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Public Bill Committee

NUCLEAR SAFEGUARDS BILL

Second Sitting

Tuesday 31 October 2017

(Afternoon)

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Saturday 4 November 2017

The Committee consisted of the following Members:

Chairs: † James Gray, Steve McCabe

† Blomfield, Paul *(Sheffield Central)* (Lab)
† Bradley, Ben *(Mansfield)* (Con)
† Carden, Dan *(Liverpool, Walton)* (Lab)
† Debbonaire, Thangam *(Bristol West)* (Lab)
Gibson, Patricia *(North Ayrshire and Arran)* (SNP)
† Gill, Preet Kaur *(Birmingham, Edgbaston)* (Lab/Co-op)
† Harrington, Richard *(Parliamentary Under-Secretary of State for Business, Energy and Industrial Strategy)*
† Harris, Rebecca *(Castle Point)* (Con)
† Harrison, Trudy *(Copeland)* (Con)
† Hendry, Drew *(Inverness, Nairn, Badenoch and Strathspey)* (SNP)
† Lewer, Andrew *(Northampton South)* (Con)
† Maclean, Rachel *(Redditch)* (Con)
† Norris, Alex *(Nottingham North)* (Lab/Co-op)
† Robinson, Mary *(Cheadle)* (Con)
† Smith, Eleanor *(Wolverhampton South West)* (Lab)
† Sunak, Rishi *(Richmond (Yorks))* (Con)
† Syms, Sir Robert *(Poole)* (Con)
† Whitehead, Dr Alan *(Southampton, Test)* (Lab)
† Wragg, Mr William *(Hazel Grove)* (Con)

Kenneth Fox, Rob Cope, *Committee Clerks*

† attended the Committee

Witnesses

Angela Hepworth, Corporate Policey and Regulations Director, **EDF Energy**

Sue Ferns, Deputy General Secretary, **Prospect**

Kevin Coyne, National Officer for the Energy & Utilities Sector, **Unite the Union**

Professor Juan Matthews, Visiting Professor, **Dalton Nuclear Institute**

Public Bill Committee

Tuesday 31 October 2017

(Afternoon)

[JAMES GRAY *in the Chair*]

Nuclear Safeguards Bill

Examination of Witness

Angela Hepworth gave evidence.

2 pm

The Chair: I welcome our witness for the first session this afternoon, which can last for half an hour. Angela Hepworth is the corporate policy and regulation director at EDF. Perhaps, for the record, you would be kind enough to introduce yourself. If you want to say anything about the Bill by way of introductory remarks, please do so.

Angela Hepworth: I am Angela Hepworth. I am the corporate policy and regulation director for EDF Energy. I look after our interaction with Government and with regulators in the UK, and I am also managing the company's work on Brexit, and in particular Euratom.

Q46 The Parliamentary Under-Secretary of State for Business, Energy and Industrial Strategy (Richard Harrington): Good afternoon, Angela. I would like to ask you a general question, if I may. Do you agree that a nuclear safeguards Bill is an essential step for the UK in preparing for its exit from Euratom?

Angela Hepworth: I do agree. Maybe I can say something about our industrial perspective and what it means to us in the UK.

As I am sure you know, we own and operate the eight existing nuclear power stations in the UK, which provide 20% of the UK's electricity-generating capacity. We also have plans to build a new nuclear power station at Hinkley Point C and then follow-on nuclear power stations. As part of that, it is vital for the existing nuclear fleet and for our new build projects that we are able to import fuel, components, services and information for the nuclear power stations. That is absolutely essential. We have a supply chain that depends on having access to those things from Europe and further afield.

In order to do that, it is essential that there is a functioning safeguards regime in place that is approved by the International Atomic Energy Agency. At the moment, as you know, that is provided by Euratom. When Euratom is no longer providing that, it is essential that we have a domestic regime that will support our ability to import those things. We see it as essential to have a safeguarding regime and therefore essential to have the Bill, to give the necessary powers to put that regime in place.

Q47 Alex Norris (Nottingham North) (Lab/Co-op): Obviously EDF works beyond our borders. If your business ends up having to work across multiple safeguarding regimes, what likely complications will that cause for you? Do you do that already?

Angela Hepworth: In terms of our UK operations, we will be operating within a UK safeguarding regime. We understand that the Government's intention is to keep the arrangements from an industry perspective quite similar to the existing arrangements that apply with Euratom. The Bill provides powers to put that regime in place. We have not seen the detail of how those arrangements will operate, but we are very keen to. We are happy, in principle, working under a domestic safeguards regime in the UK, as we have been happy working under a Euratom safeguards regime.

Q48 Mary Robinson (Cheadle) (Con): What do you see as the biggest risks to the industry of leaving Euratom?

Angela Hepworth: On the safeguards regime first, our concern is about the amount that has to be done to have the safeguarding regime in place in time. As I say, in principle we are very happy with the idea that a domestic regime should be established, rather than the Euratom safeguards regime, but we are conscious that there is a lot to do in the time available to get that regime in place. It is not the principle of it; it is the timing and the implementation.

Likewise, we are conscious that the other key components that we need to have in place include a replacement agreement with Euratom, which would cover issues relating to the ownership of nuclear material, and our future trading relations with Europe for nuclear materials. Obviously, that is subject to the negotiations that are going on in Brussels at the moment. I have regular contact with the officials who are leading those negotiations, and we are fully aligned with the objectives they are perusing. Again, it is subject to the success of those negotiations.

There are other key things that have to be put in place. We will need nuclear co-operation agreements with key third countries. I have been told that the negotiations are under way and are progressing well. Again, our concern is the timing and how it fits with the timing of putting a safeguards regime in place. Those agreements cannot be finalised until there is certainty about the domestic safeguards regime, so it is about the timing of getting all of that done.

The other key issue for us is the movement of people. We are an international business, and the nuclear industry is an international industry. We rely on having access to experts from Europe and further afield. The roles in the company that most draw on skills from overseas are engineering roles—we are reliant on being able to draw in engineers. Building Hinkley Point will require a workforce of 25,000 people. We are doing an awful lot to try to build up skills in the UK, but we expect that, to deliver Hinkley, we will need to be able to draw on workers from overseas. I would not expect that to be solved within the Euratom arena, but that is a key issue for us as a nuclear operator.

We also have to ensure that we have got an export control regime in place and support for nuclear R and D. Those are the key issues for us relating to Euratom.

Dr Alan Whitehead (Southampton, Test) (Lab): May I ask you about the Euratom costs relating to safeguarding, which may not go to Euratom but to the Office for Nuclear Regulation as a result of the transfer of responsibility

for safeguarding from Euratom to ONR? I understand that EDF Energy already pays into ONR as a contribution to its general costs, but does not pay anything to Euratom for safeguarding. Is that right?

Angela Hepworth: That is right. We have to distinguish what we pay for from the ONR at the moment. As a nuclear operator, we are required to comply with certain safety and security regulations, and we pay for the ONR's role in inspecting our stations to ensure we comply with our obligations. That is absolutely right, and we expect that to continue. There is a distinction to be drawn between that and compliance with the safeguarding regime, which is the responsibility of a member state. At the moment, the UK Government pays for that to be done via its contributions to the EU budget. As that is a member state responsibility, it is clear to us that it should be the UK Government who meet those costs in the future, rather than look to the industry to cover them.

Q49 Dr Whitehead: At present, the UK Government's responsibility is absorbed into the £14 billion per annum net rebate that goes to the annual overall EU budget.

Angela Hepworth: As I understand it, it is funded via the EU budget contribution. That is how it is funded at the moment.

Q50 Dr Whitehead: So, given the fact that it will be a contribution to ONR in the future for that new purpose, which, as we have heard, will require additional inspectors and other things, you would anticipate, or hope, that it would be separated out in practice among the various moneys that go to ONR generally at the moment.

Angela Hepworth: I think the cost should be met by the UK Government, given that it is discharging a UK Government responsibility.

Q51 Dr Whitehead: Do you think that that separation out ought to be in legislation? Obviously, in this Bill we are trying to make sure we have got absolutely everything right, as far as transition is concerned. Is that something you think can be dealt with by discussion, or do you think it perhaps ought to be laid down?

Angela Hepworth: I think we would welcome the assurance; whether that is provided on the face of the Bill or separately is less of a concern to us.

Q52 Rachel Maclean (Redditch) (Con): You mentioned some of the things that need to happen after the Bill is introduced to make sure that we have a safeguarding regime for the UK. Can you prioritise those for us, once the Bill has been introduced?

Angela Hepworth: It would be first and foremost the responsibility of the ONR to put the safeguarding arrangements in place—if that is the element that you are particularly concerned about. I know that one of the early activities they are undertaking is recruitment of the experts that they need in order to do that. They need to be able to do that and to put in place the processes and systems that they need to be able to discharge those responsibilities. What we would welcome as an operator is a timetable from the Government and the ONR that sets out exactly what steps need to be taken and when, in order to have a regime operational at the point where the UK leaves Euratom.

Q53 Drew Hendry (Inverness, Nairn, Badenoch and Strathspey) (SNP): You laid out your concerns about the pace and timescale for the replacement requirements for leaving Euratom. You said there was a lot to be done to discover what ownership details were there, their future trading relationships and the nuclear co-operation agreements with third parties and, obviously, workers from the EU. Assuming a date of leaving Euratom of March 2019, when is the latest date that you would say would be required for you to have clarity on those agreements going forward?

Angela Hepworth: I think it is really a process of increasing confidence. It is not so much that there is a particular date where you need to have everything signed and sealed, but we need to have a process between now and the exit date where we have confidence about the regime that will be in place at that date. We would very much support having a transitional or implementation phase, with as much continuity in the existing arrangements as possible. If that could be confirmed early, that would be a great benefit to the nuclear industry, to give them the confidence that they will have continuity in the existing arrangements for a period after the exit date.

Q54 Drew Hendry: So first of all, give them that confirmation of continuity, and also how long would you like to see that transition period last?

Angela Hepworth: I do not think that is a question I can answer. We would like a period of transition. I think that is probably a question for the Government—what they think is appropriate in the circumstances, given what needs to be done within that timeframe.

Drew Hendry: I am surprised that you do not have an idea of what you might require as part of the industry—that you might not have an idea of how long you might need as a run-in time to adjust to new regulations.

Angela Hepworth: I think it is more a question of understanding the timeline from the Government and the ONR that they need to have these arrangements in place. Speaking from an industry perspective, we welcome certainty and stability. An early signal that there would be a period of continuity after the Euratom exit date where the arrangements for trade would continue to apply would be very reassuring.

Q55 Trudy Harrison (Copeland) (Con): To declare my interest, my husband and various other family members work at Sellafield in my constituency of Copeland. I have heard loud and clear that there is a need for a critical path for us all to have sight of, to understand how this process is running, and also the transition period. I think it would be helpful to understand what outcomes we would need from that transition period from other countries outwith Europe, but also for us to understand how it is necessary for other countries to have this in place. How do other countries rely upon the UK to continue with their business in the nuclear industry?

Angela Hepworth: If we are thinking about countries outside the EU, there are a number of countries where it is either illegal or a policy requirement that they have a nuclear co-operation agreement in place if they are going to export nuclear material. The countries that the UK Government have rightly prioritised for negotiating agreements are the US, Canada, Japan and Australia.

In each case the UK Government will need to negotiate a nuclear co-operation agreement with that country to enable the trade.

Why does it matter? For example, our Sizewell B power station relies on Westinghouse technology, so we rely on our links with the US in order to be able to operate and maintain that power station. If we wanted to import a part from America, or to draw on expertise and services from America for that power station, there has to be a nuclear co-operation agreement in place between the UK and the US in order to do that. As we understand it, the US will not agree a nuclear co-operation agreement unless the UK has a safeguards regime in place, which is one reason we see the Nuclear Safeguards Bill as a key priority, to put that in place. Each of those countries will have its own internal processes in order to agree nuclear co-operation agreements.

As I understand it, for example, in the US it will have to be agreed by the President and it will have to go through Congress. We have been telling Government we would like to see, as an industry, a timeline that sets out for our benefit the steps that need to be taken in order to put a safeguards regime in place, to get it approved by the IAEA, to conclude the negotiations with third countries, but also the ratification processes for those countries, in order to understand the end-to-end process and how those various components interact, so that we can have the safeguards regime in place and also the nuclear co-operation agreements with those third countries. Then, as I said, we need a future agreement with Euratom: there needs to be an agreement in place, negotiated between the UK and Euratom, which explains the framework for nuclear trade going forward once we have left Euratom.

Q56 Trudy Harrison: We have heard examples of how we need it; are there examples of why other countries need it in place, for their own benefit?

Angela Hepworth: Yes; there is a nuclear supply chain across the EU and the UK is a great opportunity for those countries. For example, two-thirds of the value of the construction of Hinkley Point will go to companies in the UK but that leaves one-third of the value of the construction going to countries from further afield. Many of those are companies in Europe but, for example, there are companies in the US and Japan which are also involved in the Hinkley Point supply chain. It is in the interests of those companies and countries to have future co-operation agreements which enable them to participate in the supply chain. The UK has great opportunities for international companies: there is supporting the operation of the existing nuclear fleet; there is the nuclear new build programme; there is decommissioning coming up. So there should be real opportunities for other companies to be involved in the UK supply chain if we can get those agreements in place.

Q57 Paul Blomfield (Sheffield Central) (Lab): On the same theme, in your evidence you very diplomatically describe the challenge that we face, even if the Bill proceeds in a timely manner. The legal and practical challenges to the Government and the ONR to put the necessary arrangements and resources in place remain significant. I guess that what you are trying to say, in code, is that that is not really very doable by March 2019.

Angela Hepworth: I am not saying it is not doable; I am saying it is challenging. You heard first-hand from Dr Mina Golshan of the ONR this morning about the practical steps that need to be taken. There is an awful lot that it needs to do in terms of recruitment and having systems and processes set up. We are mindful of the fact that that is a challenge in the time available. That is one reason we support an implementation or transitional phase.

Q58 Paul Blomfield: You would find it helpful to have that in the Bill?

Angela Hepworth: Again, we are looking for assurance and clarity. I am less concerned about whether that is set out in the Bill or not; it is assurance and clarity that the industry is looking for.

Q59 Dr Whitehead: From the point of view of EDF's operations across the world, what is your view on whether, and in what form, association with Euratom might be a reasonable proposition for the future, and on whether the associations already in existence might fit the bill as possible models for UK association with Euratom?

Angela Hepworth: In terms of a future relationship, EDF Energy has been clear from the outset that far and away the best outcome for the UK nuclear industry would be to remain in Euratom. That remains, we think, the right answer for the UK nuclear industry. Assuming that that is not possible and that we have to look at a future agreement, the models of association agreements in place now are limited to engagement in research and development programmes. That is valuable, but it does not address the key issue that we are concerned about, which is the movement of nuclear materials. What we are most concerned about in all of this is our ability to move nuclear fuel, nuclear components, information and services. The current framework of association agreements would not meet that need. If that were going to solve the key issues, we would need to think of some different model of association.

Q60 Preet Kaur Gill (Birmingham, Edgbaston) (Lab/Co-op): You say under "Issues to be addressed":

"The UK Safeguards Bill says little about what a new regime will look like."

You also say that if there were any changes or amendments to regulation,

"Neither EDF nor the wider UK nuclear industry are…included as statutory consultees".

Do you think that the current consultees include the wider sector, or are they quite limited?

Angela Hepworth: As I understand it, the Bill says that the ONR and such other people as are deemed appropriate must be consulted. We would welcome consultation with the broader nuclear industry.

The Chair: Unless there are any other questions from colleagues, I will say thank you very much indeed for your time. You have been extremely helpful and clear, and have added a lot to our deliberations over the next couple of weeks.

Examination of Witnesses

Sue Ferns and Kevin Coyne gave evidence.

2.22 pm

Q61 The Chair: I welcome Sue Ferns, Deputy General Secretary of Prospect Union, and Kevin Coyne, National Officer for the Energy and Utilities Sector at Unite the Union. Having introduced you, I will none the less ask you to introduce yourselves for the record and, if you wish, say a word or two in general about the Bill.

Sue Ferns: I am Sue Ferns. I work for Prospect, a politically independent trade union representing thousands of members across the nuclear industry, from research to generation and decommissioning. We also represent members who work at the Joint European Torus facility in Culham.

We have set out our key concerns about the Bill, one of which is to ensure that the powers of the inspectors are included in the Bill, consistent with the Health and Safety at Work Act 1974 and the Energy Act 2013. We would also like to see in the Bill a consultation on what associate membership of Euratom would look like, because we feel that that would be better than exiting Euratom. From the discussion that has just taken place I understand, and agree, that there is no off-the-peg answer to that, and that we would have to write something specifically for the UK's circumstances. Those are a couple of our key concerns.

Q62 The Chair: Before I ask Mr Coyne, I will just pick up on that particular point. We are restricted by parliamentary procedure to discussing what is in the Bill. Associate membership of Euratom is not, and therefore we are not permitted to discuss it even should we wish to do so. We must discuss only what is in the Bill and not what, presumably, we would have liked to be in it.

Kevin Coyne: What a pity. I am Kevin Coyne, national officer for Unite. Unite represents skilled workers in the nuclear industry, from decommissioning and generation to huge swathes of the electricity industry. Our position on the Bill, and I understand that you will be asking supplementary questions about whether we support it, is that we have concerns, principally about the impact on workers in the industry, as you would expect from us. We also have concerns about the timescale, and whether that will be in place and have ramifications for jobs in the future. We have concerns about JET in particular, the jobs based at JET, and the freedom of movement of those jobs throughout Europe and the attention to detail in the Bill about that. Those are our three main concerns.

Richard Harrington: Welcome this afternoon. I accept your point, Kevin, and the Chair has quite rightly ruled about our discussing what is in the Bill, but my door is always open to both you and Sue to discuss other matters on another occasion.

Kevin Coyne: That is very kind of you.

Q63 Richard Harrington: I know you know that, but I wanted to confirm it, although it is not relevant to this afternoon's session.

I would like to ask you a leading question—something which of course we do. I understand your views on Euratom and what Sue said about associate membership. She is quite right that there is no actual definition of associate membership. However, given that the Government decided to serve the article 50 notice on Euratom and we are leaving subject to negotiations, which is a statement of fact, would you accept that we are doing the right thing in having nuclear safeguards built? I accept that you do not think that the Bill covers everything, but would you still support it?

Kevin Coyne: The important point is that there is a safeguarding mechanism in place by 2019. You have seen my paper, in which we indicate as a union that we wished that Euratom had been left in place for a series of reasons, including the continuity of various bits at a high level. We do not believe that we can hope to progress to that level by 2019, so we believe that the safeguarding mechanisms outlined in the Bill are important to safeguard the industry as it goes into a phase which we do not yet know about.

Sue Ferns: Just to add to that, having read the Second Reading debate, there was a lot of talk about this being a contingency measure. I would agree; it is an essential contingency measure. It is not our first preference, but it needs to be there as a contingency.

The Chair: I call shadow Minister, Dr Alan Whitehead.

Q64 Dr Whitehead: I think it was made clear verbally on Second Reading that the Bill is certainly intended to be a contingency measure—a Bill that would come into operation only if having any other arrangement following Euratom proved not to be possible. I imagine that is what is meant by contingency.

I wonder if you might briefly share with us what you think might be possible so that the Bill is not a contingency, and whether you think the timescale that we have in front of us over the next period is sufficient to bring in either associate membership, perhaps, or similar arrangements with Euratom. Alternatively, if the Bill is to be used as a contingency, do you think that the timescale in front of us—bearing in mind all the detail of the secondary legislation that we need to get through as far as the Bill is concerned—will be sufficient to make that happen?

Sue Ferns: I think the answer is that we do not feel confident that the timescale is sufficient. From speaking to members in the ONR who essentially have to deliver the key provisions of the Bill, it is clear that they need to build an IT system to log the data properly. They need to have resources to deliver what is required, bearing in mind that we are a heavy utiliser of Euratom resources in the UK. As the previous witness said, we need to make sure that there are inspectors in place to be able to police the regime.

It is easy to say that; it is much more difficult to deliver it. Nuclear inspectors are thin on the ground at the best of times. Absolutely, ONR is doing its very best to try to ensure that it can expand its inspector resources, but I think even ONR feels that it is a challenge. The question is where will these people come from? The only obvious source is from elsewhere in the industry, because there are not qualified nuclear inspectors who are currently out of the labour market. That is absolutely a major challenge. The honest answer to the question is that I do not know whether the timescale is sufficient, but at this stage we certainly do not feel confident about it.

Kevin Coyne: I would answer that question with two responses. First, as I said, we as a union hoped that we would have remained in Euratom. We do that because we believe there is not a necessity to leave Euratom in effecting Brexit under article 50 and through article 160a. It was possible, I understand, to remain. That is important, because of the uncertainty that we now believe is cast over that.

As I said before, our concern is mainly with our members' interests and with jobs. Sizewell B, for instance, will be in operation until 2034, and it relies extensively on components from the United States. It is very important that the co-operation agreements that the previous witness talked about are in place by 2019, and there must be serious doubt with the inspectorate in its current state. I believe that the numbers are 160 inspectors, and the ONR has fewer than 10 in place currently. So, there is the training and the programme and—importantly—all of that must cast doubt upon our ability, and if that is the case it will affect the smooth operation of nuclear plants in future, until there is a regime in place that equally matches the plants.

Secondly, I would argue that there is an impact on new nuclear development for the regime. For instance, there is the whole fuel cycle in Britain, which is gearing up to be a serious and important new operator of new nuclear build. We want within that the whole fuel cycle—the whole of the nuclear operation. As you know, in Preston we have a factory—Springfields—that produces fuel, which is wholly dependent on mixed fuels from other nations, co-operation agreements and the operation of Euratom in ensuring that that fuel supply is there and available.

There is a real threat, because of the problems with Westinghouse, that that plant in Preston would suffer as a result of the safeguards not being in place in time. That would result not only in the loss of jobs but in issues for the fuel cycle itself, for Britain's ability to recreate the whole of the nuclear cycle for the export orders for the industry, and for the jobs that that entails.

Q65 Eleanor Smith (Wolverhampton South West) (Lab): I noted that you talked about training and wanting personnel to do work. How long would these individuals need for training?

Kevin Coyne: I will defer to my colleague, who is from the union that represents these people.

Sue Ferns: How long to train a nuclear inspector?

Q66 Eleanor Smith: Yes, and other people you require, because you said there are numbers that you need. I just wondered how long training would take.

Sue Ferns: It takes quite a number of years to train a nuclear inspector. Obviously, if you get people from the industry, they have a level of experience, but not in that context. I believe that ONR is considering whether it can provide additional training to some of its other staff, to enable them to take this role. They are people who inspect, but don't inspect for safeguarding. However, none of that happens overnight. This is a highly skilled, very specialist area, which is why there is such a premium on this source of labour, so it will take a period of time to be able to do that.

Kevin Coyne: The reputation of the UK nuclear industry and its attendant skills and safety record are things that we, including the trade unions, are very proud of. I would argue that it is important that Euratom inspectors are highly regarded and renowned throughout the world, but that takes time. It is very important to have that reputation, so that people in the rest of the world believe the reports and the regulations that emanate from that.

Q67 Trudy Harrison: I absolutely share your pride in our nuclear industry, and I am certainly looking forward to the future. In terms of the expertise that we already have in this country, my constituency alone has 14,500 Nuclear Industry Association members and 10,000 staff working at Sellafield, many with the skills to lend themselves to being nuclear inspectors. Indeed, the 17 Nuclear Decommissioning Authority sites across Britain are already compliant, which means that they must have staff in place to ensure that compliance, regardless of inspection. Sue, you mentioned not being confident, but what specific steps should we take to provide that confidence?

Sue Ferns: I think that there are a couple of things. First, as the previous witness said, there should be a clearer timetable for various steps. At the moment there is a deadline and then there are two years. How will we get there? The path is unclear.

Q68 Trudy Harrison: So that critical path when there is project management talk about what steps need to be taken on what date and by whom.

Sue Ferns: Indeed, and what the risks are at each stage, so that they can be known and are transparent. I am sure that various stakeholders are working on them at the moment, but I do not think that the critical path with the risks at each stage is a transparent timeline at the moment.

Another thing that would build confidence is making it clear that everyone will work to achieve this, but if we do not achieve it, we must have a longer transition period. For the sake of the industry, we absolutely cannot afford to step out of the regime that we have now until it is absolutely clear that there are equivalent standards in place and that they are operating. It is quite difficult to impose an arbitrary timescale on that because, as I said, there are a number of risk factors: specifying, procuring and getting new IT systems up and running—there is not always a great track record on that—and making sure that we have appropriately qualified and skilled inspectors.

Reflecting on the previous question, Kevin is absolutely right: the UK has a first-class reputation. We all know how easily reputations can be lost. They take years to win, but they do not take years to lose. There should be a combination of having the critical path, which is transparent about the risks at each stage, and being clear that if we need a longer transition in this sphere, we should have a longer transition because that is in the interests of the industry.

Q69 Paul Blomfield: I want to pursue the issue of the time that it will take to get the necessary staff in place. Sue, you said that you were uncertain about the training period. Prior to this Committee, it had been suggested that it could take up to five years to train safeguards inspectors. Is that a reasonable period?

Sue Ferns: I think that that is a reasonable assumption. The reason I said I was a bit uncertain is that it depends on where you get these people from and what their

previous experience is. A reasonable approximation is several years—it is not a matter of months but years for people to be able to do that job. Yes, it is about knowledge and skills—and there are a lot of knowledge and skills in the industry—but there are specific aspects of an inspector's role. This is a warranted role; this is not just working in the industry. It is not just about knowledge, but experience and commanding the confidence of the companies and the organisations that you deal with, so there are very specific aspects to that role. I think that it is a period of years. Of all the things that worry ONR, this is probably one of the key ones, if not the key one. As I say, I think it is doing the absolute best it can, but this is one of the things that keeps them awake at night.

Q70 Paul Blomfield: That comment probably reflects the very helpful conversation we had with Dr Golshan this morning. I think we all formed the impression that it is doing its very best, but that there is a real worry about the size of the talent pool from which it could draw. Do you want to reflect on that?

Sue Ferns: Absolutely. It is a small talent pool, and it is a challenging talent pool even in the best of times. To use what may or may not be an appropriate analogy, it is fishing in a defined and restricted pool, and we are now saying it has to increase its catch from that pool. That is a hard and really difficult thing to do. Also bear in mind that ONR is subject to public sector constraints in its recruitment and payment practices. If it has to compete with the commercial sector, something will have to give in that regard. How can the catch from that limited pool be increased under the constraints it is operating in? The job is getting tougher and bigger, and there are multiple challenges.

Q71 Paul Blomfield: You said in your evidence, Sue, that you were concerned that the powers of the inspectors were not set out in the Bill. Can you elaborate on exactly what your concerns are?

Sue Ferns: The concerns are set out in our evidence. If you look at sections 20 to 22 of the Health and Safety at Work etc Act 1974 and schedule 8 to the Energy Act 2013, they set out in some detail what the powers of the inspectors will be. I know there is reference to that in the schedule to the Bill. These concerns come directly from people who will have to do this job. As warranted inspectors, they feel that it is important to have those powers in the Bill. It is important for purposes of parity, to ensure continuity—these things should not be left to the discretion of future Ministers—and also, as we have discussed, for external confidence in the way the job will be done. That is why we believe very strongly that those powers should be specified. I have not heard an argument to say why, if it is good enough for the 1974 Act and the 2013 Act, we should contemplate a change in practice for this piece of legislation.

Q72 Dr Whitehead: May I briefly follow up on that thought? As you say, schedule 8 to the Energy Act 2013 looks like a comprehensive range of powers and definitions for what inspectors can and cannot do, except it excludes nuclear safeguarding from that definition. If nuclear safeguarding were included among those powers for inspectors, would it be the case in your view that what is in the 2013 Act—provided you switched off those prohibitions—would be sufficient to give the inspectors the powers and the arrangements they felt would be necessary for the transfer of inspection from Euratom to ONR? Or are there other matters that you think should perhaps be included in the schedule to the Bill that would comprehensively do the job, as far as those inspectors were concerned?

Sue Ferns: I think achieving that would be an important step forward. However, as we have set out in our evidence, we have identified three other matters, because you would then have to be clear about what safeguarding means in law. The three bullet points in paragraph 5 of our evidence are points where we think that specific clarity is required in relation to what that would mean in a safeguarding regime. Is that clear?

Q73 Dr Whitehead: One of the problems with schedule 8 to the 2013 Act is that it refers to a number of other bits of legislation. I am not sure whether inspectors' current powers that are switched off in relation to nuclear safeguarding could simply be transposed into being switched on, bearing in mind what the 2013 Act says about other constraints on inspectors relating to other Acts. I do not know whether that coincides with your concerns about what might or might not be in the legislation, or whether it needs to be achieved by physically placing all of what is in the 2013 Act plus anything else necessary in the Bill or whether that could be achieved by other means. I still have some doubt in my mind. Do you share that doubt, or do you have a better idea about how to do it?

Sue Ferns: I am not an expert on how to draft legislation, but I understand you are asking whether we should take the schedule from the Energy Act 2013 and put it in the Bill, along with any other points that may need to be included. That is certainly our preference, and it is certainly the preference of the members we represent in these roles.

Kevin Coyne: In addition, we would indicate that your knowledge is greater than ours at the moment on the 2013 Act. The importance of the inspectorate is its neutrality and independence. If you are saying that there is an element in there that is currently switched off that can be switched on, that would be an important contribution, but you must ensure that it has that neutrality and independence, because that is what gives status and quality to the current inspectorate through Euratom. I do not go to bed at night reading the 2013 Act, but I cannot remember it addressing the independence issue, which I think would be an important element.

Q74 Dr Whitehead: I want to get a better understanding of the duties and responsibilities—and, indeed, appointment and placement—of inspectors when we exit the EU. What view might the IAEA take about the readiness or otherwise of the regime when it considers the voluntary agreement that we will have to make with the IAEA when we exit Euratom? Is it your understanding that one of the things that the IAEA will consider is whether we are genuinely ready to undertake the additional work and reporting back to the IAEA rather than Euratom that the voluntary agreement would entail? The IAEA will either come to an agreement based on the fact that we look ready or, alternatively, say that more work is needed before we can come to an agreement. Presumably, however, an agreement will have to be reached by the time we exit the EU.

Sue Ferns: My understanding is that the IAEA will require certain standards to have been met before anything else can happen. What I understand, though, is that during the Second Reading debate on the Bill, there was a lot of talk about replicating the Euratom powers. My understanding is that that is not necessarily the IAEA hurdle, because I think the IAEA hurdle is slightly lower than replicating the Euratom powers. Certainly, there will be a requirement to meet IAEA standards.

Q75 Trudy Harrison: Just changing tone slightly, I notice, Kevin, that you have a reference to concern around radioactive isotopes. I do not share that concern. I do not understand why you think this is relevant to Euratom, because they are not fissile material. I have not heard of anyone using plutonium or uranium in medical practice. I wonder, if they have not been risk-assessed by the IAEA, why you would feel there is a concern about their falling under the realms of Euratom.

Kevin Coyne: I think that is an area which is of serious consequence. I think it is generally not well known—the fact that Euratom covers the transportation of materials—or that isotopes that are used in the NHS, for instance, come from Holland and other countries. We do not have the reactors in this country to produce them. I understand what you say about the registration. We highlighted that as a concern because there is a two-day, three-day shelf-life; this comes from us as a union that operates within the NHS at quite an extensive level. In terms of the delivery and transportation of that, there are sometimes delays. So our point is that the change of regimes and the difference in what might occur may cause that to be delayed even further and therefore impact upon the NHS itself. We make no stronger point than that we ought to look at the impact upon isotopes in hospitals.

Q76 Richard Harrington: On that point, if I may clarify, given that that has been brought to my attention—I have agreed to see the Royal College and other people who are interested. Is your point that the movement of the isotopes is perhaps to do with what happens with Brexit—that is, the movement of any foreign goods—or is it a Euratom point? We think on the former you have a point, but on the latter you are mistaken.

Kevin Coyne: A Euratom point—and you think I am mistaken about that?

Richard Harrington: Well, because I can quite understand the point that they have got to be overnight, or very quickly, and all that kind of thing—would that be affected by a change of law when we Brexit. My advice, though, is very clear; I have asked a lot of people, as you might imagine. It is very much Trudy's point, which is that, whatever one thinks about Euratom and so on, the medical isotopes are not covered within the fissile definition of Euratom. Do you feel that we are wrong on that, or was your point, "Yes, we've got to get them quickly and without paperwork and all that kind of delay"—which may or may not happen afterwards?

Kevin Coyne: Our information, as I said, was simply that upon the basis of the delays in transportation, due to the change in regime, we thought we ought to have in place a cast-iron security, as we do now, to make sure that those delays do not unnecessarily happen.

The Chair: Finally, Alex Norris, before we break for a vote.

Q77 Alex Norris: Thank you. We have heard the Bill characterised in lots of ways—whether it is a place-holder, a contingency. We have heard from yourself and previous speakers about the fear of a lack of clarity about what is on the face of the Bill. What impact is this uncertainty having on staff?

Kevin Coyne: Generally, among staff in the nuclear industry?

Alex Norris: Yes.

Kevin Coyne: If the truth be said, I would imagine that a majority of staff still are not aware of the massive ramifications—certainly among my members. Sue is much closer to the issues in terms of the roles that they take. It is becoming more widely known. That certainly was not an issue, as you recall, within the Brexit discussions, so the general knowledge of it is not that great. What is important is that those organisations that do know—you heard from EDF earlier—are now briefing very widely on the impact that it may have, particularly in terms of the items I listed. For instance, the people at Springfields are acutely aware, because of the impact upon that nuclear new build and on nuclear new build projects for the future. There is concern—it is important to say that—but as for whether it is widespread across all the staff, I do not think I could lead you to that view currently, but clearly it will affect all staff that work within the nuclear industry.

Sue Ferns: Among our members there is quite an awareness of this now. We recently did a survey of all our members in the industry, and well over 80% wanted either to stay in Euratom or in some form of associate membership of Euratom because of the concerns or the uncertainty they had about leaving. I would say that in the research areas, concerns are very high. JET, for example, is already finding it more difficult to recruit because of the uncertainty about the future of the organisation. Of course, the issue there is very much one of the free movement of people. It has a workforce that is 60% EU nationals, so it is a major priority, but across the rest of the industry there are levels of 80% or more expressing a preference for an alternative future.

The Chair: On behalf of the entire Committee, I thank both our witnesses, Kevin Coyne and Sue Ferns, for their extremely interesting and useful evidence, which added to our understanding and will be useful in the debates that lie ahead in the next couple of weeks. The Committee will know that there is to be a vote which has to be by 3 pm. Rather than starting the next session, I think we should stop now and do our best to get back by 3.10 pm.

2.56 pm

Sitting suspended for a Division in the House.

3.12 pm

On resuming—

Examination of Witness

Professor Juan Matthews gave evidence.

The Chair: I welcome Professor Juan Matthews, a visiting professor at the Dalton Nuclear Institute. I am told that another Division is due within half an hour, so I would like to conclude our discussions by that time and keep remarks brief. Will you start, Professor, by introducing yourself and giving some brief comments on the Bill?

Professor Matthews: My name is Juan Matthews. I currently work with the Dalton Nuclear Institute of the University of Manchester as a postgraduate teacher of nuclear technology, and I also advise on government and international relations. My previous role was with UK Trade and Investment, which is now the Department for International Trade, where I was a nuclear specialist for a number of years. Prior to that I had a very long career in the nuclear industry, starting as a laboratory assistant in 1962 at the age of 16, working in a fuel development lab, so I have practical experience of coming up against nuclear safeguards.

As far as I am concerned, the Bill is very clear and uncontroversial. The things associated with the Bill are more problematic, as several people who are much better qualified than me have already commented. I would like to point out a couple of things that came up in the recent discussion.

The term "inspector" as it is being used is not clear, in the respect that nuclear inspectors are normally people who look at the safety of facilities; nuclear safeguards are quite different because they require a different set of skills and a different stance. The personnel cannot be interchanged; one cannot just take staff from the Office for Nuclear Regulation and say, "Next week you start doing nuclear safeguards." It is not as easy as that. There was also a brief mention of isotopes. Of course, that is not at all relevant to the Nuclear Safeguards Bill, but I point out that chapter 9 of the Euratom treaty guarantees the unimpeded transport and tariff-free trade not only of nuclear materials but also of radioactive isotopes used in medicine and industry.

The Chair: As you correctly say, that is beyond the scope of the Bill. I did not interrupt earlier but if it comes up again, I will.

Professor Matthews: I thought I would clarify.

The Chair: It is most kind of you. The Minister may want to clarify the difference between inspectors and safeguarders.

Richard Harrington: I do not feel able fully to clarify the point at this juncture, Mr Gray. Usually the mistake is made—not that Professor Matthews would—between safety and safeguarders, but we are looking at the safeguards regime here, which includes physical inspection, mentioned today by quite a few of the people giving evidence, and, though I do not quite know how to use the expression, remote inspection by cameras and other sets of kit, which at the moment belong to Euratom but I am sure will be part of the new safeguards regime.

Professor Matthews: There are three components in nuclear safeguards. One is nuclear materials accountancy—that is, keeping track of nuclear materials. Then there are two skills that go along with that. One is assaying, determining the amount of nuclear materials—

Richard Harrington: That is laboratory testing the quality and the content.

Professor Matthews: And observing and recording movements of nuclear materials, without both of which you cannot do the accountancy.

Richard Harrington: I would accept that.

Professor Matthews: That is quite different from proving a safety case for the operation of a nuclear installation.

Richard Harrington: I would accept that.

The Chair: Exceeding my role as Chairman, it might be something you would ask your officials to look into for later consideration during the Bill?

Richard Harrington: They already are.

The Chair: They already are. That has answered the point; good.

Q78 Trudy Harrison: May I ask for clarification? You say they already are: will there be some kind of appraisal of the staff skills, knowledge and qualifications required to carry out the function of Euratom in the UK, to determine what skills are required?

Richard Harrington: Is it acceptable for me to answer?

The Chair: Why not? It is slightly unusual, but why not?

Richard Harrington: Why not? I am quite happy to. That function, currently done by Euratom, will be done by the new safeguards regime. It will be responsible for examination and testing and making sure there are suitably qualified inspectors, in the same way that Euratom does now.

Q79 Dr Whitehead: I think you were in the session when we heard evidence from our previous witnesses this afternoon concerning what is in the Energy Act 2013 and in other Acts concerning the responsibilities and powers of and prohibitions on nuclear inspectors in general. You have made the very precise point that the role of an inspector relating to nuclear safeguarding is certainly not the same as the role of an inspector relating to nuclear safety: they will have different skills and responsibilities. Is it your understanding, however, that what is in the legislation at the moment concerning the overall powers and responsibilities of inspectors is sufficient for the purpose of bringing under the regulation of ONR a number of inspectors who previously would not have been covered by that area of responsibility but would have been reporting to Euratom and covered by whatever Euratom decided was necessary as far as that inspection and safeguarding is concerned?

Professor Matthews: Clearly, the operation of the Office for Nuclear Regulation requires a range of different roles. I would see no problem with adding an additional role to the range of roles that are already in the organisation. It is just the physical people are different people who do these different things. Indeed, nuclear inspectors themselves have different backgrounds and specialisations, and diverse education as well. I suppose it is extending the range of what the Office for Nuclear Regulation does.

Q80 Dr Whitehead: From your point of view, there is nothing that you might think needs to be added, over and above what general powers inspectors have, when we are in a situation where inspectors are reporting to ONR—and, presumably, it would then be sufficient simply to add them to the club of the powers of inspectors as they presently stand in legislation?

Professor Matthews: I would have to look at the documents and examine them in detail to be able to answer that question fully. It is a different role. I would expect it not to be covered within the current definitions in the documents, but I do not have access to them and cannot check that now. But I would be very surprised if it was covered. It would need something added.

Q81 Alex Norris: Professor Matthews, you are responsible for training and teaching the next generation of nuclear engineers—no pressure. How ready and willing are they to take up the roles that they are going to need in order to replicate Euratom in this country, and how soon might we be able to think that they may be able and willing to do that?

Professor Matthews: The young people that I am encountering in my current activities are ready to take on responsibility and do things. I am very impressed by them. I am sure there are people who are capable of taking on these roles. The only problem is that there is competition. Those same people are valuable and can be used in all sorts of ways. Whether it is possible to assemble the right people quickly to be able to avoid any hiatus in the operation of our industry is another matter. Certainly, at the moment, the people that we train have no problems finding jobs.

Q82 Alex Norris: The cohort you teach at the moment in Manchester—where are they from?

Professor Matthews: There are two main programmes I teach on. One is the new generation centre for doctoral training. That is a collaboration between five universities in the north of England and we have a cohort of about 25 a year. That has been going on for the last five years. Almost all of them are British nationals from diverse backgrounds. We have one or two foreign nationals in there, but they are the exception. The other programme I teach on is the nuclear professional development programme, which is a master's degree for people working part time who are managers in the nuclear industry in the UK. We have had one or two foreign students on that—I even had a commander in the Brazilian navy—but most of the people are British nationals working in our nuclear industry.

Q83 Mary Robinson: It is great to know that in Manchester you train up these great future scientists; they are the technical, highly skilled jobs that we need. One of your issues and concerns seems to be about having sufficient staff to man the safeguarding progress at a time of high build, because we are building new power stations—so there is that to factor in, as well. To what extent is this an exciting time in the industry for jobs and high-skilled jobs, as well as a challenging one?

Professor Matthews: It has been a difficult time for us, because there was such a long delay in the announcement of the final investment decision for Hinkley Point C. That made people relax, so it has proved easier to recruit good engineers to join our nuclear programmes at the university as a result. Certainly, the prospect of building 16 GW of nuclear reactors is stimulating the people moving into the industry. But it is not only that. We have to cope with the problems of legacy, decommissioning and radwaste management. There are nuclear fuel cycle industries, very likely with both fuel manufacture and enrichment. All these things require the nuclear safeguards to be operating, and any interruption in that—we are talking about something like £10 billion a year in UK activity that would be interrupted.

Q84 Mary Robinson (Cheadle) (Con):When you say £10 billion, what is that related to?

Professor Matthews: That is related to the operation of nuclear power stations in the fuel cycle industry, which consists of processing and manufacturing nuclear fuels, manufacturing the nuclear fuel elements, and enrichment of uranium. The work still going on at Sellafield on reprocessing will stop shortly, but there is the handling of materials from Sellafield for decommissioning and radwaste management, all of which contain higher actinides and uranium, which are covered by the Nuclear Safeguards Act 2000. We need to know what is going into the waste to ensure that we are not making a plutonium mine or something that someone could tap in the future.

Q85 Mary Robinson: So the training that you are doing and undertaking with the students in Manchester is crucial to the future.

Professor Matthews: Yes, but it is not enough, even at the rate that we are going. We have two major doctoral programmes in the UK that we co-operate with—one in the south with Imperial College, Cambridge, and the Open University, and one that we have with five universities in the north. That is only about 50 students a year. We need to bring into the industry hundreds of students a year, which means that we must be able to bring in people from around the world, mainly from Europe, but also from more widely around the world.

There is an opportunity from Germany at the moment—its industry is contracting because it is shutting down plants. It does not seem to be managing the decommissioning problem very well, so people are leaving Germany very rapidly.

Q86 Mary Robinson: Are they being attracted here?

Professor Matthews: They were, but they are not any more.

Q87 Paul Blomfield: Professor, could we return to your primary concern, which we have also exercised with previous witnesses? It concerns the ability of the ONR to recruit sufficient inspectors by March 2019—you helpfully clarified the difference between safeguarding inspectors and safety inspectors. How likely is it that the ONR could meet the staffing levels necessary to take over the Euratom function in safeguarding by that date?

Professor Matthews: I heard the recording this morning of the ONR representative. It looks unlikely that it will be fully functioning by March in two years' time. The question is: how can we bridge the gap until everything is working properly?

Q88 Paul Blomfield: I guess in lots of other areas, having got close and being not quite but almost fully functioning might be satisfactory. In this specific area, what are the consequences of not having a fully functioning safeguarding regime in place?

Professor Matthews: Springfields, which produces nuclear fuel, will stop working. The Urenco plant at Capenhurst, which is part of three plants in the Netherlands, Germany and the UK, will stop working because it will not be able to move uranium around. We in the UK no longer do conversion, which is changing uranium into uranium hexafluoride, which then goes to the enrichment plant and is converted back to oxide or metal for application. That requires movement, and all of that would stop.

It would be difficult for Sellafield and other decommissioning sites, such as the old research sites at Dounreay, Harwell or Winfrith; some of the work there would grind to a halt as well. Eventually, when the fuel charges were removed from reactors operating in EDF Energy's plant, those would all stop, which would take something like 9 GW of power out of our network at a time when we are perilously close to blackouts. It would be a very serious measure indeed if there was a hiatus.

Richard Harrington: Thank you for that, Professor Matthews. You are of course using my argument for why we need the Bill; thank you for supporting it. Dr Mina Golshan, whose organisation is responsible for recruiting the 15 people we are talking about, said that recruitment had already started. Once the Bill proceeded beyond Second Reading—I thank everyone, including Opposition Members, for voting for that—it meant that the financial resources needed for the IT and recruitment are provided. We are very well aware of that.

I thank you for your de facto support for the Bill. I have of course noted the points you have made, and I will be very happy to chat about them on another occasion. The purpose of the Bill is precisely to get over some of the obstacles that you are talking about and prevent what you have explained would happen—as we accept would happen—if we did not have a safeguards regime in place.

Q89 Dr Whitehead: May I come back briefly on the question of finance? I think we all know that, as a contingency, we need the safeguarding regime that is set out in the Bill. What I think we do not know is what will happen with the various finances involved in the whole process. I characterise that in two ways. First, what will happen to what we previously paid to Euratom, and presumably would have to pay and then recover —as is mentioned in the Bill—via ONR, for the cost of the inspectors, who would previously have been part of our contribution to Euratom but will now be a UK contribution?

Secondly, I understand that the Torus fusion project at Culham will be a subject of safeguarding inspection. Will that be financed, subsequent to our leaving Euratom, in a way that is commensurate with its present level of assistance, which largely comes, as you are aware, from EU funding? Do you have any comment on that?

Professor Matthews: There is a difficulty here and I do not know if it is recognised in the Bill; it perhaps needs scrutinising. The only mention in the Bill and in these discussions is of our fissile materials. We are talking about uranium, plutonium and other axinite isotopes, and precursors such as thorium, which can be converted into fissile materials. In the case of Culham and the fusion programme, they use tritium. Tritium is a material that comes under safeguards, which is not a fissile material. It is a material that is a component in hydrogen bombs, and it is controlled. I remember getting into trouble as a young scientist. I was asked to assess the use of lithium-6 as an absorber for a fast reactor project. I phoned up a French supplier of lithium-6, and next thing I had security down on me, because tritium is produced from lithium-6 and is a controlled material. I do not know whether any consideration is being made of the control of tritium with respect to Culham and nuclear safeguards.

Dr Whitehead: Would there be other materials that are not fissile but would also be controlled and inspected under safeguards?

Professor Matthews: We are getting into areas that we cannot really discuss here.

The Chair: Yes. Perhaps fissile materials are slightly beyond the scope of the Bill.

Richard Harrington: That is beyond the scope of the Bill, but perhaps we could discuss it, although not necessarily now, in the evidence session. I am happy to discuss it, but I suspect that your interpretation is correct, Mr Gray, and it is beyond the narrower scope of the Bill. I am happy to discuss it with the Shadow Minister.

Dr Whitehead: One might argue that the scope of the Bill is too narrow for the safeguarding that we need to undertake.

The Chair: It does not matter. The scope of the Bill is the scope of the Bill. Let us not get into a chat among ourselves. The reality is that the Bill is as printed, and it is the Bill as printed that we have to discuss, under the long title and the short title. Of course, within that we can amend it as much as we like. My instinct is that the Committee have done our work for the day. Thank you very much, Professor Matthews, for your very useful evidence, both written and in person. I assure you that it will be taken note of in the discussions that lie ahead, starting on Thursday, when my colleague Mr McCabe will be in the Chair. The Committee will see me again, assuming that we sit—we will no doubt sort that out—next Tuesday.

Ordered, That further consideration be now adjourned. —*(Rebecca Harris.)*

3.36 pm

Adjourned till Thursday 2 November at half-past Eleven o'clock.

Written evidence reported to the House

NS 01 Prospect
NS 02 Professor R J Barry Jones
NS 03 Nuclear Industry Association
NS 04 Prospect Law