

Brexit and the Euratom Treaty Issue

April 2017

Summary

The Nuclear Institute (NI) welcomes this opportunity to offer some practical advice to the Government to protect the interests of the UK's nuclear sector in the event of withdrawal from the Euratom Treaty, and describes assurances the Government could helpfully provide to reassure businesses and investors in the nuclear sector and maintain the UK's reputation.

This submission has been supported by our professional members.

Recommendations

- a. **The Government should make clear its timetable for replacing the provisions of the Euratom treaty with alternative arrangements.**
- b. **The Government should pursue an alternative form of membership of Euratom similar to that which Switzerland enjoys unless there are compelling reasons not to do so.**
- c. **The Government needs to ensure seamless continuity of legislation, regulatory expectations and industry's compliance arrangements throughout the exit process and afterwards.**
- d. **Prior to withdrawal from Euratom the basic standards applied to the nuclear industry should be checked and amended as necessary to ensure that each remains valid and effective.**
- e. **An agreement in replacement of Euratom will be needed in order to continue R&D work in collaboration with remaining members of the EU and many other countries.**
- f. **IAEA guidance, forums and activities should be afforded increased priority, which will force a review of allocated resource.**
- g. **Through Euratom the UK has access to bilateral and multilateral treaties and cooperation agreements that need to be replaced to avoid interruption of access to nuclear technology and decommissioning skills and intellectual property.**
- h. **The established mechanisms for discussion of nuclear issues with other countries, such as the UK-Irish Contact Group, will need to be reviewed and where necessary extended and strengthened in light of the Euratom treaty.**
- i. **The Government should ensure that the well-respected UK nuclear regulators retain at least associate status at ENSREG meetings so as to maintain alignment with EU nuclear regulatory developments and in order to influence decisions that may have**

an effect on the UK.

- j. **The ONR should set up a State System of Accountancy for safeguarded nuclear materials that, as closely as practicable, mirrors that used by Euratom.**
- k. **The Government must ensure that leaving the EU does not diminish the UK commitment to ensuring the continued development and implementation of robust arrangements for the management of current and foreseeable spent fuel and radioactive waste arisings.**

Nuclear Institute response to the UK Government

1 The Nuclear Institute

The NI is a charity registered in England. Its objectives relate to:

- *the advancement of education relating to nuclear energy;*
- *the advancement of nuclear science, engineering and technology;*
- *in the interests of public safety, the promotion of high standards of education and professional performance amongst those engineers, scientists and others working within the nuclear industry;*
- *the promotion of the public understanding of nuclear sciences and the impact on society and the environment.*

It is a professional and learned body with over 2000 individual members, made up of engineers, scientists, other professionals and a number of individuals who have an interest in the NI's objectives. The NI is licensed by the Engineering and Science Councils to register qualified members as Chartered Engineers and Chartered Scientists.

The NI has ten regional branches across the UK. It also has two national networks: the Young Generation Network and Women in Nuclear, which seeks to address the industry's gender balance and improve the representation of women in leadership roles across the sector.

The NI is not a trade association and does not directly take account of its company members' views, instead relying on individual members' views and its charitable objectives to come to an independent position.

The NI is a member of the European Nuclear Society (ENS)

2 Context

The Euratom Treaty, officially the Treaty establishing the European Atomic Energy Community, was signed in Rome on the 25 March 1957. Under Euratom, there is a well-established regulatory and cooperative framework that governs the civil nuclear industry in the UK and the wider use of radioactive substances in non-nuclear sectors.

The scope of this framework includes the safety of nuclear power stations, regulation of emissions of radioactivity, basic safety standards for radiation protection, safeguarding of nuclear material, emergency preparedness and trans-frontier shipments of spent nuclear fuel and radioactive waste, as well as movements of radioactive substances.

The Euratom framework also includes nuclear cooperation agreements with other countries, including Canada, Japan and the USA. It facilitates UK participation in long-term research and development (R&D) projects, and provides arrangements for notification of potential impacts of activities on other Member States. It also provides a framework for international nuclear safeguard compliance.

The UK Government's White Paper Cm 9417 states clearly "The Euratom Treaty imports Article 50 into its provisions". "When we invoke Article 50, we will be leaving Euratom as well as the EU".

It seems from this statement that the Government is in no doubt that the UK will not be party to the Euratom Treaty post Brexit.

The NI recognises that many of the requirements of the Euratom Treaty reflect the enduring obligations to which the UK is committed under the IAEA conventions and that most of these have already been enshrined within UK legislation. Nonetheless, no longer having access to the framework of assurance and co-operation provided under the auspices of Euratom will make it more challenging for business in the UK to work internationally importing and exporting goods, materials, research and technology etc.

In the absence of Euratom it will be harder to convince other states of our general ability to comply with international requirements. The Government therefore needs to consider how best to manage the UK's exit from Euratom and how any risks are identified and mitigated.

3. What the UK Government should be mindful of when negotiating its exit from the Euratom Treaty

a. Ensuring continuity of existing trade agreements on radioactive and nuclear materials, including spent fuel, radioactive waste and radioactive sources.

Shipment of spent fuel and radioactive waste is within the scope of the Euratom Directives on Trans-frontier Shipments of Spent Fuel and Radioactive Waste (Directive 2006/117/EURATOM) and Safety of Waste (Directive 2011/70/EURATOM) implemented under UK regulations. These agreements have as a final court of arbitration the European Court of Justice. If, post Brexit, the UK defaults to the overarching IAEA guidance and standards the final court of arbitration for resolution of disputes will become the International Court of Justice. The Great Repeal Bill is expected to make all such European derived law into UK law. Underpinning the UK's compliance arrangements are agreements for return of radioactive waste from countries that have sent their spent nuclear fuel to the UK for reprocessing.

In the event of withdrawal from Euratom, it is likely to take some time to establish alternative arrangements, probably bilaterally, between the UK's authorities and those countries with which we trade and send and receive waste and spent nuclear fuel.

The Swiss have negotiated associate status to Euratom (inter alia) but this brings a commitment to other obligations such as the free movement of people.

Interim arrangements will be needed to sustain and develop essential activities such that the UK's nuclear industry can continue to function seamlessly post Brexit.

Early Government assurance that these will be in place is necessary, particularly for the new build community and for key activities at Sellafield.

b. New build commercial issues.

Withdrawal from Euratom, without ensuring transitional arrangements for nuclear safeguarding and trade, will disrupt new build, decommissioning and other programmes of work related to nuclear fission.

This would compound the UK's current shortage of environmentally friendly reserve power generation capacity, weaken the UK's compliance with international climate change agreements and increase the UK's dependency on subsea interconnector cables to European power sources, sources which may no longer be sympathetic to UK needs.

c. Nuclear safeguards.

The current arrangements for Nuclear Safeguards Inspections, consistent with UK compliance with IAEA Conventions, are carried out by Euratom through the ratification of the Euratom Treaty.

An alternative is to have them carried out directly by the IAEA. This would need to be covered by new legislation to accept IAEA Inspectors to carry out the requirement. There are security implications involved with non-EU inspectors at our nuclear facilities to be taken into account.

As with other choices through IAEA rather than Euratom it would mean being subject to a different court of arbitration, namely the International Court of Justice.

The NI understands that the ONR is proposing to set up a UK State System of Accountancy, which will require additional resources. Failure to achieve satisfactory resolution of safeguarding issues before withdrawal from Euratom could be considered a “cliff edge” issue.

d. Research and Development.

The UK has a strong presence in nuclear R&D with European partners from which the country derives much benefit. The benefits of being part of the EU’s R&D programmes e.g. (Horizon 2020 and Euratom Working Groups) go beyond funding.

Being part of the EU’s R&D community creates a number of additional benefits such as leveraging influence to shape EU agenda; access to facilities, material, people and data, securing commercial contracts; developing and maintaining knowledge and expertise; and enhancing the UK’s technical reputation internationally.

Fusion research (specifically UKAEA’s contract to operate JET and the UK’s participation in ITER) is part of Euratom section 2(c) ‘Research and Development’.

An agreement in replacement of Euratom or an alternative membership that provides the same direct and indirect benefits will be needed for the UK to continue to work collaboratively with the remaining EU members and retain British influence and status on the world stage.

e. Accident and Emergency Planning.

There are a number of Euratom Directives associated with accidents and emergencies related to nuclear plants and facilities that, although consistent with their IAEA equivalents, have been implemented in the UK and have force in UK law from Euratom.

Care must be taken, as it is understood that some IAEA agreements of this nature have not been ratified by the UK because they are covered by EU regulations, which take precedence. They would need to be addressed in the Great Repeal Bill.

They include:

- i. 2005/844/EURATOM Commission Decision of 25 November 2005 concerning the accession of the European Atomic Energy Community to the Convention on Early Notification of a Nuclear Accident.*
- ii. 2005/845/EURATOM Commission Decision of 25 November 2005 concerning the accession of the European Atomic Energy Community to the Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency*
- iii. 89/618/EURATOM Council Directive of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency*

iv. *87/600/EURATOM Council Decision of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency.*

f. European Supply agency

It is not clear how the UK will negotiate with the European Supply Agency which is signatory to source materials (uranium) and special fissile materials contracts, including materials held in the UK.

g. Bilateral and Multilateral treaties & cooperation agreements

Through the treaties and cooperation agreements to which Euratom is a party, the UK has access to nuclear technology, skills and intellectual property from many countries including, importantly, the USA. Technology and Intellectual Property (IP) includes aspects of operational nuclear sites as well as the fuel manufacturing facility in the UK currently owned by Westinghouse.

The skills include decommissioning expertise currently in use on many existing nuclear sites in the UK.

The Government will need to replace these treaties and cooperation agreements in order to retain access to essential technology, skills and IP. Access to relevant technology, skills and IP will need to be maintained if the UK were to cease to benefit from the treaties and cooperation agreements available through Euratom.

h. Timescales - It is important that the Government sets out its expected timetable to negotiate bilateral agreements for nuclear activities between the UK and important third countries such as US, Canada, EU member states etc.

i. Monitoring / Reporting and Notification arrangements.

The framework provided by Euratom includes Articles that provide for monitoring and reporting of levels of radioactivity in the environment, and the consideration (and notification) of the potential impacts of radioactive disposals on other Member States (Articles 35, 36 & 37).

Such arrangements remain important not only to enable the UK nuclear and other industries to maintain confidence in their performance, but also to ensure that the UK is able to understand and respond to the potential implications of planned activities in other Member States.

Whilst leaving Euratom may present an opportunity to reconsider some of the threshold levels for some notifications, the UK must recognise the importance of such arrangements in sustaining wider and international confidence in such activities.

4. Mitigations essential for the UK prior to Brexit

a. Timetable - Negotiations on the timing of the UK's exit from the EU and Euratom need to consider the time to establish alternative arrangements, probably bilaterally, between the UK's authorities and other countries with whom the UK trades and exchanges radioactive waste and spent nuclear fuel.

As a priority, the UK needs to plan for and put in place interim arrangements so that those essential activities, needed to sustain and develop the UK's nuclear industry, can continue throughout the Brexit process.

Early Government assurance on this is necessary to maintain the flow of business.
(**Recommendation a**)

- b. Great Repeal Bill** – In planning for provisions and enactment of the Bill, the Government needs to ensure seamless continuity of legislation, regulatory expectations and industry’s compliance arrangements throughout the exit process and afterwards.

This might include continuing associate membership of Euratom using a model similar to that employed by Switzerland. (**Recommendations b, c, d and e**)

- c. Strengthening the relationship with the IAEA and NEA** - The IAEA is a well-respected UN Agency and the Nuclear Energy Agency (NEA) is a specialised agency within the Organisation for Economic Co-Operation and Development.

In planning for the UK’s withdrawal from Euratom, it is essential to review relations with both the IAEA and the NEA and their roles as the principal authoritative international bodies that set nuclear standards.

Whilst standards set by the Euratom Treaty have been legally binding, many of these stem from obligations to which the UK is committed under the Joint Conventions of the IAEA.

However, the equivalent guidance and standards issued by the IAEA does not have the same legal standing as that of Euratom. Similarly, both the IAEA and NEA provide valuable forums for the UK nuclear industry to monitor and influence the development of standards and technologies elsewhere in the world.

For example, the European Utility Group’s collaborations on Fast Reactor and Pressurised Water Reactors, under Euratom, have surpassed all other design, construction and safety standards (including American) relevant to new build in Europe.

The work of ENSREG (see 3e below) is further strengthening the convergence of nuclear regulatory standards. It will be essential for the UK nuclear industry to stay abreast of developments in Europe, and to standardise on designs that can be sold worldwide.

While the UK has traditionally continued to support IAEA and NEA working groups the need for increased priority for work in these forums will force an upwards review of allocated resource, although Europe is likely to remain the leading organisation. (**Recommendation f**)

- d. Relations with other countries, especially Ireland** - Through Euratom the UK has access to bilateral and multilateral treaties and cooperation agreements under which the UK has access to nuclear technology from other countries. These treaties and cooperation agreements will need to be replaced on a timely basis to avoid interruption of access to nuclear technology and decommissioning skills and IP.

Arrangements established under Euratom also provide mechanisms by which the UK is able to share information on its own planned nuclear and radioactive waste developments and consideration of their potential impacts. However, the additional benefits of such arrangements are the means that they provide to helping ensure that the UK maintains good relations with other countries. For example, the Government White Paper on Brexit included a specific section on “Protecting our strong and historic ties with Ireland”.

Ireland has taken a great interest in the UK’s nuclear activities, and Irish organisations have raised UK and International legal challenges about the UK’s decisions to approve nuclear installations. The UK has established mechanisms to discuss nuclear issues with Ireland, such as the UK-Irish Contact Group. Without the support of the Euratom Treaty, these arrangements and forums will need to be reviewed and where necessary extended and strengthened. (**Recommendation g and h**)

- e. **European Nuclear Safety Regulators Group** - The European Nuclear Safety Regulators Group (ENSREG) is an independent, expert advisory group created in 2007 following a decision of the European Commission.

It is composed of senior officials from the national nuclear safety, radioactive waste safety and radiation protection regulatory authorities, senior civil servants with competence in these fields from all 28 Member States in the European Union, and representatives of the European Commission. ENSREG's role is to help to establish the conditions for continuous improvement and to reach a common understanding in the areas of nuclear safety and radioactive waste management.

The UK's nuclear regulators are well respected internationally. Post Brexit, while the UK regulators will no longer be full members of ENSREG, it will be necessary to ensure that they retain at least associate status at ENSREG meetings so as to maintain alignment with nuclear regulatory developments and in order to influence EU decisions which may have an effect on the UK. **(Recommendation i)**

- f. **Safeguarding of Nuclear Materials** – The IAEA provides safeguarding inspectors for the wider community however the EU Directives have taken precedence in the UK. An alternative UK safeguarding system acceptable to the US and other world nuclear powers must be established before the current Euratom based system is stood down, and the UK Nuclear Safety Regulator must be empowered to implement and enforce the new system in line with international treaties.

Changing to IAEA control is unlikely to be straightforward and offers few if any advantages over the current arrangements but will introduce a number of new challenges including security and jurisdiction. **(Recommendation j)**

- g. **Spent Fuel and Radioactive waste management** – the EU's radioactive waste and spent fuel management directive requires EU countries to have a national policy and national programme for the disposal of radioactive waste (including plans for the construction of nuclear waste disposal facilities) (inter alia).

The continued commitment in the UK to the provision of a robust infrastructure for the management of radioactive waste remains vital to the ongoing success of the UK nuclear industry ambitions, and those of other sectors that produce radioactive wastes.

It will be important to ensure that leaving the EU does not diminish in any way the UK commitment to ensuring that it continues to develop and implement robust arrangements for the management of its current and foreseeable spent fuel and radioactive waste arisings. **(Recommendation k)**

5. Timing issues

Unlike most other industrial processes, many aspects of the nuclear sector represent ongoing hazards that cannot be placed in a safe state pending resolution of overarching legal or regulatory issues.

It is important for the safe conduct of business that there is no ambiguity of jurisdiction, responsibility or accountability.

For this reason appropriate alternative arrangements must be in place before the current legal agreements lapse.

However these are not simple matters and the current regulatory framework is deeply ingrained in countless procedures and commercial agreements. The implementation of other European directives, such as the European Directive on Basic Safety Standards (2013/59/Euratom) that has been agreed by

the UK Government and must be accepted into UK law by 6 Feb 2018¹, will continue to modify UK regulations up until the point of withdrawal from the Euratom Treaty, after which the UK will be free to implement alternative arrangements.

An alternative approach by means of ongoing associate membership of Euratom would negate the requirement to change laws that have become embodied into UK law through membership of the EU.

Some Euratom obligations, such as Article 37 submissions, will in any case continue to be required, as they are likely to be demanded by our neighbours.

The Nuclear Institute is of the opinion that there is insufficient time between now and the Government's proposed date for Brexit to safely make all of the essential changes to UK legislation, regulations and international agreements in place of the Euratom Treaty and therefore early Government action to put in place alternative arrangements will be necessary to ensure continuity and consistency for the foreseeable future.

¹ The Society of Radiological Protection (SRP) Dec 2016:

"The 2013 European Basic Safety Standard (BSS) has to be implemented by all European Member States by Feb 2018. As the UK will still be part of the EU at that time, it has to implement the 2013 BSS. Even if this wasn't the case, it was noted that the UK would probably still do the same, or alternatively implement the IAEA version.

The 2013 BSS is a consolidation of other directives (including the 1996 BSS), standards and incorporates the ICRP 103 recommendations. The UK approach will be to maintain the same legislative and regulatory architecture etc so more consistency than change. Nonetheless, it still affects RSR, IRR and REPPiR (and for the medical sector IRMER and MARs). BEIS is currently in the final stages of gap analysis relative to updated needs, there will be formal consultation in the first half of 2017, and revised legislation will be set before Parliament in Nov 2017. The revised IRR will be implemented on 1st Jan 2018 and other arrangements implemented in Feb 2018.

Overall, RSR regulation in the UK is already consistent with the BSS 2013 requirements and requires little amendment. However, more significant changes elsewhere are expected. For instance, the Ionising Radiations Regulations 1999 (IRR), Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPiR) and the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG) will be replaced by IRR17, REPPiR17 and CDG17. Formal public consultation on this process will commence early in 2017."