OFFICIAL REPORT
AITHISG OIFIGEIL

Rural Economy and Connectivity Committee

Wednesday 7 September 2016

Session 5

The Scottish Parliament
Pàrlamaid na h-Alba

Wednesday 7 September 2016

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RURAL ECONOMY AND CONNECTIVITY COMMITTEE
3rd Meeting 2016, Session 5

CONVENER

*Edward Mountain (Highlands and Islands) (Con)

DEPUTY CONVENER

*Gail Ross (Caithness, Sutherland and Ross) (SNP)

COMMITTEE MEMBERS

*Peter Chapman (North East Scotland) (Con)
*Mairi Evans (Angus North and Mearns) (SNP)
*John Finnie (Highlands and Islands) (Green)
*Rhoda Grant (Highlands and Islands) (Lab)
*Jamie Greene (West Scotland) (Con)
*Richard Lyle (Uddingston and Bellshill) (SNP)
*John Mason (Glasgow Shettleston) (SNP)
*Mike Rumbles (North East Scotland) (LD)
Stewart Stevenson (Banffshire and Buchan Coast) (SNP)

*attended

THE FOLLOWING ALSO PARTICIPATED:

David Climie (Transport Scotland)
Lawrence Shackman (Transport Scotland)

CLERK TO THE COMMITTEE

Steve Farrell

LOCATION

The Mary Fairfax Somerville Room (CR2)

Scottish Parliament

Rural Economy and Connectivity Committee

Wednesday 7 September 2016

[The Convener opened the meeting at 10:01]

Interests

The Convener (Edward Mountain): Good morning and welcome to the third meeting of the Rural Economy and Connectivity Committee. I remind everyone to switch off their mobile phones as they affect the broadcasting system. As meeting papers come in digital format, it is perfectly all right to use laptops to read them.

We have received apologies from Stewart Stevenson, who has to be away on personal business.

Emma Harper has stepped down from the committee. Although she was on the committee for a very short time, she was extremely diligent in responding to and taking an interest in the committee's business, and I thank her for that.

Agenda item 1 is a declaration of interests. I welcome our new member, Mairi Evans, to the committee. In accordance with section 3 of the code of conduct, I ask her to declare any interests relevant to the committee's remit.

Mairi Evans (Angus North and Mearns) (SNP): I am a councillor for Angus Council.

The Convener: Thank you very much; that was very simple.

Forth Replacement Crossing (Project Team Update)

10:03

The Convener: Agenda item 2 is evidence on the Forth replacement crossing. I thank David Climie and Lawrence Shackman from the project team for coming. I invite David Climie to make an opening statement.

David Climie (Transport Scotland): Following my brief appearance at the end of June with the Cabinet Secretary for Economy, Jobs and Fair Work, Keith Brown, I am conscious that this is our first detailed engagement with the Rural Economy and Connectivity Committee to provide an update on the Forth replacement crossing project, so perhaps a brief introduction is appropriate. I am project director for Transport Scotland and employer's representative for the Scottish ministers on the FRC project. I have held the role since June 2010, having spent the previous 27 years working for contractors on major bridge and infrastructure projects around the world. My colleague, Lawrence Shackman, is project manager for Transport Scotland and deputy employer's representative. He has held that position since 2006, so he has been with the project since day 1.

On 8 June, the Cabinet Secretary for Economy, Jobs and Fair Work advised Parliament that the opening to traffic date for the Queensferry crossing would be May 2017 and that the project would continue to be delivered within the current budget range of £1.325 billion to £1.35 billion. I am pleased to confirm that that remains the case today.

I emphasise that reaching the finishing line on the project remains challenging, particularly with the weather, and that the contractor, the Forth crossing bridge constructors—FCBC—consortium, and I are under no illusion about that. However, I assure the committee that everything that can safely be done is being done on the project to achieve the earliest possible opening date.

The site workforce has averaged 1,196 in the past 12 months, with a peak of more than 1,300 in the spring. The highly visible progress that is being made on site is a tribute to the significant efforts of the site team, which continues to meet the challenges that arise in construction work of this size and technical complexity in often challenging environmental conditions. I look forward to welcoming committee members to the site in the near future to meet some of the dedicated workforce and to see the scale of the works at close quarters for themselves.

I will now focus on recent progress on the principal contract. On the south side, the new northbound mainline carriageway is ready for traffic from the Scotstoun junction to the new Queensferry junction, with signage, intelligent transport system gantries, white lining and road lighting. The new southbound carriageway will receive its final surfacing in the coming weeks. Both the northbound and southbound public transport links are also nearing completion. Over the past two weekends, road closures have been in place on the A90 and M90 spur overnight from Saturday to Sunday so that the large sign gantries across the carriageways at Scotstoun can be installed.

On the Queensferry crossing itself, the first deck unit was lifted into place at the north tower on 7 September 2015, exactly one year ago. Ninety-three of the 110 deck units have now been lifted into place, leaving just 17 to go before the end of the year. The first deck closure between the north approach viaduct and the north deck fan was closed on 19 July and fitted very well. In the marine yard in Rosyth, all 110 steel deck units have been delivered, and the last one had its concrete deck cast in place on 12 August. They have all been fitted out with internal walkways and initial mechanical and electrical works.

On the viaducts, installation of the concrete deck on the south approach viaduct is progressing northwards from the south abutment, with 22 out of the total 42 concrete pours required having been completed. On the north side, nine out of the 12 concrete deck pours required have been completed, and those are progressing to keep in balance with the lifting of deck units on the south side of the north tower.

On the north side road works, the Ferrytoll viaduct is structurally complete. It has been waterproofed and is currently having the road surfacing installed. The area also has windshielding on the western side, similar to that to be used on the Queensferry crossing, and its installation will start shortly. Work on the bridges to carry the southbound M90 across the new Ferrytoll junction has been completed, and the final layout of the new roundabout is clearly taking shape. Significant work has also progressed on Hope Street in Inverkeithing and King Malcolm Drive and Castlandhill Road in Rosyth.

Community relations continue to be extremely good, and the level of interest and excitement around the opening of the bridge is clearly increasing. The contact and education centre continues to be the focus of our public engagement programme. To date, we have hosted more than 15,000 school pupils, presented to groups from more than 27 different countries, and more than 59,000 people have attended a presentation on the project. In addition, the project team members have made presentations all around Scotland and elsewhere in the United Kingdom and Ireland to describe the remarkable work that is being undertaken on the project.

The project has a significant digital media presence, with about 50,000 people looking at the project website every month and an ever-growing audience on social media looking at time-lapse videos and drone footage of progress.

The Convener: Thank you very much for that fairly in-depth briefing. Mike Rumbles will ask the first question.

Mike Rumbles (North East Scotland) (LD): There has been very good progress indeed. I will focus on the budget. Your letter to us says:

> "The revised target date for opening has no impact on the budget and the project is still within the reduced budget range",

which is up to £1.35 billion. My question focuses on that figure.

The Scottish Parliament information centre's paper says that the major contract was awarded to the FCBC consortium for £790 million, the associated intelligent transport system contract was awarded to John Graham (Dromore) Ltd for £12.9 million, and the third contract to upgrade junction 1A on the M9 was awarded for £25.6 million. The main contracts add up to £828 million. Where has the other half of the money gone?

David Climie: The information has been transparent from day 1 of the project. A lot of detail has been put into the public domain about the project and we are a separate line in the Scottish Government budget.

The key elements that are involved in the budget are exactly as you said: the three main construction contracts. On top of that, there is non-recoverable VAT, inflation and risk and optimism bias. We are very clear that the £1.35 billion covers the entirety of the project—everything from when the project first started to be scoped in 2007 right through to the end of the five-year maintenance period in 2022. It includes all the land purchase, any compensation that must be paid, all the initial design that had to be carried out and all the initial environmental investigations and so on. It includes literally everything over a 15-year period, from when the project first started through to 2022, when the five-year maintenance period will be completed. It does not just cover the construction contracts.

Mike Rumbles: It would be helpful to the committee if you could put those details in writing. The main contracts add up to £828 million and the budget is £1.35 billion. That means that there is a lot of money missing there—it may not really be

missing, but it is missing in layman's terms. I want to know right down to the nitty-gritty what has happened with that budget line.

David Climie: You might also find it helpful to look at the Audit Scotland report on five major projects that was prepared in 2014. It did exactly what you have just described, as it went through exactly where all the money is. I am happy to give you a link to that report and provide you with an update on how things have moved on since then.

Mike Rumbles: It is remarkable that, although there are all these months of delay, the project is not costing any more money, because of the contract. To me, as a layman, that begs the question whether the contract was overegged in the first place. Do you have a comment on that?

David Climie: I am quite happy to provide you with all the numbers. I think that a much broader range of elements is covered than you perhaps appreciate. I think that you will find that detail helpful with regard to seeing where all the money is allocated. A wide range of things in addition to the main construction contracts is covered.

Mike Rumbles: Thank you.

The Convener: It would be useful to us to have those figures broken down. In relation to compulsory purchase orders, compensation is due for road noise and any change of effect to properties for a period up to and after the end of the contract, and it would be useful for us to know that the sign-off date is also the sign-off date for all claims for compensation.

David Climie: We will include some detail on that in the information that we submit to you. You are quite correct to say that a period after the end of the contract is covered, too.

Rhoda Grant (Highlands and Islands) (Lab): Completion was due to be in December but, because of the weather, it has been pushed back to May next year. Are you confident that it will be completed by then?

David Climie: I am as confident as I can be, yes. We have had a good three months. Progress has been extremely good. As I said, we have made good progress on erecting the deck units—there are now 17 left to go. We have overcome the first closure between the north approach viaduct and the north deck fan, which was one of only two areas on the project where the deck units had not been pre-fitted together, to make sure that they fit properly, and they fit extremely well. That is another risk that has passed.

As I mentioned in my opening statement, the weather will always be an issue. The progress that we are making at the moment is very much in line with achieving the May date. We are doing a lot of work in relation to the activities that will go on after we finish lifting the deck units at the end of the year, such as removing the tower cranes and waterproofing the deck surfacing. We will look at taking every opportunity to do those things whenever we can. Obviously, of course, January, February and March are not the ideal months to be doing that sort of thing. However, the programme that we now have allows sufficient time for those things to be done. I have reasonable confidence that we will meet the May target.

Rhoda Grant: What are your best-case and worst-case scenarios? If everything goes swimmingly, will you finish ahead of May? If things do not go well, how far back could the date slip?

David Climie: I am always an optimist so, yes, I hope that we will finish before May, but I am also a realist and accept that, in certain circumstances, the date could be after May. At the moment, it is not particularly helpful to speculate when the completion date could end up being because the main issue that could affect it is the weather, which we cannot control. May is a reasonable assumption and that is certainly what we are aiming for. We believe that we can achieve it. The contractor also believes that it can achieve it and that is what it is telling us.

10:15

Rhoda Grant: So it could be ahead of May, because your worst-case scenario might be May.

David Climie: There is always that possibility.

The Convener: I will push you a little bit on the timescale. Perhaps you can help me. Until February this year, you stated that the weather had been favourable, which allowed for additional work to be carried out. I think that, actually, you said that the good weather had outweighed the bad weather, which had allowed for 24-hour working and for you to push forward, and that you were confident that the bridge would be open in December this year. However, barely three months later, you changed to saying that 40 per cent of the time had been downtime, rather than the 25 per cent that had been forecast.

You were pushing ahead until February and were ahead of schedule, so how come, barely three months later, we went back so far when there was a change of only 15 per cent in the downtime from the forecast? To me, that does not seem right. Perhaps you could explain it to me.

David Climie: Certainly. I am not quite sure where you are getting the February appearance from. I appeared—

The Convener: It is the report that you submitted.

David Climie: Oh, our written report.

The Convener: Yes.

David Climie: I beg your pardon. Certainly, at our appearance before the Infrastructure and Capital Investment Committee in September 2015 and March 2016, we explored in a great deal of detail what was possible and what was not possible. In September 2015, I said that we needed an average winter to get to a December 2016 opening. When I came to the committee in March 2016, I said that we had had a worse-than-average winter and that we were not where we had hoped to be but believed that we could still achieve the December 2016 opening, as did the contractor. I made it clear that the weather was a challenge, that it continued to be a challenge and that we had not had the winter for which we had hoped.

It was reasonable for the contractor to expect that the weather would improve at the beginning of March and that, even though it was behind where it wanted to be, it could recover time to get to opening by December. What happened in April and May was exactly the contrary of that: the weather was significantly worse than the contractor had expected and, therefore, rather than recovering time, it lost time. Trying to recover one month in 10 is a realistic possibility for a major construction project, but trying to recover two months in seven is no longer realistic and we have to say, "We've given it our best shot, we've thrown everything at it that we can but, sorry, we just aren't going to get there."

The key point is that, if we do not make the December opening, that pushes us significantly into 2017. We cannot say that it will be only just into 2017 because the weather will be fine. That is not realistic. The knock-on effects of losing time in April and May have a multiplying effect going into January and February. Therefore, a day lost in April or May is not equivalent to a day in January or February. That is where we are today.

The Convener: I understand the multiplication factor but, until the February report, you said that you were ahead of schedule, that the good times had outweighed the bad times and that you had the facility for 24-hour working, which you had not employed. Like, I think, many other people, I cannot get my mind round how, given that you were so far ahead and so confident at the beginning of the year, the schedule dropped back so far shortly after the start of a new parliamentary session. It is a reasonable question because that is what people feel. You said that you were ahead but you have now fallen behind. In three months, you lost 15 per cent in downtime, but it seems more than 15 per cent. Have I explained that badly?

David Climie: As I have said, I was challenged on this in great detail at the two committee meetings in September and March. In March, I certainly did not say that we were ahead; I said that we were behind where we wanted to be, and I went through a lot of detail as to why we were behind. The weather, certainly in November and December, had not been good, and that situation continued in January. We got a good spell of weather in March, but it went downhill again in April and May. I think I have been absolutely straightforward and factual in what I have told the committees of this Parliament.

The Convener: I am still struggling to understand this. I know that Gail Ross has a question on the same subject, so that might enlighten me.

Gail Ross (Caithness, Sutherland and Ross) (SNP): I do not know whether it will.

What we need to keep sight of here is that the bridge is not behind schedule; it was originally due to be completed in June next year, so opening in May will be a good result.

In any case, well done for getting all this back on track. We cannot predict the weather—well, perhaps the Met Office can, to a certain extent—but you are right about what happened in April and May. We have all read the report about how absolutely precise things have to be.

My question is about the workforce and the weather conditions. You said that you were doing 24-hour shifts; if the weather were to suddenly take a downturn, what would happen to the workers who were supposed to be on shift if there had been good weather, and vice versa? If we get an unseasonably good winter and you are able to push on and bring the date forward, where will you get the workforce from? Are they on standby? Do you understand what I am asking?

David Climie: I understand your question exactly. As I have said, we are very fortunate in having a very flexible workforce. The construction industry is inherently one in which we have to have flexible working, because we have to be able to react to exactly those sorts of situations. For example, we have to do some particularly large concrete pours; once we start a concrete pour, it has to be finished, and it might take 12 hours.

On a number of occasions when conditions were windy, we took a deck unit out into the Forth on a barge for it to sit there until the wind died down. However, although the Met Office had predicted a lull in the wind, that lull did not come. We waited all day, but because the lull did not come, we had to take the unit back to the yard in Rosyth and then take it out again the next day. In the worst case, the barge went out three days in a row, until we finally managed to get the deck lifted.

The other side of the coin is that staff are available so that we can, as happened yesterday, lift two deck units in a day. The people are there and are able to do the work if conditions are favourable. Yesterday was a great day; as I have said, two deck units went up in a single day, which we have managed to do on, I think, seven occasions. However, there will be other days when the situation is incredibly frustrating, and people will be sitting there waiting to do things and be unable to do them.

FCBC has done a great deal in terms of how it works with its labour and its flexible approach to the labour. Obviously, when people come into work but are unable to work, they still have to be paid—and they are paid. On other occasions, they will agree to work longer to complete an operation that has already been started. It is very important, therefore, that we have that flexible workforce if we are to achieve what we need to achieve.

Richard Lyle (Uddingston and Bellshill) (SNP): You have touched on the point that I was going to ask about, which is wind variation. Construction is being done on the M8 in my area; last week, I was on a bridge on that motorway and although I was not very high up, I still felt the wind. How high are you on the bridge, and does wind variation affect you? Surely it will affect whether you can lift a deck, put it in place and so on. Are there occasions—even on a sunny day, as it was when I was on that bridge over the M8—when wind variation can affect your work?

David Climie: You are quite right—wind speed is fundamental to everything that we do. In fact, it was one of the things that we highlighted in the technical briefing that we produced for MSPs following the announcement of the change in the date.

The Met Office always gives wind speeds at ground level. The deck on the bridge is about 60m high—by the time you get up to that height, the wind can increase by 50 per cent over what is happening at ground level. At the moment, the cable work is being done from man baskets on either side of the tower at a height of about 180m; by the time you get up to that height, the wind speed has increased by 90 per cent to 100 per cent over the speed at ground level.

When the cabinet secretary visited us on 12 August, it looked like it was going to be a nice day. We had the BBC and STV with us. However, the wind was blowing at 40mph just at deck level, so the group was able to go around and see what activities could proceed with the wind at that speed and to understand what conditions are like. As I mentioned, if the committee members come to visit the site they will have an opportunity to see just how different conditions at deck level can be from ground level.

The Convener: Thank you for the offer. We have a provisional date for coming out to the site, which we will discuss after the meeting.

John Mason (Glasgow Shettleston) (SNP): I thank the witnesses for my opportunity to visit the site in July, which I appreciated because it gave me a much better understanding and it reassured me on a number of points that I might otherwise have asked about today.

You last appeared before the committee in March. What key things have happened since then? You mentioned the first closure, which—I take it—was a key step in the past six months.

David Climie: Yes, it was—absolutely. As I mentioned, that was one of the highest-risk elements that we faced. The north approach viaduct was assembled as a kit of parts, in effect, on the approach road on the north side, just behind the abutment, and it was launched out into position during February and March this year. That was matched to the deck that was being built out from the towers. The deck segment had had the concrete put on it in the yard in Rosyth, so we were therefore putting two sections together that had never been matched together before. Every other section on the job had been match-fitted previously, however, so we knew that they would fit together exactly. When we brought the parts together, they actually fitted extremely well. We were very pleased with the way that that joint went, so that was extremely good.

In that area, the deck lifting is now finished because we are connected to the north approach viaduct, and the deck-lifting gantry that was there has now been taken away. It is probably worth mentioning the point that we are just coming to. At the centre-tower fan, we lifted the 19th deck unit yesterday, and by next week we will have lifted the last one at the other end, as well. At that point, we will have the longest free-standing balanced cantilever that has ever been constructed in the world; it will be more than 630m long. From the centre tower there will be 320m either side, waiting for the connections.

John Mason: So it is all balanced and hanging on that one tower.

David Climie: It is, yes.

John Mason: Is there a risk in that?

David Climie: I will be careful how I express this. Yes, there is a risk, but it is one that has been very carefully engineered. We have made sure that everything has been taken account of. If the 100-year storm were to come along while we were in that condition, the tower design would take that. It is actually the greatest load that that particular tower will ever see, because once the ends are

joined to the south tower and the north tower, the structure will become much more rigid.

I should also mention that—as I am sure people have already observed—the structure itself is extremely flexible. When we lift the deck unit at one end, that is 750 tonnes being lifted into place 320m out from the tower. The tower itself is 200m high, and the only fixed point on that tower is at the base. We have a tower that can flex backwards and forwards by about 1.5m at the top, and a 320m cantilever, and we are putting 750 tonnes at the end of it.

If you had looked at the structure yesterday morning, you would have seen that the fan from the centre tower and the fan from the south tower were pretty much aligned. If you look at it today, you will see that the centre tower fan is down by about 2.5m. There is a significant step there. When we put the balancing unit on the other end next week, you will see them come better into line, although they will still be out of line. We will then attach the two cables to the tower, which will pull them up to their correct level.

I emphasise, for anyone who is looking at the bridge in the three months between now and when we get the last deck units in, that the deck will move around, as it is supposed to do. We undertake very careful monitoring of the loads and the cables and the physical movement of the deck, and it is all behaving exactly as was predicted by the designers, so please be reassured by that. It is expected to move, and it will move.

Lawrence Shackman (Transport Scotland): We get comments from the public about that sort of thing, because people are concerned that the ends are not going to match up, but they should have confidence.

John Mason: Have you had feedback from the public on that kind of thing?

Lawrence Shackman: Yes—we get the odd letter or email.

David Climie: Yes, we have.

John Mason: Okay. That is reassuring.

Based on what you have just said, is it the case that, even if you were to double the workforce, you could not go faster because you have to put the unit in before you put the cable in?

David Climie: It is a very sequential series of operations. We lift up the deck unit, and once it is up in position we have to weld and then bolt the steelwork on the outside of it. At that point, there is a stitch in the concrete deck that must be concreted. Once that is complete, we can install the cables, exactly as you described. It is about a three-day operation to install the cables and all the strands. We then take the load off the deck unit into those cables, and at that point we can release the lifting gantry.

It is very much a cyclical operation—particularly with the cabling, because there is a very small area where we can actually work. You are right to say that throwing extra labour at it would not achieve anything.

Going forward, the number of work fronts that we have between now and the completion of deck lifting will decrease. As I said, we have lifted the last deck unit on the south of the centre tower and the next thing that we will do is dismantle the blue deck-lifting gantry. Next week, we will finish the last deck unit on the centre tower to the north, and we will then dismantle that deck-lifting gantry. That will, in effect, take away two work fronts from the activities.

10:30

John Mason: Will getting the units in and the closure be the main steps—or risks, if you like—over the next few months? Is anything else important, risky or key?

David Climie: Those are the key and most visible things. The road works on both sides are progressing and will continue to progress. People will see those as they drive through the scheme. Everything there is progressing well off the critical path, and there is nothing in the road works that would impact on the opening date.

As for the bridge itself, there are certain activities that we cannot start until the bridge is connected from end to end. One of those is putting the wind shielding on. The wind shielding is about 3m high, and the idea is that it will deflect the wind up and over the road, so it takes quite a lot of load. Until we have a continuous structure from end to end, we do not want to put additional wind load on the structure. We need a fully complete structure from end to end before the wind shielding can be installed.

We also have to put on the waterproofing and the road surfacing, as I have mentioned, and we are looking to do that in the winter, which is not the ideal time. That is not a risk, but it is a fact that there will be less opportunity to do it than would be ideal.

John Mason: If the weather is bad, you will not be able to put on the road surface.

David Climie: Yes, but for a different reason. It is not affected by the wind but by temperature. We do not want low temperatures and we do not want snow, because they would affect work. However, by the same token, we will be gearing up to really go at it and put a lot down when we get the opportunity.

John Mason: That is helpful. Thank you.

Jamie Greene (West Scotland) (Con): Thanks for that update. I do not want to dwell on the timescale too much. I appreciate that weather plays an important part in a project of this scale. However, saying that a £1.3 billion project all comes down to the weather feels quite loose. Should we assume the worst and be pleasantly surprised, rather than hoping for the best, as I feel we are doing at the moment?

David Climie: No, and I certainly would not characterise what we are doing as "hoping for the best". We have from the contractor a realistic programme that has been analysed in great detail. We were as concerned as everyone else when the date had to change. If you change a date, you want to be sure that you are changing it to a date that is realistic and achievable. I can say from experience that changing the date is a painful process—rightly so. If you change the date for something as fundamental as this, you must be absolutely certain that you are changing it based on the best possible data. We now have four and a half years of extremely good data on exactly what we have experienced in this location doing this type of work, and we have taken into account everything that we possibly can take into account in terms of what can be done going forward. Can I guarantee it? No. However, by the same token, we are not saying that the date is absolutely the best that we could do, either. I think that it is a realistic date. The contractor has looked at the matter in great detail and it is the right way forward.

Jamie Greene: Thank you. I also have a brief question on health and safety on site. Can you update us on the progress of investigations into the tragedy of earlier in the year? Can you give us a general assessment of health and safety and any changes or developments that have happened since then?

David Climie: Certainly. The tragic fatal accident that happened in April was obviously a great shock to the project and a great setback for us all. If there was one thing that we were focused on, it was having a very safe project on which nobody was killed. That was our fundamental requirement. The Health and Safety Executive is still investigating—such things tend to be fully drawn out—and it wants to talk to everybody who was in the vicinity at the time to ensure that it has all the information that it can possibly gather.

Although the investigation is on-going, it is important to emphasise that the first thing that it focused on, in the very early stages, was whether there were fundamental flaws in the health and safety culture, health and safety management or health and safety processes on the site. If there had been, the HSE would have put measures in place very quickly to ensure that those flaws were dealt with. There could have been a prohibition order, a stop-work order or something like that. That did not happen. The HSE came in and looked at the procedures, the management and the processes, and was satisfied that they were all correct and in place. Regrettably, even with all those things in place, tragic accidents can still happen; there is always a human element. Obviously, I cannot speculate on the final outcome of the health and safety investigation.

We take on in a job of this size so many big risks and challenges that are all deeply analysed, and there is a lot of preparation and work to make sure that nothing like that fatality can happen. That is a real focus. The most troubling part of it, in my view and that of the FCBC project director, was that the activity that was going on when the fatality occurred was routine maintenance on an item of plant that could have been in use on any construction site around the UK. That was the biggest frustration to us—the incident was not a big thing that was directly related to the construction. In our industry it is often the case that it is the everyday mundane things that come and bite you. It is deeply regrettable to our whole industry and is something that we are very conscious of.

Has anything specifically changed? No, it has not, because of the points that I have made. There was nothing identified as being fundamentally wrong. We obviously look very hard at all our activities all the time, and will continue to do so. Michael Martin, the project director, is very clear that safety is his number 1 priority; he reinforces that to every new starter on the project and for every activity that we do. That will continue to be the case until we finish. We are very careful about complacency and about people taking their eye off the ball as we get close to the end. That is extremely important.

The Convener: Richard Lyle will lead on community engagement.

Richard Lyle: You have said that you are involving schoolchildren, and that you are putting drones up and letting people see on the internet and so on how you are doing.

I mentioned earlier that I have major road works in my constituency on the M8/M74, and there is quite a lot of concern among businesses and local residents about road closures and matters such as sound baffling and fencing. Tell me what you are doing and give an update on any new issues of concern that have been raised with you by local residents or businesses over the past six months, and how you are tackling them.

Lawrence Shackman: As the project has continued, community relations have got better and better. At the beginning, when such a project

starts on site there is a lot of concern from local residents in particular about what will happen and the impact that the works will have on the local community.

Right back at the Forth Crossing Bill stage, and before that, we engaged with the local communities—the community councils and the local authorities, in particular—to try to build as much consensus as we could. We built a lot of good feeling and good will though developing the "Forth Replacement Crossing: Code of Construction Practice", which is basically the contractors' Bible; it sets the limits for matters including noise, vehicle routing, prohibited routes and working hours. It is a public document so that the public knows exactly what we should be doing, as the monitors of the project. In particular, the community forums have been set up; they have run every three months through the project. We tell people from the community what we have been doing over the period, with images of the works in progress to explain what is happening. What is very important is that we talk about what is going to happen in the next few months and into the future, so that there are no surprises. We try to limit disruption as much as possible.

To come to your question, more recent issues have focused on traffic management changes, and what impacts they may have on the travelling public on the strategic road network. In the past couple of weekends, for example, we have put overhead intelligent transport system gantries in place around the Scotstoun junction on the south side of the project. People were well informed at community level and at national level. We advertised the works on the gantry network so that people were aware of the works that were going to happen. We did the works in the middle of the night to minimise disruption to the travelling public and, of course, we also talked about that at the community forums. That is one example of our trying to tell people what we are going to do and of realising the works in the best possible manner in order to minimise disruption.

We have dealt with a huge number of varied issues during the past five years. At the beginning, there were concerns about the site set-up and that kind of thing. We had to make sure that the local communities were kept as quiet and noise free as possible, and that we minimised dust and dirt on the road. We were very vigilant when we looked at the various issues that were being raised and in trying to stave them off as much as possible before they occurred.

In more recent times, we have looked at practical operation of the road network. Queensferry district community council was recently concerned about how the new road at the Queensferry junction will operate in comparison with the existing road set-up. I was able to minimise the concerns, but until the road opens, it will be difficult to know exactly how it will perform. A lot of new engineering has been built into the road network—in particular, the intelligent transport system—to control traffic and smooth its flow in order to minimise disruption. We have roads that have been designed using appropriate design standards.

The other strand of what we do is focused on education, which David Climie mentioned earlier. The contact and education centre building, which is also part of the project cost, was established back in January 2013. As David Climie said, approximately 15,000 pupils have come through it, learning about bridge engineering, science and technology, maths and that type of subject. We have seen pupils of all different ages.

We recently wrote to every school in Scotland to invite them to come to the premises and take part in those activities, and we are pretty well booked all the way through this next academic year. We also have a lot of repeat visitors from schools. Members might also remember that, back in October last year, the Cabinet Secretary for Infrastructure, Investment and Cities came to celebrate the 10,000th pupil visiting the contact centre. That is a good way of educating people about engineering. It is not just about the hard engineering and looking out of the window and seeing three bridges; it is about the wider maths, science and technology aspects. I hope that it will spur people to take up those subjects in the future.

We also have a lot of interest from around the world and other parts of the UK. There is a lot of engineering interest, obviously, but we have had groups of all different persuasions, whether they be scout groups or Probus clubs. We have a high demand for site visits and presentations in the contact centre, and we also send members of the team out elsewhere in Scotland and the UK to do presentations and conferences, to spread some of the lessons that we have learned around the country.

Richard Lyle: I have taken on board all the things that you are doing, and the costs of the contract and so on. Have you given a commitment that, after the contract has been fulfilled, you will go back to check for traffic noise in particular? If so required, will you put up fencing to cover it? There is a reason why I am asking that question.

Lawrence Shackman: The noise regulations require us to go back and do a check on the actual noise levels one year, five years, 10 years and 15 years after opening. We have to check that what we predicted at the beginning of the project and agreed through the bill process has been delivered, including all the mitigation that has been

put in place through the noise barriers and the bunds that you mentioned before.

We have to check that and, if the measures do not add up, we have to do something about it either by putting in noise insulation or building more bunds or noise barriers. That is normally fairly unusual. Hopefully, the sums were done properly during the design phase and the assumptions that we made will be borne out in the future.

There is a mechanism to monitor noise through the next 15 years of operation.

10:45

The Convener: I was worried that we might be getting on to another traffic scheme; I am glad that we are not doing that.

John Finnie has questions about the public transport strategy.

John Finnie (Highlands and Islands) (Green): I thank the witnesses for their briefing. As we have heard, the project comprises more than the excellent construction work that is on-going. Part of the project is the public transport strategy, which Mr Climie mentioned in similar terms to those that we have heard before. I appreciate that a lot of people, such as the various councils and Transport Scotland, are involved in the strategy. Meetings on it are biannual and the next one is scheduled for the autumn—I am always a wee bit suspicious when a season rather than a month or a week is given as a date.

Will you outline what has happened on the strategy since you previously appeared before the committee? It is important that the investment is not simply for car users and that public transport users benefit, too.

David Climie: That is true. I emphasise that part of the public transport strategy—the use of the existing Forth road bridge—relates specifically to the FRC project. In the past few months, we have consulted on the traffic that will be able to use the existing bridge under the new road orders after the Queensferry crossing opens.

We have clarified the intention that the existing bridge should be a public transport corridor for buses, taxis, pedestrians, cyclists and some categories of motorcyclist. Motorcycling groups drew to our attention a particular question about a slight gap that related to which motorcyclists could use the Queensferry crossing and which could use the Forth road bridge. That helped us in evolving the traffic orders so, now that we have consulted, we can ensure that that gap does not exist. Everyone who is on a motorcycle will be able to use one crossing or the other; there is no motorcyclist who will not be able to do that. The consultation has been completed and we have had comments back, so that work is progressing extremely well. The activities that relate to the FRC project have made significant progress in the past few months.

Lawrence Shackman will talk about the wider public transport strategy.

Lawrence Shackman: The public transport working group, which was formed five or six years ago, involves the local transport authorities, the regional transport partnership and the bus operating companies and has latterly included the rail operator. As part of the project, we implemented as many public transport measures as we could when we developed the contracts. I do not know whether members are aware that we incorporated bus hard-shoulder running schemes in the Fife ITS contract and in the junction 1A contract. The schemes have been operating for three years and are used by 10 to 12 buses every morning to jump the queues that normally result from the Forth road bridge. Those initiatives have been largely successful so far, but we will not realise all the benefits of the public transport corridor that we are providing until the whole project is complete.

We are in the middle of undertaking improvement works at Ferrytoll park and ride, and a temporary set-up is in place while construction works take place there. That is part of the main contract; the works will increase the circulatory area for buses and will separate the entrances and exits for buses and motor cars, which will be much more efficient. Bus priority measures into and out of the park and ride will also be put in place around the new Ferrytoll junction.

A lot of those measures have been incorporated into the project. During the design phase, we tried to make the most of the Forth road bridge as a public transport corridor. We worked with public transport working group colleagues to incorporate into the project public transport link roads on the south side of the Forth road bridge that link seamlessly into the existing bus lane on the A90 into Edinburgh.

When the whole project is open, people will be able to park at Halbeath park and ride, which opened about three years ago and whose patronage is increasing all the time, and get on a bus that can use hard-shoulder running in peak periods on the M90 in Fife.

Nearly all of the buses—in fact, all of the buses, I think—will stop at the Ferrytoll park and ride and pick up more passengers there. They will then move seamlessly across the Forth road bridge and use the public transport links into the bus lanes all the way through to Barnton. We have to optimise as much bus traffic as we can.

Looking forward, the public transport working group is considering further improvements on the route corridor, but they would be realised outwith the project team. The most recent focus has been on the Newbridge junction, which is right at the very south end of our road corridor, to see what improvements can be made to help with bus circulation, in particular, around that junction and on its approaches. A report funded by the City of Edinburgh Council, West Lothian Council and Transport Scotland has examined the best measures for taking forward, and I think that that will be the focus of the next group meeting.

John Finnie: Just for confirmation, both of the councils that you have mentioned are on the south side of the bridge. I take it that there has been engagement with Fife Council, too.

Lawrence Shackman: Very much so.

John Finnie: Is Transport Scotland playing an overarching role in this? I am delighted that Newbridge is being considered, because it shows that the improvements that are going to take place will have an impact way beyond the bridge. After all, there is no point improving something if it simply creates a logjam elsewhere.

Lawrence Shackman: That is right. I should mention, as an example, that the Halbeath park-and-ride site on the north side was promoted by Fife Council, but I think that the vast majority of the funding actually came from the Scottish Government via the intervention of Transport Scotland.

Peter Chapman (North East Scotland) (Con): Thank you for a very good update on where we are. I want to ask about the old bridge, which you have just mentioned. Is it the case that it will carry buses, taxis and motorcycles—and that is it? It seems to me that the upkeep of that structure will cost a huge amount for very limited use. Can we do no more with the old bridge? I call it "old", but of course it is only 50 years old. It appears that it will have only a very limited use for the cost of upkeep, and I just think that we should look at it again with a view to taking some pressure off the new bridge. My experience of crossing the bridge regularly is that there are queues morning and night. Are you telling me that there will not be queues morning and night for the new bridge? If that is the case, can we do more with the old bridge?

David Climie: That is a good point. We should remember that at the very start of this project it was thought that the Forth road bridge would not be able to be used for anything at all, because the cables were going to continue to deteriorate. However, the dehumidification equipment has been very successful in slowing down or stopping altogether the corrosion in the cables.

Fairly early on in the project, we were able to develop what we called the managed crossing strategy, in which we started to use the Forth road bridge as a public transport corridor for some things. Obviously, that could be developed further. As part of the managed crossing strategy, we have already looked at the potential for putting a light-rail system—I hesitate to use the word "tram", but it will be something like that—across the Forth road bridge.

However, taking heavy goods vehicles off the Forth road bridge will be key to its longevity, with the other benefit that any maintenance that is required to be done will be a great deal simpler if there is far less traffic on the bridge. You will be able to put the traffic on to one carriageway and carry out the maintenance on the other. Such an approach will mean that any maintenance that is needed can be done quicker and cheaper.

As for how the bridge might be used in future, that is for others to decide outwith this particular project, but the Forth road bridge will be there and will be maintained. Who knows what it might be used for in future? Transport modes in general might change dramatically in the next 20 to 30 years—I really do not know—but the bridge will be there and it will certainly be usable. It would certainly be possible to revisit in the future how it might be used.

Peter Chapman: As I said, the old bridge is only about 50 years old, so its lifespan has been very short. What is the lifespan for the new bridge? For how long will it be fully usable?

David Climie: It has a design life of 120 years. We should also remember that we have the classic structure of the Forth rail bridge, which is already 126 or 127 years old and is still functioning very well and carrying everything that it needs to carry. That sets us a very good example of how we should be designing and what we should be designing. Perhaps we should also remember that the Forth rail bridge was designed shortly after the Tay bridge disaster, which was obviously in the designers' minds when they designed the Forth rail bridge. There has to be a balance between designing something for an infinite design life and for a reasonable design life. The Queensferry crossing is designed to last 120 years. I hasten to say that that does not mean that it has to close after 120 years plus one day. That is how long it is expected to last.

Lawrence Shackman: With the Queensferry crossing, we considered maintenance and operation in a lot of detail at the planning stages. We have built in ease of maintenance and operation as well as health and safety so that, if someone needs to inspect any part of the bridge, such as the inside workings, the towers, the cable stay anchorages and that kind of thing, they can

access it by going through the deck and not having to stop on the hard shoulder and walk across to the towers. A lot of facilities have been built in to the bridge itself to give access through the two abutments at either end.

A lot of health monitoring systems, as we call them, are being retrofitted on the Forth road bridge to monitor how it is performing. Those systems will be installed on the Queensferry crossing from day one so we will be able to see how the bridge is performing in real time as it goes through its design life and, hopefully, beyond.

Peter Chapman: The problem with the old bridge is the cables and there are miles of cable on the new bridge. What is different about the cables this time that means that the new bridge will do 120 years when the old one only did 50?

Lawrence Shackman: The beauty of the Queensferry crossing is that the cables can be replaced without disrupting the traffic. When you come to the site, I hope that you will be able to see what the cables are made up of. The white cables that you see as you go past the bridge have individual strands in them and the number of strands in them varies depending on where they are in relation to the towers; the cables that are closest to the towers tend to contain more strands than those that are further away.

We can replace a whole cable, but we can also replace individual strands by pulling them through into the bridge deck or the tower. They can be replaced at any time with minimal disruption.

Richard Lyle: My small question follows on from what Peter Chapman has asked about. The Golden Gate bridge is nearly 100 years old and the Forth road bridge is just over 50 years old, and you have answered the question about the life of the Queensferry crossing that I was going to ask. Could you re-cable the Forth road bridge for the future, now that there will be hardly any traffic on it?

David Climie: In theory, yes, it could be done. We would have to construct a new cable above the existing cable and transfer the load from the old cable to the new cable. It can be done. It is obviously a difficult process, but it would be easier with less traffic. That was the main objection to replacing the cables on the Forth road bridge rather than building an entirely new crossing.

Richard Lyle: The new bridge has individual and individualised cables whereas the old bridge has a wraparound main cable, but we could do it if we were so minded?

David Climie: If we were minded to do it, it could be done but it is an extremely difficult process. It is technically possible but, as an engineer, it is not what I would recommend.

Mike Rumbles: I too have a question that follows on from Peter Chapman's questions. What happens if a political decision is made to utilise the current bridge for traffic if the new bridge is full of traffic? I just want to confirm with you—it is a simple question really—that the design of the approach roads means that it will not be a problem to transfer traffic from the new bridge to the old if that is what a future Government wants to do.

David Climie: It is possible to do that, although it is not the case that we could simply switch. The new Queensferry crossing will be a motorway running at 70mph, and we would not be able to run at that speed all the traffic on that crossing on to the Forth road bridge—that is clearly not practical in terms of connecting roads. If we wanted to put more traffic on the Forth road bridge, there are connecting roads at both ends, so that would work—

The Convener: There are?

David Climie: Yes.

11:00

The Convener: I want to follow up on that, if I may. When it is windy, we notice the restrictions on the not-so-old bridge—I will join with everyone in calling it that, because I am over 50. We might have to divert buses from that bridge to the new bridge during incredibly windy periods. I assume that that would be a seamless transition that would simply happen through gantry signs, and there would be no issues with it.

David Climie: Correct. It is designed to be a very smooth transition. If buses need to use the Queensferry crossing, they would be able to do so very easily. It would involve literally flicking a switch on a sign to tell them to go by the other route.

The Convener: We will move on to another section, which concerns the workforce. Mairi Evans will lead on that.

Mairi Evans: It has been fascinating to listen to the witnesses so far this morning. The crossing is an incredible engineering project, and it is great to hear the detail of it. I was fortunate enough to visit a similar structure: the viaduct in Millau, which was an interesting project.

My question is on the workforce. When we have a project of this size and scale, trainees and apprentices are a vitally important part. What has been happening in that regard, and what are the current numbers of trainees and apprentices who are involved in the project?

David Climie: You are right—it is vitally important that we take the opportunity to maximise the training that we can get out of the project.

Lawrence Shackman touched on the subject of encouraging young engineers to enable them to take over from us in the future. I want people to be as enthusiastic about future projects as we are about this one. That is vitally important, and the best time to catch people is when they are young.

On the workforce, and the training in particular, we built some requirements into the contract in order to encourage progress, and we focused on specific areas. In the principal contract for FCBC, we specified that we wanted the company to deliver an annual average of 45 vocational training positions, 21 professional body training places and 46 positions for the long-term unemployed. That was an annual average each year through the construction period. We started off with lower numbers than that, and FCBC volunteered those higher numbers as part of its winning tender. That set the bar for what needed to be achieved.

To date, we have managed a cumulative annual average on vocational training of 111, against a target of 45. With regard to professional training, the current cumulative annual average is 32, in comparison with our target of 21. For the long-term unemployed, our cumulative annual average is 49, in comparison with the minimum requirement of 46. Each year, we have achieved or bettered the target.

Apprentices come under the vocational training category and the Scottish vocational qualification system. To date, a total of 20 apprentices have gone through the system. Currently 12 are still working with us on the project. Of those, eight are from Fife, Lothian or Edinburgh, and four are from elsewhere in central Scotland. They are working as civil engineering technicians, electricians and business administrators; we also have a welder and a fabricator. Of those who have finished their apprenticeships with us, two have gone on to full-time employment on the project with FCBC. A lot of time and effort has gone into the training overall.

In addition, 15 members of our team, which is the employers' delivery team, have become chartered engineers while on the Forth road crossing project. They have gone through their three-to-four year training period and become fully qualified.

We have had summer students working with us from various universities, including Edinburgh, Aberdeen, Abertay, Cambridge, Strathclyde, Heriot-Watt, Bristol and Dundee. We have covered quite a wide range of universities in terms of the people working with us on placements. Overall, a great deal of effort has gone into providing as much training as we possibly can throughout the period.

As I have said, the average number of people working on the project overall at any given time has been just under 1,200. About 46 per cent of those people have home addresses in Edinburgh, the Lothians or Fife, and 40 per cent have home addresses elsewhere in Scotland. The project is quite international—I think that people of 23 nationalities have worked on it—but a lot of the employees are local.

Mairi Evans: My next question would have been about the local element. Thank you for that information.

Gail Ross: Like Mairi Evans, I have found the session fascinating. The bridge looks beautiful and I was struck by your picture of the three bridges from space. The project is fantastic and the bridges will form an iconic scene in Scotland.

The new crossing is a major infrastructure project; I do not know what the last project of such a scale was. To touch on what David Climie said about apprentices and trainees, an advantage of having a big project that takes a long time to complete is that people can get qualifications on the job, which is amazing.

I will touch on public engagement with communities and schools, which is vital. I am really pleased that you have contacted all schools in Scotland because, although the project is very relevant to the area that we are in, it is also relevant to the whole country. I come from Wick and it is probably correct to say that schools in my constituency of Caithness, Sutherland and Ross would find it a lot more difficult to do a site visit than schools that are more local to the site would.

Your project update contains a bit about national women in engineering day. We have had a local drive to encourage more women to study science, technology, engineering and mathematics subjects at school and beyond. How many women are working on site? If you cannot tell me that now, maybe you can get back to me.

I was touched to read about the involvement of the veterans who built the Forth road bridge, which is fantastic. I congratulate you on your fantastic community engagement. If you could get back to me on the gender split, I would be grateful.

David Climie: Thank you. I have a wealth of information with me, but the gender split is one area that it does not cover. I will need to come back to you with the detail.

You referred to the veterans, who we engaged with early. Their interest in the project and their fascinating stories are incredible. They have had three visits during the project. It is fascinating for our younger engineers to engage with them and to hear how much things have changed in the 50-plus years since the Forth road bridge was

constructed. On issues such as health and safety, the differences in how things are dealt with are like night and day. Some things change and some do not—the engineering principles of construction do not change; they are exactly the same. It is fascinating to hear the veterans' side of the story.

Rhoda Grant: You gave an assurance that you would keep a watching brief on blacklisting. What steps have you taken to monitor the situation? Have you taken any action?

David Climie: We and the FCBC take the issue seriously and I regularly challenge the FCBC on it. I have asked its project director whether there has ever been any question of blacklisting and whether any issues have been raised about it with the FCBC. No such issues have been raised with the FCBC and no companies that are involved in the project have ever indulged in blacklisting for the project. The FCBC project director gave me that reassurance again this week; he has categorically stated that no one who is involved in the FRC project has had anything to do with blacklisting, which is completely unacceptable.

Rhoda Grant: Does a worker or a potential worker who feels that they have been blacklisted have a way to raise that directly and have that investigated?

David Climie: Yes. The project has a whistleblowing policy and the FCBC consortium parent companies have company hotlines and ways to be contacted. There is also a whistleblower policy on the site, and that is made known to people when they come for their initial site induction for the project. The answer to the question, therefore, is yes, there is an avenue for a whistleblower to use a confidential helpline to flag up any concerns that they might have.

Rhoda Grant: What about someone who feels that they have not been employed on the project because they have been blacklisted by one of the companies involved? Do they have a way of flagging that up to you?

David Climie: I would ask anyone in that position to contact Transport Scotland and let us know. We would certainly investigate the matter thoroughly. To date, we have not been approached on that subject, but anyone who feels that they are in that position should contact us on Transport Scotland's inquiries line and the issue will be thoroughly investigated.

Rhoda Grant: Thank you.

The Convener: Members appear to have no further questions, but I have one more question about an issue on which you might be able to enlighten me. When I was going through previous papers, I noticed that there was an incident in which some concrete was allowed to slip into the sea below the crossing. I could not find the results of the investigation into that or what remedial action had been taken. Can you enlighten me on that?

David Climie: Certainly. First of all, though, I should clarify that it was an alleged incident. We were notified of it two months after it had allegedly happened, which of course made it quite difficult to investigate. If someone had been that concerned about it, they would have flagged it up immediately when it could have been investigated in detail. Regrettably, we were first made aware of it through the press two months after it had allegedly happened.

There was a wildly exaggerated claim that several hundred tons of concrete have been dumped into the Forth. First, that would not have been physically possible with the logistics that we have on the site, where all the concrete is delivered via barges. It would have meant that two barges that were completely full of concrete would have dumped that concrete into the Forth, which would have been a very stupid thing to do commercially—we have got far better things to do with our concrete—and which simply would not have been something that the contractor would have done. If that amount of concrete had have been put into the Forth, it would have been visible for miles.

The investigation took place, and what appears to have happened is that a concrete pour had taken place and the lines had been cleaned out after it had been completed. Normally, that material is retained in basins within the barge itself but for some reason the hose was put over the side at the very end and some discoloured water was discharged into the Forth. The Scottish Environment Protection Agency was fully involved in our investigation, and we took it through exactly what had happened.

I confirm that we have a very detailed log of all the concrete that is batched on the site. We batch all our concrete on site, and we want to know where every cubic metre of that concrete has gone, so we have a complete log that allows us to track exactly where, say, 50 cubic metres of concrete that has been batched has gone on the site. We back-checked through that log to ensure that every cubic metre of concrete had been accounted for, and it had been.

We completed the investigation; we fully rebriefed all the crews, because it is still not acceptable for washout to be going into the Forth; and we closed out the matter with SEPA on that basis.

The Convener: Thank you. That provides some reassurance, because when I was reading back, I noticed that the figure of 348 tonnes was

mentioned at some stage. It is a decrease from what is an incredibly large amount that not even I could have missed, and I am delighted to hear that it appears not to have been the incident that it was. Thank you for updating us on the matter.

As the committee has no further questions, I thank David Climie and Lawrence Shackman for coming to the committee. The committee will have an informal discussion about a visit, which I know that some people are looking forward to more than I am. I am terrified of heights, so I will be staying in the middle of the bridge and will not be going out to the end of a cantilever. The idea terrifies me. I think that we have a date for that visit, and we will see whether we can do it.

We will also be asking you back in December, I think, to give us an update on how things are progressing. Moreover, if you feel that there is something important that should be brought before the committee, you always have the opportunity to let us know about it. It is important for this to be a two-way process.

David Climie: Absolutely.

The Convener: Thank you very much for coming in, and thank you for the evidence that you have given.

David Climie: Thank you. We look forward to seeing you on the project site.

The Convener: I now formally close the meeting, but I ask the committee to stay in place so that we can have a quick discussion.

Meeting closed at 11:14.

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