

**ROBIN RIGG OFFSHORE WIND FARM
(NAVIGATION AND FISHING) (SCOTLAND)
BILL COMMITTEE**

Monday 11 November 2002
(Morning)

Session 1

£5.00

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ROBIN RIGG OFFSHORE WIND FARM (NAVIGATION AND FISHING) (SCOTLAND) BILL COMMITTEE 2nd Meeting 2002, Session 1

CONVENER

*Mr Tom McCabe (Hamilton South) (Lab)

DEPUTY CONVENER

*Colin Campbell (West of Scotland) (SNP)

COMMITTEE MEMBERS

*Mr John Home Robertson (East Lothian) (Lab)

*Mr Jamie McGrigor (Highlands and Islands) (Con)

*Mr Mike Rumbles (West Aberdeenshire and Kincardine) (LD)

*attended

WITNESSES

Mr Dan Badger (Offshore Energy Resource Ltd)
Mr John Beattie (Anatec)
Captain Colin Brown (Maritime and Coastguard Agency)
Mr James Copland (Solway Yacht Club)
Mr Alan Cubbin (Maritime and Coastguard Agency)
Mr Glyn Dixon (Cumbria Sea Fisheries Committee)
Mr David Dobson (Cumbria Sea Fisheries Committee)
Mr Jerry Eardley (Royal Yachting Association UK)
Mr James Glennie (British Wind Energy Association)
Mrs Beryl Moultrie
Mr Guy Platten (Commissioners of Northern Lighthouses)
Mr Jeremy Sainsbury (Natural Power Consultants)
Dr Mike Shaw (Natural Power Consultants)
Mr Rupert Steele (TXU)
Mr James Taylor (Commissioners of Northern Lighthouses)
Mr Robert Thom (Dumfries and Galloway Council)
Allan Wilson (Deputy Minister for Environment and Rural Affairs)

CLERK TO THE COMMITTEE

David Cullum

SENIOR ASSISTANT CLERK

Alison Campbell

ASSISTANT CLERK

Zoé Dean

LOCATION

Easterbrook Hall, Dumfries

Scottish Parliament

Robin Rigg Offshore Wind Farm (Navigation and Fishing) (Scotland) Bill Committee

Monday 11 November 2002

(Morning)

[THE CONVENER *opened the meeting at 10:03*]

The Convener (Mr Tom McCabe): Good morning, ladies and gentlemen. It is just gone 10 o'clock, so we can begin our proceedings. I am the convener of the Robin Rigg Offshore Wind Farm (Navigation and Fishing) (Scotland) Bill Committee. I welcome members of the public and the press who have come along this morning, as well as the wide variety of witnesses from whom we will hear as the day progresses.

I ask all my colleagues and everyone in the room to ensure that they have switched off any pagers or mobile phones. That will prevent unnecessary interruptions later. We have received no apologies from members who are unable to attend this morning's meeting.

Interests

The Convener: Agenda item 1 is a declaration of interests. At our previous meeting, three of the committee's members declared no interests. Two members—Colin Campbell and Jamie McGrigor—are still required to declare any interests.

Mr Jamie McGrigor (Highlands and Islands) (Con): I am an honorary vice-president of the Clyde Fishermen's Association.

Colin Campbell (West of Scotland) (SNP): I have no interests to declare.

Robin Rigg Offshore Wind Farm (Navigation and Fishing) (Scotland) Bill: Preliminary Stage

The Convener: We move to agenda item 2, which is the main item of business for this morning's proceedings. As I am sure everyone is aware, our purpose is to take evidence as part of our preliminary stage consideration of the Robin Rigg Offshore Wind Farm (Navigation and Fishing) (Scotland) Bill. The Robin Rigg Offshore Wind Farm (Navigation and Fishing) (Scotland) Bill Committee differs somewhat from a normal parliamentary committee in that it operates in a quasi-judicial capacity. Each witness who gives evidence to the committee is required to take an oath, because the proceedings could be subject to legal challenge.

Our first set of witnesses is from the bill's promoters. Mr Dan Badger is Offshore Energy Resource Ltd's project manager and Mr Rupert Steele is the vice-president of regulatory and government affairs at TXU Europe. Mr Badger must take the oath.

MR DAN BADGER *took the oath.*

Mr Dan Badger (Offshore Energy Resource Ltd): I thank the convener and members of the committee for giving us the opportunity to meet the committee and to answer any questions that it has in relation to the private bill for the offshore wind farm that we are sponsoring. We have submitted a statement in which we set forth the reasons why we seek the powers in the bill. The primary reason is to give us the right to interfere with navigation and fishing in the Solway firth. The secondary reason is to give us the right to establish exclusion zones. Our statement explains more fully why we seek those powers.

We have met with some of the parties that have expressed objections to the bill—Mrs Moultrie, the Solway Yacht Club and the Royal Yachting Association Scotland—to discuss the basis for their objections and to see whether we can resolve differences. Progress has been made on both fronts. I will not say anything further on behalf of OERL at the moment, but I will be happy to clarify any matters that might arise during today's proceedings. I would like to introduce my colleague Rupert Steele from TXU.

The Convener: Good morning, Mr Steele. You must take the oath.

MR RUPERT STEELE *took the oath.*

Mr Rupert Steele (TXU): A number of changes affecting TXU have taken place during the past month. I felt that it would be appropriate to outline

to the committee those changes and their impact for the project and for our subsidiary, Solway Offshore Ltd, which—with OERL—is a co-promoter of the bill. The changes include the sale of TXU's retail business and certain generation interests to Powergen. Nick George, who was going to give evidence today, is now an employee of Powergen. Brian Ingham is the new project manager. I am here because I have a wider view of TXU's strategy.

Having sold its UK retail business and three coal-fired power stations to Powergen, TXU continues to retain substantial retail and generation businesses in Germany and Scandinavia. We have a portfolio of UK interests, which include renewables projects, combined heat and power installations and a trading business.

As has been well publicised, the trading business—TXU Europe Energy Trading Ltd—has significant problems in respect of contracts to purchase electricity that are no longer viable in today's market. The strategy of the trading business is to renegotiate the contracts, which it aims to do without any part of the group going into formal administration. It is believed that that approach offers the best results for our creditors and other financial stakeholders.

Among the other interests that TXU has retained is Solway Offshore Ltd, which is the development company for TXU's part of the Robin rig development. TXU remains committed to playing its part in the development of renewable energy in the UK in general. The Robin rig wind farm is a project of huge importance to the UK and to Scotland in particular. It is a flagship project for the offshore wind industry. TXU is committed to doing everything in its power to ensure that the project is built on time so that the associated environmental and employment benefits can be delivered.

As a result of the changes to TXU, we no longer have a UK retail customer base or the associated renewables obligation. It is therefore likely that, shortly before construction starts, we will want to sell our rights to the electricity and renewables obligations certificates that relate to Robin rig to an electricity supplier that bears the relevant obligation. At that point, having brought the project to fruition, we may step back from having a direct involvement in the project.

TXU has devoted a significant amount of personnel and financial resources to the project. We are proud to have done so, because we believe that the project is a good one. Our judgment is that it is in the public interest and the interest of TXU stakeholders for the development to continue. Accordingly, we are making every effort to ensure that, as and when we hand on the baton, the project is ready to be built on time. I am happy to answer questions about TXU and the project.

The Convener: Thank you both for your opening statements. We move on to questions. Why is it necessary for you to have the authority that you seek from the bill? Is section 34 of the Coast Protection Act 1949 insufficient?

Mr Badger: Our legal advice is that, although section 34 would overcome the obstruction of navigation and give us the right to construct, the section 34 authority would not in itself give us a legal defence against claims of nuisance. There would remain the issue of common law rights with which we would not have the right to interfere. Our lawyers have advised us that we will have to have statutory powers to give us a defence against claims that we are causing nuisance to mariners and fishermen.

Mr Mike Rumbles (West Aberdeenshire and Kincardine) (LD): I am not sure whether you have had a chance to see the Maritime and Coastguard Agency's submission. With reference to the proposal for a closed exclusion zone, the document states:

"The need for creation of an exclusion zone, either during construction or operation, is not supported according to the information provided."

The submission goes on to state:

"it would seem to be over-complicating the situation by establishing an exclusion zone with all the complexities that enforcement of it would entail."

How would you respond to that written evidence?

Mr Badger: In addition to the first purpose of the bill, which we have just discussed, we seek the right to establish exclusion zones. The reasons for that are twofold. First, we feel that an exclusion zone is a practical way of limiting or minimising the likelihood of accidents that could cause damage to mariners or our own construction workers during the construction period, or to our maintenance crews during the maintenance period. We believe that the practice of establishing exclusion zones, which is followed elsewhere—for example in the offshore oil and gas industry—serves to put mariners on notice. In effect, it creates a boundary around a warning or danger zone. By virtue of the exclusion zone's being there and by virtue of the measures that we will take to advertise the existence of the exclusion zone, we will minimise, limit and reduce the number of accidents that might otherwise occur.

The second purpose that we have in mind for the exclusion zone is that in the unlikely event of there being deliberate attempts to interfere with either the construction or maintenance of the works, the exclusion zone would give us the right to seek police action to remove people and to do so in a timely fashion in order to limit the financial cost to ourselves of what could be a lengthy proceeding were we unable to establish an exclusion zone.

10:15

Mr Rumbles: The Maritime and Coastguard Agency, which is not happy with the exclusion zone, argues that the alternative is designation of the area as an area to be avoided. I imagine that you see that as insufficient because it would not give you the protection you want in relation to deliberate interference. Is that correct?

Mr Badger: The concept of an area to be avoided is one that we had not previously been advised of in our discussions with the Royal Yachting Association, with whom we have discussed objections to the exclusion zones. I do not understand what our legal rights would be were we to use the concept of its being an area to be avoided rather than an exclusion zone. It sounds to me as though the concept of an area to be avoided would serve the first purpose that I mentioned, which is to put people on notice and therefore reduce the risk of inadvertent accidents. However, I do not know what rights that approach would give us in relation to the second purpose, which deals with people who deliberately—

Mr Rumbles: Are you sure that the exclusion zone would give you the rights to deal with deliberate interference?

Mr Badger: Yes.

Colin Campbell: My colleague has asked part of the question that I was going to ask. Can you explain how the provisions of the bill will be enforced?

Mr Badger: With respect to the first purpose, which is to put well-intentioned people on notice, we are not really thinking about enforcement, but about notification. We intend to take a number of steps, which we will work out in consultation with relevant authorities and local organisations, to ensure that the works and the exclusion zones are properly advertised. In the unlikely event that we need to enforce an exclusion against a deliberate intruder, I imagine that the measures to be taken would involve using police powers through whatever are the appropriate means—I cannot speak about the specifics of how that would take place.

I have been advised that it has, during construction periods in other examples, been the practice to have a vessel continually police the area and advise all mariners who get close to the exclusion zone of its existence. We have not yet addressed in detail the issue of whether we would have such continual policing during our construction period.

Mr McGrigor: What lights or buoys will be put in place during construction, and why is that matter not covered in the bill?

Mr Badger: The arrangements for lighting, buoys, sound warnings and other navigational aids that might be used to advise and warn mariners of the presence of the works are still under discussion with the relevant authorities and bodies, which include the Commissioners of Northern Lighthouses, the Royal Yachting Association, the Solway Yacht Club and other bodies that have interests in the Solway firth. Our environmental statement and the bill both lay out a proposal on buoys and lighting, but the matter needs to be discussed and worked out pragmatically in consultation with the various parties concerned.

Mr McGrigor: What consultation have you had with local fishermen and the sailing fraternity?

Mr Badger: During the past 18 months, there has been consultation with a large number of organisations that represent fishermen and mariners, both commercial and recreational. Later today, Jeremy Sainsbury, who conducted the consultation, will give the committee a fuller answer to that question. All I can say is that there have been extensive meetings to take the views of those bodies into account.

Mr John Home Robertson (East Lothian) (Lab): In his statement, Mr Steele referred to substantial changes in his company's business, which are a consequence of market problems in the energy sphere. Politicians do not like to answer hypothetical questions, but that does not prevent us from asking them. What will happen if, somewhere down the line, something goes badly wrong and the company goes under or, for whatever reason, it is no longer possible to continue operating the turbines? What provision has been made for the maintenance or removal of redundant turbines and foundations in such circumstances?

Mr Steele: Decommissioning is one of the key issues that are covered in the lease that the Crown Estate commissioners will grant for the site. The lease includes provisions that cover the obligation for decommissioning at the end of the wind farm's operational period and an obligation to guarantee that obligation.

Mr Home Robertson: An obligation does not mean much unless there is a means with which to fulfil it. Anybody who is interested in navigation or fishing needs to know what will be provided for the maintenance or removal of redundant objects on the sea bed.

Mr Steele: The lease puts obligations on the tenants—Solway Offshore Ltd and OERL—and names a guarantor, whose role is to ensure that the obligations are fulfilled and to provide additional resources.

Mr Home Robertson: So a bond will be set aside to cover the eventuality that I mentioned.

Mr Steele: Through the lease as it is drawn up, the Crown Estate expects the guarantor company to provide additional resources, which is not quite the same as having a bond.

Mr McGrigor: What is the risk that a rotor blade will strike a vessel? I gather that 75ft is the clearance between high water and the tip of the blade, but you are trying to introduce an amendment to decrease that distance. It seems to the sailing fraternity that the clearance relates to when the sea is fairly calm. In the height of a storm it is possible that the masts of many of the boats in the area could come into contact with the tips of the rotors. I agree that it is unlikely, but it could happen, which would be catastrophic. Is that likely? Why are you introducing an amendment to reduce the height from the tip of the rotor to the water?

Mr Badger: We have considered carefully the risks of a collision and have performed statistical analyses of the circumstances under which collisions could occur; we have satisfied ourselves that the risk of collision is acceptably low, not only under the original proposal, but under the newly proposed amendment. The reason for proposing the amendment is that we are now in the middle of the tendering process for construction of the wind farm. We have five of the world's leading wind turbine manufacturers competing in the process. One of them has advised us that the rotor diameter that it would like to use is slightly larger than the rotor diameter that we had in mind when we originally developed the environmental statement and the bill. It wants to use a rotor diameter of 104m, rather than 100m. That might not sound like a big difference, but the energy yield—

Mr McGrigor: It is a huge difference.

Mr Badger: It is a huge difference, so when the manufacturer advised us of its proposal, we revisited our calculations regarding collision risk and concluded that there would still be ample room for such rotors.

I would like to explain why we feel that the collision risk is acceptably low. In the discussions that we have had to date with the Royal Yachting Association and Solway Yacht Club, and previously with mariners who use the Solway, we have become aware that there are in effect two classes of vessels that could potentially be sailing in and around the wind turbines. I could describe them as smaller boats and larger boats.

For the smaller boats, there is no problem. Their masts are simply not high enough to come anywhere near the lowest possible point of a blade, even in one-in-100-year highest wave,

surge and tide conditions. For the larger class of vessels, which is the class that the Royal Yachting Association is concerned about, there would be a potential risk of collision under an extremely unlikely conjunction of events. That would involve the highest tide, wave and surge conditions that could be expected in the 25-year lifetime of the wind farm, as well as events that would disable the vessel, such that it could not be controlled and a collision could not be avoided.

We believe that a satisfactory mitigation measure under those extremely unlikely circumstances is the fact that the wind turbines can be stopped quickly, within less than 30 seconds, and stopped in whatever position the controllers select. If that is done by stopping the blades in what we call the 12 o'clock-4 o'clock-8 o'clock position, the blade tips will be an extra 15m higher than they will be at the lowest possible point.

It would be necessary for a vessel in distress to have an operational radio to ensure that such a mitigation measure worked. That is essentially a summary of the reasons why we believe that, even with the proposed amendment, the collision risk is acceptably low.

10:30

The Convener: We have received evidence that some of the site markings do not comply with guidelines set down by international authorities, most notably the International Association of Marine Aids to Navigation and Lighthouse Authorities' recommendations of May 2000. Do you agree with that?

Mr Badger: I am afraid that I cannot answer that. However, people appearing on our behalf today will be able to provide a clearer answer to that question.

Mr Home Robertson: In your exchange with Mr McGrigor about the risk of collision, I gathered from your reply that whoever is remotely controlling the wind farm can shut the whole thing down very quickly. Is someone on standby the whole time to do that or can it be done automatically? If at any time of the night or week a yacht radioed for help because it was in distress and it seemed likely that it would run into the wind farm, would it be possible to shut down the wind farm in 30 seconds?

Mr Badger: Yes. Let me explain how the wind farm will be controlled. The successful bidder on our contract will be one of five major wind turbine manufacturers, which do not own wind farms but operate them all over Europe. They do so from a single centralised location. One of those locations is in the UK, two are in Denmark and the other two are in Germany. Those locations are directly

connected by information technology interfaces to the wind farm, which ensures that the operators who are in the control rooms 24 hours a day are continually monitoring the performance of the turbines. As a result, we would need to put in place proper communications in order to reach the guy who we would hope was watching over everything.

Colin Campbell: Can you convince me briefly and quickly that there is very little danger of submarine cables being dug up or trawled up at any time?

Mr Badger: No. That is a concern. As the owners of the wind farm, we will be at risk in that regard—indeed, we are also putting our contractors at risk. One of the purposes of the exclusion zone is to prohibit trawling and anchoring, which are the two greatest threats that could cause such damage. However, even when we are satisfied that there will be no trawling or anchoring on the site, we will still be faced with potential dangers of exposed cables because of the sand's high mobility. At least if there are no anchors or trawlers interfering with exposed cables, we think that we will be able to keep the risk to a minimum.

The Convener: Would a wind farm always continue to operate in very extreme weather conditions?

Mr Badger: No. The farm would be automatically shut down by control devices in the turbines when the wind speed exceeded roughly 50mph.

Mr McGrigor: If there are 60 turbines in an area, do you have some way of watching them? For example, would you use a closed circuit television system to watch the area? Given the value of the project, why do you not construct a manning platform somewhere in the middle of the wind farm? After all, oil rigs are manned. Again, we return to the issue of enforcement. If no one is watching the area, how can anything be enforced?

Mr Badger: There will be a manning platform, but I do not think that the plan is to man it 24 hours a day.

Mr Home Robertson: Jamie McGrigor wants the job.

Mr Badger: CCTV will be in place, but I do not believe that a camera will focus on every turbine. The performance of the turbines will be relayed to the manning platform and the onshore operational centre by visual indicators, but not by CCTV images.

The Convener: We could all recommend a list of people for the job.

Members have no further questions, so I thank the witnesses for attending. Before I invite our next

witnesses to speak, I welcome two local MSPs—Mr Mundell and Mr Fergusson—who are just going for coffee. I thank them for coming. Given that today is remembrance day, I intend the committee to mark the occasion with two minutes' silence at 11 o'clock. Is everyone happy with that?

Members indicated agreement.

The Convener: I invite Mr Eardley, who is the Royal Yachting Association UK's legal adviser, and Mr Copland, who is from the Solway Yacht Club, to come forward and take the oath. Good morning, gentlemen. Thank you for attending. In the interests of time, we will take the oaths one after the other.

MR JERRY EARDLEY and MR JAMES COPLAND took the oath.

Mr Jerry Eardley (Royal Yachting Association UK): Good morning. I will make a brief statement, which I hope will take no more than a couple of minutes. I speak for a joint objection by the Royal Yachting Association UK, which is the United Kingdom governing body for the sport of sailing and the national representative organisation for boat users, and the RYA Scotland, which performs the same functions for Scotland.

The RYA has made representations to the Government on all seven wind farm proposals on which it has been consulted. We expect to do so for the remaining six sites in the current round. The Robin rigg site is the only proposed development for Scottish waters. I am the person at the RYA with staff responsibility for handling that work, which is why I am giving evidence on behalf of both organisations. Hugh Henderson, who is the vice-chairman of the RYA Scotland, is here this morning to deal with any points that are specific to development in Scottish waters. Mr Copland, who lodged an objection on behalf of the Solway Yacht Club, will deal with matters that are more site specific, such as the marking and lighting that are needed to ensure safe navigation.

The wind farm proposals have considerable similarities, but they also have differences of technical and administrative detail that might be important for our interests. That is why our responses to the developments differ somewhat from site to site. Our comments about the Robin rigg site are consistent with our comments on the other sites. If seeing those comments would help the committee, I have a copy of all the responses that the RYA has made to the development applications.

We do not object to the bill in principle. Our objections are limited to the aspects of the bill that adversely affect navigation and can be remedied by changes to the proposals. They relate to the introduction of formal exclusion zones that carry

penalties for incursion, the clearance under the rotor arms and provision for possible future dereliction.

The Robin rigg proposal is technically similar to others, but the requirement in Scotland for a private bill to remove navigation and fishing rights and the procedure for parliamentary scrutiny of the responses to the bill mean that the procedure here is different from the procedures that are used elsewhere. The development is therefore particularly important, because it provides the first opportunity in the UK for full public examination of the effects of such a development on public navigation and fishing rights. We are grateful for the opportunity to appear before the committee to explain our views and to respond to any questions that members have.

Members should have before them the text of the objection that my colleague Hugh Henderson lodged on 27 August and the additional note that was sent on 6 November. The note comments on the developers' proposed amendments to the bill and sets out the position between the developers and us after informal discussions last month. To date we have not been able to resolve our differences over the three heads of objection.

We will summarise the position as briefly as possible. With respect to the exclusion zones, our view remains that it is unnecessary to have penal provisions. A non-statutory advisory area notified via a carefully organised system of marine notices would be a better and more flexible way of telling those who use the wind farm area what works, construction, maintenance, repair or eventual removal are scheduled to take place. The developers have explained to us that their funding arrangements require an especially rigorous approach to risk management. We respect those concerns, but in our view the risk of deliberate interference with the construction or operation of the wind farm is so small as not to justify the additional complexities, lack of flexibility and uncertainties that are inherent in the use of penal no-go zones at sea. Other remedies for deliberate interference will be available.

Our second head of objection relates to insufficient rotor blade clearance. All wind farm developers are proposing to introduce into hitherto navigable waters an array of carefully engineered structures that present what is to the UK a totally novel dynamic potential hazard. In our view, it is incumbent on the developers to design the structure in such a way that, over the full 25-year life of the project, it does not present a foreseeable hazard to navigation. There may be costs in doing that, but those costs are part of the full cost of the enterprise. Like all the project's other costs, they add up to what becomes the eventual cost of a unit of power generated in this way.

That said, it is not possible to specify precisely what would be a safe clearance height. That is a matter of judgment, based on the likely use of the area by the kinds of vessels affected. We are concerned with the larger types of sailing vessels. In the papers, we have explained our approach to reaching a judgment on the point. The clearance distance in all foreseeable conditions should be greater than a sailing vessel's air draught—the height of its mast and masthead equipment above the sea surface. In the correspondence that has been copied to the committee, the developers have explained why they do not think our concerns are well founded. In fact, since we discussed the matter with them, the developers' team has proposed to reduce the minimum clearance by 3m. Our note to the committee of 6 November explains why we remain concerned on that point.

Our third head of objection, concerning the risk of future dereliction, is different from the rather technical and detailed matters that I have just outlined. In our view, this is primarily a public policy matter, although it could have navigational safety implications. That is why we feel justified in raising the issue for scrutiny. As far as I know, no other interests have done so.

The chief point is that, in an uncertain economic world, there ought to be a reliable way of promptly removing structures if they cease to function and, for whatever reason, the developers are no longer available to be called on by their landlord, the Crown, to do so. The cost of providing for that risk, like the cost of underwriting certain forms of overseas trade, should be built into the costs of the project at its inception. That obligation should be included in the bill as a matter of public policy, rather than left as a matter between the developers and their landlord. This is a general point that applies to all wind farm development, rather than just the Robin rigg site.

Some other matters relating to navigation are best dealt with by those with long-standing knowledge of the firth. They will be explained by Mr Copland, the commodore of the Solway Yacht Club. I have summarised our position on the bill and I will be happy to deal with any questions that members have.

The Convener: Thank you. We will take questions after the next witness has made his submission.

10:45

Mr James Copland (Solway Yacht Club): I am commodore of the Solway Yacht Club, chairman of the South West Scotland Sailing Association and a member of the council of the Royal Yachting Association Scotland. In my introductory statement, I shall first establish my credibility as a

witness and, secondly, try—within my limited powers—to take you out there to give you a real feel for what it is like on the Robin rigg.

I am a retired professional air and marine navigator and I have been sailing for 58 years. For the past 40 years, most of my sailing has been in offshore waters. I have sailed internationally for the United Kingdom abroad and in the United States. I have considerable experience of sailing offshore in yachts in what I would describe as heavy weather. For example, I navigated the leading British yacht in the 1979 Fastnet race and I navigated the winning yacht in the 1972 Bermuda-United States race, when I was confronted by hurricane Agnes. Most of my sailing is now offshore in the Solway firth. I shall try to describe what it is like there.

Compared with, say, the Clyde or the Solent, the Solway firth is a relatively unfriendly place for leisure sailors. The tides are approximately twice as strong as those that one finds in the Solent and four times as strong as those in the Clyde, and the shifting sandbanks throw up short, breaking seas. Pilotage and navigation assume considerable importance, especially because the tidal predictions are notoriously inaccurate. It is no coincidence that histories of the Solway firth identify so many wrecks of sailing ships. In conditions of reduced visibility, without sight of either coastline, dead-reckoning navigation can easily be unreliable.

You might ask why people go offshore sailing in those conditions. Against all those difficulties, offshore leisure sailing in the Solway firth is growing steadily for two main reasons. The first reason is that the past few years have seen yacht marinas develop at Maryport and Whitehaven on the Cumbrian side and at Kirkcudbright on the Galloway side. Those sites offer attractive facilities to residential and cruising yachts. Private pontoon berths that are owned by the Solway Yacht Club are also available at Kipford. Therefore, the number of cruising yachts in the Solway firth is increasing steadily on both sides of the firth. It would be difficult to state the size of the boats, as there are no restrictions on size, but they range from roughly 24ft to between 40ft and 50ft.

The second reason for that growth is economic. The marina prices on the Cumbrian side are roughly a third of the prices that one would expect to pay on the Clyde and a quarter of what one would expect to pay on the south coast. There is, therefore, an economic attraction as well as the attraction of the facilities. There is also a lack of congestion in comparison with better-known yachting areas. The net result of all that is that the number of yachts that are operating in the Solway firth is growing.

The location of the marinas, the distances that are involved and the tidal patterns encourage

cross-firth cruising between Galloway and Cumbria and vice versa. A typical summer weekend might see at least 20 to 40 yachts sailing in the vicinity of the projected wind farm, to and from Galloway or Cumbria. The average passage time between the coasts is around four to five hours, so the weather may change dramatically while a yacht is passing between the coastlines, possibly in the vicinity of the proposed wind farm.

Meteorological forecasting for the Solway firth is not an exact science. There are physical features, such as the lake district mountains and Galloway mountains, which develop singular weather patterns within the Solway firth area that are often not included in the national shipping forecasts. It is possible to leave from either side of the firth in good conditions but to find that, before one is halfway across, visibility is down to less than 200yd.

For example, on the previous three occasions when I have transited between Whitehaven and Kirkcudbright, I thought that I was navigating within 200yd of the Robin rigg buoy, which is to the south of the projected wind farm, but I could not see it, even though when I left Whitehaven conditions were clear, with a visibility of 5 or 6 miles. Weather conditions can rapidly change and we feel that it is imperative that any hazard to safe navigation located in the middle of the firth is readily identifiable in conditions of poor visibility at sufficient range for sensible and safe navigational decisions to be taken.

I stress again that we do not object to the bill in principle. Our objections are limited to those aspects of the bill that, in our view, would adversely affect navigation and that are capable of remedy by amending the proposals. Specifically, we want the notification of workings, exclusion zones and various construction aspects to be dealt with more comprehensively than is proposed in various documents.

We also want the visibility of the marker buoys and the towers to be significantly enhanced. We have detailed concerns about, for example, the range of the foghorn. We share our colleagues' concerns about tip height and what might happen to the wind farm if it shut down. I am prepared to answer questions. Thank you.

The Convener: Thank you, Mr Copland. Do members have any questions?

Mr Rumbles: It has been suggested in evidence that it would be more appropriate to designate the exclusion zone as an area to be avoided. You, too, do not like the idea of an exclusion zone. Is that because there might be penalties if you encroach on an exclusion zone? If the designation were as an area to be avoided, there would be no penalties, if I understand it correctly.

Mr Copland: We are concerned about something being termed an exclusion zone, with penalties for going inside it. We feel that that is unnecessary.

Mr Rumbles: We have just heard evidence from the bill's promoters, who feel that an exclusion zone is necessary to protect the development from, for example, deliberate interference. They want the power to tell people that they should not be near the development and to enforce penalties if people are in an exclusion zone. You seem to imply that you do not want an exclusion zone. Is that simply because you might be faced with penalties for encroaching on an exclusion zone?

Mr Copland: I do not regard that as our position. Our submission does not say that we are opposed to exclusion zones.

Mr Rumbles: I am confused. You do not object to an exclusion zone.

Mr Copland: I am referring to the Solway Yacht Club submission.

Mr Eardley: May I help? To some extent the issue is a matter of philosophy and, to be frank, our organisation's philosophy, which goes back many decades, is emphatically for education and information rather than legislation. We see in practice little evidence for statutory prohibitive systems that might sometimes be appropriate on land to apply at sea. On paper, the legislative approach might seem a good one, but experience tells us that that is not the case. There is no need to legislate. Moreover, it is not easy to enforce things at sea, as I think most of the Government agencies and those who work at sea acknowledge.

The issue is not so much our not wanting to be subject to penalties; we do not want our members and vessel users in general to risk committing an infringement in the difficult circumstances of sailing, which Mr Copland outlined. There are other and better ways of ensuring that that does not happen, which are closer to the general systems to help mariners of all kinds to help themselves, to prevent damage to other interests or property and to assist those on board their vessels.

Those who go offshore, in small or large vessels, are used to informing themselves about what is happening in the area in which they are to sail. I am talking about the points that they need to take into account when making a passage plan of the kind that Mr Copland explained. A non-statutory advisory system is a much more flexible way of dealing with the kind of administrative and technical works that we fully accept the developers need to handle at various stages of the initial construction and in the repair, maintenance and possible eventual decommissioning process of the project.

Mr Copland: The system that my colleague has just described has worked well for many years in relation to the adjacent activity on the Ministry of Defence's Dundrennan firing range on the other side of the wind farm site. Although the range is a much larger area, the operating principles that are in place between the user of the range and leisure sailors have worked adequately. I am surprised that the developers have not examined that system more carefully with a view to implementing it as a working model for the Solway firth wind farm.

Mr Rumbles: Do Ministry of Defence firing ranges have exclusion zones?

Mr Copland: There is a designated danger area. When the range is being used for live firing, the commandant of the firing range promulgates that information in a wide variety of communications to all the yacht clubs, marine chandlers, harbour-masters' offices and so forth in the area. As my colleague said, it is easy for a yachtsman who wishes to transit through the firing area to check on the possibility of live firing.

The firing range has a safety boat, which could be called a patrol boat. Should anyone have failed to pick up the notices about the live firing, the safety boat, which is fitted with radar scanners, can shepherd the offending craft away from the area before any danger is encountered. The whole exercise is monitored by a sophisticated radar system on the cliffs above the range.

Mr Rumbles: One of the issues that faces the committee is whether to go down the road of approving the application for exclusion zones or to opt for a more appropriate method, such as the designation of an area to be avoided. The proponents of the bill have told us that the exclusion zone would help to minimise accidents and to prevent deliberate interference with the wind farm. The last point is telling. No one is suggesting that the yacht clubs would interfere deliberately with the wind farm, but others may do so. Do you see the need for an exclusion zone?

Mr Eardley: To be frank, that point is new to us. We respect the developers' view on it, but we have no experience of anyone within our interests or knowledge behaving in that way. It is theoretically possible that a person or organisation might feel so strongly about the construction or operation of the wind farm that they want to take some sort of direct action of deliberate interference. We cannot say that that will not happen, but we think that it is very unlikely and, as a matter of judgment, we do not believe that that possibility justifies the argument for an exclusion zone.

Colin Campbell: I understand that much of the background to the issue is the principle of

responsible seamanship. I believe that you gentlemen would promote that principle and its educational value.

I do not mean to be even implicitly pejorative by my question, but does every member of the RYA hold a range of RYA qualifications? What percentage of leisure sailors in the Solway are in the RYA?

You might not be able to answer my third question right away, but it would be useful to have the information. In the past 12 months how often have lifeboats been called out to pull people out of difficulty in the area?

Mr Eardley: The answer to your first question is no. The RYA is a membership organisation with almost 100,000 members, which represents quite a small proportion of all the leisure sailors in the country. We are constantly seeking to increase that proportion and we have had some success. It is not an obligation but it is one of our articles of faith that the acquisition of skills should be voluntary rather than compulsory. That is a long-running, friendly argument that we have with other organisations.

Mr Copland is in a better position than I am to make a judgment about the proportion of sailors in the area who have qualifications. The holding of qualifications is not necessarily indicative of competence. Obviously, if someone has gained a qualification, it is likely that they are competent to go to sea, but the converse does not necessarily apply. We are particularly keen that newcomers to the sport, especially those who do not come from a long family tradition of sailing—in the past, sailors often came from such a tradition—or those who use power boats, which are very popular these days, should acquire their skills through formal training.

11:00

The Convener: I will stop you there, Mr Eardley. Earlier, we indicated that as a mark of respect for remembrance day, we would hold a two-minute silence at 11 o'clock. That time has arrived so I ask everyone please to stand.

11:02

The Convener: I apologise for interrupting your train of thought, Mr Eardley. You are free to carry on.

Mr Eardley: I cannot help the committee with information about the frequency of lifeboat launches. I have slightly lost track as to whether I have answered the three questions that Colin Campbell asked.

Colin Campbell: My first question was about qualifications. You said that the RYA is a membership organisation and that it is not essential for people to be nautically qualified. However, I presume that you encourage them to be.

Mr Eardley: We firmly believe that the general standard of competence of those who go offshore in big and small boats is likely to be greater with a range of voluntary qualifications than with a single driving-test type of arrangement. It follows that people are free to choose whether to take a formal qualification.

Mr Copland: All the yacht and sailing clubs on the coast of the Solway firth are affiliated to the RYA and their members have access to RYA training and development opportunities. To reinforce what Mr Eardley said, unlike in leisure motoring, for example, there is no legal requirement for yachts—including safety equipment and communications equipment—to be certificated in any way, nor is there any legal requirement for those in charge of yachts to have certificates of professional competence. As we have heard, the RYA is working constantly to try to educate rather than go down the legislative route, albeit that a number of our European counterparts have gone down the legislative route.

On local conditions, many people who are not members of yacht clubs might never have heard of the RYA or the training programmes that it provides. That must be a constant problem. The problem is particularly acute at the smaller end, but not necessarily the slower end, of the leisure boating industry. I am talking about high-powered speedboats and jet-skis, which are the latest arrivals offshore in the Solway. There are no jet-skis in our club and I do not know of any club in the Solway firth that has jet-ski members.

Nevertheless, if the weather looks okay, a growing number of people will take to the open Solway on jet-skis. In the past year, there have been a number of incidents in which jet-skiers transiting between the Galloway coast and the English coast for whatever reason have got themselves into difficulties through navigation problems, failing to understand the tidal patterns or by just getting out of their depth. The coastguard can give exact figures on the number

of jet-skis and powerboats that have got into difficulties and have had to be rescued. By and large, they are outwith the yacht club or sailing club structure and therefore would not be subject to guidance on the usefulness of training courses to acquire some degree of competence.

In my position at Kippford, I recognised that there was a potential for incidents with jet-skiers with no previous sea experience and advised the Kirkcudbright regional coastguard officer. On a day in which jet-skiing was at its height, he attempted to issue to jet-skiers the MCA's guidance notes on how to be a better jet-skier, but was sent packing. If we are to have an overall sense of responsibility, there is a potential problem in that respect. I have nightmares in which jet-skiers assemble on either side of the Solway and slalom race around the wind farm pylons.

Mr Home Robertson: I think that you have destroyed your own case there. I understand your philosophical objection to a statutory exclusion zone, but you have just acknowledged that not everybody is necessarily totally responsible and professional and that there might therefore be a case for exclusions. Is that not the case?

Mr Copland: In my opinion, there will always be situations in which people, whether they are in yacht clubs or not, will try to do something more than they have the skills or potential to do effectively. Whether the answer to that is exclusion zones, I am not sure.

Mr Eardley: Let us go back to why the developer is seeking to introduce a novel and unusual kind of arrangement for structures placed in the sea. As I understand it, the aim is at least to reduce the likelihood of incidents involving vessels and those on them, including the developer's work force, particularly during construction but also when repairing or maintaining the site. The aim is also to minimise the possibility of damage to the structures during their operational life and to deal with the possibility of some kind of deliberate attempt to interfere with the progress of the project.

It is easy to get distracted with questions about jet-skis. They always seem to come up in conversation and it is tempting to go nattering on about them. However, in the context of the requirements that I have outlined, I would have thought that the risk of jet-ski problems is probably de minimis.

Mr Home Robertson: Do not let us get deflected into that. You have acknowledged that there may be some people out there who might do silly things, and we must take that point on board.

I have a couple of specific questions. When you mentioned the firing range, you had a wonderful image of the Ministry of Defence shepherding

people out of the danger area. Does the MOD have the authority to take them out? If somebody does not want to be shepherded, can they be forced to leave?

Mr Eardley: My understanding of the legal position is that, despite the long-standing existence of, and need for, military firing ranges, there is still a legal right of transit through those ranges. The right of navigation has not been taken away by the existence of those ranges or the administrative arrangements for maintaining and operating them.

There is an arrangement that, on paper, does not work but, in practice, does. The Ministry of Defence, or whoever is operating the range, gives notice of activity and those details are marked on the charts and in the almanacs. Notice of firing practice arrangements from week to week and day to day during the season is promulgated locally. In case somebody goes through the range and is not aware of those arrangements, a range safety vessel is there to tell people firmly but politely to move offshore. It takes a bold and possibly argumentative person to say, "I propose to stand on and I will take half an hour to transit the range in my own way, thank you very much." Perhaps there have been instances of that happening, but my own experience and that of my colleagues is that the system works well and that, in practice, people take heed of the request. I would have thought that the same principle could work perfectly for the construction phase of a wind farm development.

Mr Home Robertson: You talked about the construction phase and the operational phase. You have heard the promoters explaining that any yachtsman going into the area can radio someone in Denmark who can then shut down the entire wind farm. Hypothetically, it would be possible for somebody who was bloody minded to sail into that area and have the whole thing shut down once, twice or three times. Would it not be reasonable to give the owners of the wind farm some kind of statutory power to protect themselves against that kind of mischief?

Mr Eardley: The bill says that the operational exclusion zone is 50m from any point of the structure, so it is a relatively small one.

Mr Home Robertson: No, hang on, we do not want to go into the details but, hypothetically, what if somebody sails into the zone and radios in and demonstrates their power to shut the whole thing down just for fun? Is there not a case for the operator of the wind farm to have some kind of statutory protection?

Mr Eardley: No, I do not think so. You heard Mr Copland explain the conditions that are commonly found in the firth. I mentioned the 50m zone,

because the hypothetical person who is intent on causing mischief would need to be recurrently sailing their vessel within a relatively short distance of one or more of the structures in what Mr Copland described as often difficult, adverse and challenging conditions. In the absence of any examples of behaviour of that kind anywhere else in the country—I am certainly not aware of anybody ever doing that—it is stretching the bounds of credulity to think that that is a risk of which account must be taken.

11:15

The Convener: I know that Mr Rumbles and Mr Campbell wish clarification, but Mr McGrigor has an initial question.

Mr McGrigor: We all know that the most unlikely marine accidents do sometimes happen. We only have to think about the large structure that hit the Erskine bridge a little while ago, which defied all mathematics, to know that. From their submissions it is clear that both witnesses are worried about the rotor-blade issue. Mr Copland's submission states:

"The abnormal nature of the Solway Firth tidal curve combined with low atmospheric pressure, often produces tidal heights significantly higher than those predicted in official publications."

The Royal Yachting Association submission states that under certain weather conditions, it is possible that the distance would be reduced

"to 18.2m, or fractionally under sixty feet."

It also states that sea training vessels of 22m air draught, which is nearly 70ft, use the area, and that

"On a yacht of modern design, an air draught of sixty feet would be typical of a hull of between thirty eight and forty feet, which is not a particularly large sailing boat. There are many boats of this size cruising in UK waters."

Could the witnesses expand on that, because the promoter is saying that it is completely safe but they are saying that it is not?

Mr Eardley: It is difficult because, as I said in my opening statement, the safety criterion that should be adopted in choosing a height is a matter of judgment. We have had some difficulty in proposing what we think is a reasonable compromise position. There are very large sailing vessels of all kinds around—some traditional and some modern—which have considerably greater air draughts than any of the figures that are being discussed. We suggested that a sea training vessel of general design with an air draught of 22m—one of which happens to work in the north-west—would be a reasonable compromise. In all the representations that we have made on wind farms at other sites we have adopted that as a reasonable working criterion. Frankly, it is about as low as we think it is safe to go.

There are difficulties and differences of view about weather patterns, and the likelihood of certain conditions. With the original proposals, and with the proposed amendment to the bill, we are talking about differences of a few metres and trying to judge the likelihood or the possibility of an incident in admittedly infrequent conditions—a combination of bad weather and high tides, perhaps with a storm surge thrown in as well, and a large sailing vessel that gets into difficulties in the region of the wind farm. There is a foreseeable risk that the top metre or so, or even the top foot, of the mast would be clipped off, leading to catastrophic consequences.

It is extremely difficult to attempt a quantification of that kind of risk. However, as you indicated, all sorts of what should be unlikely marine accidents occur and we think that it is reasonable to put forward the position that, given that these carefully designed structures are being, for the first time, deliberately placed as admitted obstacles in navigable waters, the design criteria should provide for the kinds of vessels that are likely to use the site within the 25-year lifespan of the project. To some extent, we are thinking about the kind of development that Mr Copland talked about earlier. We have yet to complete our investigations on this point, but my early research suggests that there are a number of vessels of the size that we are talking about operating in the area and it is likely that more will do so in future.

We think that the amended proposal still gives insufficient rotor clearance. Perhaps I should mention in this context that a variety of rotor heights are being proposed for various wind farms across the country. Although I cannot recall precisely what the heights are, quite a few of them are roughly the same height as this one and there is at least one other site where the rotor arms are significantly higher than is proposed for Robin rigg—I think that the height is around 30m or so. Although the developers and the engineers might have good reasons, it is not clear to us why the economics of wind farm building permit a height that is reasonable for safety in one site—on a sandbank in the north-west—but not here and in some of the other sites.

Colin Campbell: Do you have any idea how many lifeboat call-outs there have been in the past 12 months? How many of those were on the site of the proposed installation on Robin rigg? It might be impossible for you to answer those questions.

Mr Copland: I do not have those figures with me but I am a member of the Royal National Lifeboat Institution and get their monthly magazine, which details the call-outs for each station. It is rare that a month goes by without the Kirkcudbright lifeboat, the Kippford inshore lifeboat and Cumbrian lifeboats being called out. From my

experience, I can say that the number of call-outs is higher than one might think. I would suggest that, even in benign conditions, the Solway produces incidents.

It is difficult to be precise about the nature of the emergencies. They can be simple things such as captains of small boats running out of petrol, getting lost or even becoming seasick. All of that has happened.

The Convener: If you have that information, it would be useful if you could forward it to us.

Colin Campbell: The RNLI would be best placed to give an overall summary as its purview covers both coasts and the rescue facilities in the various stations have differing degrees of sophistication.

The Convener: We will follow that up.

Mr Rumbles: In response to a question on exclusion zones, Mr Eardley gave the impression that the exclusion zone would be a unique proposal as even the MOD firing range has no exclusion zone. However, the submission from the Commissioners of Northern Lighthouses says that

“exclusion zones are already established around oil and gas offshore structures”

such as those in the North sea.

Mr Eardley: I am sorry if I misled the member. In our written evidence, I attempted to deal with what I regard as the important points of difference between oil and gas rigs and these structures. I have no personal involvement with the oil and gas projects, which are some years old. There are no absolutes in situations such as this—it is always a matter of judgment. On balance, the imposition of zones of prohibition around oil and gas rigs is justified by the fact that those are commonly placed in the open sea, where they are passed by large commercial vessels; that they handle flammable, explosive substances; and that there are many people on board rigs whose lives could be put at risk by a bad incident. Those factors stack up in favour of imposing zones of prohibition around rigs, but they do not apply to wind farms.

The Convener: As members have no further questions, I thank our witnesses for their evidence.

Our next witnesses are representatives of the Commissioners of Northern Lighthouses. Mr James Taylor is the chief executive of the Commissioners of Northern Lighthouses and Mr Guy Platten is director of operations and navigational requirements. Thank you for attending this morning's meeting. As you are aware, you are required to take an oath.

MR JAMES TAYLOR and MR GUY PLATTEN took the oath.

Mr James Taylor (Commissioners of Northern Lighthouses): The Commissioners of Northern Lighthouses are bound by their motto, “For the Safety of All”. We believe that we can best assist the committee by supplying background information on our role of providing safe, efficient and cost-effective aids to navigation to all users, and on the way in which we advise the Scottish Executive on the navigational issues relating to applications made under the Coast Protection Act 1949 for the approval of marine works.

The commissioners owe their origins to an act of 1786, which was passed under George III. They currently operate under the Merchant Shipping Act 1995. They are appointed as the general lighthouse authority for Scotland and adjacent seas and islands, and for the Isle of Man. Under section 195 of the 1995 act, we are vested with responsibility for

“the superintendence and management of all lighthouses, buoys and beacons”.

We have various powers and responsibilities in connection with the provision, maintenance, alteration, inspection and control of lighthouses, buoys and beacons. We also have some wreck removal powers.

Although under the Scotland Act 1998 the subject matter of the Merchant Shipping Act 1995 was reserved to the UK Parliament, legislative competence, regulation and casework arising under the Coast Protection Act 1949 were devolved to the Scottish Executive. The commissioners are therefore consulted on all navigational aspects of applications that are made under section 34 of the 1949 act.

We are financed entirely from light dues that are paid by commercial shipping according to tonnage. Small leisure craft and Government vessels are exempt from those charges. The service that we provide is funded directly by the user. We share funding with England, Wales, Northern Ireland and the Republic of Ireland.

Under the Coast Protection Act 1949, any person or organisation that wishes to establish or alter marine works such as a pier, outfall or aquaculture site makes application through the Scottish Executive. The commissioners use their powers under the act to judge what level of marine marking is required to provide for safe marine navigation in the vicinity of any works or sites, either while works are in progress or on their completion. The commissioners advise on the level of marking that is required. We make no charge for assessing or advising on any such applications. Having determined the level and the type of marking that are required—buoy, light beacon, or whatever—the commissioners will

subsequently need to give specific and formal sanction to the establishment of any marking. We are working with the Scottish Executive to develop procedures for policing sites for aquaculture and similar sites, having given that marking consent.

11:30

It may be useful for me to tell you of my credentials and those of my colleague, Mr Platten. I served in the Royal Navy for 30 years, to the rank of commodore, and I was subsequently the chief of staff of the Royal Navy submarine service. I have commanded two conventional attack submarines, a nuclear-powered attack submarine and a major surface warship. I am a member of the Royal College of Defence Studies. I have a certificate of service as a foreign-going master in the merchant service and I have served as the chief executive of the Northern Lighthouse Board for nine years.

My colleague, Mr Platten, served for 11 years in the merchant service and the Royal Fleet Auxiliary Service and is a master mariner. For six years, he was the inspector of lifeboats for the Royal National Lifeboat Institution, and for three years he was the salvage and mooring officer for the Ministry of Defence. He has been a director of operations and navigational requirements for one year.

The Convener: Mr Platten, do you wish to make a statement?

Mr Guy Platten (Commissioners Northern Lighthouses): Not at this stage.

The Convener: Is your organisation satisfied with the terms of the bill as they apply to you?

Mr Taylor: Yes. Its competence falls within our role as a general lighthouse authority as specified in the Coast Protection Act 1949. We see nothing unusual in it—the link has already been established with the Scottish Executive and works extremely well.

Mr McGrigor: Do you consider that navigational lights and buoys should be mentioned in the bill?

Mr Taylor: Provided that the bill caters for the establishment of the site to be considered under the Coast Protection Act 1949, such mention may be superfluous. Under the procedures that are in place, we normally advise on the degree of marking that is required. We have already advised the Scottish Executive what marking we would recommend, should the project go ahead.

Mr McGrigor: Would your body be in charge of monitoring the marking? Who would pay for the monitoring?

Mr Platten: Yes. We would be in charge of monitoring any navigation lanes that were erected

on the site during its development and subsequent operation. However, we would not get any specific funding for that; it would be part of our general remit.

Mr Taylor: It is an interesting point that, as an earlier witness noticed, exclusion zones are established around oil and gas rigs elsewhere in the Scottish sector. The Northern Lighthouse Board inspects annually the navigational marks that are fitted on those oil and gas rigs and reports on them to the Department for Transport. The committee may want to take a view on whether, as the site is being established under the competence of the Scottish Executive, the inspection of any subsequent marking should be reported to the ports and harbours branch of the Scottish Executive or to the Department for Transport—or to both.

The Convener: Pardon the pun, but you are now in controversial waters.

Mr Taylor: I thought that I might raise the matter now.

Mr McGrigor: The MCA questions the need for an exclusion zone and states that it is not prepared to police it. Would the policing fall on your shoulders? Whose shoulders would it fall on?

Mr Taylor: It would be incorrect to give the impression that exclusion zones around oil and gas rigs are routinely and continuously policed. They are not. There are several ways in which one can exclude traffic of whatever sort from the vicinity of any site or works. That could be done by a simple notice to mariners, by the displaying of marking under the Convention on the International Regulations for Preventing Collisions at Sea, by the establishment of an area to be avoided, or by the establishment of an exclusion zone. Whatever the legal differences between the area to be avoided and the exclusion zone, in practice it comes down to a degree of seriousness.

We should not give the committee the impression that transgression of any exclusion zone or area to be avoided leads to criminal prosecution; it does not. It says to the potential user of the water space that the consequences are possibly more grave. The policing of it is very much a matter outwith the competence of the CNL. I emphasise that an exclusion zone indicates the seriousness of the transgression rather than the likelihood of prosecution.

The Convener: Are you satisfied with that response Mr McGrigor?

Mr McGrigor: Yes.

Mr Rumbles: I was interested to hear Guy Platten's response that of course the commissioners would monitor the buoys and the lights without extra resources as that would be

part of the CNL's role. I contrast that with the written evidence that we received from the Maritime and Coastguard Agency, who are the next witnesses. The agency states in its written evidence that it does not support exclusion zones and that if the Robin rigg wind farm is in an exclusion zone it is

"not prepared to police it."

I assume—I will ask the MCA witnesses about this—that when the agency says that it is not prepared to police an exclusion zone it is talking about resources, rather than saying that it is not willing to enforce the law. As far as you are concerned, are you saying that you would do your public duty, which you are required to do by law, in the same way as on any other issue?

Mr Platten: That is exactly right. It is the same with any offshore structure or any light from any harbour authority. We would inspect the lights regularly.

Mr Taylor: The inspection is of the efficacy of the navigational marking. It is about whether the lights, buoys and beacons are in place rather than whether they are being obeyed by a particular user. That is part of our remit under the Merchant Shipping Act 1995.

Mr Home Robertson: Mr Taylor said in his introductory remarks that, in addition to his responsibilities with the CNL, he has a lot of sea-going experience. I presume that you will have seen various structures in the waters around the world. In the light of that experience, are you content with the requirements for buoys, marking, lighting, colouring of towers and so on in the proposals that are currently before us?

Mr Taylor: Yes. I am broadly content with those. We have provided for four buoys and for the marking of the towers at what might best be described as the corners of the site.

This impacts on whether it is deemed prudent for any person to navigate within an operational wind farm. I suggest that it is not prudent to do so. It is for that reason that, if asked whether we would recommend the establishment of an exclusion zone—a zone of prohibition around the site—the CNL would so recommend, very firmly.

Colin Campbell: As someone who does not go to sea professionally or for leisure, may I ask whether there is any difference in the markings for merchant shipping and for leisure craft? Do you use the same kinds of buoys and marking?

Mr Taylor: There is a standard of marking, which is established by the International Association of Lighthouse Authorities, of which the CNL is a member. That is the agreed international standard worldwide. It is equally familiar to military or Government vessels, commercial traffic and leisure users.

Colin Campbell: But it might not be comprehensible to amateur leisure people who operate outwith the aegis of the RYA or other responsible organisations.

Mr Taylor: It should be readily comprehensible to every competent person who goes to sea.

Colin Campbell: But not all people who go to sea are competent. Perhaps you could not comment on that.

Mr Taylor: That is not part of my remit at the moment, but it is clear that there are varying degrees of competence at sea. That emphasises the importance of having a standard system of marking.

The Convener: Does your organisation have any views on the proposed colouring of the structures and the form of notice that should be issued to mariners?

Mr Taylor: I shall pass that to the director of operations and navigational requirements.

Mr Platten: The marking of the wind farms will be in accordance with International Association of Lighthouse Authorities guideline 0-117, and that is how we are advising the Scottish Executive that they should be marked. That recommendation is under review by IALA and is due to be discussed next year.

The Convener: Gentlemen, thank you very much.

Our next witnesses are from the Maritime and Coastguard Agency. They are Mr Alan Cubbin, who is the director of quality and standards, and Captain Colin Brown, who is a consultant with the organisation. Welcome to the committee. As I am sure you have observed, you must take the oath.

MR ALAN CUBBIN *and* CAPTAIN COLIN BROWN *took the oath.*

The Convener: Do you want to speak first, Mr Cubbin?

Mr Alan Cubbin (Maritime and Coastguard Agency): Thank you. I have a short opening statement.

The Maritime and Coastguard Agency is the national maritime authority for the United Kingdom. Its responsibilities cover all aspects of maritime safety, pollution prevention and search and rescue. I will offer something to the committee in response to a previous question about the number of call-outs in the Solway firth in the past 12 months. The MCA carries extensive records about that, and if the committee so desires, we will make arrangements to supply them to you. The records cover not just the Royal National Lifeboat Institution, but helicopters and other methods of responding to emergencies.

Our concerns about the bill are twofold: they relate principally to the navigational safety aspects and secondly to the establishment of an exclusion zone. We aim to give the committee some idea of the general policy in the UK in this area, and we are happy to answer questions. We have given a written statement, which has clearly caused some interest to the committee, and we believe that we have a coherent policy that we would like to discuss with you.

Captain Colin Brown (Maritime and Coastguard Agency): I am employed by the Maritime and Coastguard Agency under the rules of the Marine Safety Agency contract MSA 10/6/200, which is for the assessment of the navigational impact of offshore wind farms proposed for UK sites. I have examined the environmental statement that has been produced by the developers of the site in question and the navigational assessment and shipping risk models that have been produced by the developers' consultants, and I have comments and recommendations to make on both.

The Convener: In the past few days, your organisation has let it be known that you do not believe that the Scottish Parliament has the competence to deal with the issue. In this morning's press, we find that view expanded on. Will you develop that point, and do you have any views on how the press were able to discuss the matter this morning?

Mr Cubbin: Our main concern is the technical aspect of safety navigation, which was what our first input concerned. However, having been involved in the devolution of power to Scotland and the development of the Scotland Act 1998, we believed that part of this proposal might contravene that act. We raised that with our legal people relatively early, but the matter was not considered in detail at that time. The issue is being discussed in further detail between the UK Government and the Scottish Parliament, as normal. The Advocate General for Scotland is discussing it with the Lord Chancellor's Department.

Our view became public knowledge because I was questioned on our statement following its publication on the Parliament's website and I explained what I explained to the committee.

11:45

The Convener: For the record, the committee is unaware of any of the discussions that you described. If those discussions are continuing, we will no doubt find out about them in due course.

Mr Rumbles: I will follow up a question that I asked the previous witnesses. I was somewhat surprised by your submission. It is rather

remarkable that the summary says:

"The MCA ... does not support the inclusion in the Bill of the provisions for creation of an exclusion zone for Robin Rigg Wind Farm".

It is amazing that you then say that you are

"not prepared to police it."

I assume that you mean that the MCA does not have the resources to police the zone. Alternatively, are you saying that policing the zone is not part of your job, or that even if it is, you will defy Parliament's will? I do not believe that the last suggestion is your position.

Mr Cubbin: Of course not. When appearing before the English Parliament—

Mr Home Robertson: It is called the UK Parliament.

Mr Cubbin: Okay; I am sorry. If I said that before that Parliament, I would be sent to the tower. We do not intend to defy Parliament's will. I am trying to say three things. It is not the department's policy to establish exclusion zones. The exclusion zones around rigs that have been mentioned are established under health and safety regulations and are policed by the operators. Standby safety vessels operate around those rigs 24 hours a day, 365 days a year. Without them, rigs would have to close. Exclusion zones were established partly on the basis that the operators police them.

In a sense, exclusion zones are the final step in a series of attempts to ensure safe navigation. Notices to mariners are the first stage. They show a mariner clearly that, for temporary or longer-term reasons, they should not navigate in an area. They are promulgated in all sorts of ways—by the coastguard, by formal notices to mariners, through clubs and through chandlers.

Areas-to-avoid notices are issued so that a mariner is aware that if he enters such an area, he is required to show good cause. If a mariner enters an area that is to be avoided and we undertake a prosecution against him, the assumption is that he must prove that he was not there. Normally, the judge would take cognisance of the information that we had provided and decide whether the case was proven. Exclusion zones impose an automatic penalty. By entering an exclusion zone, a mariner commits an offence. It is up to the mariner to defend himself.

Mr Rumbles: That is the nub of my question. If you will not police the exclusion zone and the bill does not provide for the operator to police it, who will police the zone?

Mr Cubbin: Nobody.

Mr Rumbles: Is it your duty to police the zone?

Mr Cubbin: No. We do not believe that it is part of our responsibility to police the exclusion zones, if they are established. I am talking not only about this case, but about the general situation. That is notwithstanding the fact that we do not have the resources. If it is assumed that a patrol boat would be needed 24 hours a day, seven days a week, 365 days a year, our conservative estimate is that such policing would cost about £750,000 a year.

Mr Rumbles: I do not necessarily want to bring in humour, but I was last in this hall with the Rural Affairs Committee, when we discussed the Protection of Wild Mammals (Scotland) Bill. The police gave evidence that it would be difficult to enforce that bill, but that if the Parliament passed the bill, the police would act, if that was the will of Parliament and of the people.

You have said that this is not your responsibility. However, if Parliament passes the bill and creates an exclusion zone, that zone will need to be policed. Who has the responsibility for policing an exclusion zone off the Scottish coast?

Mr Cubbin: Whomever the Scottish Parliament decides to give that responsibility to. If the responsibility were given to the MCA, we would have to make a proposal for resources. Someone mentioned using the police. In my experience, as far as marine matters are concerned, the police find it difficult to get involved because of the lack of evidence. We cannot have an exclusion zone and then present a case for prosecution through either a procurator fiscal or the UK system without having any evidence. As I understand it from the developers' proposals, there is no way of getting that evidence without having some permanent representation around the rig.

Mr Rumbles: Forgive me, convener, but I want to pursue this important point with a hypothetical question. John Home Robertson talked about hypothetical questions earlier. I want to get to the nub of whether the MCA has responsibility. Let us say that there was an exclusion zone at Robin rig. Are you telling me that if the coastguard were aware that some organisations or protesters who did not like the development were defying the zone, the agency would not have the responsibility to take any action?

Mr Cubbin: No, we would take action. However, the question is whether we would physically police the zone and collect evidence. We would not do that.

Mr Rumbles: Then who would have that responsibility? It just seems strange that we would need to stipulate that in the bill.

Mr Cubbin: But you cannot simply assume that certain organisations have such responsibility. If you wish to pass a bill that puts a responsibility on an organisation, you will have to specify clearly what that organisation will be.

Mr Rumbles: So it would be absolute nonsense for the Scottish Parliament to pass a bill that made it an offence to go into the exclusion zone if there were no means of enforcing that.

Mr Cubbin: Yes.

Colin Campbell: In what circumstances does your organisation collect evidence and information?

Mr Cubbin: We use various methods to collect information. For example, we have aircraft that fly in a pattern to allow us to monitor areas in which we think pollution is likely to happen. We have taken photographs from the aircraft and successfully presented that evidence in court.

In the Dover straits, we have a continual radar monitoring system for the traffic separation scheme, which was established under a mandatory international requirement that traffic should go up and down the channel in certain left-hand and right-hand lanes. We use that radar information to pursue prosecutions where people have contravened those regulations. We also receive reports from mariners in the round, pilots and other ships, which we follow up by taking statements from captains and others on the question whether regulations in particular areas have been contravened.

Colin Campbell: Let us hypothesise that there is sufficient CCTV surveillance of the Robin rig installation, which produces evidence of malpractice. Where would you fit in in that regard, if at all?

Mr Cubbin: If such a system existed and evidence was presented to us, we would examine it. We would first take statements from the offending vessel and then present the information with a recommendation to the procurator fiscal.

The Convener: So you would gather evidence.

Mr Cubbin: Someone would gather the evidence for us.

Mr Rumbles: Mr Cubbin just said that, off the south coast of England, his organisation gathers evidence to enforce international regulations if they are contravened.

Mr Cubbin: I cited that example deliberately to show the committee the difference between the two situations. There is an internationally recognised and mandatory traffic separation scheme in the Dover straits. That scheme is enforced internationally and applies to all ships.

Mr Rumbles: But is not that scheme part of UK legislation?

Mr Cubbin: It is.

Mr Rumbles: But we are talking about Scottish Parliament legislation. My impression is that your organisation is unwilling to enforce legislation that the Scottish Parliament produces, but is willing to

enforce UK legislation. That is an unacceptable position.

Mr Cubbin: I am sorry if that is the impression that I am giving. I must immediately dispel that, because that is not the impression that I am trying to give. I am—

Mr Rumbles: Perhaps you could answer this question. Why are you prepared to take evidence on and enforce the law in the example that you used from the south coast of England, but unwilling, it appears to me, to enforce Scottish legislation, if the bill is passed and becomes an act? I cannot understand the difference.

Mr Cubbin: Because one area is in international waters. The Dover straits are an international seaway and have a worldwide agreement that covers every ship. Robin rigg is not in international waters, but within domestic UK waters, so we are not party to any agreement on it.

Mr Rumbles: All right. I will pursue the matter again. Can you give me another example of anywhere in the UK's domestic waters where you would act to enforce any law of the UK Parliament?

Mr Cubbin: We enforce the UK law in domestic waters in all aspects, but not for exclusion zones. We do not have exclusion zones in UK waters.

The Convener: Could I ask the question in another way? If the bill were drafted to give the Maritime and Coastguard Agency the specific requirement to police an exclusion zone, I take it that your organisation would accept such a responsibility.

Mr Cubbin: As I understand it, convener, the Scottish Parliament—please do not think that I am being disrespectful—has only limited power to give a UK-wide organisation additional responsibilities. The Maritime and Coastguard Agency is funded by central Government and if the Scottish Parliament were to impose a requirement on me, as the director of the organisation, I would have to find the funding to meet that. If that requirement were agreed by central Government, we would have to take it on board. I have no idea what that would be or how it would look. However, if the Scottish Parliament, by passing the bill, imposed a requirement on me I would have to go back to our funding department with that. That would be a matter for negotiation between the Scottish Parliament and Westminster.

The Convener: I think that we are perhaps becoming unnecessarily complicated.

Mr Home Robertson: I want to be helpful on this matter. I think that I understand from what Mr Cubbin has said that the Maritime and Coastguard Agency is not an enforcement agency.

Mr Cubbin: We have an enforcement arm, but we are not an enforcement agency. We were not created for that role.

Mr Home Robertson: Yes. Therefore, you have been given a specific duty to deal with the international shipping lanes in the Dover straits, where there are obviously serious collision risks and an awful lot of traffic. However, in general your agency is not involved in enforcing exclusion zones around installations of any description anywhere around the coast of the UK.

Mr Cubbin: That is right.

Mr Home Robertson: I think that that is the answer to Mike Rumbles's question, is it not? Enforcing the proposed Robin rigg exclusion zone would be a completely new departure, in UK terms, for your organisation.

Mr Cubbin: Absolutely.

Mr Home Robertson: What is the extent of your organisation's responsibility? For example, if a mariner, such as a yachtsman, got into difficulty in the region of a wind farm, such as the proposed Robin rigg wind farm, I presume that they would contact your agency and that it would co-ordinate rescue and that sort of work.

Mr Cubbin: Absolutely. I want to pick up on your earlier point about ringing somebody in Denmark. If any vessel got involved with the proposed wind farm and was in danger, they would get in touch with the coastguard who would activate the contingency plan that we think would be required, which would be to switch off the necessary turbines.

Mr Home Robertson: I want to return to my initial point, which is an important one because people out there want to make this matter into a huge constitutional issue between the UK and the Scottish Parliament. I think that we have established that your agency does not enforce exclusion zones anywhere.

Mr Cubbin: That is right.

Mr Home Robertson: You do not do that in England, Scotland, Wales or Northern Ireland. To do so would be a completely new departure for your agency. That is what you are flagging up.

Mr Cubbin: Absolutely.

Mr Home Robertson: Right. Thank you.

The Convener: Yes, but with respect, perhaps you did not make that point as clearly as you could in your written submission.

Mr Cubbin: I am sorry.

Colin Campbell: We are in an unprecedented situation and we might be establishing precedents that might or might not incur additional duties for

the Maritime and Coastguard Agency in the long run.

Mr Cubbin: Which is why we effectively felt obliged to flag up that concern.

The Convener: Thank you. Mr McGrigor has a question.

Mr McGrigor: Before we leave that point, can you tell me which body is responsible for policing activities—such as putting down a mooring or putting in a pontoon—that might be a hazard to a shore-based or yachting activity?

12:00

Mr Cubbin: There are two aspects to that. We look at the issue from the point of view of safety of navigation. Our colleagues from the Commissioners of Northern Lighthouses would also assess the situation to establish whether the activity in question would cause a danger or require additional lighting. We are both part of the Department for Transport—that is where we come together.

Mr McGrigor: As part of your submission, you enclosed a letter to the Scottish Executive in connection with the application for consent under the Coast Protection Act 1949. In that letter, you mention that the existing specification for the construction and operation of the wind farm could, in certain circumstances, lead to marine casualties. What types of incident are you referring to?

Captain Brown: I am referring to every type of incident, including collision of vessels with the wind farm installation, collision of vessels with each other, grounding of vessels and the potential for pollution problems. I make that point because I have some disagreement with the techniques that were used for the navigational risk assessment. The models and algorithms that were used are those that are used for offshore wind farm installations. They do not necessarily apply to inshore wind farm installations.

The Convener: Are you saying that the wrong methodology was used in the navigational risk assessment?

Captain Brown: Yes.

Mr Cubbin: We would like to explore that issue further with the developers. As my colleague said, we do not agree with the method that was used. We believe that another risk assessment method could be used.

Mr Rumbles: In paragraph 15 of your written evidence, which refers to exclusion zones and the matter of policing, you say:

“However, if the developer is prepared to police the wind farm complex and provide the evidence of any

contraventions the MCA would be willing to consider the evidence, on a case by case basis, and the merits of taking it forward to the Procurator Fiscal.”

It is my understanding that anyone who felt that an offence had been committed—including the developer and the coastguard agency—would be able to report that. Is that also your understanding?

Mr Cubbin: Although I am not completely au fait with how procurators fiscal operate, it is our experience that, if we present a case to the procurator fiscal, he takes cognisance of it, just as he takes cognisance of everyone else's cases. We were trying to say that, if someone provided the evidence, we would assess it before it went to the procurator fiscal.

Mr Rumbles: You are saying that you could be just another loop in the process and that it would not be necessary to jump through that extra loop, because the procurator fiscal could be approached directly.

Mr Cubbin: That is true.

The Convener: I return briefly to the navigational risk assessment, about which you have concerns. Have you had any discussions with the operators about a revised methodology?

Captain Brown: I started my contract in February this year. On the assumption that the developers might have little marine experience, I wrote a set of guidance notes for them, which they could pass on to their consultants, to ensure that our concerns were included in the assessments that were made.

Over a period of months, I have tried to contact the project manager of the wind farm, but I have received virtually no response. I understand that the developers contacted the sector manager of HM Coastguard, but that he admitted that he had no experience of the area. We would have liked the developers to contact us to have discussions. Some areas that were in the guidance notes that were given to the developers are missing from the risk assessment.

The Convener: I do not want to put words into your mouth, but you are of the view that such discussions should take place. You would like the operator to be aware of your thoughts on the matter.

Captain Brown: I want to make my position clear. We are not saying that the wind farm would be inherently dangerous or in an incorrect position. We are trying to highlight the fact that the risk to all vessels may be significantly higher than is indicated in the risk assessment. There are some discrepancies between the developers' environmental statement and the risk assessment that was carried out by their consultants.

The Convener: You mentioned that you issued guidance earlier this year. What is the status of that guidance?

Captain Brown: It would be better for Alan Cubbin to answer that question.

Mr Cubbin: When we produce information for existing or developing industries, we say that we will work with them to produce best practice. The guidance falls into that mode. If people want to ignore the guidance, that is acceptable, but we would have to do further work into their risk assessment—much more so than if they had been through our guidance and said that they agreed or disagreed with some of our proposals. The guidance is aimed at structuring that debate.

The guidance has no legal status, in the sense that people cannot turn to a court or to a parliamentary committee and say that because someone has not complied with our guidelines certain consequences have resulted. The guidance is simply about best practice.

Captain Brown: Let me give the committee an indication of our concerns. One of the areas that offshore wind farm developers have examined in some detail is the possibility of electromagnetic re-radiation or reflection and the way in which that interference could affect marine radar systems, electronic positioning systems such as the global positioning system, the automatic identification system and possibly even marine communication systems. The environmental statement covers electromagnetic effects in respect of shore-based radio and television systems, but it does not examine the effects on marine systems. From a navigation point of view, that is very important.

Colin Campbell: From your experience in other contexts, does electromagnetic interference have much effect?

Captain Brown: Other wind farm developers have employed what used to be called the Defence Establishment and Research Agency and is now called QinetiQ to investigate on a client-confidential basis the effects of their wind farms. From those investigations, we have discovered that the radar reflection from turbine towers is such that the towers can hide vessels in the interior and on the far side of the wind farms.

We have also discovered that the turbine towers can cause reflected echoes, which cause the positions of other craft to be given wrongly, and that global positioning system signals may be lost close to a tower. One of our recommendations on the marking of wind farms, which is included in our submission, is that all interior towers should be given a unique mark so that anyone who is in trouble can say exactly where they are.

Someone mentioned closed-circuit television. CCTV tends not to work very well on offshore structures.

The Convener: Thank you. You raised points that we will want to raise with the promoter later.

The Convener: I welcome Mrs Beryl Moultrie and invite her to take the oath.

MRS BERYL MOULTRIE *took the oath.*

The Convener: If you would like to make an opening statement, Mrs Moultrie, feel free to do so.

Mrs Beryl Moultrie: In my initial letter, I stressed that we need an independent, accurate survey of the area that is to be developed, at the appropriate depth. You may ask how that applies to fishing, but my concern about fishing in the Solway estuary is that the main rivers empty into the mouth of the estuary. The rivers Annan, Nith, Dee, Urr, Bladnoch, Cree and Fleet form part of the Solway estuary and all are important to the area's fishing. For instance, £24 million has been invested in the Nith over the past six years to improve its fishing programme, and the river is now flourishing. The Annan was unlucky during the foot-and-mouth outbreak and lost more than £80,000 in rents in just one season.

I tell you that just to fill in the picture of how important angling is to Galloway. Not only is it a big industry, it has tremendous potential for development. What happens in angling has a knock-on effect on other industries, including tourism. I am probably telling you something that you already know, but fish such as sea trout and bait fish use the estuary as a nursery. They feed up in it and they flourish, eating small scampi, sand eels and plankton, which in turn eat lesser marine life until the chain goes down to the Solway mud, where the smallest creatures consume their nourishment from the sediment in the estuary.

As we know from the excellent report that a previous Government published, it is in that mud and sediment that the estuary is troubled with radioactive contamination from Windscale. I can give you a reference to that report, which was the result of an excellent survey. It showed that the radioactivity is carried up in fine silt and mud from Windscale into the Solway and round the river mouths. Until now, we have kept our fingers crossed and we have been lucky. The contamination sank in the mud and was not too dangerous in 1988, when the survey was carried out. However, Windscale has operated for the past 40 years, so an increase in that amount of contamination is likely.

Before the development goes ahead, I ask the developers to check to the appropriate depth the area that they are going to develop and to conduct

an accurate scientific survey. Otherwise, if the fish in the estuary, such as the sea trout, have been contaminated and travel, as they do, up all the main rivers, a serious danger will spread to all our fishing.

I have received a copy of the promoters' survey. Although I am a scientist, I am not qualified in radioactive surveying, but the survey seems inadequate to me. Its results are based on five samples of sand, but the Government's survey stressed that radioactive contamination adheres not to sand but to silt and mud. Any locals who walk along the Solway coast will tell you that you can walk freely along the sand but if you take off into the mud to launch a boat, you will find that the mud is very adherent. It will take your footwear from you and sink it. Therefore, I believe what we have been told by the Government's survey.

12:15

The promoters' survey mentions five samples but it does not say from where or at what depth they were taken or what size they were. In theory, the samples could have been taken within 100yd of one another at a depth of 30cm. I am sure that the promoters will be able to put me right on that issue. They can also put me right on whether there are 4 square miles of development. If so, five samples will not cover that area adequately. We need a proper grid and depth for a survey.

There is also the problem of the MOD's 7,000 nuclear shells that are sitting somewhere in the Solway. The MOD has not been able to find even one of them and it would be unfortunate if the developers happened to find one unexpectedly. I understand that the shells are titanium coated and would not go off, but they would not help the drilling machines in any way. The shells have been fired from Dundrennan and I presume that a tank is able to fire a shell more than five miles—if an ordinary rifle can fire bullets more than two miles, a tank should be able to fire shells further than that. We do not know where the shells are and we want the survey to check that they are not lying in the area of the development. We would not want one of them to go off and spread radiation round the fish.

It is important that the public knows who the promoters are. I understand that there will be a certain amount of diversification and, if a question of compensation were to arise because something went wrong, we would not want to find that the company had changed its name and gone abroad, as happens in the business world. You will know more about that than I do.

I cannot praise highly enough the Government survey. A more recent survey was conducted by Harwell Scientifics Ltd and a European air survey

was done in May 2002. I do not think that we have had results from that survey yet, and you might not know about it.

I am old enough to recall when Professor Taylor, who was part of the original team that split the atom, said what a wonderful thing that was and what an amazing source of power we had found. He also stressed that it was an unstoppable source of destruction unless it was controlled and contained. Down at Windscale at the moment, people are finding out how expensive it is to control and contain that power.

Before passing the bill, I hope that you will consider very seriously that any further danger must be avoided.

The Convener: Thank you. I begin by seeking some clarification. Obviously, the committee is concerned with any possible obstruction to shipping or navigation that might arise as a result of the development. Would it be fair to say that your concerns centre round the consequences of disrupting the sea bed at that location?

Mrs Moultrie: Yes. The development would raise the level of pollution by freeing it from the sea bed.

The Convener: How would the proposals affect you personally? That may seem an obvious question, but I ask you to indulge me for a moment.

Mrs Moultrie: I have an interest in fishing. If you get things right, my bank balance, home, business and family will continue to flourish. If you get things wrong, there could be serious consequences not only for me, but for everybody.

Mr Rumbles: You mentioned the report that Harwell Scientifics Ltd prepared for the promoters. I think that you said that you do not dispute the report's findings, but you do not think that the report was comprehensive enough. Is that correct?

Mrs Moultrie: I do not see how it could possibly have been comprehensive enough. The report says that it is an analysis of sand samples, but sand is not an appropriate substance to use.

Mr Rumbles: The report mentions
"Gross Alpha/Beta in Soils and other materials".

Mrs Moultrie: The heading inside the report states that sand samples were used.

Mr Rumbles: It states that
"The gross activity results are within the natural range of activities found for terrestrial materials"

and that

"There was no evidence for the presence of artificial radioactivity"

in the material. However, you are saying that the report is not sufficient and that a more comprehensive survey should have been done.

Mrs Moultrie: A much wider and deeper area should have been covered. The Government report stressed the fact that the sand samples that were taken in one area were clear but that the silt samples showed up serious deposition. That report was excellent and went into matters in far more detail than I can.

Mr McGrigor: I agree with and take on board your comments about the importance of angling to the area. Are you suggesting that radiation will affect the feed of salmon and sea trout rather than the adult fish themselves? We have heard that the whole Solway has shifting sandbanks that constantly move about. If there is turbulence, with the soil and sand being moved round all the time, surely radiation would have manifested itself.

Mrs Moultrie: That is not the same as digging 60 deep holes. The channels change, and a channel speed of 35mph will shift things. However, that will not have the same effect as disturbing and digging up an area of 4 square miles that has not been checked.

Salmon do not eat as they migrate through the Solway—they go straight upriver—but sea trout do. Any fish or human would show radiation—there would be specific genetic deformities in the life chain. Equally, it would be obvious if they were not diseased or injured.

The Convener: Would you tell us about the nature of your shop in Dumfries and your riparian ownership?

Mrs Moultrie: I do not have a shop.

The Convener: I am sorry—I understood that you did.

As there are no further questions, I thank you for taking the time to come to the meeting—the committee appreciates that.

Mrs Moultrie: You are welcome.

The Convener: We will now have a lunch break until 1.30 pm. I have been advised that lunch can be obtained in Ay Jay's cafe and grill. As the convener of the Standards Committee is here, I want to point out that I will receive no commission whatever for passing on that information.

12:24

Meeting suspended.

13:31

On resuming—

The Convener: Good afternoon, ladies and gentlemen. Our first witness this afternoon is Allan

Wilson MSP, the Deputy Minister for Environment and Rural Development. I thank him for coming. As I am sure you are aware, the committee operates in a quasi-judicial capacity, so witnesses are required to take an oath. I ask you to stand and raise your right hand.

ALLAN WILSON *took the oath.*

The Convener: I understand that you intend to make an opening statement. Feel free to go ahead.

The Deputy Minister for Environment and Rural Development (Allan Wilson): I thought that we would start by outlining the Executive's policy on renewable energy, which is the reason why we find ourselves in Dumfries, considering the first private bill to be brought before the Scottish Parliament. Then I will give some background to the three consents that Scottish ministers will have to consider in relation to the Robin rigg project. I will finish by explaining why the Scottish Parliament is being asked to consider the private bill.

We believe that Scotland has a key role to play in tackling the effects of climate change. To that end, the Executive is committed to the promotion of all renewables technologies. This year, we introduced the renewables obligation (Scotland), which compels all licensed electricity suppliers to account for the generation of an increasing percentage of their electricity from renewable sources, which will stimulate growth in that form of clean electricity generation.

The introduction of the ROS has provided a tremendous incentive for development and, as the committee is probably aware, applications to build new renewable generating stations have flooded in to our consents team as a result of the opportunities that the policy has created. Against that background, we recognise that it is essential to strike the right balance between the longer-term protection of our environment and the immediate environmental impact of individual renewable energy generation stations.

The environmental benefits of sensitive renewable development are well documented, but there will also be economic benefits to Scotland, as the renewable energy industry grows to meet the demands of the renewables obligation (Scotland). Not only economic benefits will accrue. There will be benefits for rural communities, such as the one in which we are meeting; long-term sustainable development; utilisation and development of our existing energy industries and their skill base; and utilisation of the resource that has been identified and is available to us. We will go on working with the industry and others to ensure that we continue to take advantage of the benefits that renewable energy has to offer.

In driving the industry forward and to protect our environment in the longer term, we are mindful that we should not lose sight of local concerns such as those that have been expressed today. Today we sit in a public forum to address some of those concerns.

The processes surrounding the three consents to be considered by the Scottish ministers all afford opportunities for public representation. Those consents and the private bill procedure are entirely consistent with the Scottish Parliament's wider commitment to make decision-making processes open, accessible and accountable, which is the reason why we are here.

The bill does not give the promoters powers to construct the wind farm, nor does it grant powers to generate electricity. All the necessary consents in that regard are presently being considered by the Scottish ministers.

Powers under section 36 of the Electricity Act 1989 to build or operate any offshore wind or water-driven generating stations above 1MW have been executively devolved to the Scottish ministers. In discharging those powers, the Scottish ministers have to comply with the requirements of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000. That legislation ensures that, when we build an electricity-generating station in Scotland, we are not in breach of European Union environmental assessment directives. That means that the Scottish ministers must ensure that the benefits of renewable generation are not reaped at the expense of other aspects of the environment.

The process involves a comprehensive consultation process, which has now been completed. It is designed so that the Scottish ministers receive expert advice on potential significant impacts on all aspects of our environment, culture and archaeological heritage. Additionally, the expert advice provides reassurance that there are no impacts that will compromise the safe operation of civil and military radar or telecommunications links. Local authorities are consulted to ensure that local interests are fully addressed. There is a wide range of statutory representations from consultees, and interested parties and members of the public are also invited to make representations, to which ministers will give due consideration.

Anyone who wishes to deposit substances or articles in United Kingdom waters or United Kingdom-controlled waters, whether in the sea or under the sea bed, requires a licence issued under part 2 of the Food and Environment Protection Act 1985. For all deposits in waters adjacent to Scotland, the Scottish ministers are the licensing authority.

The primary objectives of part 2 of the Food and Environment Protection Act 1985 are to protect the marine ecosystem and human health and to prevent interference with other legitimate users of the sea. In deciding whether to grant a licence, the licensing authority will pay particular attention to the environmental implications and other effects of the work, including the potential hydrological effects, interference with other marine activities, and the potential impact on fish and marine life and on marine designations.

Offshore Energy Resource Ltd and Solway Offshore Ltd submitted two applications on 12 July this year. The applications seek approval for the deposit of wind turbine foundations, comprising tripod structures on steel piles or steel monopile structures. The final decision on the precise nature of the turbine foundations has still to be taken and one application will eventually become superfluous. Copies of the applications were distributed to a total of 98 interested parties who were asked to submit comments. To date, a total of 13 consultees have responded. Licence determination is likely to be finalised by 6 December 2002. It is thought likely that all the concerns raised will be able to be addressed through discussion and, if required, mitigated by conditions attached to any licence that is issued.

The final consent that is required relates to safety and navigation. Under section 34 of the Coast Protection Act 1949, consent is required in relation to works or objects that can cause obstruction or danger to navigation. In administering that process, the Scottish Executive development department takes expert advice from the Maritime and Coastguard Agency, the Commissioners of Northern Lighthouses and other consultants. As with the other two consents, the application was publicly advertised and copies were placed at easily accessible locations in the community. There have been no public representations in relation to the licence application. The Executive has received responses from its consultants, and those are now being considered in detail. In arriving at a determination on the consent, the sole issue for Scottish ministers is one of navigational safety.

The bill does not confer powers to build the wind farm, nor does it allow the developer to generate electricity. Those powers will be conferred only should the Scottish ministers decide that the requirements for the various consents have been met. Whether the bill should receive the Parliament's support is a question for the Parliament to decide. The Executive has no view on that issue.

I am happy to answer any questions that may arise from those remarks.

The Convener: Thank you for that submission. Will you expand on the role that you think the Executive has in Scotland with regard to the enforcement of navigation and shipping restrictions?

Allan Wilson: That is a nice easy question to start with. Navigation and shipping policy are both reserved matters, so the Executive has no role in the enforcement of restrictions in those areas. The exception is the Executive's role in administering the Coast Protection Act 1949. Provision exists within that act for enforcement action to be taken in respect of any works that are considered to be an obstruction or to present a danger to navigation. Enforcement powers would be available to us if such powers were required.

Mr Rumbles: I will pursue that point. If the committee and the Parliament decide to create an exclusion zone in the Solway firth around the wind farm, who, in the Executive's view, would be responsible for enforcing that exclusion zone in case of infringement?

Allan Wilson: I understand from inquiries that in the 50 years and more since the Coast Protection Act 1949 was introduced, the issue of enforcement has not arisen. As a result, it would be up to the Scottish Executive to pursue the question with the relevant authorities. The best way of responding to the specifics of your question would be to write to the committee with a detailed explanation of where we see enforcement authority being applied.

The Convener: It would be helpful if you could do that.

Mr Home Robertson: I recall from one of my earlier incarnations that the minister's department takes an interest in fisheries. He mentioned that his department is carrying out consultation on other aspects of the proposal. Are the fishing organisations among the consultees?

Allan Wilson: Yes. I understand that the developers have consulted the fishing industry that utilises the area. Furthermore, our own Fisheries Research Services marine laboratory—with which Mr Home Robertson will be familiar—has recently completed consultation in connection with applications that have been submitted for a marine construction licence under the Food and Environment Protection Act 1985. That consultation included 24 local organisations that represent a variety of marine and freshwater fishing interests.

I also understand that fishing activity is not carried out extensively in the area. The main activities are scallop dredging and creel fishing, which happens predominantly in the summer. There is little white fish activity and a small number of boats fish for shrimp. As scallop dredging takes place further out to sea, it is

unlikely to be affected by the restrictions that the bill seeks. However, given that our interest clearly extends to fishing and fishing interests, I am sure that we and the committee will want to consult on the matter.

13:45

Mr Home Robertson: Fishermen and fishing organisations are not noted for their reluctance to comment on matters of public policy that affect them. As a result, I am a little surprised to find that we have received no direct representations from Scottish fishing interests, although we will hear from some Cumbrian fishing interests later this afternoon. As the minister represents the fisheries department of the Scottish Executive, it would be appropriate if he could tell us whether the Scottish fishing industry and fishing interests have concerns that the development will have an impact on the economic interests of Scottish fishermen.

Allan Wilson: We have received some representations from local fishing interests and Scottish Natural Heritage.

Mr Home Robertson: Since we are in uncharted waters—so to speak—it might well be that people who want to make representations on the issue are not aware of the distinction between the parliamentary responsibility for the bill, which relates to fishing and navigation, and the environmental responsibility that your department exercises. I do not know whether this would be appropriate, but it might be helpful if representations from fishing interests that the committee ought to consider could be conveyed to us in some way.

Allan Wilson: I can give you some information on that.

Mr Home Robertson: If you cannot do so orally, a letter will do.

Allan Wilson: I will certainly follow the matter up. I can tell the committee that, to date, 13 consultees have responded within the various dates set. Late responses have been received from the Nith district salmon fishery board and SNH, which relate to potential hydrological effects, such as interference with other marine activities and potential risks to fish and other marine life including mammals from contaminants, noise and vibration. Other such effects are the smothering and burial of benthic flora and fauna and any adverse implications for designated marine conservation areas.

Mr Home Robertson: Perhaps the committee ought to consider that material.

The Convener: Well, we will hear from representatives of the Cumbrian sea fisheries later. Moreover, the proposal that we are

discussing has been advertised widely, and there is great local knowledge of it. Certainly, the Executive could pass on any information that it thinks would be useful to the committee.

Allan Wilson: I would be pleased to do so.

Mr McGrigor: One objector has expressed fears that radioactive material that might have accumulated in the area might be disturbed by the construction of the wind farm. Are you satisfied that that will not be the case?

Allan Wilson: The FRS marine laboratory has received an unsolicited letter, outwith the application process for the FEPA construction licence, that raised objections on the ground that radioactive material could be released from the sea bed during construction work. It is expected that those concerns will be able to be addressed through advice that is being sought from the Scottish Environment Protection Agency, which is responsible for radiological matters in waters adjacent to Scotland. As a result, the matter is primarily for SEPA.

The Convener: If there are no more questions, I thank the minister for attending.

Allan Wilson: It has been a pleasure.

The Convener: Our next witness is Mr John Beattie, senior risk analyst with Anatec, the company that prepared the navigation risk assessment.

Good afternoon, Mr Beattie, and thank you for coming along. You will be aware that witnesses are required to take an oath.

MR JOHN BEATTIE *took the oath.*

The Convener: You may make an opening statement.

Mr John Beattie (Anatec): I would like to give the committee a bit of background about my company and our experience. Anatec has a lot of experience in the field of marine risk assessment, mainly in the oil and gas offshore industry. Offshore installations have to assess risks as part of their safety case for the Health and Safety Executive if they are doing drilling or if they want to install a platform. The guidance issued under the Coast Protection Act 1949 mentions risk assessment when considering the impact on navigation. We have many years' experience in that area.

To assist in our work, we have developed risk models to ensure that the risks are assessed in a structured manner and that the focus can be placed on higher risks, so that they present as low a risk as is reasonably practicable. That is part of the HSE mandate.

The models that we have developed are similar to those of our competitors. The main thing is to ensure that the input to any model is accurate. For example, the routing pattern for merchant shipping must be accurate and the model must consider the right number of ships per year. Those using the model must consult the ships on the route to ensure that they are modelling properly how their route passes. In fact, the models that we use are now used all round the world. We have examined German and Belgian wind farms, and we provided input on navigation to the Garrad Hassan study on Scottish waters. Our models are also used in the offshore industry throughout the world, including in the gulf of Mexico and in the middle east, so we have taken a fairly standard approach.

It is true to say that wind farms tend to be further inshore, but there are also offshore and near-shore platforms, such as the Lennox platform in Liverpool bay and platforms in Morecambe bay and in the Humber estuary. The models can be applied in such areas, providing that the inputs that are used are tested and are robust.

That is my opening statement. I am happy to answer questions.

The Convener: Thank you very much. I would like to begin with a question on the methodology that you adopted for your navigation risk assessment. We heard evidence from previous witnesses that questioned your methodology. They said that they had attempted to discuss their concerns but had had difficulty in doing so. What are your thoughts on that?

Mr Beattie: We received the MCA guidance on the issue from Captain Brown. That guidance initially came out in March and there have been several evolutions of it. The guidelines make no mention of risk assessment or using a risk-based approach. Because we had done research work for the MCA, the HSE and the Department for Transport using a risk-based approach and the models that we have developed, we thought that the best approach for the wind farms would be risk based as well. However, as I said, there is no mention of modelling in the guidelines.

We could do a qualitative review, in which we consider the risks and discuss them in a qualitative manner. However, to draw out all the areas of concern and identify the higher-risk areas, so that focus can be placed on those, we thought that it was worth while to use risk assessment, so we used our models in that way. In the past, our models have been accepted by the MCA in research on pollution risk. They have also been used in marine environmental high-risk areas and pollution risk around the UK, which the Department for Transport is now investigating. That was one of Lord Donaldson's recommendations after the Braer disaster.

We feel that our models have been accepted in the past and, as the guidance did not state any other method of doing things—it did not mention risk assessment—we applied what we thought was best practice.

The Convener: The yachting organisations expressed a different view this morning. Would it be beneficial to have a discussion that might allay their fears?

Mr Beattie: We did not do modelling for yachting, which we considered qualitatively. The reason for that is that although there is good information about how ships are routed around the UK and data from the offshore industry on the level of accidents, yachting tends to be more unpredictable. Yachts are not going from one port to another; they might just be sailing around in the vicinity. There is also a lack of accident data with which to calibrate any model.

As part of our assessment, we considered the work that had been done on the environmental statement and we spoke to some of the yachtspeople to get an idea of how busy the area is and to discuss it in a qualitative way. The Solway firth is moderately busy—it is not as busy as other areas. Yachts crossing the firth might have to go out of their way, especially when the Robin rigg wind farm is being constructed, which might add to their journey time. Beyond that, we do not see any problem with 50m exclusion zones during the operational phase, because the wind farm would use up only 5 per cent of the sea area. We do not think that the zones will have a severe impact on the navigation of recreational craft.

Mr McGrigor: We heard earlier that offshore oil installations must have a safety vessel present. Would that be a good thing for Robin rigg wind farm?

Mr Beattie: A lot of offshore installations do not have a standby safety vessel all the time. There are a lot of unmanned, and normally unattended, installations and subsea wells and although they have 500m safety exclusion zones, they are visited only occasionally for maintenance work. In not having a permanent guard vessel, Robin rigg wind farm would not be very different from a lot of southern North sea gas basin installations and subsea wells.

Colin Campbell: I see that you have estimated that there might be one collision in 25 million years by a merchant ship—I am quite sure that I will not be on that—and one collision every 1,100 years by a fishing vessel. Those estimates are obviously highly theoretical and are based on available information about the passage of those types of vessel up and down that stretch of water. I note that there is no indication of what the risk might be of cable being fouled or broken. Underwater cable

will be essential, so are no statistics available for that? Given that there will be a scouring effect, as the tides and the sand shift, the cable—especially the main cable—could be exposed from time to time.

Mr Beattie: There is no really good data on that issue. There is certainly lots of pipeline infrastructure in the North sea. Fishermen tend to be able to operate in the vicinity and seem to have a good safety record in that area. We did not do a risk assessment for cabling, but we understood from the questions that we asked the proposers that the cable would be entrenched or protected and that there would be regular inspections. We recommended that there be good consultation with the fishing industry to ensure that the as-laid co-ordinates for the cable are marked on charts in the correct position, so that fishermen have the information on where the cable is laid. It should be entrenched and it should be inspected regularly to ensure that it does not become exposed.

Colin Campbell: What frequency of inspection do you think would be reasonable?

Mr Beattie: I am not an expert, so I cannot really say. I guess that it would depend on the sedimentation and the movement of sediment in the area. Experts could perhaps advise better on that.

Mr Rumbles: I want to follow on from Colin Campbell's question. You estimate that there will be one collision every 25 million years by a merchant ship and one collision every 1,100 years by a fishing vessel. I could not find a similar estimate for a collision by a pleasure vessel. Why not? Secondly, going back to those remarkable statistics, we are lay people—one of the reasons why the five of us are on the committee is that we have no connections with the subject—and, as a lay person, I cannot help feeling that the risk of a collision is infinitesimal. How accurate can those statistics possibly be?

14:00

Mr Beattie: It is difficult because, fortunately, there is not a great experience of accidents in the UK continental shelf involving the nearest equivalent, which is offshore oil and gas platforms. There have been several collisions, the majority of which involved fishing vessels. Few involved passenger ships, and fortunately none has been catastrophic. We also have data on how long platforms have been around and the operating experience of offshore platforms. Our model examines, for example, the density of commercial shipping in proximity to offshore installations. We look at how close ships pass to the UK continental shelf offshore platforms, how long they have been around and how many there are in a year. We

then calibrate that against the historical data on collisions.

Mr Rumbles: How many collisions have there been with offshore platforms?

Mr Beattie: According to the latest HSE data, there were eight collisions up until the end of 1995. Since then, a fishing vessel has collided with the Rough installation off Humberside, so there have been nine collisions in approximately 30 years or more.

Mr Rumbles: That is my point. That information gives me, as a layman, a different message from an estimate that there will be one collision every 1,100 years for a fishing vessel. Do you see what I am getting at?

Mr Beattie: I do. The point about commercial ships and fishing vessels relates to their exposure to risk. For example, no commercial ships will operate in proximity to the Robin rigg wind farm. The nearest port that ships will go to and from is Silloth. We spoke to its harbour-master, and he told us the route that ships take, which is well defined. Ships tend to have a pilot on board and, for large ships, a tug might be in the vicinity. I would say that there is no risk from human navigational error of a ship colliding with a proposed wind turbine. Therefore, the only risk is that a ship could lose power, drift towards the wind farm and fail either to recover itself or to be recovered by a tug.

Mr Rumbles: In effect, therefore, there is no risk from merchant or fishing vessels. My first question was about pleasure craft. What is the quantifiable risk to them?

Mr Beattie: We did not quantify the risk for recreational vessels because there is not the same level of accident data. I do not think that there are any data showing that a recreational craft has ever collided with an offshore oil and gas installation. The movements of such craft are unpredictable. We asked the RYA how many vessels operated in the vicinity of the proposed wind farm. National surveillance data are collected for fishing vessels, so we know how many fishing vessels there are in each area of the UK and we know how many collisions there have been, so we can develop models, calibrated against historical data of the high-density fishing locations. High-risk areas tend to be high-density fishing locations, while areas of lower density tend to be lower risk. We did that for Robin rigg and found that it was below average in terms of risk of fishing collision.

However, there are no data on recreational craft, and it would be irresponsible to do a model. We do not know how many craft operate in the area compared with other areas in the UK, and we do not have the accident data to tell us how frequent accidents have been. There is no way to calibrate the model.

Mr Rumbles: That is the point that I am getting at because, speaking as a lay person, I am being given the impression that there will be one collision every 25 million years by a merchant ship and one collision every 1,100 years by a fishing vessel. In other words, the information that is helpful to the cause of the promoters is quantifiable, but the information that might not be helpful is not quantifiable. That is the impression that I am getting.

Mr Beattie: You are right to say that there is uncertainty in the modelling. For the reasons that have been explained, there is less uncertainty about where commercial and fishing ships operate and about what accidents such ships have had in the past. There is no reason other than that we do not have the accident data for recreation in order to calibrate the model and we do not have good data showing the distribution of recreational activity around the UK. The RYA does not have those data—we asked it for them. We feel that it would be irresponsible to produce some kind of quantification.

Mr Rumbles: So we do not have the data.

Mr Beattie: The data do not currently exist.

Colin Campbell: You have reached your conclusions about risk based on the UK experience. Did you not think of testing that against experience in areas that might be geographically or topographically similar to the Solway firth?

Mr Beattie: We felt that the most reliable data that we are used to working with is that from the UK continental shelf. Offshore oil and gas platforms give a good comparison so it is appropriate to use the data from there, which are the best data available.

For the European experience, we are being asked to provide shipping data and modelling for the proposed wind farms in Denmark and Germany. We are not aware of any techniques for wind farms or other platforms that would be more appropriate for the Solway firth than the data that we used from the UK experience.

Mr Home Robertson: I will return to Colin Campbell's question about the risk of cables on the sea bed becoming exposed. There is a serious risk to fishing vessels if their gear gets snagged in a cable. You said that it is possible that what starts as a buried cable will become exposed because of sand drifting on the sea bed. Is there any way of burying something again once it has become exposed?

Mr Beattie: I am not an expert in that area. That aspect of the cabling was not a particular focus of the report. In our report, we documented the mitigation measures that were planned.

Qualitatively, we know that fishermen are used to working in areas with cables and in general there has been fairly safe operation in such areas. We recommended that the cables be regularly inspected and that the co-ordinates be accurately taken when they are laid so that they can be marked on charts. I am not an expert on how often the cables might be exposed or how they would be reburied.

Mr Home Robertson: What I draw from that is that the line should be that fishermen should not fish over the cables, because they never know when cables might have become exposed.

Mr Beattie: Again, I am not sure what the plan is but I believe that that is good practice; it certainly is for North sea pipelines.

Colin Campbell: I know that this is not your field, because you have said that several times, but I presume that if there has to be regular inspection of the sub-sea cables it could be done by remote-control submersibles rather than by other means?

Mr Beattie: Yes. I think that in the offshore industry remotely operated vehicles—ROVs—are often used to survey and check for spans where the pipeline might have risen above the sea bed and might pose a risk to trawler gear.

The Convener: Could you expand on the report that you produced about rotor-blade clearances? Some concern has been expressed and an alteration has been proposed to the overall clearances. What are your thoughts about that?

Mr Beattie: Again, I believe that the clearance has been amended since our report was prepared. There is a strong argument regarding the low likelihood of vessels with masts of a sufficient size to be impacted by a turbine blade in the 6 o'clock position being in the area. It seems that that would be an infrequent occurrence. There is also the risk that vessels might break down and, in the extreme conditions that were mentioned, drift towards the wind farm. Our view is that collision would require a series of circumstances whose frequency is so low that the overall risk is low. In addition, any risk would be posed by a larger ship, which should have access to very high frequency radio. The plan is to have control measures in place whereby such ships would contact the coastguard and then the turbines would be shut down to remove completely any risk. Therefore, my view is that the risk from the rotor blades is low and their design virtually removes the risk for all yachts.

Mr Home Robertson: So Murphy's law would not apply.

The Convener: Who is Murphy?

Mr Home Robertson: What can happen will happen.

Mr McGrigor: Do you not mean sod's law?

Mr Beattie: Our risk assessment work assesses where the higher and lower-risk areas are in order to manage risk. Resources could be spent on other areas, such as construction and maintenance. In general, I would say that the risk is acceptable.

Colin Campbell: My question is not as mischievous or malicious as it might appear. Following from what my colleague said, we could have a fishing accident today in the context that you described, which would be one in 1,100 years, and then we could have another one tomorrow and no more thereafter, which would be one for the next 1,100 years could we not?

Mr Beattie: The risks that we calculated for Robin rigg were about the density of fishing in the area. There are much busier areas in the North sea where there could be accidents more frequently. We tried to make our models intuitive and based on the best available data. One input would be the density of fishing in the area. One would expect higher risks in areas of higher density and lower risks in areas of lower density. We found that the risk for Robin rigg, calibrated against the best available historical data, was below average.

Mr McGrigor: Anatec states that it followed the guidance within the Coast Protection Act 1949. What is that guidance and where can it be found in the 1949 act?

Mr Beattie: I do not believe that the guidance is within the act, but guidance has been issued by the Department for Transport, which we use in our applications for consent to locate for exploratory drilling and so on. That guidance mentions how one must consider the shipping activity in an area and it recommends ways of doing that. One could do a survey or use the available route databases for the UK. If the area were busy, one would want to assess the collision frequency and give information on the likely impact on shipping navigation.

Mr McGrigor: So you are saying that the guidance is not, in fact, in the Coast Protection Act 1949, as stated in your submission.

Mr Beattie: I do not believe that the guidance is in the act, but we certainly have guidance from the Department for Transport on what it looks for under the 1949 act in terms of assessment of impact on navigation.

Mr McGrigor: Are you happy that the bill's promoters have followed the correct guidance?

Mr Beattie: Yes, I would say so. Obviously, Captain Brown issued guidance, which is the latest guidance available. We certainly tried to follow that guidance. The guidance did not in any

way mention risk assessment or modelling, but we felt that that was a good approach to take because it has been accepted in the past and it tends to indicate in a structured way from where the risks emanate. Therefore, we certainly tried to take that guidance on board.

Colin Campbell: What risk does the wind farm pose to radar and GPS?

Mr Beattie: We did not cover those aspects in our report, but made it clear that we are not experts in that area and that it is for relevant experts to look into that.

Colin Campbell: Would there be a way in which you could undertake a risk assessment on that on the basis of information that was provided for you from other similar sources?

Mr Beattie: We could do that, but I believe that other organisations in the UK are better placed to do so. As Captain Brown said, there is some uncertainty about that. I believe that companies including QinetiQ have undertaken modelling. We could also use the European experience to examine the effects.

The Convener: You may be the wrong person to ask, but are the navigational aids that are installed in a number of the boats that use the area dependent on GPS?

Mr Beattie: I am not the person to ask. I believe that commercial ships have GPS, as have the majority of fishing vessels. From the consultation that has been undertaken, I understand that not all recreational craft have GPS.

14:15

Mr McGrigor: We heard from the Maritime and Coastguard Agency that it is not necessary to have an exclusion zone. You state that you have followed the Maritime and Coastguard Agency's guidance. Did you do so?

Mr Beattie: It has been followed. As far as I am aware, nowhere in the guidance is it set out that there should not be exclusion zones.

Mr McGrigor: The Maritime and Coastguard Agency's submission to the committee sets out that there should not be exclusion zones. If you are following its guidance, how have you come to an opposite conclusion from that of the agency?

Mr Beattie: I do not understand the question as it relates to following the agency's guidance, which, up until now, has not mentioned exclusion zones. As it is only in its submission to the committee that the agency has set out that it is against such zones, we could not have taken that on board in our assessment.

Mr McGrigor: Anatec set out that it followed the "draft guidance that was issued by the Maritime and Coastguard Agency".

Mr Beattie: As I said, when we undertook the navigational risk assessment, we followed Captain Brown's guidance as best we could, using our risk assessment techniques as part of the process. The agency may now feel that there are certain areas of conflict, including that of electromagnetic effects. As I said earlier, that area is not within our scope, but perhaps it is an area in which the agency feels that we have not followed its guidance.

The Convener: Thank you. I welcome our next witness.

MR ROBERT THOM *took the oath.*

The Convener: Do you wish to make an opening statement, Mr Thom?

Mr Robert Thom (Dumfries and Galloway Council): Dumfries and Galloway Council's main interest in the matter relates to its interests along its shoreline and its coastal area. The council's harbour authority controls five harbours and the area also has other privately operated harbours. I have information for the committee about the sort of use that is made of the council's five harbours.

Our main interest is fishing vessels. Cargo vessels occasionally come into our harbours and I can provide information on them. The Solway is well used by sailing and leisure craft. We operate a marina at Kirkcudbright and quite a lot of leisure use is made of our harbour at the Isle of Whithorn.

The cockle fishery and mussels are another area of activity that relates to the shore. That has been quite an issue in recent months, because of overfishing. As well as co-operating actively with the various cockle-fishing interests in the Solway, the council works with partners on the English side. The hope is to promote a regulating order to control that activity.

The fact that our area is coastal means that we have powers under the Coast Protection Act 1949. The main way in which we exercise those is by looking after our existing infrastructure—our roads, buildings and land. Although we do not necessarily go out of our way to protect other parts of the coastline, our views are changing and we are beginning to consider that issue.

The Convener: Does the council have any views on the way in which an exclusion zone could impact on the local economy, particularly through fishing?

Mr Thom: I do not think that our locus extends out into the sea area. Working out of the channel, the first harbour that the council has responsibility for is Kirkcudbright. That is our easternmost

harbour and it is by far the busiest. At this time of year, there can be in excess of 20 vessels there. Those vessels fish mainly for queenies and scallops. Throughout the year, there are usually about five or six larger vessels that fish for queenies. More come in at this time of year, as the king scallop beds open. Those vessels will stay with us until early spring. I suspect that Robin rigg is inside their area, but I am probably not the best person to ask about that; fishermen would be able to give more information.

Kirkcudbright also provides for leisure use. We have quite a big marina. People come from all over. That aspect is beginning to develop healthily from the Workington side, but an exclusion zone could affect that.

Mr Rumbles: The bill's promoters seek an exclusion zone in the Solway firth. Under the Coast Protection Act 1949, local authorities whose area adjoins the sea are coast protection authorities for that area. If the Parliament decides to go down the exclusion zone route, does Dumfries and Galloway Council envisage that it will have a role in enforcing the law in that regard at Robin rigg?

Mr Thom: The council has not considered that issue formally. It is safe to say that we have never seen our coastal protection role as extending that far out. We have been much more concerned about protecting where sea meets land—that is the definition of coast that we have used.

Mr Rumbles: I asked the minister about that and he will get back to us. If he tells us that that is a local authority role, would you be surprised?

Mr Thom: Yes, I would be surprised. I think that the 1949 act mentions navigation aids at the seashore. My definition of seashore would not extend so far away from where the grass is.

The Convener: Members have no other questions. You got off lightly, Mr Thom.

Our next witness is Mr James Glennie, who is the head of offshore at the British Wind Energy Association. Thank you very much for coming.

MR JAMES GLENNIE *took the oath.*

The Convener: Do you have an opening statement?

Mr James Glennie (British Wind Energy Association): I have a brief statement in addition to my written submission. As the convener said, I am the head of offshore at the British Wind Energy Association, which is the trade association for 230 companies in the UK that are interested in developing wind energy on and offshore.

I will not add much to my written submission now, except one point about exclusion zones, which have been discussed many times today.

One developer down south established a Met Office mast offshore to measure wind speeds and did not have an exclusion zone. The developer has found that jet-skiers use the Met mast as a diving platform. The developer could do nothing about that because it did not have an exclusion zone, which would give it authority to act.

I am open to any questions from the committee. I am not here to talk about the specifics of the site, because I do not know them. As a trade association representative, I will advise the committee on general questions about the industry or about the experiences of industries elsewhere around Europe.

The Convener: Is the association independent of the bill's promoters?

Mr Glennie: We are independent in so far as we are here to represent the views of all our members, and the developer is one of our 230 members.

Colin Campbell: What is your experience of navigation and fishing issues in relation to developments such as those that are proposed for Robin rigg?

Mr Glennie: My direct experience is limited, but my theoretical experience is reasonable. My undergraduate degree is in marine geotechnics in relation to the offshore oil and gas industry. My first postgraduate qualification was in environmental science and law in relation to oil and gas extraction in the North sea. My work experience was initially with Exxon Ltd and based in London, where I was a financial analyst in the down stream. I have no direct experience, but I have much theoretical experience. My family background is in yachting. I am from Lymington on the south coast and I have yachted and sailed for most of my life.

Mr Rumbles: I am not clear about how many wind farms exist in the UK. Wind energy is in its infancy. Will you update us on what is happening south of the border?

Mr Glennie: The UK has installed 530MW. About 150MW are installed in Scotland, about 350MW are in England and Wales and about 35MW are in Ireland. Offshore, we have 18 sites around the UK. The total expected installed capacity from those sites is about 1GW to 1.3GW.

Mr Rumbles: Are those 18 sites current sites?

Mr Glennie: Roughly speaking, they are at the same stage as the Solway firth development. They are under investigation.

Mr Rumbles: How many sites are up and running?

Mr Glennie: Offshore?

Mr Rumbles: Yes.

Mr Glennie: Only one, which is at Blyth. That is a 3MW, two-turbine site.

Mr McGrigor: Are the turbines at Blyth of a similar size to the turbines that will be built at Robin rigg?

Mr Home Robertson: You mean the turbines that might be built.

Mr McGrigor: I am sorry.

Mr Glennie: Turbine technology has moved on quickly in the past few years. The early turbines that were constructed in the late 1980s could provide only 100KW to 200KW. The popular turbine size at the moment is 1.5MW.

Mr McGrigor: I am sorry—I am a layman. I am talking about height and blade length, for example.

Mr Glennie: That accompanies my answer. As turbines increase in capacity, they become higher and their blades become bigger. Obviously, the diameter is greater. The trend is towards increased size. I cannot speak for the Solway firth plans, but I suspect that the planned turbines are bigger than those at Blyth.

Mr McGrigor: Do you have experience of turbines offshore anywhere else in the world, such as in Denmark? What is that experience?

Mr Glennie: Do you mean experience in relation to operations, navigation and fisheries?

Mr McGrigor: Yes—navigation and fisheries.

Mr Glennie: Unfortunately, experience from Denmark is limited. The installation has been running only for about a month. I am not sure whether I can comment on that.

Mr McGrigor: Why might it be necessary to restrict navigation to 350m away during the construction period?

Mr Glennie: Although the bulk of sailors are competent, a tendency exists—I hope that the jet-skiers example highlighted that—to be interested and to want to go and see. Unless such a limit is set, people will come in. Delays during construction can be extremely expensive, as I know from my experience in oil and gas.

Mr McGrigor: Once the turbines are built, 50m is enough, but while they are being built, the extra 300m is needed.

Mr Glennie: As I said, I cannot comment on the specifics of the site. The principle of an exclusion zone during construction is good. I cannot comment on the distance for the site.

Mr Home Robertson: I will try my hypothetical question. What happens when the wind farm's life ends for whatever reason, such as old age or the

market becoming impossible and making it not worth running the wind farm? If the company involved could not decommission and remove the turbines and their foundations, who would pick up the tab?

Mr Glennie: My understanding of how that has worked with other sites is that that is an issue between the Crown Estate, which is the landlord, and the developers. I believe that the Crown Estate is satisfied with the current arrangements.

Mr Home Robertson: Would your association take a direct interest? If one of your members left an obstruction in the water—in the Solway or anywhere else—would you stand back from that?

Mr Glennie: No. Obviously, we would be concerned, because that would reflect poorly on the industry. We would not want that to happen.

The Convener: I thank Mr Glennie for attending. Members will be pleased to hear that it is an appropriate point for a short tea break. We will reconvene in approximately 15 minutes.

14:31

Meeting suspended.

14:54

On resuming—

The Convener: Our next witnesses are Mr Jeremy Sainsbury and Dr Mike Shaw from Natural Power Consultants, to whom I wish a good afternoon and thank for coming along. As you may be aware, we require witnesses at this committee to take an oath.

DR MIKE SHAW and MR JEREMY SAINSBURY took the oath.

The Convener: Please feel free to make an opening statement, if you would like to do so, gentlemen.

Mr Jeremy Sainsbury (Natural Power Consultants): I am a director of Natural Power Consultants, which was employed by the proposers of the bill as an independent consultant to provide an environmental impact assessment and an environment assessment for the Robin rigg proposal.

My experience in environment and renewable energy in general is as follows: I am, as I said, a director of Natural Power Consultants, which specialises in renewable energy projects including wind, wave, biomass and hydro power. The company currently acts for clients from Canada, Norway and Europe as well as from the UK. I am a director of two operating wind farms, one of which is in Scotland and the other in Cornwall. I manage three small hydro schemes and am a member of

the distribution code review panel for Scotland, which deals with the electrical grid system. I have been a regional board member of the Scottish Environment Protection Agency for three years and I am a former chairman of the Scottish Renewables Forum and chairman of the Association of Electricity Producers Scottish committee. I am a fellow of the Royal Institution of Chartered Surveyors and I was Scotland's representative on the UK Government's 1991-92 renewable energy advisory group, which produced paper 55, the first paper on renewable energy.

The need for an environmental assessment has been covered, so I need not recap on that. I shall describe briefly the process that we went through in relation to an environmental impact assessment, and the gathering of the information for the report on which much of the consultation has been based. Our submission begins with a general description of the project proposal, then goes into the policy background and the process by which the developers chose the site. There is also a detailed project description of the structures themselves and the types of construction that would be used in the project. The document also goes into the methodologies for the different assessment techniques, on which there was consultation of Scottish ministers, Scottish Natural Heritage and other statutory consultees.

The idea behind the surveys was to produce a set of baseline conditions including physical, environmental and human baseline conditions. We applied the project description of implementing a wind farm within those baseline conditions and came out with environmental effects that might arise if such a set of turbines were constructed, after which we considered what would be mitigating measures. That is the process through which the report was structured. We have used 10 specialist lead consultants in the project, one of which is Kirk McClure Morton. Dr Mike Shaw works for Kirk McClure Morton but is representing Natural Power Consultants today because he has dealt with many of the specialist offshore design issues. Mike and I are not experts on everything that is mentioned in the report; about 20 experts compiled the data, but we can certainly represent their conclusions and explain the basis on which things were done. If members have detailed questions, we might have to refer them back to other experts and supply the information at a later date.

Dr Mike Shaw (Natural Power Consultants): I am a partner in a consultancy that specialises in maritime construction, environmental modelling and general civil and structural engineering. I obtained in 1985 a PhD on wave-current interaction relating to sediment movements, which is pertinent to the Solway firth. I have been involved in design of maritime structures for about

20 years and am a chartered engineer and member of the Institution of Civil Engineers. Recently, I was lead consultant in Ireland's offshore wind resource assessment.

15:00

Mr McGrigor: Page 12 of your non-technical summary states:

"From the substation two 132 kV cables would carry the power ... just south of Flimby on the English mainland".

It continues:

"The power cables to shore would be directionally drilled at depth under mobile sandbanks and trenched or ploughed at a shallower depth of around 1 m through more stable sediments. This would ensure that sediment movement would not expose the 132 kV cables at any point between the wind farm and the shore. There would therefore be no restrictions on anchoring or trawling".

Today, fears have been expressed that the cables will be exposed. Will you reassure us on that matter?

Dr Shaw: There are two clear zones: the area of the wind farm and the area of the cable to the shore. Sediment movements in the two locations are different; sediment movement in the vicinity of the proposed structures is very high—there is high mobility—so a cable could potentially be exposed in that area if it were led on the sea bed or even if it were buried a couple of metres below the bed. The zone between the shore or the substation and the shoreline is different. There is a bank in the way, which could move; that is why it would be necessary to drill underneath it. Even if the whole bank moved, the cable would not be exposed. The deeper section between the first bank and the shoreline would be ploughed in to a stable depth.

Mr McGrigor: I would have thought that scallop dredgers, for example, might easily penetrate below 1m.

Dr Shaw: The area of the wind farm would probably be the area of concern; that is where the cable might become exposed. There is, to my knowledge, no scallop fishing in the area in which there would be trenching or ploughing 1m down.

Mr McGrigor: What depth are you talking about when you say that there will be drilling

"at depth under mobile sandbanks"?

Dr Shaw: Drilling could go down to at least 10m below the present bed level. That would ensure that, where the cable comes out underneath the bank, it would still be below the deeper part of the channels. In other words, if the whole bank disappeared down to the level of the channel, the cable would still be buried.

The Convener: Are there any data on the potential radio interference from the operation of the wind farm?

Dr Shaw: I am afraid that I have no knowledge of any such data.

The Convener: Is not radio interference covered in page 32 of your non-technical summary, under the heading "*Interference to TV and Radio Reception*"?

Mr Sainsbury: We consulted the BBC, ITV and other bodies that have management responsibilities, together with Orange and all the other mobile telephone networks. There are two radio links, or microwave-dish links, that go through the proposed site area and two others in the vicinity. We have considered considerable safety zones and all those organisations are satisfied that the wind farm would not interact with their activities.

Colin Campbell: Have you assessed whether the wind farm will affect radar and the global positioning system?

Mr Sainsbury: On radar for aircraft, we have consulted the Ministry of Defence, the National Air Traffic Services and the Civil Aviation Authority. It is not a problem for the site.

On radar and GPS for vessels, there is no real experience of the extent of the field of radio interference that might come from a wind farm. However, speaking from my experience on land—where I have managed a wind farm for more than six years—such interference is very localised and is likely to come into effect only by the shielding of a radar tower, and to occur only very close to the turbines and probably within the array, because the turbines are 450m apart within the array.

Mr Home Robertson: I have a quick question on fisheries. On page 30 of the non-technical summary, you say:

"The development would not have a significant impact on the benthic communities in the wind farm area and no impacts are expected on the nurseries."

I press you to expand on that statement. Is it based on rigorous science or is it a general hope?

Mr Sainsbury: It is somewhat more than a general hope. Some of the data on which that statement is based were collected from other areas and applied to the site by experts from the University of Liverpool. However, we have conducted 12 months' of trawl surveys on the site with leading experts who know the Solway firth very well. Dr Jane Lancaster was responsible for that work. Many data have been collected that show wind farms' interaction with wildlife—for example, mammals—in other parts of the world. The best of that information has been put into the environmental statement.

The Convener: You mention in the environmental statement that

"Brown shrimp are ... of **high** sensitivity".

Would the development have any negative impact on fishing for brown shrimp?

Mr Sainsbury: We say that they are of high sensitivity because of their commercial significance in the Solway firth. The brown shrimp is not a sensitive animal. It lives in an environment that shifts by three metres overnight. It reacts robustly to change, vibration and banging around because of where it lives. We have said that it is of high sensitivity because of its position in commercial activity. There would be some interference in fishing for brown shrimp, which forms part of the overall fishery for the area.

Mr McGrigor: On marine mammals, page 22 of the non-technical summary says:

"Information from The Solway Shark Watch and Marine Mammal survey would continue to be collated ... to confirm that sea mammals use of the Solway continues as normal through construction and operation."

What would happen if it did not continue as normal?

Mr Sainsbury: That would have to be assessed at the time. There is on-going discussion about the baseline study; the environmental statement is a comprehensive baseline study. One thing that the first offshore wind farms must do is demonstrate the impact they might have. It must be said that, where knowledge is sparse, the consultants have applied the precautionary principle. It is therefore unlikely that something is likely to occur when it has been stated that it is unlikely to occur.

Mr McGrigor: I brought up the point only because during the building of the Eriskay causeway, for example, the number of seals that the sea mammal research unit found in the area dropped enormously. The seals had moved away from the area in question because of the disturbance that was being caused.

Mr Sainsbury: I can give another example. In a wind farm in Denmark, where baseline studies are important to the process, it was perceived that sea ducks were being displaced by a wind farm. In fact, what happened was that mussels did not seed in the area because of peculiar weather conditions, which was proved by on-going environmental work. The sea ducks returned the next year.

The quality of baseline data must be looked at. Environmental factors other than wind farms are often to blame for something for which a wind farm will be blamed because it is visible. It is important to quantify such matters. A good baseline report, which is what the environmental statement provides us with, is the starting block and building block for that.

The Convener: There are no further questions. I thank you for your evidence, gentlemen.

We have one other set of witnesses today; they are from the Cumbria Sea Fisheries Committee. However, because we are slightly ahead of schedule, the witnesses are not yet with us. Given that our intention was to take further evidence from the promoters of the bill in the light of evidence that was given in the morning and in order to progress matters, we will move on to take that evidence. If we need to question the promoters of the bill after we have heard evidence from our last witnesses, I am sure that they will be prepared to allow that. I remind the witnesses that their evidence continues to be given under oath. Do you wish to make an initial statement, Mr Badger?

Mr Badger: Yes. I would like to add five points of clarification, or emphasis, in response to the evidence that I have heard today. First, I want to stress the fact that the offshore wind industry is in its infancy. In reply to a question about how many wind farms were in operation, I think that James Glennie said that there are only three offshore turbines in operation, which dictates that a precautionary approach needs to be taken in respect of a number of aspects of the industry. It also explains our fundamental motivation for seeking the protection that a private bill offers.

I want to underscore the point that we have taken the precautionary approach to satisfy our investment and to satisfy the lenders and insurers who will also play a large role in our project and the other 17 projects. That is why the precautionary approach is needed, at least for the current generation of projects. I say in support of that consideration that our information indicates that 13 of the 18 wind farm proposals are seeking exclusion zones.

The second point is that it is clear that, because our consultation with the MCA was conducted at local level, it was not done sufficiently well at national level. We intend forthwith to remedy that by sitting down face-to-face with the MCA and talking through the issues that its representatives have raised. We undertake to do that soon.

The third point relates to Murphy's law. We are going to continue to analyse further the risk of collision and discuss that with the Solway Yacht Club and the Royal Yachting Association. However, we hope that we will be able to demonstrate at the end of that analysis that not even Murphy could conceive of the conjunction of events that would result in a collision.

Mr Home Robertson: Brave man.

Mr Badger: The fourth point relates to decommissioning, which was mentioned by Rupert Steele. I want to emphasise that the Crown Estate

requires parent guarantee support for the obligations of the leaseholder and makes it clear that it will not grant a lease to anyone whose parent does not satisfy a financial strength test. At the moment, I think that the figure is £50 million of net assets. That said, I understand the committee's concerns about the matter. I leave members with this point: if the Parliament decides that it needs to take further measures in relation to financial support for the obligation, it should do so in a way that does not conflict with, or duplicate, what has been agreed and will be implemented with the Crown Estate. As a result, we must be very careful and work with the Crown Estate if the Parliament decides to do anything further in this connection—a course of action that we, as the bill's sponsors, hope that members do not decide to take.

Finally, in relation to Mrs Moultrie's concerns, the officials who are considering our application in relation to FEPA and the issue that she has raised have agreed—at least initially—with her comments about our methodology and have asked us the same questions. We have forwarded details of our methodology to those officials, who will take a view on whether the methodology was adequate. If they feel that it was not, they will ask us to carry out more work, which we will do. However, we believe that the matter is being examined by the right people.

15:15

The Convener: Do you have anything further to add, Mr Steele?

Mr Steele: No.

Mr Home Robertson: I return to decommissioning. I understand your anxiety that we might seek to duplicate something that you are already negotiating with the Crown Estate. However, you must understand our responsibilities in relation to navigation and fisheries. We need to satisfy ourselves that a genuine and bankable safeguard exists to ensure that there will be no permanent obstruction to navigation at the end of the project. Do you accept the need for such a safeguard?

Mr Badger: I absolutely accept members' need to be assured that there will be an adequate safeguard.

Mr Home Robertson: We do not need only an assurance; we need something that can be delivered.

In our discussion with the yachtsmen, the risk of collision and, in particular, the risks from rotors were mentioned. I want to leave to one side the fact that anyone who was close enough to hit a rotor would also be, I presume, close enough to hit

the tower. People are concerned that you are suggesting amendments that would further reduce clearance, but surely one way around the problem would be to raise the height of the towers. Have you thought about that?

Mr Badger: Yes. However, we face two constraints in that respect. First, the cost of the machines rises in geometric proportion to their weight, which is proportional to their height. In many aspects of the wind farm's design, we are struggling with trade-offs between cost and other concerns such as visual impact. Indeed, there have been several examples of such trade-offs. As a result, we feel that the proposed height is about as far as we would like to have to go.

Secondly, all the visual impact analyses that we have presented to the Scottish Executive and the public have presumed the hub height that we now propose. If we were to raise the height, we would have to reopen a potentially significant part of the work that has been done over the past 18 months.

Mr McGrigor: On a very stormy or misty day, a very inexperienced yachtsman might find himself in the middle of your wind farm and might begin to panic even more because he cannot find his way out of it. Is there any way in which the towers could be coded? Could there be a "Way Out" sign—as there are in car parks—for such a scenario? I am an inexperienced yachtsman in certain situations, and I can imagine the panic that would beat in someone's breast if they did not know the way out of the maze.

Mr Badger: That is the practical marking and signing solution that I mentioned earlier and through which we intend to sit down and work with the Commissioners of Northern Lighthouses, the MCA and the RYAS. There are several practical ways of dealing with the problem, and that is the approach that we would like to take.

Mr Home Robertson: We resolved a potential misunderstanding with the MCA this morning about the enforcement of exclusion zones. What emerged is that the MCA does not enforce exclusion zones, so if there is to be an exclusion zone at your behest, you will have to enforce it. Can you do that?

Mr Badger: As I said this morning, the only circumstances under which we will wish to enforce such a zone, in the sense of having someone forcibly ejected, would be in a case of deliberate intrusion. I do not know what police powers and phone calls would be needed to accomplish that. The issue of practical recourse came into my mind only as it was debated today. It is fine for us to have a statutory power to ask or force someone to leave the site, but that raises the question of how we would implement the power. I do not know the answer to that question.

Mr Home Robertson: We have served a useful purpose in that case.

Colin Campbell: There has been a genuine attempt to get sound evidence based on experience, but the aching gap is in relation to leisure vessels, on which no statistics appear to exist. We do not know where they come from and go to or how often they sink or get into difficulty. Your major problem would appear to be that the RYAS has fundamental objections to your plans. Is there any way of getting better evidence either to sustain your case or to assist theirs—not that you would want to do that?

Mr Badger: I believe that there is. The RYAS indicated in its most recent submission that it has begun work on the analysis, and we will work with it. It is the sort of analysis on which we should come to a common view rather than appear in a forum such as this and throw statistics at each other. It is an analysis that can be achieved. The RYAS has begun it; we will sit down with that organisation to see whether we can finish it.

The Convener: We have tried on several occasions this morning to determine whether the installation would have any impact on the GPS, but we have not had a clear answer. Do you intend to carry out any investigations to satisfy those concerns?

Mr Badger: I do, because something else that I have learned from this hearing is that we do not have an answer to that question. We did not assess the impact but, as Jeremy Sainsbury said, there is little operating history with which to assess the impact. Nevertheless, in the interval, I spoke to the consultant from the MCA, who suggested another consultant who could do that for us. We will get in touch with him tomorrow.

The Convener: Consultants tend to make such suggestions.

If there are any other issues that arise from the next witnesses, we will speak again, but for the moment, I thank you.

We will suspend for a few minutes before our next witnesses. It is not the witnesses' fault that we are ahead of time, so we will wait for them.

15:24

Meeting suspended.

15:32

On resuming—

The Convener: Our next two witnesses are from the Cumbria Sea Fisheries Committee: Glyn Dixon is its vice-chair and David Dobson is its chief fisheries officer. We are obliged that they

have appeared earlier than was scheduled. That is appreciated. The witnesses are aware that the proceedings of the committee require witnesses to take an oath.

MR DAVID DOBSON and MR GLYN DIXON *took the oath*.

The Convener: Please feel free to make an opening statement, gentlemen.

Mr David Dobson (Cumbria Sea Fisheries Committee): I am employed by the Cumbria Sea Fisheries Committee as its chief officer and as master of its patrol vessel, the Solway Protector. I have worked for the sea fisheries committee in those capacities for the past 13 years. Prior to joining the sea fisheries committee service, I spent 17 years working as an inshore fisherman, skippering my own vessels and trawling principally for white fish and prawns in the north-east Irish sea, including the Solway firth. I was appointed by the Ministry of Agriculture, Fisheries and Food—now the Department for Environment, Food and Rural Affairs—to serve as a member on the Cumbria Sea Fisheries Committee for six years, between 1983 and 1989.

Fishing activity in the Solway centres principally on trawling for shrimps and white fish. At present, approximately 35 trawlers based at Maryport, Workington and Whitehaven are capable of targeting the fishery. A further 10 vessels are currently being used for beam trawling to fish for brown shrimp. Those boats operate from either Silloth or Maryport, with the odd one or two operating from Annan. It is estimated that those vessels provide regular employment for up to 125 fishermen, although it is fair to say that that figure varies seasonally.

In addition to trawling, the other main types of fishing in the Solway include gill netting, potting and creeling for lobster and crab and fishing for shellfish such as mussels and cockles by boat and by hand harvesting the intertidal areas. At present, however, all the cockle fisheries in the Solway remain closed to fishing, as I believe has been well documented.

The monetary value of all the fisheries in the Solway is difficult to assess. The best estimate of all the fisheries together would be between £2.5 million to £3.5 million per year at first-sale value.

Any fishing activity that might occur in the close vicinity of the proposed wind farm site would be done mainly by the shrimping fleet between November and April. The shrimps migrate out of the inner Solway during the winter and the fishermen follow them to deeper water. The fishery is also prosecuted by white fish trawlers, mainly from Maryport, which might trawl the area at any time of the year in search of skate, plaice and prime fish such as turbot and brill.

The area on the Robin rigg might not be considered to be one of the most intensely fished grounds in the Solway. However, many fishermen believe that it is somewhat misleading to state, as in section 16.12 of the environmental assessment, that the area of the proposed wind farm is not significant to the commercial viability of the Solway firth fisheries.

That sets the scene for the fishery. Obviously, if members have any specific questions, I will be only too pleased to try to answer them.

The Convener: Will you clarify something that you said? Do you believe that the fishery is concerned about the development per se or about the creation of an exclusion zone?

Mr Dobson: Some of the fishermen, particularly the shrimp fishermen, are concerned that the establishment of a wind farm would affect their ability to fish in that area. As I said, those fishermen fish there only at certain times of the year.

Mr McGrigor: Earlier, we were assured about the burying of cables, although I do not think that you were present then. We were told that the cables would be buried up to a depth of 1m in the more solid sediment and would be burrowed under shifting sandbanks. At no point will they be exposed. Are you prepared to accept that assurance or do you have fears about the trawlers snagging on cables?

Mr Dobson: Some of the fishermen to whom I have spoken are concerned about the proposed wind farm and the cabling. The interconnector cables between the pylons are not a real concern, because the bill seeks to exclude mobile-gear vessels such as trawlers from working within the wind farm site once it has been established. However, there is still concern about the main cable bringing the power ashore to Flimby.

Mr McGrigor: That is the cable that I am talking about.

Mr Dobson: The further south-east one moves away from the site towards the Cumbrian coast, the more stable the ground becomes, because one gets away from the shifting sandbanks. In all probability, once the cable is buried there, it will remain buried. However, there is a genuine concern that, in areas where there are soft sediments, the cable might scour off at times, which could cause problems for trawlers.

Mr Rumbles: You mentioned that some of the fishermen to whom you have spoken are concerned about the location of the proposed Robin rigg wind farm. Are they concerned simply about the specific location of the farm, or would they still be concerned if it were sited somewhere else?

Mr Dobson: Almost all the fishermen on the Cumbrian coast to whom I have spoken are concerned about the wind farm's impact on an area that they occasionally fish. As I said, the area is not intensively fished but, at certain times of the year—particularly between November and April or early May—the area of the proposed wind farm site and the area adjacent to that are frequently targeted by shrimp trawlers. It is well known that shrimps migrate to the deeper waters of the Solway during the winter months. I am led to believe that, weather permitting, the shrimp fishermen target that area for two or three days a week in the period between November and April and that catch rates can be quite good. Indeed, catch rates of 200kg a day are not unusual. As a result, fishermen are concerned that the wind farm could impact on their earnings.

Mr Rumbles: Would you have the same concerns about the impact of the wind farm if it were sited somewhere else?

Mr Dobson: I have no doubt that, wherever the wind farm was sited, someone would come along and raise concerns about its impact on the area that they fish. However, we are talking about Robin rigg and at this stage I can comment only on what I know about that area. If you asked me what would happen if the wind farm were sited 10 miles west of Whitehaven on the scallop bank, I would say that there would be objections to such a proposal, simply because it would impact on an area in which fishermen operate.

Colin Campbell: You said that the possible take is £2.5 million to £3.5 million, which is a wide variation.

Mr Dobson: It is.

Colin Campbell: Let us assume that the truth lies somewhere in between. Roughly, what would be the impact of the denial of access to the Robin rigg site as a percentage of the whole? I know that I am asking for a subjective judgment, but you are very experienced.

Mr Dobson: I know that I mentioned the figure of £2.5 million to £3.5 million a year. However, it is difficult to come up with a more accurate figure because there is no statutory requirement for shrimp fishermen to record catches, which makes it hard to get an exact handle on the landings. My information comes from talking to fishermen every day or every month.

It is fair to assume that the fishermen can work within the Robin rigg area—although not entirely within the site of the proposed wind farm—about two to three days a week during the winter months. If they catch an average of 200kg a day, they could be catching between 400kg to 600kg a week. One would assume that, given the present value of shrimps, such a catch would mean £700

to £1,000 a week in earnings. I do not know whether the fishermen would lose that money entirely because of the wind farm; it would be pure conjecture if I made even a stab at answering that question. However, average gross earnings of between £700 and £1,000 a week would not be unusual for vessels that were fishing in that area at that time of year.

Mr McGrigor: Are the fishermen against the exclusion zone rather than the building of the wind farm? I am thinking of a situation in which there was no exclusion zone and they could fish between the towers.

15:45

Mr Dobson: No. As a fairly experienced trawler fisherman, I would not want to try to tow a set of gear between the towers of an established wind farm, particularly in an area where the tide could be running from anything up to 4 to 7 knots depending on the height of the tide. I would also not be foolish enough to try to tow a set of gear through an area in which I knew that I would be likely to get snagged on exposed cables. I cannot speak for all the fishermen, but I feel quite sure that that would be their general opinion.

Mr McGrigor: I was trying to ascertain what their opinion would be.

Mr Dobson: I am fairly sure that that would be their general opinion.

Mr Home Robertson: Your key point is that you challenge the promoters' assertion that the fishery in the Robin rigg area is not significant. You have said that, from the evidence that you have taken from the Cumbrian ports, you are satisfied that it is significant.

Mr Dobson: It is significant at certain times of the year.

Mr Home Robertson: That is an important point.

Mr Rumbles: May I pursue that point? As I said earlier, committee members are lay people. We do not have specialist knowledge and we will take our decisions as lay people. You tell us that the fishery in the Robin rigg area is significant at certain times of the year. On a scale of one to 10, how significant is it in comparison with other fisheries?

Mr Dobson: It is difficult to get a handle on that. Fishing opportunities vary from time to time and from year to year. Fishermen can go to one area one year and get good fishing and can return to the same area at the same time the following year, expecting to get a good catch, and catch nothing. The member is asking me to come up with a figure on a scale of one to 10. I would not even be prepared to hazard a guess at a figure. My vice-

chairman, Glyn Dixon, is a very experienced fisherman in the Solway area. I am not sure whether he has anything to add.

Mr Glyn Dixon (Cumbria Sea Fisheries Committee): No. As has been said, it is difficult to pinpoint the good fisheries. At times the fishermen can go to the area and do very well, but at other times they can return and have a total blank. Their objection is that they will be debarred from even attempting to fish in the area.

The immediate area in which the turbines will be sited is not usually fished by the white fish fishermen, although the shrimp men are there. The Maryport contingent targets the deepwater gutters in the areas around the banks—that has been the case for as long as I can remember. I learned my trade in among those shifting sandbanks. The area in which the turbines are to be built may well be in a shallow area of water at the moment, but there is nothing to say that, in six months' time, depending on the tide and the winds, they could not be in a deepwater channel.

Mr Rumbles: The Parliament is being asked to deny navigation rights and fishing rights in the area. The fundamental question that we have to ask is simple and straightforward. It is whether the fishery is so important as to override the application.

Mr Dixon: The committee is in an unfortunate position. We can only put to you the evidence as we know it that there is fishing activity in the area. At times, that activity can be very rewarding, but, as in all areas, there are times when it can be fruitless.

Mr Dobson: What is important to one fisherman today may not be important to another fisherman tomorrow.

Mr Rumbles: Thank you for that helpful answer. I understand the point that you have made.

Mr Dobson: Some of the shrimp fishermen at Silloth in particular have expressed their concern about the impact of the establishment of a wind farm at Robin rigg on the general topography of the Solway. Some experienced fishermen fear that a wind farm might cause a massive sediment transfer, which could lead to destabilisation of the banks and channels where they target the shrimps. I do not have the experience to know whether that is so; I am putting to you the concerns of the fishermen.

The Convener: You have a great deal of experience and you have mentioned the strong and unpredictable tides in the area. Based on what you have told us, would it be right to draw the conclusion that, if the facility were established, fishermen would prefer an exclusion zone?

Mr Dobson: You are asking me whether the fishermen would prefer an exclusion zone if the farm were established.

The Convener: To put it another way, would it make common sense to have an exclusion zone, based on the fishermen's experience of the area?

Mr Dobson: It would be preferable to have an exclusion zone simply because, as I mentioned, trying to work within the confines of the turbines would be virtually impossible.

Mr McGrigor: Is it the brown shrimp that you would be after?

Mr Dobson: The main species in the area is brown shrimp. On the white fish side, the Maryport fishermen target principally skate and, to a lesser degree, plaice. The Robin rigg area—and to its west, the Robin rigg sandbank—is a prolific area for catching prime, high-value fish, particularly brill and turbot.

Mr McGrigor: Will you outline briefly how the brown shrimp fishery is prosecuted, compared with a prawn trawl, for example?

Mr Dobson: The size of the vessels in the shrimp fishery is small compared with that of trawlers that work further offshore. The vessels are between 30ft and 36ft long and have fairly shallow draughts because of the area in which they have to work. Some of the fishermen work twin beams, which is one either side of the vessel, and a lower derrick, whereas others use just a single-beam trawl. Within the Cumbria Sea Fisheries Committee district, we have a byelaw restricting the aggregate beam length to 6m, which is a conservation measure. On the Scottish side of the Solway, where the proposed wind farm site is, there is no restriction on the size of gear that can be operated.

Mr McGrigor: It is the trawl that scrapes the bottom.

Mr Dobson: That is right. There is no requirement for the trawls to make heavy contact with the bottom as some of the big beam trawlers that operate further offshore would do when fishing for white fish, sole and flatfish. The principle is the same, but the size and weight of the gear are far smaller.

The Convener: Thank you very much. There was no obligation on you to come along this afternoon, so I appreciate the fact that you made the time to give us the benefit of your experience.

At this point, I invite the promoters to come back to the table if they wish to make any points in the light of that evidence.

Mr Badger: I will respond to only two of those points, but I also want to indicate, as I have done to other witnesses who have appeared today, that

we intend to have meetings with the organisations involved and the individual fishermen to discuss their specific concerns. Up to now, we have heard about those concerns only in general in the consultation process.

Our environmental statement concluded that the impact would not be significant because we were advised that, although brown shrimp fishing takes place in the area of the wind farm, most of that fishing takes place outside the exclusion zone on the edges and on the banks that go down to the deeper water. However, we will obviously explore that kind of question in our meetings with the fishermen and the organisations.

The other concern was that there would be a massive impact on sediment movements. We have spent quite a bit of time and money measuring and modelling in detail the impact of the installation of the 60 foundations in the sandbank on sediment movements. The conclusion of the modelling exercise was that the impact will be trivial—it will be hardly noticeable given the extremely mobile natural forces that are already at work on the wind farm site.

Mr Steele: May I add a thought about the security of the cable? We have an absolute identity of interest with the fishing interests in not having our cable dredged up. We will talk with the fishing interests to ensure that both sides understand precisely what protection is appropriate to ensure that the cable remains secure.

Mr Home Robertson: When the representatives of the Cumbria Sea Fisheries Committee challenged the environmental assessment's assertion that the fishery was negligible—or, as Mr Badger called it, insignificant—Mr Badger said that he would talk to them further about the issue. With respect, given that Mr Badger is asking this committee to take through a bill that would shut down that part of the fishery, we need the information on that issue before we can proceed properly with our deliberations. I hope that Mr Badger realises that.

Mr Badger: We will certainly report all information that emerges from our discussion. That is the purpose of having the discussion.

The Convener: As yet, no objection has been lodged on that point, but I hear what John Home Robertson is saying.

Mr Home Robertson: I think that we can take it that the objection has emerged at today's meeting.

The Convener: Possibly, yes. We can consider that when we consider the draft report.

I thank the witnesses for attending.

Item in Private

The Convener: Agenda item 3 is in connection with our next meeting. I seek the committee's view on how we should consider the draft report at that meeting. The proposal is that we consider the draft report in private session. Is that agreed?

Members indicated agreement.

The Convener: Before closing the meeting, I thank everyone for attending and, in particular, I thank the staff for their efforts in organising today's proceedings. I wish everyone a safe journey home.

Meeting closed at 15:57.

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