### 2.4 US nuclear bombs are set to return to RAF Lakenheath for the first time since 2008

For many years, UK governments allowed US nuclear weapons and nuclear-capable aircraft to be stored, maintained, and operated from UK military bases. But the UK has not hosted US nuclear weapons since 2008.<sup>32</sup> However, in April 2022, it was reported that RAF Lakenheath in Suffolk had been upgraded, potentially allowing the USA to again deploy nuclear weapons in the UK.<sup>33</sup> A 2023 survey conducted by British Pugwash showed that British public opinion is split over the deployment of US nuclear weapons on UK territory.<sup>34</sup>

## 3. UK nuclear use policy in the context of the Russia-Ukraine war

The UK’s leading role in NATO, and as a US ally, means that its nuclear forces could become embroiled in the Ukraine-Russia conflict if further escalation were to occur. It is therefore important to understand the UK’s nuclear weapons policy, including the potential for the ‘sub-strategic’ use of the UK’s only nuclear weapon system, Trident.

### 3.1 The UK’s nuclear posture does not rule in or out first use

Trident is assigned to NATO and acts as, in the words of the alliance’s 1999 Strategic Concept ‘an essential political and military link between the European and the North American members of the Alliance’.<sup>35</sup> In order to be in line with NATO’s nuclear doctrine the UK does not ‘rule in nor rule out’ the first-use of nuclear weapons. However, the UK is more likely to use nuclear weapons in a bilateral UK-US operation than either as part of a NATO strike or independently.<sup>36</sup>

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<sup>30</sup> Claire Mills (2014), [House of Commons Library](#), UK-US Mutual Defence Agreement

<sup>31</sup> Peter Burt (2014), [Nuclear Information Service](#), Reform not Renewal: The US-UK Mutual Defence Agreement, How it works, and why it needs to be reformed: Full Report

<sup>32</sup> Hans Kristensen (2008), [Federation of American Scientists](#), U.S. Nuclear Weapons Withdrawn from the United Kingdom

<sup>33</sup> Hans Kristensen (2022), [Federation of American Scientists](#), Lakenheath Air Base Added To Nuclear Weapons Storage Site Upgrades; Matt Korda and Hans Kristensen (2023), [Federation of American Scientists](#), Increasing Evidence That The US Air Force’s Nuclear Mission May Be Returning To UK Soil; Tony Diver (2023), [The Telegraph](#), US defence tour of RAF site hints at new nuclear weapons deal

<sup>34</sup> [British Pugwash](#) (2023), 2023 UK public opinion survey on nuclear weapons: article and data

<sup>35</sup> [NATO](#) (1999), The Alliance's Strategic Concept (1999)

<sup>36</sup> John Ainslie (2005), [WMD Awareness](#), The Future of the British Bomb

The 2021 Integrated Review stated that the circumstances in which the UK could potentially use, or threaten to use, nuclear weapons against a non-nuclear weapon state could change in future to include other ‘threats’. Such threats could include, for example, those generated by new technology with a ‘comparable impact’ to weapons of mass destruction (WMD).<sup>37</sup> The UK retains a lower-yield nuclear capability which could be used in response to a WMD attack, amongst other possible scenarios.<sup>38</sup>

### 3.2 Russia remains the primary focus of UK nuclear targeting

UK nuclear forces were formally de-targeted in 1994 and are at ‘several days’ notice to fire’. However, the UK’s nuclear missiles can be re-targeted in a matter of minutes and alert levels quickly raised.<sup>39</sup> Furthermore, although UK–US joint nuclear targeting via NATO ended at the operational level, it continues at the planning level. Thus, whilst British missiles no longer hold target data, this does not mean that the UK’s nuclear force has no target plans.<sup>40</sup> The UK’s warheads could therefore be used both independently and as part of a US strike against Russia, and potentially other targets.<sup>41</sup> Whilst some US officials have questioned whether the UK should possess a nuclear force, for others its value lies in legitimising Washington’s own nuclear operations and providing the USA with an alternative means of attacking targets. In addition, cooperation between British and American nuclear weapons laboratories is valued by both sides.<sup>42</sup>

### 3.3 The UK’s ‘minimum’ nuclear deterrent is based on the ability to kill millions of people

Minimum credible nuclear deterrence involves political-military judgements that shift over time. When the UK took the decision to acquire Trident in 1980, this meant possessing the ability to inflict ‘unacceptable damage’ on the Soviet Union, which would have involved killing up to 10 million Russians.<sup>43</sup> Moscow remains the informal primary target of the UK’s nuclear arsenal and influences the required range, yield, and accuracy of the UK’s nuclear missiles, which would need to evade Russian ballistic missile defences.<sup>44</sup> The 2021 Integrated Review identified Russia as the ‘most acute threat’ to UK security, bringing London in line with Washington’s focus on ‘strategic competition’ with Moscow.<sup>45</sup>

### 3.4 The legality of the threat and use of nuclear weapons

The UK’s nuclear weapons are subject to the requirements and provisions of international law. In 1996 the International Court of Justice ruled that the threat or use of nuclear weapons is generally illegal.<sup>46</sup>

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<sup>37</sup> UK Government (2021), Cabinet Office, The Integrated Review 2021

<sup>38</sup> UK Government (1998), Ministry of Defence, Strategic Defence Review; UK Parliament (2007), Select Committee on Defence Written Evidence, Paul Rogers- Memorandum; Wyn Bowen and Geoffrey Chapman (2022), King’s College London, The UK, Nuclear Deterrence and a Changing World; Andrew Futter (2022), European Leadership Network, UK nuclear weapons in a Third Nuclear Age; Paul Rogers (2022), Declassified UK, Putin’s Nuclear Threat and Britain’s Nuclear Posture – Not So Different?

<sup>39</sup> UK Parliament (2006), Select Committee on Defence, Eighth Report: The UK’s Strategic Nuclear Deterrent

<sup>40</sup> Ian Davis (2015), SIPRI, The British Bomb and NATO: Six Decades of Contributing to NATO’s Strategic Nuclear Deterrent

<sup>41</sup> John Ainslie (2005), WMD Awareness, The Future of the British Bomb

<sup>42</sup> Jenifer Mackby and Paul Cornish (2008), CSIS, US-UK Nuclear Cooperation After 50 Years

<sup>43</sup> Rob Edwards (2010), The Guardian, Secret files from 70s reveal Trident strike needed ‘to kill 10m Russians’; John Ainslie (2013), Scottish CND, Unacceptable Damage: Damage criteria in British nuclear planning

<sup>44</sup> John Ainslie (2005), WMD Awareness, The Future of the British Bomb

<sup>45</sup> UK Government (2021), Cabinet Office, The Integrated Review 2021; US Government (2022), The White House, National Security Strategy

<sup>46</sup> International Court of Justice (1996), Legality of the Threat or Use of Nuclear Weapons

The UK accepts that International Humanitarian Law (IHL) should be applied to nuclear weapons.<sup>47</sup> This is significant because, whilst the UK's nuclear weapons may be intended as a means of *in extremis* self-defence, and part of a deterrence policy, it is most probable that their use would violate the principles and rules of IHL.<sup>48</sup> Point 5 of the Cabinet Office's 'Chilcot Checklist', which is intended as a guide for policy-makers in the national security community, is entitled 'Legal Implications' and asks 'How do we ensure action is lawful?'<sup>49</sup> In the case of nuclear weapons, it is difficult to envisage circumstances in which their use could adhere to international law, given the need for parties involved in a conflict to distinguish between civilian and military targets, and avoid causing excessive civilian harm.<sup>50</sup>

#### 4. Progressive UK action on Nuclear Arms Control and Disarmament

As a depositary state of the Nuclear Non-Proliferation Treaty (NPT), the UK has an obligation to pursue and conclude, in good faith, negotiations toward nuclear disarmament.<sup>51</sup> This implies that the UK should reduce its reliance on nuclear weapons, make progress on disarmament commitments, and act in ways that support the creation of a nuclear-weapon-free world—and those have previously been proclaimed as UK policy aims.<sup>52</sup>

##### 4.1 The UK could go further to back up its words with action in support of the NPT

In the 2021 Integrated Review, the UK Government stated that it wants to strengthen the NPT.<sup>53</sup> The UK argues that it is demonstrating its commitment to the NPT by participating in a range of programmes supportive of nuclear arms control and disarmament. These include: the P5 Risk Reduction dialogue, International Partnership on Nuclear Disarmament Verification, the Quad Nuclear Verification Partnership, and the UK-Norway verification initiative.<sup>54</sup> The UK also supports Sweden's Stepping Stones disarmament initiative.<sup>55</sup> Whilst these activities are valuable, the UK could do more to fulfil its obligations under the NPT.

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<sup>47</sup> UK Parliament (2013), Defence Committee, Written evidence submitted by Dr Nick Ritchie, Department of Politics, University of York; Professor Christine Chinkin and Dr Louise Arimatsu (2021), London School of Economics and Political Science, Legality Under International Law of the United Kingdom's Nuclear Policy As Set Out in the 2021 Integrated Review: Joint Opinion

<sup>48</sup> John Burroughs (2016), Arms Control Association, Looking Back: The 1996 Advisory Opinion of the International Court of Justice

<sup>49</sup> UK Government (2018), Ministry of Defence, The good operation

<sup>50</sup> International Law and Policy Institute / Geneva Academy (2014), Nuclear Weapons Under International Law: An Overview; International Review of the Red Cross (2022), The ICRC's legal and policy position on nuclear weapons

<sup>51</sup> Professor Christine Chinkin and Dr Louise Arimatsu (2021), London School of Economics and Political Science, Legality Under International Law of the United Kingdom's Nuclear Policy As Set Out in the 2021 Integrated Review: Joint Opinion

<sup>52</sup> United Nations (2010), Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Final Document 2010

<sup>53</sup> UK Government (2021), Cabinet Office, The Integrated Review 2021

<sup>54</sup> UK Government (2010), Ministry of Defence, UK/Norway Initiative on nuclear warhead dismantlement verification; UK Government (2022), Prime Minister's Office, Joint Statement on preventing nuclear war and avoiding arms races; International Partnership for Nuclear Disarmament Verification (2023); Quad Nuclear Verification Partnership (2023)

<sup>55</sup> Embassy of Sweden (2022), Statement by members of the Stockholm Initiative for Nuclear Disarmament at the 10th NPT Review Conference

The UK's nuclear weapons policy covers four main areas: acquisition; deployment; declaratory; and employment.<sup>56</sup> Each area offers opportunities to make further contributions to arms control and disarmament. For example, reducing warhead numbers, ending continuous at-sea deterrent patrols, and adopting a no first use policy, would be meaningful steps to reduce the salience of nuclear weapons in the UK's security policy.<sup>57</sup> More ambitious action would involve the UK revisiting its decisions concerning the modernisation of its nuclear weapons system. In addition, the UK could minimise the role of its nuclear force by stating explicitly that it would only be used if the survival of the State was at stake.<sup>58</sup>

#### 4.2 There is significant public support for nuclear arms control and disarmament policies

The results of a British Pugwash survey of UK public opinion in 2023 show that there are notable differences between the British public's views and the policies of the UK Government concerning nuclear weapons. 40% support among UK adults for the UK retaining nuclear weapons sits alongside significant public support for policies which would control, limit, and even eliminate the UK's nuclear weapons—including amongst supporters of nuclear possession.<sup>59</sup> Moreover, the idea of the UK joining the UN Treaty on the Prohibition on Nuclear Weapons, which entered into force in 2021, is supported by 59% of the British public, according to a 2021 Survation poll.<sup>60</sup>

#### 4.3 Democratic accountability needs to be introduced to nuclear weapons decision-making

Decisions regarding nuclear weapons are made by a small group of people and shrouded in secrecy.<sup>61</sup> For example, the 2021 Integrated Review stated that the UK would 'no longer give public figures for our operational stockpile, deployed warhead or deployed missile numbers'.<sup>62</sup> If the UK wants to prioritise nuclear arms control and disarmament, improving the democracy, transparency and accountability of its nuclear weapons programme would seem a logical necessity. This could include the Government providing regular updates and time for parliamentary debates on nuclear weapons procurement and policy decisions.<sup>63</sup> In addition, proposals to review decision-making processes on the use of nuclear weapons merit consideration.<sup>64</sup>

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Thanks to Mike Kiely, Rob Forsyth and David Cullen.

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<sup>56</sup> Tim Street (2021), [Routledge](#), *The Politics of Nuclear Disarmament: Obstacles to and Opportunities for Eliminating Nuclear Weapons*

<sup>57</sup> Nick Ritchie (2009), [York University](#), *Stepping Down the Nuclear Ladder: Options for Trident On a Path to Zero*

<sup>58</sup> John Ainslie (2005), [WMD Awareness](#), *The Future of the British Bomb*

<sup>59</sup> [British Pugwash](#) (2023), *2023 UK public opinion survey on nuclear weapons: article and data*

<sup>60</sup> Carl Shoben (2021), [Survation](#), *Majority support UK signing up to international nuclear ban treaty*

<sup>61</sup> Only the British Prime Minister can authorise the use of nuclear weapons by the UK, probably following consultation with the US President, see e.g. William Burr (2005), [National Security Archive](#), "Consultation is Presidential Business" Secret Understandings on the Use of Nuclear Weapons, 1950-1974; Jeffrey G. Lewis and Bruno Tertrais (2019), [CNS Occasional Paper](#), *The Finger on the Button: The Authority to Use Nuclear Weapons in Nuclear-Armed States*; William Burr (2021), [National Security Archive](#), *The British Bomb and the United States-Part One*

<sup>62</sup> UK Government (2021), [Cabinet Office](#), *The Integrated Review 2021*

<sup>63</sup> Matthew Harries (2021), [Prospect](#), *Is the UK capable of maintaining its nuclear arsenal?*

<sup>64</sup> Kennette Benedict (2016), [Ploughshares Fund](#), *Add Democracy to Nuclear Policy*; Tim Street (2016), [Oxford Research Group](#), *The UK's Nuclear Future*; Caroline Leroy (2017), [BASIC](#), *A Policy Proposal for the UK Government: Prevent a Nuclear Catastrophe*