

Hearing Transcript

Project:	One Earth Solar Farm
Hearing:	Recording of Issue Specific Hearing 1 (ISH1) - Part 2
Date:	9 July 2025

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FULL TRANSCRIPT (with timecode)

00:00:13:18 - 00:00:25:21

As for when it's time to resume this. Open. Open. Flowing. Issue specific hearing. Um, for those of you, uh, rejoining on, um, uh, virtually. Uh. Welcome back.

00:00:27:11 - 00:01:01:03

So when we concluded, we're just going to go on to looking at questions on mitigation plans and really, it's, uh, a question to the applicant just to ask you to review the documents, to look at any phrases where you're saying you may do something or you would consider doing something, because that seems to me potentially no form of commitment to do anything. And so, uh, they need to be avoided, I would suggest.

00:01:01:22 - 00:01:02:13

Um.

00:01:05:04 - 00:01:06:16

And, um.

00:01:13:13 - 00:01:21:04

Again, I think the, the Oaklands example is potentially, uh, one that, uh, may be helpful to look at.

00:01:26:10 - 00:02:04:12

And once you're doing that, I think there is a, an error in the outlying construction traffic management plan, which is app 181. On page 19 it says, uh, it says a digital recorder. And I don't think that's right. But you can have a look at that and hopefully either explain it or correct it. But then when we look at the outline construction environmental management plan, which is app 176 and its section 2.5, in dealing with working hours.

00:02:06:15 - 00:02:30:05

What I'm hopeful you'll be able to provide clarification on is how would working outside of normal hours be agreed? Are you intending to seek agreement or just propose to do it? Would there be a consultation with the local authority or local people? And how do you propose for that to work?

00:02:47:01 - 00:02:56:03

Thank you sir. Yes, we'll take away both those points to make sure we, um, address them and including looking at the Oakland's drafting and the and the mitigation plan points so we can all do that.

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Okay. And on a broader point, we've seen in other examples of DC's the the working hour specified on the face of the DCO. That's not something that you you done. So again. Is that something that, uh,

would be worth considering? Or are you tied to having it within the management plan rather than on the face of the DCO?

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It's common for the applicant. I think we would prefer it remained in the management plan. And I do think that is consistent with at least most of the, um, made solid DCO. I appreciate that. I appreciate the Oaklands one has a different approach, although I think that that might be the outlier compared with the other made orders to date. Um, so the preference would be to keep it in the plan.

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Okay. I just see with the local authorities if there are any views they have on that particular point.

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So Stephanie Hall, Lancashire County Council, said I don't think we've got any, um, points on that. We obviously have some points about the substance of some of the, um, outline plans, but save those for a later day.

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Okay. Thank you.

00:04:17:07 - 00:04:19:14

Okay. We'll move on then. Uh.

00:04:21:19 - 00:04:25:19

Sorry. Uh, Mrs. Walker, just wait for the microphone to come to you.

00:04:30:17 - 00:05:00:21

Thank you. Sir. Uh, Mrs. Walker, a resident of North Clifton. Uh, apologies, I was I wanted to bring something up about noise, but you moved on quite swiftly from operational noise. Uh, not sure if this is a relevant part, but I couldn't see it on the rest of the agenda. Um, I just wanted to raise something around, uh, the information that one erf had given as part of their consultation brochure. And from the discussion in the open hearing last night where the applicant responded about noise due to inverters.

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Um, it does say in one FS documentation in the consultation brochure on page 25, um, when talking about noise and vibration and the assessment with the significant effects being no likely significant effect and the measures to reduce the effects on Earth have stated, the components of the solar farm that make some noise are the substation transformers, inverters, and batteries. The noise is very localized and anticipated to only travel 300m from the source, so the updated design places these items at least 300m from properties to seek to avoid impacts.

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Yesterday, in the open hearing when this was raised, the applicant actually stated back to us that it was 100m from properties.

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Some clarification would be welcomed on that, please, if appropriate. Thank you.

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I'll allow the applicant to respond. Thank you.

00:06:02:21 - 00:06:24:11

Please come for the applicant. Thank you. I'm just finding my note from last night. So I think we're talking about a couple of different things. Um, substation and Bess. 300m from residential properties and 100m from property rights of way. And then the inverters, which are part of the power conversion stations. 100m from residential dwellings and 50m from existing public rights of way.

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So maybe because it's the two different distances that might have caused the confusion, but hopefully that's clarified.

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Need to make sure you're using the microphone as well. This isn't a sort of question and answer session. If you do have a question, can you put it through to us. And then we'll need to see whether it's appropriate for us to then ask the applicant. But I'd also say that there's obviously a number of points that you wanted to make about noise in particular at the moment. Uh, we're obviously covering the DCO in itself and moving on to environmental matters.

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Please make the point now, but I think, uh, we need to try and make sure that we stick to our agenda as far as we can. And obviously, you have the opportunity to put in writing those specific points on noise, which will allow us to understand better the points that you wish to make, but also the applicant to then respond. But, you know, say what you wish to.

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Rebecca Walker, resident of Northampton. I'll I'll put it in writing. It's just that this seemed to be contradictory information from information that one erf have given into the public domain.

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Okay. Thank you. And if you can clearly reference the document it is that you're referring to. So we can understand what that relates to and how it, uh, relates to the actual examination documentation that is now before us. Thank you.

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Okay. I think then that, uh, we're moving on to, uh, next topic on the agenda, which is, uh, alternatives

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and specifically in trying to understand the applicant's case with regard to,

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The duties under the EIA regulations and then subsequently in respect of flood risk and the application of the sequential and exception tests, which have obviously then led to the the choice of

the site that is part of the proposed development. Obviously, we've got an element dealing with, uh, water flood and so on further down the agenda. But uh, if you can respond in respect of those two particular elements in the first instance, we may well have some more detailed questions to follow.

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Thank you.

00:09:23:09 - 00:09:45:06

Miss, comment for the applicant. I think, um, what I will do is invite, um, Mrs. Sarah Price, who's, um, a planner at DWP, a director at DWD. Um, I think if we go through the site approach to site selection and then which obviously picks up the approach, the sequential test as part of that, um, would that be the helpful point for us to start?

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Oh that's fine, thank you.

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Okay. Thank you.

00:09:51:03 - 00:09:53:09

Thank you, Sarah Price for the applicant.

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Before I do set up, that's, uh, we have another member of our team, Mr. Pelissero, who was going to set out how we've responded to the IA regulations, as that was your first question. Are you happy for us to do that first?

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By all means.

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Thank you.

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Thank you. Uh, Guido Pelissero for the applicant. Um, in terms of alternatives, the applicant has considered reasonable alternatives, including alternative design, technology, size, scale where required, and that has been undertaken in accordance with the Infrastructure Planning Regulations of 2017. We have set that out in the. Yes, that's chapter four of tentative design, and that's app 033. The applicant has complied with the IRA.

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The point is, any considered reasonable alternatives, which are those that are genuine alternatives that meet the need in the timescales available. To quote Ian one paragraph 4.3.15, it does state that applicants are obliged to include in their information about the reasonable alternatives they have studied. They should include an indication of the main reasons for the applicant's choice, take into

account the environmental, social and economic effects, and including relevant technical and commercial feasibility.

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We have done that within chapter four. Um, and that is actually clearly set out. We do have different subheadings whereby we look at the need, and that's focused on its significant contribution to national policy and decarbonisation. The Do Nothing, which sets out why the snow has not been considered as a reasonable tentative because it does not deliver the proposed renewable electricity generation capacity, which is obviously the UK's and need to meet net zero. We do have a consideration of alternative locations or uses.

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Um, we make reference to the site selection report, which is app 168, um, and which my colleague Miss Price will talk about. Um, and in particular, we do make reference to the environmental social designations and considerations. So looking at how we kind of identify the site, take into account um designations,

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we have a section on alternative renewable energy demonstrating why solar is the most suitable renewable energy for the site. And then we do go into the design evolution. So looking at the solar PV configuration, best location, how we consider the cable route over the River Trent and then the masterplan evolution take into account consultation feedback uh including buffers and setbacks.

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Thank you.

00:12:49:02 - 00:13:35:22

Thank you. Sara Price for the applicant. So, as noted by Mr. Pelissero there there is a report submitted with the application, which is the site selection report provided at appendix one of the planning statement as app 168. And that sets out the approach taken by the applicant in identifying this site and developing the design consistent with a series of site selection principles, and following the those principles set out in Ndps in three paragraphs, 2.1.1 8 to 2.1 .48, and those that sets out those matters.

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That, from a policy perspective, are considered to be appropriate principles for site selection.

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The applicant has set out in the planning statement, sought to initially develop a single new, nationally significant infrastructure project capable of generating a minimum of 250 to 500MW. And there wasn't a minimum size identified to do that. But the applicant understood from conversations with National Grid that there was capacity available within this area. And principally as a result of the closure of former coal fired power stations in this region.

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Following that, the applicant set out the principles that it would have regard to when identifying a site. Aside, and those are set out in paragraph 3.1.3 of the site selection report. I don't intend to go through

all of them here, but in principally, it was identifying a site that was capable of meeting the UK's urgent need for low carbon energy generation to have, um, regard and avoid impacts on sensitive landscapes and environments as far as possible, and also to reduce, um, the level of land um, used as part of the scheme that was best and most versatile agricultural land, as well as, um, ensuring that the applicant had regard to the sequential test, as we will come on to with regard to, um, flooding.

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The applicant also considered accessibility from the strategic road network in terms of enabling ease of construction, and also to deliver a scheme which would be primarily on land which could be acquired voluntarily, thereby avoiding and minimising the need for large scale compulsory acquisition.

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In identifying a site. The point of connection was the starting point, and that's been acknowledged as an appropriate starting point for site selection in numerous solar discos examined and made to date. Initial conversations with National Grid, which started in Q4 2020, identified that there was capacity available at high maanum, and that led to a grid connection agreement for 740MW, with an agreed connection date of 29.

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Upon identifying this point of connection, the applicant considered what would be a reasonable distance to set their search area from the point of connection and a ten kilometer distance was set. This is all set out in the site selection report, and that ten kilometres was set to minimise the risk of environmental impacts, disruption to multiple landowners and challenges with crossings and also losses, process losses due to energy, travelling long distances and also the cost and delays associated with a longer cable route.

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The planning statement sets out distances adopted in various other solar DCS, which vary by project, but ten kilometres is more than some and slightly less than others, but it was an appropriate distance that the applicant considered was right for this project in this case.

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In terms of how that then applies to the sequential test and says, would you like me to sort of briefly go through that now or later when we talk about flood risk?

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I think it'd be helpful to understand now, because it gets to the heart of some of the concerns that we've picked up in reading the documentation, and we need clarity from you to make sure we understand properly the approach you've taken.

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Yes, sirs. Of course. Um, so Sara Price again for the applicant. And so as I set out previously, the applicant adopted this ten kilometre search area. And

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it's worth starting by saying that the ten kilometer search area has very significant parts of it within flood zones two and three. So what the applicant first did was consider lower risk areas within the ten kilometer search area. And they initially started their search to the southwest of that search area around the settlement of Rossington, where there was reasonable areas to accommodate a utility scale solar farm in flood zone one.

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And the discussions with landowners within this area didn't prove fruitful, and there wasn't any landowners within this part of the Area of Search that wanted to promote a solar farm on their land. And

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the MPs recognises that having landowners that wish to put their land forward is a reasonable starting point. And also, I think it's reasonable for applicants to reduce the level of land that needs to be compulsorily acquired. So that was a principle that the applicant started with.

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The applicant then turned to look at other parts of the study area to consider what might be appropriate land for solar. And in doing that, they looked at the site selection considerations that I set out earlier in terms of seeking to find land that would be appropriate for solar and planning and environmental terms, and sort of in broad terms around the study area.

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And there are areas of flood zone one towards the west of that ten kilometre area, which is land on higher ground, but that also gives much more expansive, open, distant views in the agricultural landscape. And so the applicant considered in relation to that land that it wouldn't be appropriate for a large scale solar scheme in the same area. There are other environmental constraints in terms of more settlements, proximity to

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additional residential properties, um, and uh, clusters of listed buildings and conservation areas across that area as well. And so, as I would say, we haven't provided environmental constraints, plans for the ten kilometre study area, but we are happy to provide them in deadline one to to illustrate these points that I'm just going through.

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There are also areas and clusters of ancient woodland to the south, west and south east of the study area that the applicant was seeking to avoid. And whilst any scheme could be designed to avoid some of these constraints that clearly the more they are, the more difficult it is to avoid them in developing an appropriate scheme

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to the west, south western, south east of the ten kilometre search area. Um, there's also areas, as I mentioned, of listed buildings and conservation areas to the west and south west in particular. The applicant also had regard to the published maps from Defra and Natural England with regards to the potential for best and most versatile agricultural land, and I know we have a topic on this later and

notwithstanding the detailed survey results, this high level mapping showed considerable areas of grade two agricultural land across the west of the study area.

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But I think the key is that you have that information, but you haven't yet submitted it. And so

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the element that was at the back of my mind is whether you had genuinely justified the position with evidence to support the position you've taken, because this seems to be potentially a tension between what the NPS, uh, is saying with regard to avoiding unnecessary compulsory purchase, but what the flood risk guidance says in being sequestered, choosing sites sequentially preferable.

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So I'd be interested to know the applicant's position and the weight that we should perhaps align to those two elements in advising the Secretary of State as to.

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What might be more appropriate, because you've said in terms that there are in flood risk elements sequentially preferable sites.

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Okay. Thank you sir. Sarah Price for the applicant. The applicant carried out an exercise of understanding the overall environmental characteristics of the area and landowners that might wish to bring their site forward in terms of the application of the sequential test. Obviously that I say obviously sort of for the benefit of, of everyone. Um, NPC and one sets out that the sequential test needs to look at land that's both available and suitable, um, for the proposed development.

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That's 5.8.1 of Ian one, Which says that the sequential test should consider reasonably available lower risk sites appropriate for the proposed development, and so the reasonably available test relates to whether landowners are proposing their sites as being available for solar development, and the appropriate for the proposed development, I would say, requires a balancing exercise across a range of factors as to whether those sites would be appropriate for solar development.

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And the applicant's position is that there aren't any reasonably available lower risk sites that are also appropriate for the proposed development, so therefore, that there aren't sites that go through to further consideration under the sequential test.

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Is there a contradiction between what the NPS says in those terms with the planning practice guidance, which I think says that applicants should not exclude sites that they don't own, um, from being considered to be reasonably available. And particularly when you have a scheme which is a national infrastructure project and you have the powers for compulsory acquisition. That's why I'm wondering whether there is a tension between the two elements and whether the balance that you've

struck is the right balance, and whether that's something the Secretary of State should be carefully considering in his final decision.

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Thank you sir. Sarah Price for the applicant. I mean, I think we might be straying into some legal areas around compulsory acquisition tests as well. And, um, I'll perhaps confer with my colleagues as to, um, as to how we. Come back on on those matters as well. But I think we understand your line of questioning, sir. And we can. We can do that.

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Thank you. I look forward to seeing your written responses. Thank you.

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Yeah.

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So, Stephanie Hall, Lincolnshire County Council. So I just to put a marker down that this is something that we may, um, need to make written submissions on. Um, obviously, as you'll know, that we're seeking, uh, political authority. So what we can and can't say. This may form part of our case, but, um, so certainly, uh, for today, I think the point is clear that the sequential test in n one links through the footnote to 1.3, uh, to directly to the PG.

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So in terms of interpreting that, I don't consider there to be a tension. It is a direct read across the hyperlinked. And everything. Um, so the interpretation of reasonably reasonable, um, unsuitable alternative sites. It should be the same for Town and Country Planning Act schemes as it is for entities. Um, and in terms of evidence available to discount site. Um, obviously the applicant has agreed that there are available or there are other sites in flood zone one within the ten kilometre study area, leaving aside any submission as to the appropriateness or otherwise of that um, distance of study area, um, the rationale for discounting that land is not given on a site by site basis.

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So we're not able to interrogate, um, the planning judgments or other judgments sitting behind those sites being discounted. So we're at a sort of a lack of information point.

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I think the applicant has confirmed that they'll provide additional information at deadline, the one that will be critical for our understanding and for your understanding, and how you may wish to respond to the judgments and decisions that they've made in selecting the sites. But it seems to me that it will be fundamental in how we prepare our report to Secretary of State in,

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uh, including on on a very important matter. Um, because obviously this site is subject to quite large areas that are within flood zone three and quite large areas of flood zone two. Um, so I'll probably leave it there. Um. Thank you.

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I think in.

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Just sort of one follow up question. I think in, in choosing a ten kilometer area and I recognize there's no specific advice or anything within the NPS that defines what that area should be. And you've made reference to the fact that other schemes have either been less or more. But this is obviously a large scale proposal, I think probably larger than any of the ones that you've cited.

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So wouldn't that necessarily justify a larger search area? And if not, why not? You know what? What can we take to be a reasonable justification for choosing a ten kilometer search area for a project of this scale. And, um. Had you chosen, for example, a 12 kilometer search area?

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We won't know what the difference might have been. Um, because it hasn't happened. But are there particular

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reasons that ten kilometers is seen to be an appropriate, uh, search area as a starting point? Are there any technical reasons why going beyond ten kilometers from high maanum that would exclude a, for example, an additional two kilometers, because the cable run is just it just doesn't work technically or the costs are prohibitive or, you know, is there more information you can provide to us to to give us a greater clarity on the the justification of the starting point of a ten kilometer search area.

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Sara Price for the applicant says, I'm sure there is more information that we can provide and will provide that in writing. And what I would say is that there are some other planning considerations as well, that there's further north. Um, at least three very large solar ends as well. That further north from our site, you go the closer you get to those projects in terms of cumulative effects. And also south east of our of the applicant's site, we get very close to Foss Green, which we have mentioned in the planning statement, um, citing site selection report as well as a consideration that the applicant took into account in terms of going further beyond that ten kilometre study area.

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In terms of technical reasons. I'm I'm not the right person to speak to that, but I can definitely confer with the team, um, as to why that distance was selected when the applicant was first considering site. I would also say that we do, in the planning statement, provide a list of those alternative distances that they're almost all smaller than ten kilometres long. Field, for instance, was five kilometres, I think, um, for a and I understand the points as though that you want some further justification from us.

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I think so, I mean, um, obviously we don't know the full details of those other schemes and, uh, I don't dispute the fact that there has been a variance of the area that's been searched in those particular circumstances. But, uh, I'm just mindful that having done a search area that you have and ending up with a site which is subject to large areas of flood risk in zone three,

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Yeah. It just

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makes me wonder about whether the search area is is.

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Has been the right starting point. You know, and where where you've ended up really. Um, and it's fundamental obviously, to the whole scheme.

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Okay. I'll just see if anyone else in the room has any final points on, uh, those particular issues that we've been discussing.

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No. No hands coming up from virtually. All right. Thank you. Then I will move on then to item seven. Electricity generation and grid connection.

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Um, what I'd really like to try and understand from the applicant, um, provide an explanation of the status of the grid connection agreement. Um, the timing and the capacity that that has, and I'm pretty sure I understand it, but if you could spell that out for me and. And then what future consents or licenses, uh, that you are going to require before that connection could actually be made and whether you foresee any potential impediments to that connection or the timing of the delivery on completion of that connection.

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Thank you, sir. Richard Griffiths, on behalf of the applicant for Taking each of those questions in turn. In terms of the status of the grid connection, as we have set out in the application, the applicant secured a connection offer with National Energy System Operator. The applicant then accepted that offer in December 2024. And that agreement there then gives the applicant a connection date of 2029.

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That agreement will will allow the applicant to export and import up to 740MW of electricity to the proposed new National Grid substation, and that's all set out in grid connection in the grid connection statement. Reference app hyphen 174.

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It is worth noting that whilst the existing. Testing a transmission system at high. High maanum has sufficient capacity to transmit the energy from the solar farm. The proposed development via um, the existing 275 kV base in the existing high Maanum substation, so the scheme could actually connect now to the existing high Maanum substation of our 275 kV reinforcement works are being proposed by National Grid, partly because they need to they want to reinforce the, um, uh, overhead lines between the north of England and the Midlands.

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And there are other developments that need to connect into, uh, the, uh, this location due to the capacity that it has, that they're therefore proposing the new substation. And that is the reason why, um, as when National Grid looking to hold their proposing the new high mine, um, substation and we are connecting into that. But from a practical point of view, we could actually connect via the existing substation. But that's that's not in the existing agreement. And it's important also to note that, uh, under the Connections Action Plan, that was a joint publication by the government and Ofgem in 2020 3rd November 2023, that, uh, that document explains that it is, um, appropriate to make efficient utilisation of existing networks, um, such as here, um, because that can therefore remove the need for expensive, um, and new infrastructure, which of course will take longer to deliver, uh, um, than uh, reinforcing existing infrastructure as there is the urgent need to bring online quickly new generating uh stations, in particular low carbon generating stations.

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So that is just a bit of background as to the reasoning for that. Um, in terms of the proposed new high minimum substation, that is the responsibility of National Grid, not the applicant. That is why the proposed substation is not included in the DCA application. However, we have sought the flexibility in the order for our cables to connect within an area. Um, so that once we've got National Grid's design, there is flexibility for the cables to make the appropriate route into that substation.

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Uh, to minimize impact. Um, as I our understanding is, as I mentioned earlier in this hearing, that our understanding is that National Grid will be submitting that application, uh, about quarter for this, this, this year. And before I move on to Miss Sara Price, we'll talk about the, um, any potential impediments to that application receiving consent. Um, it's worth noting that NPS in one paragraph, 4.1, 1.8 does make it clear that it is acceptable that a network connection may well be submitted in a separate application to the proposed Nationally Significant Infrastructure Project.

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It's not unusual. There are plenty of precedents we can point you to. Uh, that has that separate application. The applicant itself does not need any other consents or licenses to connect into that proposed new substation. We're seeking this consent. We've got our connection agreement. We'll have the hope. Should it be granted. We'll have the development consent order. Um, that gives us the ability to connect in. But of course, National Grid needs to get its Town and Country Planning Act permission from the local authority for the substation.

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And so, moving on to your last question on impediments. I'll pass over to Sarah. Sarah Price on the planning side of that.

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But before you do, can I just clarify a point with you? You made reference to a government document from November 23rd. Yes. Can you make sure in the written note that's referenced so that we can refer to it?

00:39:44:06 - 00:39:57:22

Yes it is actually, the document is referred to in the Statement of Need reference app. Hyphen 173 app. Hyphen 173. So we do refer to the connections action plan in that document.

00:40:07:07 - 00:40:31:20

And um, you saying that that is encouraging the utilization of existing infrastructure. Uh, but you're also saying that you're not going to whilst you could connect to the 275 kV you're not proposing to and your agreement doesn't currently allow that to happen. Is my understanding of what you said correct?

00:40:32:04 - 00:41:10:14

Which for some part of the applicant, it's not in the applicant's gift to determine how we connect into national grid infrastructure. That is the remit of National Grid. Um, It was actually indicated last night to the open floor hearing the original, um, the original grid offer from National Grid was to connect into, uh, the existing substation for 275 kV cables due to their wider reinforcement program. Um, uh, which, as I said, that the, um, uh, Connections Action plan plus other documents support the existing utilization of infrastructure to enhance the grid so that renewable projects can come on grid sooner.

00:41:10:21 - 00:41:41:20

Um, uh, due to the urgent, identified, urgent need, National grid have now, um, pursuing their reinforcement works. Um, which is obviously bigger than this application. Um, it's, uh, for, um, as I said, um, enabling, um, electricity, um, the cables to carry more electricity between the north of England and the Midlands as a result of that reinforcement works. Uh, grid application was then modified, uh, or to connect into a a 400 kV new substation at home.

00:41:42:02 - 00:42:20:10

And that is the offer. And that we accepted and have agreement for. So there was an evolution as a result of the wider picture, um, of um, uh, um, of the national grid infrastructure. The MPs themselves also talk about, um, the, uh, need to utilize existing infrastructure at paragraph three, 2.10 .25 of N three, which talks about reinforcing, um, maximizing existing grid infrastructure, uh, as justification for choosing your location, uh, for, um, your, your, uh, in this case, solar infrastructure.

00:42:20:15 - 00:42:40:20

So it's n three, 2.10 .25. It says to maximize existing grid infrastructure, minimise disruption to the existing local community infrastructure applicants may choose a site based on nearby available grid export capacity. So it's all about trying to enhance enhance existing infrastructure.

00:42:44:22 - 00:43:00:06

There's obviously also a national infrastructure scheme that National Grid are proposing linking to Hayman and from the Humber. And again, my understanding is that that's a proposal likely to be submitted next year. And

00:43:01:23 - 00:43:04:01

does that, um,

00:43:05:14 - 00:43:16:14

influence or get involved with any of your proposal or the substation that's being proposed? Is there any connection between the two?

00:43:21:03 - 00:43:28:15

I'm not I'm not thinking necessarily a physical connection. I'm thinking in terms of the, uh, the process and then subsequently,

00:43:30:04 - 00:43:30:19

uh.

00:43:33:11 - 00:43:43:04

Would there be any problem in the event that that scheme was delayed or deferred or not approved. You know, are they completely separate component parts?

00:43:44:04 - 00:44:21:14

Richard Griffiths I'm part of the applicant. The, um. So the substation is not within that DC application. It's a it's a standalone tpa application, which I think answers. Actually, it gives the answer, um, is that, um, the, the DC application that you referenced, the overhead line reinforcement works. Um, uh, is apart from the physical connection, is there two separate processes? Um, I can't speak for National Grid in terms of why the application for the substation was delayed, um, from Q1 this year, which was the original time frame that the um National Grid published to later this year.

00:44:21:23 - 00:44:53:04

It might have a there might be a design connection with the DCO application that's, um, me hypothesizing. But in terms of the process, they're two separate. The substation does not need the overhead line. Um. Uh. Um. To be consented to build the substation. It is standalone. But in any event, as I've said. Um, should all of that fall away for whatever reason, that they didn't, they decided to move away from any reinforcement works. Uh, I can't think any reason why they would, given the policy, just policy need.

00:44:53:06 - 00:45:02:11

But should that be the case then? As I've said, the existing substation has the capacity via the 252 75 kV base for us to connect into.

00:45:03:11 - 00:45:06:24

But you would need to adjust your consent agreement.

00:45:07:15 - 00:45:39:04

Uh, the connection agreement would need to be modified, which is, um, um, they're modified all the time. So it wouldn't be a difficult if that's. What if National Grid went down that route? Um, then I'm obviously I can't talk for National Grid just to make that clear, but the process would be if they that they withdrew their DCO application and decided not to pursue the substation. The existing substation has a 275 kV tubes. Ability to connect in. Um. And the connection agreement would be modified, uh, as a result of that.

00:45:39:06 - 00:45:53:16

And, um, it's worth obviously highlighting that National Grid has a duty to connect, um, when a connection agreement is, um, required. And that is set out in five paragraph 2.8.5.

00:45:55:15 - 00:46:08:14

So they have a statutory duty to connect to you when you request for a connection. That date is 2029. They have a therefore got a statutory duty to connect us by that date. Uh, as is set out in eon 52.8.5.

00:46:11:09 - 00:46:11:24

Thank you.

00:46:17:06 - 00:46:17:21

Hey.

00:46:18:03 - 00:46:21:19

Mister. Walker. Um, you wait for the microphone.

00:46:21:21 - 00:46:22:11

Thank you.

00:46:24:22 - 00:47:04:20

Hello. Craig Walker, resident of North Clifton. Uh, just on your question regarding the 400 kV uh NSP, we're going to over towards the Humber and beyond. Uh, that is linked and is uh, essentially although it's two separate, uh, planning applications. One's NSP and one's town and country, they are essentially the same system. The, the new uh, 400 kV Imon um substation, uh, is part of that system.

00:47:05:17 - 00:47:36:17

Uh, it is required. It needs a 400 kV lines. The 400 kV substation needs the 400 kV lines. So the the two are together. Uh, and, uh, just in regard to the, uh, I'm on And 275 kV substation. Uh, from the conversations with National Grid.

00:47:37:08 - 00:48:08:24

Uh, I agree with the applicant. They do have a, uh, an obligation to supply a connection. Uh, 2029. But, uh, from the conversations I've had with National Grid, there is no capacity for that full connection. They've they had, uh, some capacity, which is now been, uh, on the 275 kV system, which has now been relinquished and now is all on the 400 K, B system.

00:48:10:05 - 00:48:24:09

Uh, I don't know how they're going to do it. National grid does have a an obligation to supply a connection, but there is no capacity on the 275 system for the full connection. It doesn't exist.

00:48:26:10 - 00:48:38:00

Okay. I'll come back to you in a moment. Um. Thank you. Mister. Do you have any correspondence, or is it just conversations that you've been having with the representative of, uh, National Grid?

00:48:38:02 - 00:48:54:18

That was, uh, I don't have any correspondence that was talking to National Grid at the, uh, consultation regarding the new substation. We spoke in depth about that. And the solar farm and and the connection and.

00:48:56:04 - 00:49:09:20

Okay. Thank you. If you can set that out in writing to us after after today, then that will help us understand what you've been told during that consultation process. I'll come back in a moment.

00:49:11:16 - 00:49:12:13

Miss Brodhead.

00:49:13:09 - 00:49:43:19

It's Amanda Brodhead. Bassetlaw district Council I just wanted to add that we have had communications with National Grid. And, um, as the applicant points out, the substation is to be covered by a planning application. The DCO application for the CIP with National Grid is at pre-amp stage still. Um, we have also just granted planning permission for a best site quite close to home on them in this region.

00:49:43:23 - 00:49:58:10

Um, that's got a one gigawatts capacity. Um, and obviously we want to firm up the other planning applications that we've had most recently submitted in that area in the local impact report.

00:50:01:20 - 00:50:02:23

Okay. Thank you.

00:50:07:13 - 00:50:10:19

Are there any other points before I revert back to the applicant?

00:50:13:13 - 00:50:24:11

Oh thank you, sir. Richard Gibson. The applicant. I think it's worth, um, if I bring in Mr. Ewen Sneddon from Acorn. Who can explain more on the connection agreement.

00:50:26:16 - 00:50:27:15

Thank you. Yeah.

00:50:27:17 - 00:50:54:10

You and Sneddon for the applicant. Um, to clarify the point around the 400 K V over line, overhead line for the new substation. I agree with the gentleman that yes, it is required. And there are two ends to that connection. One is Beverley, basically the creek back substation. The other is Chesterfield.

00:50:56:03 - 00:51:34:18

Prince worth the upgrade to 400 kV to the other end of that is a re cabling of the existing overhead line. Therefore it doesn't need a DCO. It doesn't need a planning application. They could go ahead and start that work immediately to do that. So even if the northern route was not built. They would still have the power to connect a 400 kV substation at High Maanum to the wider national grid infrastructure.

00:51:38:18 - 00:51:39:09

Thank you.

00:52:19:12 - 00:52:28:20

Okay. If we can then come back. With regard to your closing in response about, uh, you were going to move on to one of your clothes about any potential impediments.

00:52:30:02 - 00:52:38:08

Yes. Richard Gibson. Yes. Thank you sir. I will pass over to Mr. Price, who will talk about that from a planning, apparently perspective.

00:52:40:05 - 00:52:42:17

Thank you. Sarah Price for the applicant.

00:52:44:16 - 00:53:18:05

So just to clarify, from a planning perspective, as we've heard, National Grid intend to submit their application at the end of the year and they have gone through an EIA screening request with Bassetlaw, which hopefully this is um, board can confirm is is correct. Um which confirmed that it wasn't EIA development. Um, which sort of in terms of work that they need to do to support the application. I think that that's just helpful in terms of process and perhaps underlines that they ought to be able to submit within their timescales.

00:53:18:07 - 00:53:51:16

Obviously we can't talk on behalf of National Grid. And in terms of other planning considerations that Bassetlaw I'm sure will take into account. Um, the new substations on a site that already benefits from planning permission for a solar farm. Um, so the principle of renewable energy development on this land sort of is established in principle. Clearly there are different, um, impacts of a solar farm to a substation, but I think that's probably something that would be taken into account in the planning consideration of the scheme.

00:53:52:01 - 00:54:32:14

And also, key, um, says unlike an end CIP, um application, um, the application would be determined in accordance with the development plan and any material considerations, which would include both the NPF, the National Planning Policy Framework, and the National Policy Statements in one and three and five in terms of material considerations. And all of that national policy framework is supportive of new energy or new infrastructure to ensure the provision of renewable energy and its transmission.

00:54:33:03 - 00:55:20:17

And Bassetlaw Local Plan also has a policy seat 49, which is, um, overall supportive of new energy generation and transmission infrastructure and subject to relevant site specific considerations, which are the ones that you probably expect in relation to, um, location, setting and position in landscape. Um, air quality and water impacts, siting and scale, sort of, etc.. Um National Grid also follow what's called the Horlock rules in relation to their design and siting of new substations, and those roles in

themselves Include consideration of residential amenity and also taking reasonable steps to mitigate the effect of the proposals.

00:55:21:07 - 00:55:40:23

So as our position is that given this positive, both local and national policy framework, and also the fact that National Grid themselves ensure through their own rules that they appropriately site and mitigate substations, and that there's not an obvious reason that the application would be refused.

00:55:44:08 - 00:55:45:00

Thank you.

00:55:45:14 - 00:55:46:19

And sir, if I can just.

00:55:47:20 - 00:56:21:10

Finish on that point. Well, in that, uh, um, obviously, Ian one, as I've said, supports applications that may be split from the generating station. Paragraph 4.11.8. Hopefully it's helpful for your notes then, Ian, one paragraph 3.3.65 states that there is an urgent need for new electricity network infrastructure, stating that the reliability of the UK's current and future energy supply is highly dependent on electricity networks.

00:56:22:00 - 00:56:59:18

And then paragraph 3.2.6 of N1 states that all infrastructure covered by that NPS should be assessed as the need has been demonstrated and is urgent. In paragraph 3.2.7 says that substantial weight should be given. Obviously this is this application won't be determined under the NPS, but there will be material considerations. And then in one paragraph, 4.2.5 classes that infrastructure as critical national priority. So all of that in the round plus the local plan is policies as as Miss Price has spoken about will need to be taken into account.

00:56:59:20 - 00:57:04:16

So from our perspective, we see no reason why there would be an impediment to granting planning permission.

00:57:06:21 - 00:57:07:19

Okay. Thank you.

00:57:09:22 - 00:57:14:12

Does anyone else wish to make any further comment on that particular aspect?

00:57:16:05 - 00:58:09:08

Is it Stephanie Hall, Lancashire County Council, said just to wave the flag I did, um, mentioned yesterday that grid connection would be one of our proposed main or principal issues. And the rationale for that is not necessarily around doubting that a planning application for a substation may be granted at some point. The point we would make is, uh, we would like we are going to look very carefully and we'll address, um, in our written submissions and in our law around the timescales that have been assumed for that Town and Country Planning Act application and how that may or may not

have fed cleanly into consideration of cumulative effects and other matters in the environmental statement, to the extent to which the environmental statement can cope with any material slippage in the assumed Timescales for connection.

00:58:09:15 - 00:58:53:08

And so because obviously a set of parameters have been assumed about the ability to bring forward, um, the, you know, the construction of this project at a particular point to connect into that grid, um, connection, if any of that turns out not to be feasible within assumed timescales, whether there would then be overlap with construction of other projects which may not have been assessed in the year because the construction periods would then be different, um, temporally. Uh, so we just make that point and we're just going to, um, we will be scrutinising that because that's our concern that any sort of temporal slippage may have read across to the adequacy of the environmental statement.

00:58:53:20 - 00:59:15:03

Um, and, uh, yes, obviously we don't we're not the determining authority for, for that Town and Country Planning Act application. Um, but I would just note that the definition of critical national priority Infrastructure is tied to projects being end and the wording of the end one. But otherwise, yes, I appreciate this as supportive. Um, general policy background.

00:59:25:00 - 01:00:05:23

Uh. Thank you. Just, uh, following on from that point, and it was a sort of broader point that I was, uh, contemplating was something that my colleague and I were discussing earlier. Um, in light of the timing of the various, um, developments, the substation and the solar farm. Would it be appropriate to have, uh, something akin to a Grampian condition on the DCO that ensured that one didn't go ahead without the other.

01:00:08:21 - 01:00:10:08

I'll pose a question.

01:00:10:13 - 01:00:46:23

Thank you so much. Can I just park that question for me? I want to respond to Lincolnshire County Council. Just on the point. Thank you sir. So just on the EIA point, um, the obviously the environmental statement, um, has been carried out with the information we have in front of us. Um, that's all an applicant can do. And the chapter 18 of the chapter 18 of the environmental Statements cumulative, which is EP hyphen 047, um, refers to that Town and Country Planning Act application for the substation and notes a potential construction period of about two and a half years.

01:00:47:00 - 01:01:18:19

And that's how the cumulative assessment has been carried out in the applications, obviously has been, uh, delayed to the best of our understanding through our constant. We are talking, obviously, as you expect us to do to National Grid, um, that the application is now scheduled for Q4 2025. And so that assumption of that of that construction program and the cumulative effects that we've assumed in the ES remains valid. Um, obviously we can't predict everything that happens.

01:01:18:21 - 01:01:55:22

No application can. We can only go on the best information we have. And that is, um, what we have done. And the slippage to date does not affect that cumulative assessment. Um, due to the connection date of 2029. And the final point I just want to make is that in any event, um, uh, in schedule 15 of the development consent order, uh, when we submit information, uh, to the authorities for approval under the requirements, we have to make it clear whether, um, that application, um, uh, gives rise to any new or, um, uh, or materially different environmental effects.

01:01:56:05 - 01:02:30:11

And we then have to submit a report accordingly as to if there were any. What? That why they are. What they. What the impact is. So there's ultimately that fallback. But as I've said, based on the information that all of us has in front of us, the e um s cumulative assessment, um, remains valid. Turning to your second, your question just now on the Grampian condition, the the condition, sorry, the requirements, uh, that you put out there of restricting, um, the development, uh, until, uh, the substation may have consent.

01:02:31:00 - 01:03:03:14

Um, and I think in your agenda, you refer to KBE three, um, type, uh, requirement. I'll just point out there was a difference with that, uh, application. Uh, that was a brand new gas fired power station. Um, uh, and with carbon capture, and obviously this is a solar farm, uh, and a grid connection. Um, the reason why there was a requirement on that project was because there was a concern of the the the gas fired power station could be constructed without the carbon capture.

01:03:03:16 - 01:03:33:16

And then you've got a fossil fuel emitting power station generating. And that is not obviously. Um, uh, um, what um, the direction of policy. So there was a clear distinction there between that project and this one. Um, I unsurprisingly, you're going to I will be arguing that, um, it is not, uh, such a requirement is not required for this project. And we can set this out in more detail in writing. But in short, um, it's not necessary. And I don't think legally it would be reasonable either.

01:03:34:05 - 01:04:08:05

Um, the I won't go through all the policy again, but, uh, the scheme has clear national policy behind it. Um, through NPS n one, it's critical national priority infrastructure. So the backdrop to all of this is there is a policy need for this scheme. Secondly, um, and I think it is worth highlighting that the applicant would not incur very the very substantial cost of installing the whole scheme unless it was confident that the substation, uh, would be constructed.

01:04:08:20 - 01:04:51:10

Um, and then thirdly, as I've said, I've mentioned the um, the existing Hayman um substation as well. So in terms of necessity, I don't think it's, um, it's required. And on reasonableness, um, we've got a driver to deliver the scheme by, you know, for its connection date of 2029. Any, any requirements might, um, uh, uh, require us to delay our supply chain discussions, ordering, etc., which may mean that we can't meet that date. Um, and when we look at the bigger picture here, rather than this one scheme, the precedent, such a requirement would state that that would set for, uh, solar farms would have pretty large implications.

01:04:51:15 - 01:05:26:21

This is not unusual. This is not unusual for a generating station to be come forward without its grid connection, and if a requirement was placed on this scheme, then that would effectively have implications for all such projects, which would then have further implications for the delivery of the government's legally binding commitment to hit net zero by 2050. Um. And as I said, there are there are plenty of precedents where the grid can where a, um, generating station has not had such a requirement on it, despite the fact that grid connection is not there.

01:05:27:01 - 01:05:46:13

There are no precedents, um, relating to that we're aware of that relate to a generating station being, um, can't do anything until the grid connection has been, um, um, uh, consented. We can put more in writing to defend our position. But that's in summary is, uh, reasoning.

01:05:47:13 - 01:06:18:20

That's helpful is entirely expected. Um, but whilst you make reference to credible um res you Viking uh, carbon capture uh, which is a more recent decision of the, uh, same Secretary of state, uh, from April this year where a requirement was put on that scheme. Now, I know it's not a solar power station. They're not directly comparable, but, uh, just have a look at that to see the reasoning and the justification there.

01:06:19:07 - 01:06:22:22

I'm only sort of throwing it out there because it's just something that

01:06:24:20 - 01:06:42:14

I'm conscious that it is an issue that is, uh, concerned local residents as well as councils about how the schemes work together, the timing and the certainty of the various component parts. So just for something for you to consider, really.

01:06:43:04 - 01:07:17:00

Thank you. Richard Griffiths on the applicant. Well, I'll we'll look at Viking. That's obviously the carbon capture, uh, Project. Um. Uh. I can give you another example where one one wasn't Drax. Uh, bioenergy. Um, carbon capture plant that does not have a requirement. Um, the bio carbon capture plant, um, can be constructed even though the pipeline has not got consent. Um, so we can go backwards and forwards with examples. But as far as I'm aware, there are no examples of a solar farm, and it's a grid connection. But I understand what you're saying, and we will put our positioning in writing in more detail.

01:07:17:13 - 01:07:18:03

Thank you.

01:07:24:08 - 01:07:32:21

So if we move then on in terms of understanding a little bit more about the electricity generation side of it and the.

01:07:35:03 - 01:07:38:09

Proposal before us. Um.

01:07:41:03 - 01:07:49:05

It's there with a capacity of, uh, and the one limitation, I think, is your connection agreement of Hundred and 40MW.

01:07:51:18 - 01:08:26:03

Are you able to give us information as about what the generation capacity would be from the site as effectively laid out? Because one of the issues that I think we need to understand is if there is over planting and if so, how much, and what's the sort of range of generation that you anticipate might occur? I understand that that's going to be influenced by different technologies, different panels and so on.

01:08:26:11 - 01:08:43:00

So I think it would be helpful if you can explain to us the different ranges that might arise from the bottom end of the top end and the different panels that you might end up. Uh,

01:08:44:16 - 01:09:21:17

you know, the range of choices that you have available to you. So because that clearly will influence the generation capacity ultimately. And there was a recent court case. It was a section 78 court case where the issues of over planting were quite detailed of the concerns. And that's why I would like to understand as much as we can on if there is over planting, how much there is, and then obviously how that is influenced by the type and design of different panels available.

01:09:23:00 - 01:09:48:00

And I suppose as a final point, you make reference in your documentation to potentially using bifacial modules, I think is the phrase. So I assume that they're more efficient and generate more power per square meter. But you can tell me if that's an assumption I'm wrong on. um. So over to you.

01:09:49:15 - 01:10:00:17

Thank you so much. Before I pass over to, uh, Mr. Snowden, who is far more technically able to comment on things like the last point, I just want to make some overarching comments. Um,

01:10:02:05 - 01:10:33:10

first of all, yes, there is over planting in this scheme. Um. Uh, straightforward question. Answer. Um, and Mr. Snowden will go into the, um, capacity questions and, and efficiency that you've, you've, you've raised the ratio of over planting is 1.41. Okay. Mr. Snowden will go into more detail. And I think the case you're referring to, but please correct me if I'm wrong, is a May 2025 High Court case.

01:10:34:02 - 01:10:40:11

Um, Ross versus Secretary of State for housing, Communities and Local Government. Is that correct? Correct. Um, sorry.

01:10:41:14 - 01:10:43:20

Confirm. I didn't have the microphone on.

01:10:43:24 - 01:11:14:09

Okay. So the case is Ross versus Secretary of State for housing, communities Local Government and Renewable Energy Systems Limited. 19th of May 2025. Um, I think it's important in that case, uh, to note that the judge held in that case that there is no separate or free strand free standing test, that over planting must be reasonable. There's no new test. It needs to be justified. So I think it's worth us highlighting that. Um, and on that note, I'll pass over to Mr.

01:11:14:11 - 01:11:20:02

Sneddon, who will talk about the capacity and the and the, um, panel efficiency that you raised.

01:11:23:02 - 01:11:44:06

Thank you. Yeah. You and Sneddon for the applicant. Um, as we described, seven 40MW is the AC output of the scheme. The 1.41 over planting means that the DC capacity of the panels installed is 1048MW.

01:11:48:00 - 01:12:24:10

Um, this is within the typical range of over planting that you see for DCO solar schemes. Um, the combination of the reasons for it, um, is that, well, two the two main reasons are how the panels are tested. They're tested at what's known as standard test conditions. That gives you that megawatt output of the panel. Standard test conditions are based on an illumination factor of 1000W/m^2 .

01:12:25:24 - 01:13:06:09

Typically, it is quite rarely 1000W/m^2 in the UK, or likely to see that on a few hours a year of that sort of illumination. Elimination. So it's very often you design a solar system to operate at its peak AC output more frequently, and that's when the inverters run. They're most efficient. So typically what you would do is you would design at least 20% of the over sizing of a solar scheme purely for less illumination on the panels.

01:13:06:11 - 01:13:42:19

So if you ever get a solar panel data sheet, it always has two tables of the electrical parameters, one at what's known as the STC standard test conditions, which is the 1000W/m^2 . There's another table that's known as the normal operating conditions, which is based on 800W/m^2 . Quite a typical amount of illumination. You'll get. The next part of the over sizing that we do is to look at keeping that generation operating year on year at the levels that we expect it to be.

01:13:43:03 - 01:14:15:13

So, um, solar panels do degrade with time and exposure to sun. They typically drop between 1 and 2% in the first year as the sort of the crystal wafers have never seen the sun before suddenly get exposed to the sun after that first year. Um, the degradation reduces um, to around. Depends exactly on the brand and the manufacturers willing to warranty it. About 0.4% per year.

01:14:16:08 - 01:14:28:16

So if you sum that up over the sort of warranty period that you expect out of a solar module, it works out to, by the end of the life, they've lost about 20% of their original output.

01:14:29:10 - 01:14:36:00

Can I just clarify when you say by the end of their life, is that a 20 year period? What what what period are you?

01:14:36:03 - 01:14:53:19

So rather the end of their warranty period. The output is guaranteed to by the manufacturer. Ten years ago, that was 20 years. Modern panels. They're now warranties. 30 some 35 years at that sort of degradation rate.

01:14:58:01 - 01:15:42:09

In terms of the technology that we've based it on, and we have based it on crystalline silicon solar panels, kind of 95% of the market is is crystalline silicon. Um, the primary reason for that is really we know we can build a solar farm with that equipment. Therefore we chose to do that for the assessment for all the other, um, sort of disciplines in terms of where we can't assess what we don't know, there could be a better technology that comes out in solar in years time, but we can't make a determination and assessment on that.

01:15:43:12 - 01:16:17:19

Um, your point earlier around bifacial modules. Exactly that. The basic premise of a bifacial module is instead of only absorbing light from the surface that's facing the sun, they also receive some reflected light from either the ground or perhaps it in the evenings. If it's the low and it hits the back of the module, the amount of gain of that really dependent on what's what's underneath it.

01:16:18:05 - 01:16:44:18

Um, in terms of the grass, you're looking at five between 5 and 10% overall gain in energy generation over the year. And depending on exactly what that surface is. If it were something like a carport on a car park where it's like grey concrete might be a bit higher than green grass. If it's brown field, dark surface, it will be less.

01:16:47:18 - 01:16:50:12

Were there any other parts of your questions?

01:16:57:16 - 01:17:14:12

I think it would be helpful if you're able to provide a sort of a typical graph showing us that degradation over time, but also the explanation of your over planting threshold and the.

01:17:17:10 - 01:17:40:02

Your your moving from AC to DC. Um, I just need to make sure that we're properly understanding the distinction, um, so that we're not, Misinterpreting anything that would be helpful if you can clarify those those points in in written submissions probably can't do um.

01:17:46:15 - 01:17:57:17

The the other I mean, obviously there are as you said, there are different panels available on the market and they have different capacities. And so, um,

01:18:01:00 - 01:18:11:12

there is presumably a range that, uh, of power that they individually generate and, and therefore that influence is,

01:18:13:12 - 01:18:35:18

um, either the number or the size that you may need. So how how do we understand what is before us in terms of the range of scale of development. I think I understand what the maximum is, but presumably there is.

01:18:40:23 - 01:19:10:22

A variance in what might ultimately happen, so that there may be space for more green planting. There may be space for more panel, more generation. But it's understanding the dynamics of of what is a technology that has obviously evolved quite a lot over recent years, um, so that we can understand as well as we can what it is that, uh,

01:19:12:20 - 01:19:16:05

it's going to be on, on the site. And

01:19:18:01 - 01:19:24:19

one of the reasons that I think it's important is when you look at your site layout plan,

01:19:26:11 - 01:19:31:13

You have a variation in heights of panels in different locations.

01:19:33:11 - 01:19:54:01

And if you're going to have possibly different panel types or different panel sizes, how does that influence the visual effect that those might have? I don't know whether it would make a difference, but again, I think we need to understand the the range of possibilities.

01:19:55:20 - 01:20:06:08

And equally we then need to understand what how your is has undertaken that assessment, bearing in mind that range of possibilities.

01:20:08:22 - 01:20:09:13

Um.

01:20:13:10 - 01:20:45:24

Sure. So you and Sneddon for the applicant. Um I agree. Panel types are changing constantly. Um, we are finding that the market is settling on a size, and there has been some work undertaken by the major module manufacturers to come up with a kind of standard sized panel for a utility solar farm, to make it easier for designers like myself to know exactly what sort of sizes we're going to get going forward.

01:20:46:17 - 01:21:25:08

Um, a little bit is limited by. They don't want to make them so big that you need those suction pads to lift them because they are glass. So we kind of get to that point where that's as large as they're going to get. They might yet get more efficient, um, for that given surface area. And then, yes, it would

allow the opportunity for there to be fewer panels for the same DC capacity. Uh, and that would either be a choice to sort of space the rows out further, um, to increase the, the energy yield out of each sort of megawatt that we do install.

01:21:26:11 - 01:21:48:08

Um, we would it would probably be favorable to do that over removing fields completely. And because we have tried to, um, be quite land efficient with the amount of capacity we've got on this, rather than necessarily being really efficient in getting the most out of the each panel.

01:21:51:05 - 01:22:12:03

Okay. Thank you. Um, just just whilst I've got the site layout planning in front of me, you'll see there on the, the legend, the, the heights that they start from. And uh, go to a maximum height for three different areas.

01:22:12:05 - 01:22:12:23

That's great.

01:22:13:12 - 01:22:22:03

But the difference in heights between the lowest and the the highest is not the same. So presumably there are different

01:22:23:21 - 01:22:39:04

layouts within the panel framework to create a different size of space. I don't know whether I'm explaining myself sufficiently clear, but hopefully you understand where I'm coming from.

01:22:39:08 - 01:23:13:11

I would say that in so you intended for the applicant, I would say in making that table, um, I maybe a little bit too much of an engineer getting involved and try to basically make sure that we didn't ever get caught with the surface of the ground being slightly lower in the middle of an array. So kind of the typical maximum height we see on these, um, solar schemes would be like 3.5m. Even a lot of the ones that go through the tcpa process have that.

01:23:14:08 - 01:23:55:07

Um, we did due to the flood concerns here go higher than that in certain areas to 3.8. But I kind of wanted to make sure that we could restrict that extra height only to the areas we needed it. And then rather than say, we'll have the top height being three different heights as well, it was more it'll exceed three and a half. So we had 3.8 or it wouldn't. So we just put the maximum height to 3.5. The reality is, is if we build the same shape array with that lower height that we described, they would be lower than that maximum overall height.

01:23:57:24 - 01:24:28:17

But I don't want to bake that into the design. Now pre consent that would be something that would come out during the detailed design of exactly where that transition between the height levels would be. And then what that maximum overall height, particularly on the panels that were in flood zone one, would be because we would want to see exactly what modules that we were looking to design to at the time of detailed design.

01:24:30:24 - 01:24:43:02

So yes, I think I agree with you. It's trying to retain that element of flexibility without trying to promise something that we would have to vary later.

01:24:45:19 - 01:24:54:16

I think what I was trying to visualize was where you had, uh.

01:24:58:04 - 01:25:13:24

My expectation, perhaps quite wrongly, was that you would effectively have a consistent line of panels on the frame facing south, presumably. And then you would have another line and another line and so on. But

01:25:15:14 - 01:25:17:15

With the variation in heights

01:25:19:07 - 01:25:33:18

and difference between the top and the bottom, it's suggesting that you wouldn't have a constant line necessarily. What you might have is something that's going up and down relative to the topography. Is that the way it should be interpreted, or is there?

01:25:35:11 - 01:25:42:14

Are the panels going to be moved up and down within the frame within those, uh, maximum parameters?

01:25:43:16 - 01:25:50:05

It would the intention would be to be as consistent as possible throughout the areas because, um,

01:25:52:03 - 01:26:32:03

it it would look jarring if it, if it completely varied. Um, so from a visual point of view, we would look to do consistent um, in the outline design parameters. It does sort of state that we can do up to four panels in portrait, um, on an array. So we would be limited in kind of the the number and orientation and heights of arrays that we could do. Um, within this scheme where we would want to or where we would need to step for the different, um, clearances to the flood level.

01:26:33:00 - 01:27:04:08

Um, our basis at the moment is to do that on a field by field basis. So even if only one corner of the field needs it to be at the higher level, we've based our assessment on all of that field going to the higher level, particularly from a visual impact point of view. Obviously a higher panel would be, um, more noticeable. Um, and that that's how we've done the assessment based on that being the worst case.

01:27:05:19 - 01:27:11:18

If that was if there was a desire to we could do that on a more

01:27:13:06 - 01:27:23:09

localized level to try and reduce the visual impact, but I don't think that would benefit the assessment that we've done for it being a worst case scenario.

01:27:27:13 - 01:28:00:04

Can I jump into that? Okay, great. Sorry for the applicant. Just related to this for the ES and how we're approaching some of the environmental kind of assessments, which is what my colleague and you and he is kind of explaining, is that we've taken the Rochdale of envelope approach, and we've looked at those maximum and minimum parameters to kind of make the relevant assessments. So we've taken the maximum height in terms of what's identified on those work plans. Um, to kind of, uh, assess the landscape visual impact assessment.

01:28:00:14 - 01:28:12:02

Um, we've looked at kind of those older panels and the maximum number in terms of the greenhouse gas assessment. So we're taking the that, that kind of maximum parameter when we've been doing our assessments.

01:28:15:02 - 01:28:15:19

Thank you.

01:28:23:03 - 01:28:27:22

Uh, does anyone else have any further questions on these topic areas?

01:28:30:06 - 01:29:03:18

There's definitely Lancashire County Council. They're just on 1.62 on the agenda, which is where I sort of assumed we are roughly. Um, is that, um, the back end of that, uh, paragraph, uh, refers to solar panel efficiency over time and details or panel replacement over the course of operation up to and including final decommissioning. Um Lancashire County Council and subject to to political approval, will likely be making a case in relation to the consideration of waste arising during the operation of the the proposed scheme.

01:29:03:20 - 01:29:24:06

So we sort of understand that um waste arising at decommissioning stage and waste arising at um as part of construction have been addressed in the documentation. There seems to be a little lacuna in relation to potential waste arising during operation. Um, and so that's just something we'd like to explore.

01:29:25:24 - 01:29:26:23

Okay. Thank you.

01:29:50:04 - 01:30:06:07

I think actually we're now up to point four. Um, no. That's fine. I, um, it may well be I've wandered between the between the points. Um, so I apologize for that. Um, But I think

01:30:07:21 - 01:30:24:13

we do actually have the answers to the questions that we had posed. That that final point was regard to the theoretical range that Ian three talks about of generation per acre. Um.

01:30:27:01 - 01:30:54:11

Or seemed to me to be a hostage to fortune because technology is changing all the time. But I would just be helpful to understand whether the calculations that the NPS talks about are similar to the calculations that you have used, or whether we are already beyond those, uh, figures.

01:30:58:21 - 01:31:39:02

Which agree for some behalf of the applicant. Um, so, Ian, uh, two point paragraph, two point 10.17 of MPAC and one for everyone's benefit states. A solar farm requires between 2 to 4 acres of, um, each megawatt output. Um, I say that's a policy position. Um, in terms of this scheme, when we look at the generating aspects of the scheme, which is work numbers 1 to 3, um, which is land with solar the best, and the substations, then that equates to uh, 3.2 acres per megawatt.

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So we are within the

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theoretical range. As your question puts it in NPS in three.

01:31:49:08 - 01:31:49:24

Thank you.

01:32:03:07 - 01:32:14:19

Okay. I'm conscious of the time and it's now coming up to 5:45, so I think it's probably a suitable time to adjourn for this evening. And so

01:32:16:10 - 01:32:22:03

I'll just check. Has anyone got any final points they would wish to raise whilst they're present today?

01:32:26:04 - 01:32:39:21

No. Okay. Well, I will adjourn this hearing and we will reconvene tomorrow morning. Thank you very much, everyone, for your attendance. And this hearing is now closed. Thank you.