



BRIEFING PAPER

CBP 8036, 8 January 2019

EURATOM

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Summary

The UK became a member of the European Atomic Energy Community, also known as Euratom, on 1 January 1973.

What is Euratom?

Euratom, was established in the 1950s as part of the creation of the European Community. The UK became a member of both on 1 January 1973. Euratom provides the basis for the regulation of civilian nuclear activity, implements a system of safeguards to monitor the use of civil nuclear materials, controls the supply of fissile (able to undergo nuclear fission) materials within EU member states, and funds leading international research.

Leaving Euratom

The Government have said that Euratom and the EU are “uniquely legally joined” such that “triggering *Article 50* therefore also entails giving notice to leave Euratom”. The legal basis of this point is debated by legal commentators.

Following the Brexit referendum, concern was raised that leaving Euratom had the potential to impact the UK’s current nuclear operations, including fuel supply, medical radioisotope supply, waste management, cooperation with other nuclear states, and research, such as at the Culham Centre in Oxford.

The Government have said that preparations to leave Euratom are “on track” and that they want a close association with Euratom after Brexit. Aspects of the UK’s future relationship with Euratom are included in the Withdrawal Agreement and Political Declaration, published in November 2018. More information is available in the Library briefing papers on the [UK’s EU Withdrawal Agreement](#) and the [Political Declaration on the framework for future EU-UK relations](#).

Nuclear Safeguards Act 2018

The *Nuclear Safeguards Act 2018* makes provision for nuclear safeguards after the UK leaves Euratom. The Act received its Royal Assent on 26 June 2018. The Library Briefing ‘[Nuclear Safeguards Act 2018](#)’ has further detail. Other functions currently provided for by Euratom are not covered by this Act.

1. Background

1.1 What is Euratom?

The European Atomic Energy Community, better known as Euratom, was established in the 1950s as part of the creation of the European Community. The Treaty establishing the European Economic Community and the Treaty establishing the European Atomic Energy Community, known collectively as the *Treaties of Rome*, were signed in March 1957 and came into force on 1 January 1958.¹ At the time there were six founding states - Belgium, France, Germany, Italy, Luxembourg and the Netherlands - but Euratom has grown as the European Community, and then European Union (EU), has enlarged. The UK became a member of both on 1 January 1973.²

The *Euratom Treaty* specifies that it is operational within the countries of the EU and shares the EU's institutional framework but is a distinct legal entity from the European Union (EU) under the 1957 Euratom Treaty.³

Euratom was founded to contribute to the formation and development of Europe's nuclear industries, to guarantee high safety standards and to prevent nuclear materials intended principally for civilian use from being diverted to military use. It provides the basis for the regulation of civilian nuclear activity, implements a system of safeguards to control the use of nuclear materials, controls the supply of fissile materials within EU member states and funds leading international research into nuclear fission and nuclear fusion.⁴

In the UK, Euratom regulates the civilian nuclear sector including fuel supply, waste management and cooperation between nuclear states, and contributes to funding research such as the nuclear fusion research undertaken at the Culham Centre in Oxfordshire.

1.2 Government position on leaving Euratom

The May Government maintained that Euratom and the EU are "uniquely legally joined" such that "triggering *Article 50* therefore also entails giving notice to leave Euratom".⁵ The Johnson Government have continued with plans to leave Euratom.

The explanatory notes to the *European Union (Notification of Withdrawal) Act 2017*⁶ confirmed this stating that:

The power that is provided by section 1(1) applies to withdrawal from the EU. This includes the European Atomic Energy Community ('Euratom'), as the European Union (Amendment) Act

¹ [Treaty Establishing the European Atomic Energy Community \(Euratom\)](#), [accessed November 2019]

² [Treaty of Accession of Denmark, Ireland and the United Kingdom](#), 1972

³ [Euratom Treaty](#), 1957

⁴ Nuclear Industry Association, [The UK's Withdrawal from Euratom](#), May 2017

⁵ HC Deb 1 February 2017, [C1131](#)

⁶ HM Government, [European Union \(Notification of Withdrawal\) Act, Explanatory notes](#), 2017

2008 sets out that the term “EU” includes (as the context permits or requires) Euratom (section 3(2)).

The May Government’s White Paper on Brexit, published in February 2017 stated that while a separate treaty, Euratom used the same institutions as the EU, and references to the EU include Euratom:

8.30 When we invoke Article 50, we will be leaving Euratom as well as the EU. Although Euratom was established in a treaty separate to EU agreements and treaties, it uses the same institutions as the EU including the Commission, Council of Ministers and the Court of Justice. The European Union (Amendment) Act 2008 makes clear that, in UK law, references to the EU include Euratom. The Euratom Treaty imports Article 50 into its provisions.

8.31 As the [then] Prime Minister has said, we want to collaborate with our EU partners on matters relating to science and research, and nuclear energy is a key part of this. So our precise relationship with Euratom, and the means by which we cooperate on nuclear matters, will be a matter for the negotiations – but it is an important priority for us – the nuclear industry remains of key strategic importance to the UK and leaving Euratom does not affect our clear aim of seeking to maintain close and effective arrangements for civil nuclear cooperation, safeguards, safety and trade with Europe and our international partners. Furthermore, the UK is a world leader in nuclear research and development and there is no intention to reduce our ambition in this important area. The UK fully recognises the importance of international collaboration in nuclear research and development and we will ensure this continues by seeking alternative arrangements.⁷

The EU Council’s 2017 decision authorising the Commission to open negotiations with the UK on an agreement for its withdrawal also stated that “Article 50 of the Treaty of on European Union applies also to [Euratom]”.⁸

1.3 Legal debates

The Government’s stated position on the necessity of exiting Euratom with the EU is debated by lawyers. One commentator, Steve Peers, Professor of EU Law and Human Rights Law at the University of Essex, has broadly supported the previous and current Governments’ view that the treaties are combined.⁹

However, some nuclear energy lawyers disagree with this interpretation, and maintain that the nexus between the treaties creates a parallel but separate legal process for leaving Euratom. For example, Jonathan Leech and Rupert Cowen, senior nuclear, energy and commercial lawyers at energy and infrastructure firm Prospect Law, have argued that Article

⁷ HM Government, [The United Kingdom’s exit from and new partnership with the European Union](#), February 2017

⁸ European Commission, [Recommendation for a Council Decision authorising the Commission to open negotiations on an agreement with the United Kingdom of Great Britain and Northern Ireland setting out the arrangements for its withdrawal from the European Union](#), 3 May 2017.

⁹ Professor Steve Peers, [The UK Brexits Euratom: Legal Framework and Future Developments](#), EU Law Analysis Blog, 30 January 2017

50 would have been drafted differently had it meant to apply to both treaties.¹⁰ The Government's own legal advice has not been published.

The Business, Energy and Industrial Strategy (BEIS) Committee report into UK energy and climate change priorities post-Brexit looked at the Government's decision to leave Euratom.¹¹ After hearing conflicting legal views and the concerns of industry over the exit, the Committee concluded:

We note that the necessity of leaving Euratom is subject to legal uncertainty, but that uncertainty puts the continuing operation of the nuclear industry in the UK at risk. The Government therefore has a responsibility to resolve this matter as urgently as possible.

The Government's objective to leave the jurisdiction of the European Court of Justice means that it is politically unfeasible for the UK to remain a member of Euratom in the long term, but a temporary extension to our membership—if legal—would allow time for new arrangements to be put in place.

We recommend that the Government seeks to delay our departure from Euratom. This would give the nuclear industry a realistic window for setting up alternative arrangements—including safeguards and international nuclear cooperation agreements—so as to minimise any disruptions to trade and threats to power supplies.¹²

1.4 Alternative Euratom relationship

If the UK leaves Euratom, but wishes to continue cooperation, it may consider some alternative relationship options, or choose to continue cooperation in a different way.

Associate status: According to Article 206 of the Euratom Treaty:

The Community may conclude with one or more States or international organisations agreements establishing an association involving reciprocal rights and obligations, common action and special procedures.¹³

It is on the basis of this article that Switzerland became an Associated Country to Euratom in 2014. Such an arrangement could be one way to access funding for nuclear research.¹⁴

Third country status: According to Article 101 of the Euratom Treaty:

The Euratom Community may, within the limits of its powers and jurisdiction, enter into obligations by concluding agreements or contracts with a third state, an international organisation or a national of a third state.¹⁵

¹⁰ Jonathan Leech and Rupert Cowan, *Brexit and Euratom: No Rush to exit?*, World Nuclear News, 20 January 2017

¹¹ Business Energy and Industrial Strategy Committee, *Leaving the EU: negotiation priorities*, Fourth Report of Session 2016–17, 2 May 2017

¹² Business Energy and Industrial Strategy Committee, *Leaving the EU: negotiation priorities*, Fourth Report of Session 2016–17, 2 May 2017

¹³ *Treaty establishing the European Atomic Energy Community (Euratom)*, 1958

¹⁴ Elizabeth Gibney, *Researchers shocked at UK's plan to exit EU nuclear agency*, *Nature*, 27 January 2017

¹⁵ Elizabeth Gibney, *Researchers shocked at UK's plan to exit EU nuclear agency*, *Nature*, 27 January 2017

By acquiring the status of third country, the UK might join countries such as USA, Australia, Canada, Japan, South Korea and Kazakhstan who cooperate with the EU on common research topics of mutual interest. This status would not automatically make the UK a member of the International Thermonuclear Experimental Reactor (ITER) and although Euratom is able to fund projects in third countries, it may not guarantee UK projects such as the Joint European Torus (JET) project (a fusion power project at the Culham Centre for Fusion Energy in Oxfordshire).¹⁶ (See Section 2.5 for more information on JET and ITER).

A [debate in Westminster Hall on 12 July 2017](#) led by Albert Owen MP considered “That this House has considered negotiations on future Euratom membership”.

The Parliamentary under Secretary of State at the Department for BEIS Richard Harrington MP concluded the debate, saying:

Our primary aim will be to maintain our mutually successful civil nuclear co-operation with Euratom and the rest of the world. I reiterate that we are strong supporters of Euratom, and that is not going to change.¹⁷

The Johnson Government’s [revised Political declaration](#) stated that the future relationship should include agreements between the UK and Euratom on areas such as trade, and exchanging information in areas of “mutual interest such as safeguards, safety and cooperation with the International Atomic Energy Agency” as well as noting the UK’s intention to be associated with other areas, such as Euratom research and training programmes. For more information see section 3.5.

¹⁶ Lexology, [The UK’s withdrawal from Euratom](#), 18 May 2017

¹⁷ HC Deb 12 July 2017 [C109WH](#)

2. The impact of leaving Euratom on the UK

Euratom regulates the UK's civil nuclear industry, including safeguards for nuclear materials, agreements for trade that can impact energy and health, and research and development.¹⁸ Leaving Euratom requires these roles to be replaced with new provisions.

2.1 Current nuclear infrastructure

The announcement of the withdrawal from Euratom led to warnings from the nuclear industry about the possibility of delays to the current workings of the industry, including losing access to markets and skills.¹⁹ Any impacts could have consequences for current operation, waste and decommissioning, and to new builds such as Hinkley Point (the first new nuclear power station constructed for a generation, but has been subject to delays and concerns over costs).²⁰

On the other hand, there may be some potential benefits to UK nuclear infrastructure from leaving the EU. Some argue current EU state aid rules limit nuclear new build, such as Austria's complaint over Hinkley C.²¹ Depending on any new trade arrangement, revised state aid rules could give the UK more freedom in supporting nuclear infrastructure.²²

2.2 Nuclear safeguards

Nuclear safeguards are measures to verify that countries comply with their international obligations not to use civil nuclear materials for nuclear weapons.²³ The *Nuclear Safeguards Act 2018* (see Box 2) makes provision for a new domestic safeguard regime after the UK leaves Euratom.

In May 2018, concern was raised in the press that the new regime would not be ready by exit day.²⁴ However, in an appearance before the House of Lords Energy and Environment Sub-Committee in July 2018, Dr Mina Golshan, Deputy Chief Inspector at the Office for Nuclear Regulation (who are responsible for implementing the new regime), said that the ONR were "confident" that timeframes would be met.²⁵ Brexit

¹⁸ European Commission, [Nuclear Energy](#), [accessed November 2019]

¹⁹ Adam Vaughan, [Nuclear Industry warns UK must avoid 'cliff edge' over Brexit](#), *The Guardian*, 2 May 2017

²⁰ For more information, see the House of Commons Library briefing paper on [New Nuclear Power](#) (September 2019)

²¹ Emily Gosden, [Government and EDF in talks over liabilities if Austria wins nuclear state aid appeal](#), *The Telegraph*, 30 June 2015

²² *Lexology*, [Brexit State Aid Implications](#), 5 July 2016

²³ Office for Nuclear Regulation, [What are nuclear safeguards?](#) [accessed November 2019]

²⁴ [Red warnings for UK's post-Brexit nuclear safeguards](#), *Sky News*, 16 May 2018

²⁵ House of Lords Select Committee on the European Union Energy and Environment Sub-Committee, [The Office for Nuclear Regulation's Brexit preparedness](#), 11 July 2018, Q1

in any scenario would therefore have little impact on nuclear safeguards.

Box 1: Nuclear Safeguards Act 2018

The Queen's Speech 2017 included plans for a *Nuclear Safeguards Bill*.²⁶

The UK has a voluntary agreement to have civil nuclear material monitored internationally as part of the 1968 Nuclear Non-Proliferation Treaty. The UK's agreements for safeguard monitoring have been fundamentally underpinned by the UK's membership of Euratom as Euratom implements safeguards on nuclear material in member states. Leaving Euratom requires this role to be replaced with a new domestic safeguard regime.

The [Nuclear Safeguards Bill 2017-19](#) was introduced to Parliament on 11 October 2017. The Bill provided for a civil nuclear safeguarding regime to replace the safeguarding aspect of Euratom. The Act received its Royal Assent on 26 June 2018.

[Regulations](#) made under the power of the *Nuclear Safeguards Act 2018*, setting out the framework for the UK's domestic civil nuclear safeguard regime, were made under the affirmative procedure in January 2019.

The Library Briefing on the [Nuclear Safeguards Act](#) has further detail.

2.3 Nuclear Cooperation Agreements for trade

Nuclear Cooperation Agreements (NCAs) facilitate trade, such as in nuclear materials including fuel. An NCA is not a legal requirement for trade in many countries (where export licences can be used), but is a requirement in Australia, Canada, Japan and the US. The UK already had a bilateral agreement with Japan, and has agreed new NCAs with the US in May 2018, with Australia in August 2018;²⁷ and with Canada in November 2018.²⁸ The agreements were laid in Parliament on 12 November 2018 and have since cleared parliamentary scrutiny.

2.4 Radioisotopes and health

What are radioisotopes?

The Euratom treaty not only manages the movement of nuclear material for power production, but also for medical uses. Radioactive isotopes²⁹ are used in medicine for the diagnosis and treatment of various diseases, including cancers, cardiovascular and brain disorders.³⁰ Over 40 million procedures involving radioactive materials are performed each year globally, and demand for radioisotopes is increasing at up to

²⁶ Gov.uk, [The Queen's speech 2017: what it means for you](#) Nuclear Safeguards Bill, 21 June 2017

²⁷ HCWS983, [Energy Policy](#), 10 October 2018

²⁸ Gov.uk, [\[CS Canada No.1/2018\] UK/Canada: Agreement for Cooperation in the Peaceful Uses of Nuclear Energy](#), 12 November 2018

²⁹ POSTnote 558, [Supply of medical Radioisotopes](#), July 2017

³⁰ European Commission, [Supply of medical radioisotopes](#), [accessed November 2019]

5% annually.³¹ In the UK, around 700,000 nuclear medicine procedures using radioisotopes are carried out each year.³²

In the UK medical isotopes are imported and mainly sourced from a few research reactors.³³ Many of these are in EU countries such as the Netherlands, Poland, Belgium, France, Germany and the Czech Republic.³⁴ Although radioisotopes can be sourced from beyond the EU, the materials often have short half-lives meaning they can decay rapidly and cannot be stored. This creates the need for constant supply which has failed in the past, creating global shortages.³⁵ In response to shortages between 2008 and 2010, the Euratom Supply Agency was given a more prominent role in overseeing the supply chains.³⁶

Impact of Brexit

Health specialists have expressed concern that any changes to import arrangements as a result of leaving Euratom could impact on the delivery of health treatments. For example, in 2017 the Royal College of Radiologists said they had concerns relating to continued access to radioisotopes and a possible cost increase of radioisotopes on leaving Euratom.³⁷ A number of MPs have signalled their opposition to withdrawing from Euratom in the press, stating fears for cancer patients amongst other issues.³⁸

In oral evidence to the EU Home Affairs Sub Committee on the health implications of leaving Euratom, questions were also raised about the vehicles transporting the isotopes becoming delayed in customs queues in the channel tunnel.³⁹ In addition to continuing imports, there are also concerns about the UK leaving the Euratom Observatory who have previously had a role in managing supply chains during past shortages of radioisotopes.⁴⁰ Both the [May](#) and [Johnson](#) Government's Draft Political Declarations setting out the framework for future relationship between the EU and the UK stated "the Parties will also cooperate through the exchange of information on the supply of medical radioisotopes" (see Section 3.5 for more information).

³¹ World Nuclear News, [Radioisotopes in Medicine](#), May 2017

³² [Supply of Medical Radioisotopes](#), POSTnote 558, July 2017

³³ Some radioisotopes can also be produced in particle accelerators (see ref 34).

³⁴ World Nuclear News, [Radioisotopes in Medicine](#), May 2017

³⁵ British Nuclear Medicine Society and Science & Technology Facilities Council, [Future Supply of Medical Radioisotopes for the UK](#), December 2014

³⁶ Institute for Government, [Euratom](#), [accessed November 2019]

³⁷ Dr Nicola Strickland, [RCR statement on the potential impact of leaving the Euratom treaty](#), Royal College of Radiologists, 10 July 2017

³⁸ Jonathon Prynne and Joe Murphy, [Tory rebellion goes nuclear: nine MPs oppose plan to quit body that would threaten supply of key cancer treatment material](#), *Evening Standard*, 10 July 2017

³⁹ House of Lords Select Committee on the European Union Home Affairs Sub-Committee, [Brexitom: the health implications of leaving Euratom. Oral Evidence](#), 22 November 2017, Q3

⁴⁰ House of Lords Select Committee on the European Union Home Affairs Sub-Committee, [Brexitom: the health implications of leaving Euratom. Oral Evidence](#), 22 November 2017, Q4

Government response

The Government have repeatedly said that the supply of radioisotopes should not be impacted by the UK's exit from Euratom.⁴¹ On 23 August 2018, alongside the publication of technical notices on no deal and healthcare, Secretary of State for Health and Social Care Matt Hancock wrote to hospitals, GPs, pharmacies and pharmaceutical companies, setting out what action would need to be taken to ensure medicines supply continues in the event of a no-deal Brexit. The letter requested that pharmaceutical companies ensure that by 29 March 2019 they have an additional six weeks' supply of medicines on top of the normal buffer stock held and that for products with short shelf lives, suppliers should make plans to air freight these to avoid border delays.⁴²

In response to a PQ in October 2018, the Minister Stephen Barclay set out how the Government was preparing to maintain radioisotope supply, as their short half-lives mean they cannot be stockpiled, including asking suppliers to ensure they have plans in place to air freight the products.⁴³

Stakeholder response

Some stakeholders had questioned whether the air freight plans would be an efficient replacement for current arrangements.⁴⁴ In June 2019, the Department of Health and Social Care announced it would tender to secure an "express freight service" to provide "end-to-end" transport for medicines including radioisotopes in the case of no deal.⁴⁵ An article in the *Pharmaceutical Journal* quotes Layla McCay, director of international relations at the NHS confederation as saying the new express freight plans where [medicines are] tracked all the way" would be "more reliable".⁴⁶

In a letter to Prime Minister Johnson on 1 August 2019, three groups who procure and use radioisotopes (the Royal College of Radiologists, the British Nuclear Medicine Society, and the UK Radiopharmacy Group) said they were "encouraged" by the work being undertaken on radioisotopes, but continued that they "remain[ed] apprehensive" about supplier readiness and the impact of supply changes on patients.⁴⁷

In an October 2019 update, the Royal College of Radiologists reported that the Government had been working with suppliers over the summer to ensure that as of 21 October 2019, all radioisotopes for hospitals

⁴¹ HC Deb 27 June 2017 [Vol 626](#)

⁴² DHSC, [Letter from Secretary of State for Health and Social Care to pharmaceutical companies](#), 23 August 2018

⁴³ PQ 176162, [on [Radioisotopes](#)], 11 October 2018

⁴⁴ Caroline Wickware, [Plans for importing medical isotopes changed after government review of no-deal Brexit proposals](#), *The Pharmaceutical Journal*, 13 August 2019

⁴⁵ Department for Health and Social Care, [New Service to deliver urgent medicines and medical products in the UK](#), 15 August 2019

⁴⁶ Caroline Wickware, [Plans for importing medical isotopes changed after government review of no-deal Brexit proposals](#), *The Pharmaceutical Journal*, 13 August 2019

⁴⁷ Royal College of Radiologists, [Prime Minister urged to clarify queries on radioisotope transport and costs](#), 1 August 2019

were entering the UK by air. While the College said they were “reassured” by the contingency operations, they stressed the need for ongoing communication between suppliers and hospitals, and reported that contingency transport and supply measures could potentially increase costs to radiopharmacies by up to 30 per cent.⁴⁸

2.5 Research

On 6 September 2017, the Government published a Future Partnership Paper on [Collaboration on Science and Innovation](#).⁴⁹ This outlined the UK’s intention to seek to build on collaboration with EU partners on nuclear research as an outcome of the Brexit negotiations and stated that there is precedent for third-party involvement in fusion research. As well as confirming support for Horizon 2020, the paper stated: “The UK hopes to find a way to continue working with the EU on nuclear R&D, including the JET [see below on JET funding] and ITER programmes.”⁵⁰ Both the [May](#) and [Johnson](#) Government’s Draft Political Declarations setting out the framework for future relationship between the EU and the UK stated “the Parties take note of the [UK’s] intention to be associated with the Euratom research and training programmes”.

Horizon 2020

Horizon 2020 is the biggest EU Research and Innovation programme to date with nearly €80 billion of funding available over 7 years (2014 to 2020) in addition to private investment.⁵¹ Euratom is aligned with Horizon 2020.⁵²

In August 2016, the Department for BEIS announced that the Treasury would underwrite funding for approved Horizon 2020 projects applied for before the UK left the EU, even if the specific project continued beyond the UK’s departure from the EU.⁵³ This is not solely for nuclear but for a range of science and innovation areas. In July 2018, this was extended to include all successful collaborative bids to Horizon 2020 involving UK entities in a no deal scenario up until the end of the programme.⁵⁴

Joint European Torus (JET) programme

JET is a fusion power project at the Culham Centre for Fusion Energy in Oxfordshire. Until ITER (see below) becomes operational, JET is the world’s largest tokamak, a magnetic fusion device designed to prove

⁴⁸ Royal College of Radiologists, [Update on radioisotope imports](#), 25 October 2019

⁴⁹ HM Government, [Collaboration on science and innovation. A future Partnership Paper](#), September 2017

⁵⁰ HM Government, [Collaboration on science and innovation. A future Partnership Paper](#), September 2017, p. 13

⁵¹ European Commission, [What is Horizon 2020?](#) [accessed November 2019]

⁵² Enrico Nano and Simone Tagliapietra, [Brexit goes nuclear: the consequences of leaving Euratom](#), *Bruegel*, 21 February 2017

⁵³ Department for Business, Energy and Industrial Strategy, [Safeguarding Funding for Research and Innovation](#), 13 August 2016.

⁵⁴ HCWS926, [HM Government’s Guarantee](#), 24 July 2018

the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers the sun and stars.⁵⁵

Euratom provides 87.5% of the funding for the Joint European Torus (JET) programme and the UK Government funds the remaining 12.5% itself. In June 2017, Secretary of State for BEIS Greg Clark, announced that the Government would continue to pay the UK's "fair share" of costs in a potential extension of the JET contract until 2020.⁵⁶ During his Spring Statement speech in March 2019, the Chancellor Philip Hammond confirmed the funding:

I will guarantee our commitment to the UK's funding for the JET nuclear fusion reactor, whatever happens with Brexit.⁵⁷

On 29 March 2019, a contract extension to JET was announced. The Government press release stated that this meant JET would continue regardless of the "EU Exit situation":

The new contract guarantees its operations until the end of 2020 regardless of the EU Exit situation, and secures at least €100m in additional inward investment from the EU over the next two years.

[...]

In addition, the contract leaves open the option of a further extension to JET's operations until 2024, which would enable it to support ITER in the run-up to its launch in 2025.⁵⁸

On 13 August 2019, the Government published guidance on Nuclear research after Brexit. On JET this stated:

The government will guarantee funding until the end of 2020 for UK participation in JET. JET operations will continue at Culham Centre for Fusion Energy until the end of 2020.⁵⁹

International Thermonuclear Experimental Reactor (ITER)

ITER is a project to build the world's largest tokamak. The ITER agreement was signed in 2006 by China, the EU, India, Japan, South Korea, Russia and the US, and building of the tokamak has been underway in France since 2010. The official start of ITER operation is scheduled for December 2025.⁶⁰

The UK is a key participant in ITER and sends information, results and design studies from its JET programme to the French site. This cooperation will continue throughout the Brexit process but it is unclear what the impact of Brexit will be on this cooperation and the continuation of these programmes.

On ITER and no deal, the Government's no deal Brexit guidance states:

⁵⁵ ITER, [What Is ITER?](#) [accessed November 2019]

⁵⁶ [HCWS13](#) 27 June 2017

⁵⁷ Gov.uk, [Spring Statement 2019: Philip Hammond's speech](#), 13 March 2019

⁵⁸ Gov.uk, [Future of JET secured with new European contract](#), 29 March 2019

⁵⁹ Gov.uk, [Nuclear research after Brexit](#), 13 August 2019

⁶⁰ ITER, [When Will ITER Be Operational?](#) [accessed November 2019]

The UK will not be a member of Fusion for Energy after Brexit. You will not be able to bid for ITER contracts through Fusion for Energy.

Contracts signed before 30 March 2019 with ITER will continue until the contract end date for:

- UK nationals employed by ITER
- UK operators - like private companies, institutes and universities.⁶¹

⁶¹ Gov.uk, [Nuclear research after Brexit](#), 13 August 2019

3. Progress on leaving Euratom and Government updates

3.1 Position papers, factsheets, and Brexit guidance

The May Government published two position papers in relation to the UK's relationship with aspects of Euratom after the UK leaves.

- On 13 July 2017, the May Government published a position paper on '[Nuclear materials and safeguards issues](#)'. This set out how the responsibilities for nuclear safeguarding, currently undertaken by Euratom, would be transferred to the UK's Office for Nuclear Regulation.
- On 6 September 2017, the Government published a Future Partnership Paper on '[Collaboration on Science and Innovation](#)'.⁶² This outlined the UK's intention to seek to build on collaboration with EU partners on nuclear research as an outcome of the Brexit negotiations and stated that there is precedent for third-party involvement in fusion research.

The Government have also published numerous [factsheets](#) on different aspects of Euratom.

In August 2018, the Government began publishing technical notices on how to prepare for Brexit if there is no deal including two on nuclear; research and civil regulation.⁶³ In August 2019, this guidance was withdrawn and replaced with new guidance on nuclear research⁶⁴, and on various aspects of regulation such as nuclear imports, exports, shipping, and Nuclear Cooperation Agreements.⁶⁵

3.2 BEIS Committee report

On 19 September 2017, the then House of Commons Business, Energy and Industrial Strategy (BEIS) Committee launched an inquiry into Brexit and the implications for UK business. There were a number of 'strands' to the inquiry including one looking at the civil nuclear sector. On 13 December 2017, the Committee published its report on '[Leaving the EU: implications for the civil nuclear sector](#)'. The report concluded:

The UK's departure from Euratom is an apparently necessary but unwanted consequence of exiting the European Union. The

⁶² HM Government, [Collaboration on science and innovation. A future Partnership Paper](#), September 2017

⁶³ Gov.uk, [UK government's preparations for a no deal scenario](#), updated 21 December 2018. See [Nuclear research if there's no Brexit deal](#), and [Civil nuclear regulation if there's no Brexit deal](#).

⁶⁴ Gov.uk, [Nuclear research after Brexit](#), 13 August 2019

⁶⁵ The new pages are listed on the webpage of the withdrawn guidance: [Civil nuclear regulation if there's no Brexit deal](#)

Government's task is to minimise the potential adverse impacts of this departure.⁶⁶

Regarding nuclear safeguards, the Committee welcomed the then Government's commitment to maintaining standards through the Nuclear Safeguards Bill and recommended that the Government provide quarterly updates to the House of Commons on the process of establishing an alternative UK safeguards regime.⁶⁷

The Committee also recommended that the UK maintain the existing benefits of Euratom research and development funding and ensures that whatever the final agreement decided regarding freedom of movement it does not affect "strategically vital projects such as nuclear power plants"⁶⁸.

Overall the Committee recommended an association with Euratom that replicates the existing functions (italics reproduced from original text):

*We agree with the Government that the UK should seek an association with Euratom that is as close as possible to existing arrangements, and which replicates the functions already conducted on the UK's behalf by Euratom.*⁶⁹

Regarding the European Court of Justice (ECJ), which press reports had suggested was a key issue in the Government decision to leave Euratom,⁷⁰ the Committee welcomed suggestions from the then Minister Richard Harrington that the ECJ may continue to play a role:

*We welcome the Minister's pragmatic suggestion that the European Court of Justice may continue to play a role in the UK's civil nuclear sector, and we see no reasoned objections to this approach. The well-established and significant economic benefits of close association with, or membership of, Euratom should not be put at risk to escape any hypothetical and unidentified adverse impact on the civil nuclear sector arising from European Court of Justice jurisdiction.*⁷¹

The Government's response,⁷² published on 8 March 2018, referred to the Government's policy on Euratom, set out in the Written Statement from 11 January 2018 (see Section 3.4 below). As part of this the then

⁶⁶ House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: Implications for the civil nuclear sector](#), Second Report of Session 2017-19, 12 December 2017, para. 4

⁶⁷ House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: Implications for the civil nuclear sector](#), Second Report of Session 2017-19, 12 December 2017, para. 15

⁶⁸ House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: Implications for the civil nuclear sector](#), Second Report of Session 2017-19, 12 December 2017, para. 33

⁶⁹ House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: Implications for the civil nuclear sector](#), Second Report of Session 2017-19, 12 December 2017, para. 43

⁷⁰ Heather Stewart, [PM's European Court stance has 'hamstrung' Brexit negotiations](#), The Guardian, 30 June 2017

⁷¹ House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: Implications for the civil nuclear sector](#), Second Report of Session 2017-19, 12 December 2017, para. 38

⁷² House of Commons Business, Energy and Industrial Strategy Committee, [Leaving the EU: implications for the civil nuclear sector: Government Response](#), 8 March 2018

Secretary of State Greg Clark said that he would provide an update every three months on the withdrawal from Euratom.

3.3 Withdrawal Bill Debates

On the 7th allocated day of the *European Union (Withdrawal) Bill* debate, amendment 300, tabled by the then MP Ed Vaizey, was discussed. The Amendment stated:

- “(3A) No regulations may be made under this section until—
- (a) the Government has laid before Parliament a strategy for maintaining those protections, safeguards, programmes for participation in nuclear research and development, and trading or other arrangements which will lapse as a result of the UK’s withdrawal from membership of, and participation in, the European Atomic Energy Community (Euratom), and
 - (b) the strategy has been approved by both Houses of Parliament.”

*This amendment would prevent the Government using any delegated powers under Clause 9 until it had secured Parliamentary approval for its proposals to replace any provisions that cease to apply as a result of the UK’s withdrawal from membership of Euratom.*⁷³

Mr Vaizey said the amendment had the largest number of signatories of any amendment to the Withdrawal Bill and raised concerns about leaving on a technicality and the impacts on the movement of goods and people.⁷⁴

The then chair of the BEIS committee, Rachel Reeves MP, raised the committee’s report⁷⁵ (published on the day of the debate) and said that a transition period or close association with Euratom was necessary.⁷⁶

The then Minister of State for Courts and Justice Dominic Raab said that the Government intended to set out a vision for close association with Euratom before Report stage of the Bill:

The Government intend to present a written ministerial statement to Parliament before Report which will set out our vision, or strategy, for a close association with Euratom.⁷⁷

A written statement on the Euratom was made on 11 January 2018 (see below), before Report stage of the Bill, which took place on 16 and 17 January 2018.

⁷³ HC Deb 13 December 2017 [C407](#)

⁷⁴ HC Deb 13 December 2017 [C467](#)

⁷⁵ House of Commons Business, [Energy and Industrial Strategy Committee, *Leaving the EU: Implications for the civil nuclear sector*](#), Second Report of Session 2017-19, 12 December 2017

⁷⁶ HC Deb 13 December 2017 [C468](#)

⁷⁷ HC Deb 13 December 2017 [C491](#)

3.4 Written Statements

On 11 January 2018, the then Secretary of State for BEIS, Greg Clark, made the following written statement on the UK's plan for a future relationship with Euratom:

The UK has benefited from its membership of the European Atomic Energy Community since joining the EU and Euratom in 1973. The Government's ambition is to maintain as many of these benefits as possible through a close and effective association with Euratom in the future, after the UK withdraws from Euratom, at the same time as withdrawing from the EU, on 29 March 2019. Our plans are designed to be robust so as to be prepared for a number of different scenarios including the unlikely outcome that there is no future agreement at all. Our number one priority is continuity for the nuclear sector.

Since the 1950s, when the UK launched the world's first nuclear power station, this country has been a leading civil nuclear country on the international stage, with deep nuclear research and nuclear decommissioning expertise, and with nuclear power playing a vital part in our electricity generation mix. It is vitally important that our departure from the EU does not jeopardise this success, and it is in the interests of both the EU and the UK that our relationship should continue to be as close as possible. We recognise and understand the concerns that the nuclear industry has raised. We agree it is essential that projects and investment are not adversely affected by the UK's withdrawal from the EU, and can continue to operate with certainty.

To achieve this outcome, the Government's strategy is twofold: through negotiations with the European Commission we will seek a close association with Euratom and to include Euratom in any implementation period negotiated as part of our wider exit discussions; and at the same time, to put in place all the necessary measures to ensure that the UK could operate as an independent and responsible nuclear state from day one.

Our strategy is therefore based on the following principles:

- to aim for continuity with current relevant Euratom arrangements;
- to ensure that the UK maintains its leading role in European nuclear research;
- to ensure the nuclear industry in the UK has the necessary skilled workforce covering decommissioning, ongoing operation of existing facilities and new build projects; and
- to ensure that on 29 March 2019 the UK has the necessary measures in place to ensure that the nuclear industry can continue to operate.

The Government has made good progress on separation issues in the last few months as part of Phase One of negotiations with the EU. Negotiations have covered a set of legal and technical issues related to nuclear material and waste, and safeguards obligations and equipment. The next phase of discussions will focus on the UK's future relationship with Euratom. We believe that it is of mutual benefit for both the UK and the EU to have a close association with Euratom and to ensure a future safeguards regime that will be equivalent in effectiveness and coverage as that currently provided by Euratom, including consideration of any

potential role for Euratom in helping to establish the UK's own domestic safeguards regime.

The UK's specific objectives in respect of the future relationship are to seek:

- a close association with the Euratom Research and Training Programme, including the Joint European Torus (JET) and the International Thermonuclear Experimental Reactor (ITER) projects;
- continuity of open trade arrangements for nuclear goods and products to ensure the nuclear industry is able to continue to trade across EU borders without disruption; and
- maintaining close and effective cooperation with Euratom on nuclear safety.

We understand the importance to businesses and communities, including those in the nuclear sector, of being able to access the workforce they need. Proposals for our future immigration system will be set out shortly and we will ensure that those businesses and communities, and Parliament have the opportunity to contribute their views before making any decisions about the future system.

Whatever the outcome of the negotiations with the EU, it is vital that Government pursues all options for providing certainty for the civil nuclear industry that it will be able to continue its operations, including that the UK has a safeguards regime that meets international standards by the end of March 2019 and that necessary international agreements are in place. Such elements are not dependent on the EU negotiations and the UK Government is well advanced in delivering this plan.

The UK is: establishing a legislative and regulatory framework for a domestic safeguards regime – the Nuclear Safeguards Bill will, subject to the will of Parliament, provide legal powers for the Secretary of State to establish a domestic regime which the Office for Nuclear Regulation will regulate; negotiating bilateral safeguards agreements with the International Atomic Energy Agency; and putting in place bilateral Nuclear Cooperation Agreements with key third countries.

As set out by the Prime Minister, the UK Government is proposing a time-limited implementation period where we continue to have access to one another's markets on current terms and take part in existing security measures. This implementation period would cover Euratom too. The exact nature of the period will be subject to forthcoming negotiations including on the issues outlined in this statement.

As discussions with the EU move onto the important issue of the future relationship, I shall report back every three months about overall progress on Euratom, covering the EU negotiations and other important matters covered in this statement, by way of further Written Statements to keep Parliament updated.⁷⁸

The written statement included a voluntary commitment to report back to Parliament every three months about progress on Euratom negotiations. A requirement for quarterly reports was included in the *Nuclear Safeguards Act 2018*. The Government made further written

⁷⁸ Written Statement [Energy Policy], [HCWS399](#), 11 January 2018

statements on [26 March 2018](#), [28 June 2018](#), [10 October 2018](#), [14 February 2019](#), [15 May 2019](#), and [5 November 2019](#) with updates and all say that the UK is “on track” with preparations to leave Euratom. The latest preparations include:

- All the necessary replacement international agreements have been concluded. These include new nuclear cooperation agreements with Australia, Canada, and the USA and Voluntary Offer Agreement and Additional Protocol with the IAEA;
- The ONR is in a “state of readiness” to deliver the domestic safeguards regime when Euratom arrangements no longer apply;
- The Government have also made statements on radioisotope supply.^{79,80}

Statements on funding

On 2 February 2018, the Minister Richard Harrington said in a Written Statement that the Department of Business, Energy & Industrial Strategy’s would seek an advance from the Contingencies Fund⁸¹ of £2,275,000 for 2017/18. This funding is intended to help the ONR set up a new domestic civil nuclear safeguards regime.⁸²

On 16 April 2018, Richard Harrington said in a second Statement that the Department were seeking a further advance for the ONR of £4,626,000 for 2018/19.⁸³

More information is available in the Library briefing paper on the [Nuclear Safeguards Act](#).

3.5 Withdrawal agreement and political declaration

On 8 December 2017, the EU concluded that “sufficient progress” had been made in the first phase of Brexit talks and recommended that the next stage of talks could begin.⁸⁴ The UK and EU [joint report](#) published in December 2017, stated in Article 89 that in reference to Euratom, both parties had agreed on the future of nuclear safeguards in the UK and had agreed the principles of ownership and responsibility of special fissile material, spent fuel and radioactive waste.⁸⁵

Following this publication, on 28 February 2018 the [Draft Withdrawal Agreement](#) negotiated between the EU and the May Government was published, with amended versions published on 15 and 19 March. The

⁷⁹ PQ 176162, [Radioisotopes](#), 11 October 2018

⁸⁰ Written Statement [Department for Health and Social Care Update], [HCWS1358](#), 25 February 2019

⁸¹ The [Contingencies Fund](#) is used to finance payments for urgent services in anticipation of Parliamentary provision, to provide funds required temporarily by government departments and to meet other temporary cash deficiencies.

⁸² Written Statement [Energy Policy], [HCWS445](#), 2 February 2018

⁸³ Written Statement [Energy Policy], [HCWS617](#), 16 April 2018

⁸⁴ European Commission, Press release, [Brexit: European Commission recommends sufficient progress to the European Council \(Article 50\)](#), 8 December 2017

⁸⁵ [Joint report from the negotiators of the European Union and the United Kingdom Government on progress during phase 1 of negotiations under Article 50 TEU on the United Kingdom’s orderly withdrawal from the European Union](#), 8 December 2017

finalised negotiated May [Withdrawal Agreement](#) was published on 14 November 2018 along with a [political declaration](#) on the framework for a future relationship between the EU and the UK. More information is available in the Library briefing papers on the [UK's EU Withdrawal Agreement](#) and the [Political Declaration on the framework for future EU-UK relations](#).

In 2019, the Johnson Government negotiated a [revised Withdrawal Agreement and political declaration](#) with the EU. The provisions relating to civil nuclear and Euratom were unchanged between the May and Johnson agreements. As such the information below is correct for both agreements.

Articles 79 to 85 of the Withdrawal Agreement relate to the UK's withdrawal from Euratom covering nuclear safeguards and responsibility for nuclear material and equipment. Some aspects of the Euratom relationship, such as research, are not mentioned in the WA, although they are referred to in the Political Declaration (PD).

- **Nuclear Cooperation Agreements:** The PD states that “the future relationship should include a wide-ranging Nuclear Cooperation Agreement” (NCA) with Euratom for trade in nuclear materials. In addition, at present nuclear operators are required to obtain approval from the Euratom Supply Agency for nuclear trading contracts. As such, some existing contracts will need to be re-approved. The PD suggests provision for this, “the Parties note that the EURATOM Supply Agency intends to reassess in a timely manner the authorisations and approvals of contracts for the supply of nuclear material between Union and United Kingdom”.
- **Nuclear Research:** The PD states “the Parties take note of the [UK's] intention to be associated with the Euratom research and training programmes”.
- **Medical Radioisotopes:** Although the PD does not specifically mention the Euratom Observatory which helps with radioisotope supply, it does state “the Parties will cooperate through the exchange of information on the supply of medical radioisotopes”.

Details on the changes in other areas between the May and Johnson agreements are available in the Library briefing papers on the [October 2019 EU UK Withdrawal Agreement](#) and the [Revisions to the Political Declaration](#).

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