

## BREXIT



# UK scrambles to prepare for Euratom exit

**The UK is running out of time to prepare itself for the country's exit from the European Atomic Energy Community (Euratom), due to the complexity of replicating its nuclear standards in UK law, as *Laura Syrett* and *Keith Nuthall* report.**

**W**hen Britain quits the European Union (EU) on 29 March 2019, it will not only revoke the Treaty on European Union, but the legally separate Euratom Treaty, which governs and helps fund how member states regulate, control and develop their nuclear sectors. The UK has 15 nuclear reactors, which currently generate about 21% of Britain's electricity – so any uneven or damaging break from Euratom could pose significant consequences.

'When we formally notified our intention to leave the EU, we also started the process for leaving Euratom,' a UK government spokesperson told *Energy World*. However, with the Brexit negotiations with the EU continuing to be slow, given the complex challenges facing both sides, the spokesperson stressed what the energy sector knows too well: 'The UK's exact future relationship with Euratom remains subject to negotiations with our EU partners.'

There is some meat on these bones, however. As part of these negotiations, in February the European Commission released a draft withdrawal agreement covering the UK's exit from the EU, which tries to tie up regulatory loose ends regarding the nuclear sector. The draft agreement proposes ways of dealing with nuclear management issues after the expiry of a proposed transition

period on 31 December 2020, following the UK's formal exit from the EU on 29 March 2019.

#### **Sole responsibility**

First, the British government would, from 2021, assume sole responsibility for ensuring that all nuclear fuel-related ores, source materials and special fissile materials within the UK on 31 December 2020 are henceforth handled under the rules of applicable international treaties and conventions. These include conventions on nuclear safety, safeguards, non-proliferation and physical protection of nuclear materials.

Britain would also shoulder responsibility for ensuring its compliance with obligations from being an International Atomic Energy Agency (IAEA) member and a signatory to the Treaty on the Non-Proliferation of Nuclear Weapons. In addition, the UK would have to create and operate a safeguards regime, ensuring that nuclear materials do not end up in the wrong hands, that is at least as effective as the current EU system, as soon as the transition agreement expires.

Any EU-owned equipment enabling officials to conduct safeguarding work that remains in the UK in December 2020 would become British government property, although it would have to pay the EU a fair price for assuming ownership.

According to Dr Paul Dorfman, a Senior Research Fellow at University College London's Energy Institute, implementing satisfactory new safeguarding arrangements will be especially costly for the UK: 'About a quarter of all EU nuclear inspection is carried out in the UK, so now we will have to pay for these. The total EU budget for this was €23mn in 2015,' Dorfman told *Energy World*.

He also noted that Euratom's mandatory safeguarding regime has much wider scope than the UK's proposed Nuclear Safeguards Bill, which passed its third reading in the House of Lords on 27 March, without amendments, although the Lords did stress the need for continuity in safeguarding provisions. Under the current proposals, the UK will agree to ensure that its nuclear industry complies with IAEA rules on safeguarding which, according to Dorfman, are 'essentially discretionary'.

'[This will affect] how we are perceived internationally – we can't continue to tell countries like North Korea and Iran that [their nuclear sectors] are not properly regulated, when we are no longer subject to robust regulations ourselves,' Dorfman added.

As well as implementing a new national safeguards regime, there will also be changes regarding special fissile materials, such as uranium and plutonium which, under Euratom's Article 86, are

Lighting the way – the lighthouse by Dungeness nuclear power station, Kent

Photo: Tony Hisgett

owned by the EU, although member states and energy companies using them have unlimited consumption and usage rights.

Under the draft Brexit agreement, ownership of many such materials within the UK would, on 31 December 2020, revert to those organisations using them at the time. However, where the organisation handling these materials is based in the remainder of the EU (such as a European-owned utility), according to the proposal, the EU would retain ownership of these materials, even if they are stored and used in Britain.

That means the EU will have the power to block the movement or sale of key UK-based nuclear fuel inputs, even after Britain quits the EU – a risk which Dorfman says the UK is unprepared for, given that it only holds small domestic stocks of nuclear fuel. The EU would further retain jurisdiction over the management of any spent fuel and nuclear waste shipped from UK nuclear installations to an EU member state before the end of the transition period.

It is possible these proposals may change during final negotiations on the UK exit agreement, but amending them will require all 27 remaining EU members to back a fresh approach.

### No advocacy for leaving Euratom

Concerns surrounding the post-Brexit future of British nuclear were crystallised in a report published in December 2017 by the UK House of Commons' Business, Energy and Industrial Strategy Committee: *Leaving the EU: implications for the civil nuclear sector*.

'No-one has advocated to us – or identified any significant advantages of – leaving Euratom,' the report said. 'It is a wholly unwanted and potentially unintended consequence of our leaving the EU. The impact on the UK civil nuclear sector of leaving Euratom will be profound.'

And while the UK government has said that it wants to maintain

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'a close and effective relationship with the Euratom Community and the rest of the world' after Brexit, to continue pooling expertise and maximising shared interests with other nuclear states, such cooperation will not happen automatically.

Lawrence Slade, Chief Executive of Energy UK, the trade association for the British energy industry, told *Energy World* that preserving the UK's close collaboration with Euratom will be a major challenge, but stressed that: 'there is real consensus across the energy industry that it will benefit both the UK and our European colleagues to maintain extensive links and cooperation.'

One of the main issues facing the UK's civil nuclear industry post-Brexit is the future of new-build nuclear energy projects. Almost half of the UK's existing nuclear capacity is due to be retired by 2025, which nuclear energy proponents say must be replaced to guarantee the UK's future energy security, but which sceptics argue should be supplanted by renewable sources.

### New-build ramifications

Mycale Schneider, a Paris-based international analyst on energy and nuclear policy, says that the main problems faced by British new-build nuclear energy projects are their high and rising investment costs and long lead times of 20–25 years.

'Large solar plants or wind farms can be implemented with lead times of two years and their costs are constantly falling,' Schneider told *Energy World*. 'Brexit will further complicate nuclear projects and thus likely increase lead times, further losing out in the competition with renewables.'

David Lowry, an independent UK-based research consultant with specialist knowledge of British and EU nuclear policies, warned that the UK's exit from Euratom will leave a significant gap in funding for British civil nuclear projects. He predicted that planned new nuclear plants, such as EDF Energy's Hinkley Point C power station in Somerset, which is scheduled to be operational by 2025, are likely to get some way down the line before ultimately being cancelled.

For Lowry, however, that would be good news: 'Exiting Euratom will have a hugely beneficial impact on the UK's energy industry. Nuclear has taken up a huge amount of the sector's R&D budget and has distorted grid planning. The decline of nuclear will create an opportunity for the redevelopment

of the grid for renewable energy generation.'

### Expertise shortfall

Some experts also think the UK could find itself lacking the necessary expertise and equipment after Brexit to maintain its civil nuclear programme, since many of these are imported from Europe. 'The UK has hardly any nuclear building industry of its own,' Schneider told *Energy World*.

He continued: 'Many parts, and especially large components, are manufactured overseas. The problem is how to guarantee indispensable high standards... Information exchange, whether through Euratom, the European Nuclear Safety Regulators Group (ENSREG), or other EU channels, is likely to take a hit after Brexit, making quality control even more challenging.'

The possible skills shortage post-Brexit is an equally pressing concern. Data from specialist recruitment firm Energy Jobline show that nuclear industry jobs in the UK have increased by 49% in the last two years, while applications have grown by just 23%.

On top of this, around 40%, or 20,000 of the UK's current nuclear workforce will be eligible for retirement by 2019. Hannah Peet, Managing Director of Energy Jobline, told *Energy World* that withdrawal from Euratom could further widen the skills gap, especially in the recruitment of nuclear inspectors to work in the UK, once it takes over responsibility for monitoring its own nuclear industry.

Energy Jobline figures indicate that anywhere between 10% and 30% of the UK's nuclear workforce are non-UK EU nationals. 'This [part of the] workforce is vulnerable, because it is unclear what will happen to these EU nationals after Brexit. Our statistics show that the number of European candidates applying for nuclear-related positions has dropped by 96% [since the Brexit referendum],' Peet said.

UCL's Dorfman is doubtful that the UK will have fully addressed any of the challenges facing its nuclear industry by the official Brexit March 2019 deadline, but stressed this is not due to administrative inflexibility. 'It's wrong to criticise the slow pace of progress as excessively bureaucratic – nuclear is different and needs to be approached carefully,' he said. 'Nuclear treaties take a long time to put in place – you can't make it up as you go along.' ●

David Davis, UK Secretary of State for Exiting the EU, with Michel Barnier, European Chief Negotiator for the UK Exiting the EU, speaking after Brexit negotiations in Brussels

Photo: European Commission

