

British Energy – Sizewell Spent Fuel Project
Meeting held at the Sizewell Sports & Social Club
on Wednesday 11 November 2009
Transcript of Questions & Answers session

The meeting was introduced and chaired by Dave Drury, Technical and Safety Support Manager for Sizewell B, followed by three presentations by members of the panel: Paul Meddings, Head of Environmental Risk Mitigation, John Kilcar, Central Engineering Support Technical Lead, and Nick Cofield, Planning and Development Manager. For the Q&A they were joined by Richard Parlone, Accredited Health Physicist, and Colin Tucker Nuclear Safety Engineer from Sizewell B and Jon Allen, Senior Environmental Scientist at Royal Haskoning. The Q&A below followed a 20 minute break for refreshments:

Please note: notes have been added in brackets only where it provides clarity to a point made. All references to members of the public's names and titles have been removed to preserve anonymity.

Chair: Okay ladies and gents I hope the tea and coffee went down well. We've got, we've already collected a number of questions here so what I'll propose is I'll read these out and answer these and I'll also refer to the panel for any, any supporting commentary. Just to let you know we've got a couple of microphones that we'll that we'll move down the audience. Our ladies at the back have the microphones so I would ask you, if you a question if you put your hand up we'll get a microphone to you and use a microphone to obviously speak into. One thing we'd like to do is record the question and answer session so that if there's some questions here that have some relevant answers we can capture that information and make sure we publicise it, those answers for any future questions ... then that will help us develop a good question bank and answer bank for, for any concerns or any queries in the future. Okay. So I'll start with some of these questions that I've been handed here. Okay. The first one is any plans for storage when Sizewell B reaches the end of its life? I don't know if you guys want to talk about long-term storage, Paul?

Panel 1: Hello? (Pause) can you hear me? No. (Long pause.)

Chair: I can certainly start by, to start that answer ...

Panel 1: Right, okay we've sorted the technology. Right I think the question was essentially what, what are the storage plans when Sizewell B closes? Is that right David?

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Chair: That's correct.

Panel 1: Right ... earlier on David mentioned the, the work of CoRWM [Committee on Radioactive Waste Management] and the fact that the UK is now sorting out it's strategy and plans for the disposal of higher activity waste and spent fuel. Now that, those wastes will go to a future deep geological facility. Now the current programme for that is still quite long [time] and ... it's currently expected that that facility will not be available at the time that Sizewell B shuts down even if Sizewell B gets a significant life extension which is actually part of our overall planning. So there will be a period of time when Sizewell B is closed where we have to continue to store the fuel at Sizewell while we wait for the geological facility to become available. Our current planning assumption is that that facility will be available around 20, 2080 with Sizewell closing somewhere between 2040 and 2060.

Question: I was at a meeting only today in London with Magnox South who are responsible for operating Sizewell A and they are investigating storage containers for intermediate level waste, yellow heavily shielded boxes and one of the questions they're having to ask, answer, or ask of the regulators is whether that storage will be acceptable when the deep geological disposal facility comes into effect. In other words can these boxes be moved directly to the storage facility? I want to ask that about these casks that you're proposing, have you done this work to ask the regulators if and when the time comes if these casks can be moved from Sizewell B directly into the, into the disposal facility or whether they'll have to be unpackaged and packaged again? Now I know you haven't got a crystal ball and if we're talking as far as 2080 who, who knows but I, has that question been addressed?

Panel 1: Right thank you for that question, I assume everybody heard the question. The simple answer is yes we are addressing that particular question not just with the regulators but also with NDA [Nuclear Decommissioning Authority] who are of course charged with the responsibility for developing and making operational this disposal facility. At the moment they have a concept for the disposal of spent

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fuel and their concept does not take into account the sort of containers that John described because the containers that John described are really intended for storage and transport so as we stand here today our plan is to store them safely at Sizewell and then be able to transport the fuel to a future destination. Now as you say we don't know where that is and we don't actually know the detailed specifications for what we will need to do to get that fuel into the repository. However, we have started the dialogue with NDA because we are aware that elsewhere in the world some of the containers that John's talked about are being considered as the final disposal container but at this moment in time we've not made a decision but we are having that particular dialogue.

Question: Can we just follow on from that [inaudible-6.49-6.52] ... I don't need that [referring to the microphone] but thank you. What exactly, when you say down the road it doesn't mean anything so I don't really understand what you mean by deep geological facility [inaudible-7.03.]

Chair: Sorry ...

FS Speaker: Can you repeat the question?

Question: ... talking about when you talk about a deep geological facility? Are you talking about going so far down that you start getting really quite warm down there? Or, what does it mean, how far do you want to go down?

Panel 1: Right well I, I'm not going to answer that in detail because that isn't our particular project but I will answer it in general terms. It is actually hundreds of metres down but the actual detailed design will be, will depend upon the chosen site, the geology the design that RWMD [Radioactive Waste Management Directorate] come up with and and really that is outside the scope of this particular project. If you do want some more information on that if you if you leave your details we'll probably point you towards the design office within NDA who are actually doing that work.

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Question: Surely the nuclear industry should tell the government to wait until 2060 for this deep storage is totally unacceptable?

Chair: Yeah, that's a good, that's a good comment actually. We'd like one now and I'm sure my fellow operators would also like one now.

Question: The industry ought to make sufficient fuss for the government to get going and make a decision. They've taken ten years to make the decision and get on and build power stations and they could make the decision about the deep storage.

Chair: Yeah I think ...

Question: If they shook themselves.

Chair: I think in all seriousness when the regulator licences one of our sites they give us licence conditions to operate and run the sites. One of those licence conditions is the way we manage, is associated with the way we manage wastes and the way we minimise it and the way we, we expedite it from our sites so they, I think they also share the desire to move ahead with developing deep repository that will give us safe storage capabilities in the long term. Not just for Sizewell B but for the nation so as I'm sure you're aware there's lots of political issues with developing the right site and the timing of that but ... the answer is yes I think we as operators would like to move ahead with haste. Certainly in Sweden they, within five years they had a built a repository and were using it five years from the date they decided to have it so there are some models out there that we could follow but ... I think we share your sentiment there. Okay now, how would you like me to play this I can go through these questions here or I can take them round the audience and pick them off here if it answers it? Is that what you'd like me to do? Okay. Gentleman at the back, sorry then I'll come to the lady at the front.

Question: Thank you very much. Mine is more of environmental issue that I wanted to ask you that you seem to be with your planning process you're not going through the customary criterion and going to the district council, why's that?

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Panel 2: Hi. We're using the the legislation under the Electricity Act which is, which we use for the, the extension of an operational power station which goes straight to, straight to DECC or Department of Energy. We will consult ... DECC will consult the Suffolk Coastal, Kent [referred to in error should be Suffolk] County Council and all the other statutory consultees so you will be able to make your, your comments clear at a local level and then DECC will take that into consideration.

Chair: Sorry lady at the front?

Question: It was just an add-on to the question before this one. It was about a depository, I was quite interested in the way that you said yes we would really like the government to build us a depository as well. Surely it's not just down to the government to do that and it's about costs, and at the moment as far as I can see we can't even afford to build new nuclear power stations let alone build a depository for all the waste, so I just wanted to add that bit.

Chair: Okay. Yeah.

Question: Thank you. Referring to the storage casks that you're talking about and a couple of questions about them really, where are you proposing to actually carry out the transfer from the pond to the cask?

Panel 3: Do you want me to answer your first question, your first bit first? The transfer would be done within the fuel building within the fuel pond. There's allowance within the fuel pond for an area where the cask can be put in and the transfer would be done under water in the pond.

Question: So you'll be increasing the amount of radiation going out through the pond mechanism presumably?

Panel 3: No it would be, it would be exactly the same as it is because the fuels already in the pond there and we're only moving the fuel and putting it into a cask.

Question: Right so it's done under water?

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- Panel 3: Yes that's correct.
- Chair: I can just add to that. The normal processes for most nuclear plant is to manage the filling of your fuel flasks in a shielded pond facility so this would just replicate that model and there would be no difference to that.
- Question: Right. The other question referred to are there are any of these dry storage casks in in the country in use? Or in use in the country?
- Panel 3: Not, not in Britain at the moment. There are lots of storage facilities and casks in Germany, in Spain and in various other countries in Europe and there's a great deal used in the United States as well.
- Question: So why are you not using a, applying for ionising regulations as a new process?
- Panel 3: Because as a storage it's not a new process it's not a change to what we do at Sizewell. I think one of our other [unclear-13.24] ...
- Question: But surely the casks have to be monitored and regulated and one thing and another?
- Chair: I can just add to that. Actually any, any ...
- Panel 3: Just ...
- Chair: Sorry Richard.
- Panel 4: The site licence at Sizewell B covers the management of spent fuel at the moment and we store and manage spent fuel under the existing site licence. What we would be applying for is modifications to that site licence under the existing procedures to allow us to store spent fuel in the casks within the licence site. So there's no new process and there's no need to extend the licence site for this store.
- Chair: Okay. Gentleman in the ...
- Question: Just a couple of extra questions. Could you tell me how many assemblies you'll put, be put in each cask and do you have any idea
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of how many casks in total you will end up with at the end of the Sizewell B operation?

Panel 3: Well the amount of assemblies depends on the type of cask chosen. The two that are showed on the, the slides the metal one takes 19 assemblies and the concrete based cask takes 24. So it, there would be a slight difference in the number of casks and right off the top of my head I can't remember exactly, I'm not sure (pause) if, if you heard that's it's about 120 ...

Panel: 120 or 190.

Panel 3: ... yeah.

Question: Thank you I'm obliged thank you.

Panel 3: Okay.

Question: Sorry. Is that to 2035?

Panel 3: Well that's that would include any extension that we would have as well so that's talking about how much we would have to do if we went out to 2055.

Question: My question is I I'm sorry but I didn't quite understand about the two flasks, sorry about the two so, the storage units which are the concrete and metal. Could you elaborate on that slightly whoever it was who actually spoke about it because one had got a screw down lid I think and I understand from the document that it has to be cold in the first instance. So it was cooled in the pond for five years and then goes into the casks and then goes into the storage building, so is there a difference between the storage of the metal ones and the storage of the concrete ones? And secondly how are they cooled because obviously they'll still be hot and they will still have to be cooled, am I correct?

Panel 3: Yeah you're correct in that. The ... let's start off with a bolted metal cask. If we look at the bolted metal casket it is a, a sealed lidded design so you have a double seal, two, two lids, a double seal and it's

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bolted down. Once it's placed in there that's it it's finishes, it's moved into the storage building. It's cooled by natural air circulation so there's no force there there's no forced cooling or anything like that. There are fins along the side of it and it's just cooled by natural circulation. The concrete cask or the concrete system the fuel is placed into a stainless steel canister which is welded shut and it's filled with, both systems are filled with helium as an inert gas to keep it in an inert atmosphere. Once the canister is welded shut it's transferred into a transfer cask that's taken to the concrete cask and it's transferred into the concrete and then that's sealed down. Now once it's in the concrete cask it's also cooled by natural air circulation. There are vents at the bottom, vents at the top and it's just the airflow round it that keeps it, the fuel cool.

Question: You're talking about ordinary air circulation like there is in this building here but somewhere or other it's got to escape hasn't it, you can't just keep circulating the same air? So where does that air that is circulating finally get vented to?

Panel 3: It's vented to atmosphere. It comes in from atmosphere and it's vented to atmosphere.

Question: So after five years we're getting what is still hot radiated fuel?

Panel 3: Yeah but it, it remember it's in a shielded cask.

Question: So are you telling me ...

Panel 3: It's radiologically shielded and it's contained so that there is no contamination. So you're only talking about an airflow over a metal cask.

Chair: I think just to clarify the purpose of the airflow is to take the heat, any potential heat or provide cooling to the container.

Question: So you're assuring us that there will be absolutely no radiation or any, any type of pollutant coming out of any chimney or any air vents or anything else? And that's an assurance?

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Panel 3: Well that's correct. There there should be no contamination coming out.

Question: Ah but you're changing your words now you're saying should ...

Panel 3: I'm not changing my words.

Question: You just said should be now are you going to give me an assurance that there will not be ...

Panel 3: I [unclear-18.59].

Question: ... because what I can actually see, you're talking about 2035, we're talking about a long term storage of radiated fuel being kept on at Sizewell, Leiston-cum-Sizewell, in our parish and it will be there for my lifetime and most of these people in this rooms lifetime and our children. Now we have to accept that we've created this mess and we've got to live with it and I, I believe what you're doing is probably the right thing in the circumstances. I don't agree with it at all but I didn't agree with it in the first place so my, my reason for being here tonight is to assure myself that we're doing, what you said, best practical means of storing radiated fuel on our coast for the next hundred years probably. As with deep geological disposal, well my eye, I'm sorry. I think what I'm asking is for reassurance that this actually is the best practical means of doing it?

Panel 3: Well ...

Chair: I think, I'm sorry. Okay the design of these containers and these casks like, like all our transport containers that we routinely move fuel in is to be leak tight and sealed so they contain any hazards from the radioactive materials. That's their design intent. These containers undergo stringent tests based on IAEA standards that are used worldwide to test transport packages for lots of different waste materials be it radioactive waste from hospitals, be it radioactive waste from nuclear plants so they're all tested to the, to standards internationally recognised to make sure there are no risks of exposure from materials contained in those containers and flasks.

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Question: And one last one ...

Chair: Okay.

Question: ... and that is the dreaded word, terrorist threat. If any, if anything happened now knowing exactly where the site is can you assure us that those, that site, that storage building will be ... will not be, let me put it like that, will not be a terrorist target?

Chair: Okay. Just to say that obviously we can't discuss the detailed security arrangements around the storage of the material on site but we have, well part of the assessment process and the design criteria is to consult the security experts in this field to make sure that, that again that we minimise any potential from any challenges be it terrorists or be it cranks or be it people who want to inflict damage and potentially put the public at risk. I don't know if you want to add to that?

Panel 3: No I was just basically going to say the same as, as Dave. That we we're looking with OCNS about what the security arrangements would be. The, the hazard containment for the fuel is in the cask itself. These are massive casks, as I said between 120 and 160 tonnes and fully sealed so most of the, all the hazard protection is in the cask itself.

Chair: Yeah I can also add. I understand your sentiment about living here for 100 years and your families and I think it's fair to say that the power station employs in the region of about 700 people full time, a couple of hundred partner contractors and 500 station staff. The Magnox site next door I think employs around 400 odd. These people live in this community, their families are raised, their children go to school in this community so it's incumbent on ourselves as operators to manage those risks because our families like yours also live in this community and are part of the community. So, in how we run the plant and how we design these processes we're very cognisant of that issue.

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Question: It seems a shame to waste all that warm air in the cooling facility. Have you considered possible uses for it such as, have you considered possible uses for it such as warming the offices and other working areas of the power station?

Chair: That's a, that's a really good question actually. Certainly on some of the nuclear processes and some of the heat and steam processes we do that. We have reheater processes. I'm not sure if the design is that advanced but if we can save some money that's an opportunity.

Panel 3: I think the, the level of the heat that comes off would be very very difficult to contain it and then take it somewhere else. It's what in technical terms we call low grade heat so it's just a technical term that says that there's very little use for it, when it comes about. And because of the natural air circulation it's dissipated very very quickly.

Question: If deep geological disposal doesn't happen how long will these casks have to be kept and looked after before they're safe just to throw in the municipal rubbish heap?

Chair: Paul do you want to take that?

Panel 1: Can I just play the question back, make sure we understood it correctly? Were you asking if the deep geological facility doesn't come into being to the planned programme, what do we do next? Could you just clarify that was the question?

Question: Yes well just how long does the cask have to be looked after before they become a safe material?

Panel 1: Okay. The design specification for the casks is actually very long. I believe the casks can be designed to be safe for a 100 years or longer which is actually longer than the timescale that we're working on for the deep geological facilities to become available within the United Kingdom. Now clearly there's a lot of time to pass. If the repository doesn't come into being to the planned timescale we've actually got time to do something additional with the fuel that we're storing. Clearly we don't want to do that, we're not planning to do that

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but we could actually repackage it in new casks before the existing casks reach the end of their design life. So there's plenty of time to, to make a further decision. I think in the presentation that I made earlier one of the reasons we've picked this cask, this dry storage in cask option is because it is flexible, we're not putting it in there and being stuck with it there forever, if the policy changes in the UK, if the plans change we can retrieve the fuel and we can do something else with it when we know what those circumstances are. So it's very difficult to say to you this is what we're going to in a 100 and X years time, all all we can do is keep those options open.

Question: Well no that wasn't quite my question, although that was an interesting answer. What I was wondering was how long is it before the material becomes safe? Is it a thousand years [ah right], ten thousand years or whatever?

Panel 1: Right it's a, it's a very long time before the fuel becomes, would become considered not to be radioactive material, that would actually be thousands of years, in fact hundreds of thousands of years because it's got some very long half life radio nuclides within it. So before we could consider it as exempt or not radioactive material, a very long timescale, timescales that aren't sensible to consider but it's radio, the level of radioactivity in the fuel does decrease quite rapidly so it gets safer relatively quickly but it takes a long time, it's got that long tail before it reaches the condition where we wouldn't consider it as radioactive. Okay, is that the, the right question this time?

Question: The site of the proposed building is actually closer to the A station reactor building than it is almost the B site, until the creation of a national solution which you've said is going to be at least 2080 the A station is also going to have to store intermediate level, high level waste, have you investigated with Energy Solutions, Magnox South, the NDA not having a combined solution rather than us having to have a new building on the B site and then also possibly something on the A site? Unfortunately we're not going to get the desired end state that we were promised for the A site that it goes back to a greenfield site so what about using the turbine hall, the reactor

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building so we don't add another building or additional cost? The other question, or the point I wanted to raise I went to an international nuclear conference a couple of weeks ago and the NDA has recently negotiated at Drigg, Vault 9, a huge multi-million pound package for the local communities to store low level waste. Many other countries across the world have huge financial packages for their local communities that are having to store the sort of stuff you're talking about here. Is money being put aside and is this going to be part of the process?

Chair: Okay there's two questions. Paul can you take the ...

Panel 1: Do you want me to take the first one Dave? Can we answer those as two separate questions, they're both very good questions. I'll deal with the first one about the synergies between ourselves and Magnox at Sizewell A and then pass it to Nick to talk about the more planning related question. Certainly we think about those things all the time but in the context of spent fuel the fuel from Sizewell A is completely different from the fuel that we get from Sizewell B so it's not really technically feasible to come up with a common approach simply because of, there is, it is such a different fuel both in its form, its design and the requirements for management. So spent fuel no we can't do anything but in other areas we are working closely with NDA and some of the NDA sites such as the Magnox sites to see if there are opportunities to come up with cooperative shared solutions. So yes in principle but no not for spent fuel.

Panel 2: I think we outlined at the start the the dry fuel store for that's proposed here is purely for the spent fuel from Sizewell B. It's a local facility it's part of the operational needs of the power station. Vault 9 at Drigg as I understand it is a national repository where it will take other wastes from other nuclear facilities, universities, hospitals and purely because it, because it was a national repository the NDA felt that some form of community benefit to the people of that area was relevant and that's why, that's the difference between the two. This is a specific local facility as opposed to Drigg which is is is a national repository and the community benefit was

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actually put forward as as as thanks to the local community for taking that facility.

Question: [inaudible-31.51] the scale of the settlement was apportionate. The Drigg settlement is larger compared with Dounreay. Dounreay's solution is only for their own waste. Their community is being paid to store their own waste, Dounreay only. So the size of the settlement for Drigg is bigger because they're also taking waste from other parts but Dounreay is not.

Panel 2: Like I said the, as part of this project we have not considered any sort of community benefit.

Chair: I can just add to that I know certainly that there have been some discussions about those kind of opportunities in the future. Now obviously there's been no formal discussions about that as part of this project but certainly it's not a usual pattern that EDF used when they built their French fleet of reactors. Just to answer another part of your, your question, I think if we were to look at sharing waste management, waste storage facilities we'd obviously engage our regulator in those discussions to make sure that, if that was an opportunity to minimise facilities and equipment as part of that process then that's certainly what we would do. If there was a safety case put in place for that to, to be done that's what we would do and we would pursue it that way so I certainly wouldn't discount that as a potential opportunity in terms of good waste management strategy. Okay. I think actually, this lady at the front I think was ...

Question: I just want to talk about the deep disposal again because actually this is something that could be there for thousands of year. We don't know how things are going to go and I think it is worth remembering that okay these could be stored in there for a hundred years, a hundred years is a very small amount when you consider the whole period. Now at the moment it's down to the government to put the money up for this deep disposal and as I understand it EDF and all, well the nuclear facilities are going to have a capped rate of how much rent they will have to pay for space in the deep depository.

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Deep depositary at the moment they're saying is going to cost eighteen billion. Absolutely no way you've got to be kidding me at least ten times that I should think, at least. The money is not going to come from the nuclear industry to store that waste it's going to come from the taxpayer. It's slightly concerning when we talk about EDF and money obviously because things aren't going too well for EDF. I'm worried that there's never going to be this money to do deep disposal, I'm worried that the energy giants that we have already will never have the money in the future to look after the waste that we're going to have sitting at these sites for maybe thousands of years. Things change a lot in a hundred years, how our planet is going to be in a thousand years I don't know. I think it's a really big concern that it's only for a hundred years that this can be stored in these, in these ... yeah storage caskets.

Chair: Okay, okay we'll take those comments. I'm not really sure we can we can comment either way on ...

Question: I suppose is there, what's the backup plan? What's the backup plan? The government say economically we're skint mate right? This recessions not getting any better, there's nothing we can do we're in a bit of a panic then what? Is there a backup plan from British Energy, EDF to do something with it, what's the plan?

Chair: Okay we can answer that.

Panel 1: I think what you've got to recognise is that EDF British Energy is not part of the NDA estate. We sit outside that and because we sit outside that we actually have our own nuclear liabilities fund that is set up to cover the liabilities that British Energy has. We routinely pay significant sums of money into that fund, that is an independent fund it doesn't go into treasury so that the government can spend it on what the priorities are at, at the time it is actually a ring fenced fund that's managed. The size of that fund is routinely reviewed and adjustments are made to that fund taking into account the expected size of the future liabilities so we've got this pension pot that's growing to manage those liabilities. Now if the world turns out in line

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with your scenario and things don't happen and, clearly that's one, one view, what we will see is that that the size of our liabilities will be adjusted to reflect that particular scenario and we will end up adjusting our payments in the fund to keep in line with the expected cost of discharging those liabilities. Now when I answered the question before I didn't, I don't think I implied that we can only store this fuel for a hundred years what I was actually saying is ...

Question: [inaudible-37.12]

Chair 1: ... yeah we put them in the cask and, and as they get towards the end of the life of that cask what we would do if there was no disposal solution identified and no UK plan we would repackage it. But we would actually have the money to repackage it within the nuclear liabilities fund so we would repackage it and make it safe for a further period of storage and then there would be an adjustment made to the amount of money that EDF put into the fund so that we, we maintained the status quo.

Chair: Okay.

Question: [inaudible-37.51] funds don't do too well do they?

Chair: Can we just go, to this lady here. This lady here sorry then we'll come to the gentleman behind.

Question: Can I just ask, can you hear me? Can you just, can I just ask where this liability fund money is invested? Is it invested in stocks and shares or is it in the bank or what?

Panel 1: I can't give you a detailed breakdown because I just don't have that information with me. But it is invested in a diverse way. There are a group of trustees that oversee the fund and they have very strict rules as to how they can invest it. They can't put it all in one place in a bank or in stocks and shares. They actually spread the investment to manage the risk but I just don't have the breakdown with me as to exactly what that, that spread is.

Question: Thank you.

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Chair: What I'd like to do now, I've just got some questions here that I'm just going to go through because, and then I'll come back to some of the audience members okay. But I just want to go through these first and then I'll go I'll go to the lady at the back just after I've answered these. Okay the question I've got here is what is the life expectancy of the concrete casks?

Panel 3: I think that's part of what Paul's already answered. In the United States they're looking at a hundred years but actually their regulator has said that they, they would look at extending that at the moment. So the design life is put at a hundred years. That doesn't mean to say that come a hundred years everything breaks down and it's no good anymore but they're now doing reviews as to how much longer than that it could be stored.

Chair: Okay. Right my next question, I've got this on a couple of cards. If coastal waters should start to rise in the future, what plans are in place to protect the site? I don't know if any of you guys want to pick that up or, I can answer that as well if you want to start.

Panel: It's just that we've got, John Allen here from Royal Haskoning, that's done the flood risk assessments for the EIA [Environmental Impact Assessment].

Chair: John would you like to make a comment on that?

Panel 5: Yes. We're undertaking a statutory flood risk assessment which follows planning and policy statement 25, PPS 25, and that uses the latest DEFRA [Department for Environment, Food and Rural Affairs] figures for climate change so that we account for potential sea level rise within that, just to say that the position, Sizewell B and the position of the dry stores actually on a natural high point so excluding any manmade defences it's actually already at a height that's at in sort of one in one thousand year flood risk area so the risk of flooding in any one year of 0.1 percent so it's already at a very, low level risk of flooding anyway from coastal waters anyway but we are using the latest figures for, for sea level rise within that assessment.

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Chair: Okay thanks. Are there any other comments or questions about the sea levels?

Question: I don't think it's so much about the height of the water but erosion. In my lifetime I've known a beach to be right in front of Martello Tower at Aldeburgh now the defence has gone on that and it's back to the wall, the beach. The same as Aldeburgh the Moot Hall used to be the centre of the town, now it's right on the edge. How much erosion are you going to get down here to bring it back?

Chair: I can answer that, it's a good question actually. We do have a, a warder management plan and a safety case that supports that that we routinely manage and review in terms of managing the beach feeding and managing the frontage on the shore to make sure that we have adequate safety margin to cope with any significant floods or high tide conditions. That's part of our routine safety case that we have that we discuss with our regulators and we have independent safety assessments to support some of those, those judgements.

Question: In high tide you just need the wind in the right direction to take the beach away.

Chair: Yeah, yeah. Some of the ... yeah yeah and we recognise that and that's not just on this site but a number of British Energy sites have in place what we call beach feeding programmes to make sure that the life of the of the station and the decommissioning life we have adequate beach frontage to support what we need to do on the sites. Okay can I just go to the lady at the back because she's been very patient, yes. No sorry, the lady behind you.

Question: [inaudible-42.46]

Chair: Okay, sure okay.

Question: Thank you. Can I, can I just ask the question about, we always ask about the sea level rise and the sea but behind you is the Sizewell Belts and there's been a lot of concern of late about fluvial flooding as well as sea level rise. So are you, if I understand it correctly from the

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shoreline management plan when I was discussing it with one of the officers from the district council that the plan may well be to actually raise the banks at the back of Sizewell, the back of the nuclear power stations westward of your site. Is that, am I right in my understanding of that?

Chair: I can't answer that. Richard can you, do you have any information?

Panel 4: Obviously the study of the beach at Sizewell also considers alluvial flooding round the rear of the power station. If it was necessary to modify any part of the defences ... sorry Joan I can't see you with eye contact there ... then it may be necessary to extend the current 10 and 5m berms [referring to the shoreline defences in front of Sizewell power stations] in front of Sizewell B northwards up to the Minsmere side and I think that was one of the things you're probably talking about but that would then go through due planning process if that was considered necessary to protect the Sizewell site. I don't have much more information on that but I can get it for you if you wish.

Question: I was actually talking about the west of the site which is where the sewage works is because the sewage works was obviously, your sewage works is down almost at Belts level.

Panel 4: Yeah. I know alluvial flooding is considered as part of our safety case assessment and our coastal geomorphology expert also looks at the area to the west of the site as well as the coastal frontage as well so that is considered at the same time but I can find out some more information for you if you like and get that back to you.

Question: I think it would be useful to have a contour map of where all these things are going to go on the site because looking to the future if we're looking at Sizewell C as well there's, the water management and how you get emergency vehicles to the site is another issue but I won't go into that.

Chair: Okay we can follow up on that information. I'll speak to you afterwards and we'll make sure we get those questions documented so we can get you some answers. Sorry, sorry about the wait.

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Question: That's okay. I'm curious about the planning or whatever is required about before you are able to build this dry storage site. Is there any limit to the term in the planning that you're applying for? Because if you were to get planning for storage and there's talk about it will have ultimately be moved to a deep re repository somewhere, if that never happens are we, is there any specific limit on the time that it can be left in this community or is it going to ... if there is no ...

Chair: End date on the planning application?

Question: Yeah. How, what is to say that we're not just going to become the alternative to a deep repository site [good question] [unclear-45.53].

Panel 2: Clearly we need to implement the the dry fuel store for the local need by 2015 and the building will be constructed by 2015 and that will implement the planning consent. What happens after that will be down to local needs and issues in relation to decommissioning and so forth and the other wider issues you've raised in relation to the decommissioning, in relation to the deep depository.

Question: [inaudible-46.26] started to be demolished and now that's been put off for 75 years so we've got a perfect example we're likely to be stuck with more things being put off as long as there is no specific end time on the storage [I think] that can be done locally.

Panel 2: I think the building from a storage point of view, Paul will probably know better, is to last for approximately a 100 years?

Chair: I think I can just add to that as well. If we, if we were to, when we go through the application process we'll obviously have to get a formal approval through our regulatory functions and they will also have a say in the longevity of the cask storage on site and the use of the facilities on site.

Question: But is, is it possible to get an end time put on that planning prac ...

Chair: On the planning application?

Question: ... permission consent?

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Chair: Yeah. I certainly think and I know we've got some regulators with us and I'll just verify this with them but I think when we get any licence instrument or statutory instrument from our regulatory functions they're always time bounded so we have to look at the safety case if we want to extend that time and look at the issues and risks associated with that.

Question: But essentially if there is no alternative that will be extended because there is no alternative which is what has already happened.

Chair: Well I'm not, yeah I'm not sure it would be extended actually I think one of the reasons that the cask options are being considered is it allows us to move it either to another location or remove the fuel from it and dispatch it at possibly another operation, maybe reprocessing it, maybe storage in another facility so so maintaining the cask storage gives us that level of flexibility based on what the safety case will say, based on what the planning application review will say and based on what the regulators will say. So it gives us that that flexibility to, to have various options going forward.

Question: I understand the need for flexibility but I mean Sizewell B has been operating for fourteen years and nothing has been made about making a decision even about building a deep repository so we don't have much of a record to feel any confidence for the future.

Chair: No and as I said earlier we would welcome a deep repository available to the industry. I think all of us in the industry would want that so we share those sentiments. Sorry.

Question: That's okay. I think the fact is that this is the alternative to a repository there isn't any other thing you can do with it. It will stay here, you are the alternative to a repository and I don't think the repository is anywhere near in site even, even if it does come along by 2080 I would be very surprised, not that I'm going to be here to be surprised but, the fact is if it doesn't come along it's going to stay stored and that's all there is to it and it will either be stored here or it will go to some sort of central, central storage point which is pretty unlikely given the [unclear-49.18] of money and the fact you don't want to

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transport nuclear material around as much as you possibly can. So I think the the reality of the situation is that it will stay here and you talk about if in 80 years or a 100years there is no repository and the casks are running out we will then repackage them, it won't be we that repackages them, it won't, probably won't be EDF that repackages them because I doubt if EDF will be around in a 100 years and this is the fundamental issue it's a trans-generational problem you're creating without there being any known and demonstrable means of dealing with the waste and that's, what's going to happen with Sizewell C as well. And the issue really at the bottom of that is as far as I'm concerned is the, the CoRWM report looked at compensation for people or communities that are likely to host a repository, a deep geological repository that as we've said I don't think that's going to happen. There's only one community at the moment that's even vaguely thinking about about hosting a repository but the conditions around that hosting of that repository are that there will be compensation for those, for that community in the form of packages of benefits and the thing that the CoRWM report said that in the case of long term storage of spent nuclear fuel or long term storage of waste those communities that host that waste over a long period of time inter-generationally should also be considered for compensation. Can you therefore tell me are you negotiating with the NDA for compensation for the community for being a host for radioactive waste and spent fuel for a very long period of time?

Chair:

Okay the first bit, the first answer I can give you, there's a couple of questions in there, is it wouldn't, the organisation, the functions that decided whether we stored the fuel here longer than the planning permission applications and the licence instruments we had wouldn't be the operators it would be government, nuclear installations inspectorates and the environment agencies. They would make the decisions, we would apply to them if we felt that was the most appropriate way to manage the waste in the potential circumstances if there wasn't a follow on repository to place it. In answer to your question about compensation, my understanding is as part of this process there's no compensation planned at the moment. Now that's

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not to say there isn't an opportunity to review those arrangements in the future depending on how the circumstances change and there are certainly models that exist that have involved EDF where compensation has been made. There's recent models that we mentioned earlier where compensation has been made in the UK by nuclear operators so I certainly wouldn't discount that as a viable option going forward but certainly at the moment I don't think EDF or certainly ourselves would be in a position to make any commitment on those, in those areas.

Question: The local authority should take note of that. I'd just say the local authority should take note of that. If they're acting in the interests of the community they should be making sure they keep your feet to the fire and that you do the same thing with ED, with NDA and get some money for the people around here who are going to have to suffer this potential threat for a long period of time.

Chair: Okay, I'm not sure it's a potential threat but I'm sure we could have a good debate about that.

Question: Well of course it's a potential threat.

Chair: But certainly in terms of, there are good examples of where, where that model has worked both international and in the UK and I think it's it's a viable option that should be considered at some time, certainly.

Question: The reason there is compensation or there should be compensation is because of the threat. That's precisely why there should be compensation because these people are putting themselves at risk as was demonstrated at Sizewell A two years ago when there was a problem with the pond water, we nearly had a fuel fire, there is a similar sort of problem associated with any spent nuclear fuel store. The people are at risk round here. And and the other thing I'd like to ask is in your safety case that you're going to presumably put together which we won't be able to see of course, can you tell me what assumptions you've made about the robustness of the dry store in terms of aircraft impact?

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Chair: Okay, what I'd like to do is stick pretty much to the tight agenda we've got in terms of discussing fuel cask storage so I don't want to go into a long debate about the safety cases and the nuances of the detail of the safety cases. If you would like I can take those questions away and come back to you?

Question: Why can't we discuss that now?

Chair: Well because 1) I need to look at the information exactly and understand what you're after and 2) the purpose of this evening is to allow people to answer questions associated with the fuel and cask storage. I understand your issues and the concerns and I know we've had similar discussions before and I'm more than happy to take that debate away from here and follow it on with you.

Question: And how will it back to this forum?

Chair: Well, it's not specifically for this forum is it? This forum is about cask storage and our proposals.

Question: And the safety thereof.

Chair: Okay, okay. As I said if you want to discuss this I can take this away and can discuss it with you at another time.

Question: I, this is the optimum opportunity it seems to me. You've got people here who live round here and are concerned about these issues and I'm talking about whether it's, you're going to put in your safety case an assumption that it's robust for an aircraft's impact. Is that not a sensible question to ask?

Chair: Well all I can say all the major hazards that are foreseeable will be included in the review of the safety case as they already are as part of any nuclear and store facility.

Question: Thank you.

Chair: Okay. Gentleman in the ...

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Question: I just, I gave you five questions at the beginning of the session you've answered in the course of the discussions all of the them except except one. And that's to do with leaking spent fuel ponds, I'm sure you're aware that around the world there are quiet a number of spent fuel ponds that are actually leaking and this is detected mainly by tritium in the ground water to begin with. The worst one is Indian Point near New York where some old reactors. Now the question I'm putting is when this all came up you were going to build another spent fuel pond and I thought aha the one they've got now must be leaking but in fact you're now going to dry cast which I think is the, the sensible option but the question is are there any contingencies if the present fuel pond does decide to leak before the end of the, the session which would be ten years at least after 2035? So it has to last another 35 years, do you have any contingencies in case it does?

Chair: So your question really is asking us about the condition of our current pond, what arrangements we have in place to monitor around those ponds is that correct?

Question: Yes and if if you do find a leak do you have remedial ideas to stem the leak?

Chair: Okay as part of the construction of the pond I might bring Richard in on this discussion and possibly Colin. Certainly as part of construction of the ponds there's extensive monitoring and barrier protection in the pond arrangement. That includes part of the clean up and cooling system to make sure that integrity is maintained as part of the safety functions for that bit of equipment. So we have routine monitoring, we have routine maintenance and we have various engineering features employed such as double liners etc etc, leak detection systems to make sure we maintain that integrity. I don't know if Richard or Colin want to add anything to that?

Panel 6: Colin Tucker, I work in the nuclear safety group at Sizewell B. As Dave said the pond at Sizewell has a leak detection system that is installed so if there's any failure of the liner we detect it before anything gets out into the ground water, not that we're expecting that

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to happen because of the quality of the welding compared with how it was done a few years ago. But in addition to that there are design features in the way the racking is installed in the pond that would enable us both to inspect the welds even though there's fuel in the pond and to repair any defects that we found. In other words there's a gap round the edge to put it simply that allows us to get equipment in.

Question:

Right, I've lived in this town for 45 years. I actually watched Sizewell A being built as did many other people who have been in this, I don't know whether they're still here but other people have, there was a time when I actually thought one day Sizewell might become the beautiful small hamlet that it was before. Now I think I have been absolutely astounded to find out that not only will it last as a nuclear site for my for my lifetime, but also for my children's lifetime and my grandchildren's life time. Does anybody have any idea of how that makes me feel? Knowing that I stood by and watched it happen for Sizewell B where Sir Frank Layfield said that it would be there for 35 years and then it would all be cleared away again? Sizewell A the same he said it was going to go, now I know that it will be there forever and that is not a happy thought for me to go home and go to bed on tonight. You chose to work in the industry, I didn't. I loved Sizewell as it was before and I thought one day it would be restored. There's many other communities around the country who also feel the same. It is an enormous industry in a rural area and I thank the people that work there because I do think they do their very best to keep us safe but for the local community that have lived here all of their lives it is a great great imposition on us to actually live here, who actually preferred it as it was before. And no money, no compensation will ever ever repay what you've actually taken away from us.

Chair:

Okay. Okay. We'll take that as a statement okay I won't I won't reply to that. I can understand your concerns and your feelings. Are there any other questions specifically related to the cask storage

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arrangements in the pond? Lady on the end, I don't think we've had a question from this lady?

Question: Yes I wrote some questions down, most of which have been answered but one is about the casks because you said that it was a mature technology but given the timescales that we've been talking about for the, how mature is mature? And what's, when you're talking about a hundred years for the life of the cask and thousands and thousands of years for the radioactivity, what's the maturity of the technology for the casks?

Chair: Okay that's a good question. John?

Panel 3: The casks systems have been used for over twenty years now within the United States and in Europe so that's the maturity of the system but within the nuclear industry systems for containment of fuel have been used since the, the start of the industry, since the 50s so the casks we're looking at are a mature technology in that they've been developed over the past twenty years.

Question: But you don't what, what they might be like, the state of them in 80 years time?

Panel 3: Well the design, sorry, the design process that we go through looks at what are the possible degradation features over a hundred, more than a hundred years and that that is one of the big points of the design and it's one of the big points of the safety case that we'll be assessing as, as part of the project as we go through it.

Chair: Okay right I'm just looking for the last few questions. Okay I'll just go round the room. The lady here?

Question: I just wanted to ask about staffing for the new facility. As we are aware with Sizewell A's leak recently a lot of, there was a breach of quite a few of the licensing conditions when it comes to staffing. Now I want to know if these are the first ones in this country, are we going to be having new staff to look after the whole process of moving the rods from the pond into the casks and again looking after the storage

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for the many thousands of years that will be needed in the storage facility? If so are, is the staff going to be trained from people in America that have already been doing this, or no America they don't have the buildings do they? Was it Spain, they have the buildings? Yes Spain. So yeah I was wondering about the training of the staff because it's extremely important and it would be nice if they listened to the alarms.

Chair: Any comments?

Panel 3: Staff training will be, once again is is another draft of the safety case and a draft of the procedures we go through as part of the station. A, there are various ways to doing it and as you say there are people who are very experienced in loading the casks but we also have people experienced in doing the fuel movements within the pond so as a combination it would be the people who are experienced in that within Sizewell and the people who are experienced in loading the casks and moving them. So as far as the storage in the building goes there would be a very low staffing requirement for that as a passive system. So there's not a thought that there will be a lot of people required for that. Does that answer your question?

Question: Well [inaudible-1.03.17] A the staff of A at that time that, of the station closing down to becoming decommissioning weren't given the full training that they needed to be able to do their job properly. I I'm concerned about the staffing of the new, it doesn't matter how many people it takes to look after it's a very dangerous site and I'm asking for reassurance that the full training will be given to those people who have a lot of responsibility in their hands and if that training will be done by people who have been doing this for a long time? Obviously there's going to be different alarm systems all, even though that it's a stand alone thing and that it's supposed to be self cooling after they've been in the pond etc there's still, hopefully there'll be lots of alarms and lots of different triggers, helium etc etc if there was any of that, I just wanted some reassurance that the staff would get the proper training that they need from the experts and maybe training at those sites before they then look after the waste in in our area?

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Chair: I can just add to that what what's typical of a new facility there's a training programme put in place for the staff involved in those, running those facilities that that the quality and the requirement to the programme is reviewed by the regulators before they issue the licences to operate so I think our expectation is we'd follow a similar process to that. So staff would be trained and the regulators would view the licensing requirement to associate it with the quality and the training of the staff before they allowed the facility to operate, that's standard practice. And I'm not in a, as you can ...

Question: [inaudible-1.04.51] if there was some licences breaches at the A, there was some licence breaches over the A, I'm concerned about the licensing that we have in place and how that is upheld ...

Chair: Okay that's a good challenge ...

Question: ... over the A so that's why I was asking for reassurance that that's not going to happen again [okay] as many of the licences and conditions were breached over the A scenario.

Chair: Okay as I'm sure you can appreciate it wouldn't be appropriate and I'm not in a position to comment about what happened or didn't happen on the A site ... but from a British Energy perspective the training and the SQEPness [suitably qualified and experienced persons] of the staff, SQEPness being staff suitably qualified and experienced, is is a number one priority for operating any of the nuclear facilities let alone the design features that we build into it. So that would be a key licensing requirement to make sure that the adequate training arrangements were in place for those, to run those facilities. Okay final question? Or two then go on, one from this gentleman then one from this gentleman.

Question: The car park that you're proposing as I understand it is, I think it's a Greenfield site if you get my meaning. The surface drainage of it where will that be running to and will it have interceptors on?

Chair: I don't know actually, good question.

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Question: Yeah but I put it to you, I agree they are underwritten from certain points of view but it was mentioned about the 25 year decommission of Sizewell A but it's not going to happen because the funds are not available so whatever we say I worry for the future whether the funds will be there, simple as that.

Panel 1: I won't repeat everything I said before but I genuinely believe we are in a completely different position to the position of Sizewell A and other nuclear facilities because we have got this fund that we pay money into and it sits outside EDF and I hope, you're right, I hope we don't go bankrupt because that's not the plan, but if we did that fund remains there to cover our liabilities. So it is actually separate and I repeat what I said before it's not going to government, it's not going into treasury to fund whatever the government wishes to fund, bailing out banks, building hospitals, motorways or whatever, it sits there to discharge the liabilities that British Energy creates in operating its power stations. So I think we are in the best position that we can be in.

Chair: Okay. Okay. Just to close then really or just a reminder that there are two public exhibitions that we've we've put in place at the Leiston United Church on 24th November and 28th November so there's details of those available. We would ask if you have any comments there is a consultation document and we'd like those in if we could by Friday 18th December. There's there's some addresses there. I would also urge you to take some of these documents, a very good document to outline some of the proposals and there's some contact email addresses in those that hopefully should answer any other queries you may have on tonight's session. Just to close then I'd like to thank members of the public who've come tonight. There's been some very good challenges and some good questions which actually all adds to having a healthy nuclear industry if we have these questions and challenges put at us. We've also got some questionnaires and we'd be grateful if you could fill out these questionnaires for us so we can take feedback and obviously if we do this any future proposals like this we can make sure we try and

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improve the manner and the process by which we do this. So it just leaves me to say thank you for attending this evening and if you have any further questions or queries then please come and see the panel or myself and we'll do our best to, to give you an answer now or come back to you with an answer in the future. Thank you.