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11 Land Use

11.1 Executive Summary

1. The main issues raised by objectors relate to suggested negative impact on farming, food production and land use due to the presence of high voltage overhead lines. Specific issues relate to: potential impacts on the health of livestock and poultry due to EMFs and potential spread of farm diseases; potential disturbance to farm enterprises (particularly tillage and orchards) and loss of income; potential health and safety concerns working close to overhead lines; potential impact on commercial tree growing under the overhead lines; potential impacts on GPS; and negative effects on the development of farmland near the overhead lines.
2. These general issues have been addressed in Chapters 7 and 14 of Volume 2 and Appendix 14A to Volume 3 of the Consolidated ES and the consideration of the objectors' statements of case has not altered the results of the Land Use Assessment. While impacts on some individual land parcels are significant, overall the impact on agriculture the along the proposed Tyrone - Cavan Interconnector will be imperceptible. SONI understands that landowners / occupiers may be entitled to compensation in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended).
3. Nothing in the objectors' Statements of Case and representations serves to undermine the conclusions set out in the SONI Statement of Case and supporting Technical Reports. As stated in SONI's Main Rebuttal Document, the proposed Tyrone - Cavan Interconnector remains clearly acceptable in planning terms

11.2 About the Author

4. Con Curtin is based in County Kilkenny and has worked as an agricultural consultant for 28 years. He has an undergraduate degree in Agricultural Science from University College Dublin and he has a Level 6 Certificate in Agricultural Land Drainage. In addition to advising farmers, since 1998 he

has carried out 16 land use impact assessments for major linear infrastructural projects such as the North South Electricity Interconnector Development in Counties Meath, Cavan and Monaghan and several road projects such as the M20 motorway, a 40km section of M7 motorway, the N22 Macroom Bypass (24 km in length) and the N25 New Ross Bypass (14 km in length). He has assessed damage caused to land along the Baunlusk to Great Island Gas Pipeline in Counties Kilkenny and Wexford and along the Kernan to Derryhale Gas Pipeline in Northern Ireland. He has also assessed damage caused to land along wayleaves for water mains pipes in Counties Galway, Louth and Dublin. In 2012 he carried out an Assessment of the Construction Impacts of a 110 kV double circuit overhead line constructed in Banogue, County Wexford.

11.3 Policy

5. The objectors' Statements of Case and representations raise no policy issues related to land use or agriculture.

11.4 Guidance

6. The objectors' Statements of Case and representations raise no guidance issues related to land use or agriculture.

11.5 Further Environmental Information for the Purposes of the Inquiry

7. It is not necessary to introduce new information to address any point made by third parties or the Department and its consultees in relation to land use or agriculture.

11.6 Impact on Farms

8. In the SEAT Statement of Case, Page 24, Paragraph 145, states:

“This project if given the go ahead will have a permanent negative effect on those farmers and lands involved. There will be permanent undesirable visual impacts on the farm landscape these effects will be permanent and have a major impact on land values, farming operations and possible future development on the farm. There will be increased traffic on the farm during construction, inspections and maintenance thus exposing the farm to higher risk of disease spread. The income earning capacity will be reduced due to loss of land and restrictions in the types of farming being carried out in particular tillage farms. There will be increased risk of encouraging noxious weeds and weeds like sterile brome in cereals which are difficult to control. There will be increased risk to health of farmers, their workers and their families depending on proximity of the line to yards and houses and also due to working farm machinery under or near the lines. There will be increased risk of spreading disease on all enterprises Cattle, Sheep. Pigs and poultry.”

Response

9. The impacts on agriculture have been clearly set out in Chapter 14 of Volume 2 and Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. Section 14.5 of Appendix 14A addresses in detail potential impacts during the construction phase and Section 14.7 of Appendix 14A addresses in detail potential impacts during the operational phase. Paragraph 145 of the SEAT Statement of Case has several specific points which are as listed and addressed as follows:

Permanent negative effect on farming and land use.

Response

10. As set out in Section 14.6.1 of Volume 2 of the Consolidated ES and Sections 14.8.1 and 14.8.2 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES, the residual impact on agriculture and land use along the proposed Tyrone – Cavan Interconnector is assessed to be imperceptible overall. That is to say that farming and land use in the regional area of County Armagh and County Tyrone and farming and land use in the study area¹ along the proposed Tyrone – Cavan Interconnector will continue without significant change due to the proposed infrastructure. The construction period will result in temporary disturbance to farm enterprises and short – medium term damage to land along access routes and at construction sites. The farming practices and land use underneath the

¹ The study area consists of 181 land parcels and approx. 1,767 ha of land

proposed overhead lines will continue without significant change when the entire study area is considered.

11. The area of land required at the site of the substation in Turleenan is approximately 22.2 hectares and the area of land permanently restricted at the base of the towers is approximately 3.6 hectares. This 25.8 hectares is approximately 1.5% of the area of the study area.
12. The area of temporary land damage along access routes, at tower construction sites, at guarding locations, at stringing sites and undergrounding locations will be approximately 26.5 hectares. The permanent restricted area (25.8 hectares) is approximately 1.5% of the study area and the area with short – medium term damage to land (26.5 hectares) is also approximately 1.5% of the study area.
13. While the assessment of individual land parcels in Section 14.8.3 of Appendix 14A to Part 4 of Volume 3 and Annex 14.1 to Appendix 14A of Volume 3 of the Consolidated ES recognises that there will be one major adverse residual impact (at the site of the substation), three moderate adverse impacts and nineteen slight adverse impacts, overall the impact on farming and land use along the entirety of the proposed Tyrone – Cavan Interconnector is assessed to be imperceptible.

Increased disturbance during construction, inspections and maintenance including increased risk of spreading of farm diseases in all farming enterprises and increased risk of spreading noxious weeds and sterile brome.

Response

14. The potential increased risk of spreading farm diseases during the construction phase, particularly where the access to individual towers on one land holding may involve using existing or temporary access routes through another person's land holding, or where access routes pass through farmyards, is addressed in Section 14.5.2 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. The pre-mitigation impact is assessed as low – medium magnitude. The proposed mitigation measures (Section 14.6.1 of Appendix 14A) area are as follows:

- a. The contractor will adhere to any DAERA/Defra regulation pertaining to animal or plant diseases;
 - b. Consultation with the relevant sections of the Department of The Environment, Food and Rural Affairs will allow precautions to be taken to avoid spreading crop and animal diseases, such as cleaning construction equipment in situ where Potato Cyst Nematode locations are notified by DAERA and provision of disinfection facilities where required;
 - c. Provision of appropriate fencing to prevent livestock straying beyond farm boundaries will help minimise spread of livestock diseases.
15. The potential risk of spreading farm diseases during the operation phase (during inspections and maintenance) is minimal because inspections involving access on land will only take place every few years and personnel and machinery involved in maintenance will adhere to disease protocols such as insuring that all foot ware and machinery wheels are clean and personnel and machinery will avoid coming in contact with animal manures. NIE crews access land on a regular basis to maintain and inspect the existing OHL network without causing adverse impact on the spread of farm diseases.
16. Section 14.5.3 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES addresses the potential disturbance impact from noxious weeds – which is assessed as an imperceptible impact. Noxious weeds such as Ragweed, Thistle, and Docks etc. are most likely to establish at the base of the towers where land may not be continuously grazed or mowed or where herbicides and fertiliser applications are restricted. The control of these weeds may require manual intervention from the landowner (e.g. hand held sprayer). There is a Wayleave Rent which is payable every year to landowners to address this permanent disturbance.
17. Sterile Brome is a weed prevalent in winter cereal crops, found mainly near headlands particularly where minimum till is practiced. The main vector of spreading the weed between fields is via spread of seed during harvest and,

within fields, during cultivation of the soil which bears the seed. The potential for spreading the weed between fields during construction is minimal because the seed will not be harvested directly. Within fields the area of soil disturbance will be restricted mainly to tower sites which are relatively small areas. Less than 8% of the land parcels along the proposed Tyrone – Cavan Interconnector have tillage cropping and most are spring cropped. Therefore the impact from potentially spreading this weed is considered imperceptible.

Reduced income earning capacity due to land loss and due to restrictions on land use and types of farming being carried out – particularly in tillage farms.

Response

18. The area permanently restricted at the base of the towers is very small – approx. 3.6 hectares for the entire proposed Tyrone – Cavan Interconnector (approx. 0.1 hectares per kilometre length). On the majority of holdings the existing farming practices involving growing, grazing and harvesting of conventional field crops can continue without significant interference – as it currently occurs under the existing overhead line network. Landowners / occupiers may be entitled to compensation – including a Wayleave Rental Payment – in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended). There will be restrictions on commercial tree planting along the proposed Tyrone – Cavan Interconnector. Commercial tree plantations (including willow and commercial forestry) account for 1% of the current land use along the proposed Interconnector and therefore the impact is assessed as imperceptible. Landowners / occupiers may be entitled to compensation for such restrictions in accordance with the aforementioned legal principles and legislation.

Increased health risk due to farming and working in proximity to the proposed overhead lines.

Response

19. The issue of EMFs and farming is addressed in the EMF Technical Reports which state that the authoritative bodies who have examined this issue have

concluded that there are no significant effects. The Veterinary section of the Department of Agriculture and Rural Development stated in Appendix 6A of part 1 of Volume 3 of the Consolidated ES *“there are no apparent effects on livestock health or welfare”* and Section 7.4.4.1 of the Consolidated ES quotes the UK Government Policy Statement EN-5 (DECC 2011) – *“There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agricultural significant consequences”*. There is no reference to EMFs in Northern Ireland food quality assurance schemes (e.g. Northern Ireland Beef and Lamb, Cereal and Dairy Quality Assurance Scheme Standards and Rules). Similarly there is no reference to EMFs or high voltage OHLs in the Standards and Rules for any of the organic bodies in Northern Ireland (Organic Farmers & Growers, I.O.F.G.A, and National Trust).

20. As identified in Section 7.4.4.2 of the Consolidated ES, SONI and its advisors are aware of no scheme for awarding accreditation or particular status to farms that would be jeopardised by the presence of an overhead line. Specifically, neither the rules governing organic status (Defra 2006) nor those governing “Farm Quality Assurance” (Livestock and Meat Commission 2010) appear to make any mention of overhead lines or EMFs. Therefore the Land Use Assessment assumes that there are no known significant health issues for livestock or food quality due to EMFs from the proposed overhead lines.

Increased safety risk due to operation of farm machinery in proximity to the proposed overhead lines.

Response

21. Section 14.5.3 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES addresses the additional health and safety risk and inconvenience associated with the proposed OHLs. There are additional risks operating farm machines, particularly machinery with high reach equipment (e.g. teleporters and hedge cutters), high loads and rain guns. These risks apply to all overhead lines. The Health and Safety Executive publication *“Working safely near overhead electricity power lines - Agriculture Information Sheet*

No 8” states that risks can be reduced if activities such as stacking materials (bales, boxes/crates), folding sprayer booms, tipping trailers, operating loaders, moving ladders or irrigation pipes and working on trees can be carried out at least 10m from the OHLs. These common sense precautions are required for all overhead lines and are adhered to on most farms throughout Northern Ireland. The proposed minimum ground clearance will be 9m, which will insure that contact with farm machinery will be highly unlikely. This ground clearance compares favourably with the 7.6m minimum ground clearance in the rest of the UK. The impact from the additional Health and Safety risk is considered to be in the imperceptible – slight adverse range.

11.7 Uncertain Milk Supply

22. In paragraphs 160 and 161 of its submission, SEAT has raised concerns in relation to the supply of organic milk and the impact this would have on Linwoods plans for expansion.

“Linwoods’ growth plans are ambitious, and a constant supply of organic standard milk and grain will be required to realise the potential of the opportunities that exist. Linwoods are dedicated to local supply, but the proposed interconnector will be in close proximity to, or dissect many dairy farms in the surrounding area. Concern has been raised about the potential adverse effect of high voltage overhead cables on livestock, and there is a perceived risk of milk contamination from some consumers. Dairy farmers in the vicinity of the proposed interconnector will be at a marked disadvantage to producers outside the proposed region, as they will not be able to guarantee the safety of the milk”.

23. Furthermore in paragraphs 164 – 168 SEAT states that Linwoods will be unable to guarantee that it will be able to continue in business at this location because of the presence of the power lines and the impact SEAT claims this will have on the Linwoods Brand and its customers.

Response

24. There is no evidence to support a perception of risk to livestock or risk to of contamination of milk or other food produce. On the contrary, the existing 400 kV network in Ireland has crossed substantial dairy production areas in Counties Tipperary, Offaly and Meath for more than 30 years, without any evidence of impact on dairy production. The 400 kV network in the UK and Ireland extends for more than 12,000 km² and there is no evidence of any impact on farm livestock or farm produce. There is no reference to high voltage OHL or effects from EMFs in DAERA/Defra publications on Codes of Recommendations for the Welfare of Livestock; Cattle, Pigs and Laying Hens. There is no reference to high voltage OHL affecting the quality or welfare of animals in the Northern Ireland Beef and Lamb, Dairy and Cereal Quality Assurance Schemes. Neither is there any reference to high voltage OHLs in the standards and rules for organic associations that operate in Northern Ireland (Organic Farmer & Growers, I.O.F.G.A and Organic Trust).
25. The results of the Land Use Assessment as presented in Section 14.8 of Appendix 14A Volume 3 of the Consolidated ES show that there will be one major adverse impact, five moderate adverse impacts, thirty five slight adverse impacts and one hundred and forty imperceptible impacts and that the level of impact on agriculture along the proposed Tyrone - Cavan Interconnector is imperceptible overall. This level of impact will not adversely affect supply of food produce locally or regionally.
26. As identified in Section 7.4.4.2 of the Consolidated ES, SONI and its advisors are aware of no scheme for awarding accreditation or particular status to farms that would be jeopardised by the presence of an overhead line. Specifically, neither the rules governing organic status (Defra 2006) nor those governing "Farm Quality Assurance" (Livestock and Meat Commission 2010) appear to make any mention of overhead lines or EMFs. Therefore the Land Use Assessment assumes that there are no known significant health issues for livestock or food quality due to EMFs from the proposed overhead lines.

² <http://www.cigre.org/var/cigre/storage/original/application/f61d0ebd5531fcbcd39ef222fc7e8948.pdf>

11.8 Effects on Livestock and Poultry

27. In point No 1 Mr Hughes expresses concerns relating to the health and welfare of livestock.
28. In point number 3 of her letter Anne Marie Mallon raises concerns about the environmental effects on both livestock and poultry farming.
29. Mr Boyd Eagleson and Ms Drew expressed unspecified concerns relating to the health of animals.
30. Mr Whyte has expressed concerns relating to animal health due to EMFs exposure from the proposed high voltage lines.
31. Point No 2: Mr Benson has raised concerns relating to health effects on poultry.
32. Points Nos 3 and 4: Mr Benson has raised concerns relating to various suggested health effects on cattle and sheep.

Response

33. There is no evidence of environmental effects on livestock or poultry and this is addressed in Section 7.4.4.1 of Volume 2 of the Consolidated ES. There is no reference to high voltage OHL or effects from EMFs in DAERA/Defra publications on Codes of Recommendations for the Welfare of Livestock; Cattle, Pigs and Laying Hens. There is no reference to high voltage OHL affecting the quality, health or welfare of animals in the Northern Ireland Beef and Lamb, Dairy and Cereal Quality Assurance Schemes.
34. The direct impacts due to the construction of the proposed Tyrone – Cavan Interconnector are addressed in Section 14.5.2 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. During construction SONI will minimise impacts on affected land owners by using well established construction methodology and implement mitigation measures specified in Section 14.6 of Appendix 14A. The construction will affect individual landowners for a relatively short period of time (approximately 30 days) and overall the impact is assessed to be either imperceptible or slight adverse in 96% of the land parcels along the proposed Tyrone - Cavan Interconnector.

35. Impacts which arise during the operational phase are addressed in section 14.5.3 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. Residual impacts due to noise, additional health & safety risk and permanent disturbance are assessed to be either imperceptible or slight adverse in 96% of the land parcels along the proposed Tyrone - Cavan Interconnector. SONI understands that landowners / occupiers may be entitled to compensation in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended).
36. The question of livestock health and potential EMF effects is addressed in the EMFs statement of case which states that the authoritative bodies who have examined this issue have concluded that there are no significant effects. Potential effects on livestock are also addressed in Section 7.4.4.1 of the Consolidated ES. The Veterinary section of the Department of Agriculture and Rural Development stated in Appendix 6A of part 1 of Volume 3 of the Consolidated ES *“there are no apparent effects on livestock health or welfare”* and Section 7.4.4.1 of the Consolidated ES quotes the UK Government Policy Statement EN-5 (DECC 2011) – *“There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agricultural significant consequences”*. There is no reference to EMFs or potential impacts from high voltage lines in Northern Ireland food quality assurance schemes (e.g. Northern Ireland Beef and Lamb, Cereal and Dairy Quality Assurance Scheme Standards and Rules). Similarly there is no reference to EMFs or potential impacts from high voltage lines in the Standards and Rules for any of the organic bodies in Northern Ireland (Organic Farmers & Growers, I.O.F.G.A, and National Trust).
37. As identified in Section 7.4.4.2 of the Consolidated ES, SONI and its advisors are aware of no scheme for awarding accreditation or particular status to farms that would be jeopardised by the presence of an overhead line. Specifically, neither the rules governing organic status (Defra 2006) nor those governing “Farm Quality Assurance” (Livestock and Meat Commission 2010) appear to make any mention of overhead lines or EMFs. Therefore the

Land Use Assessment assumes that there are no known significant health issues for livestock due to EMFs from the proposed overhead lines.

38. The proposed overhead lines do not oversail existing chicken houses. The chicken sheds on land parcel LNI-0056 (Mr George's land) are approximately 70m from the nearest conductor and there would be insignificant EMFs at this distance. Furthermore the potential impacts on avian species are addressed in Section 7.4.4.1 of the Consolidated ES. DAERA/Defra Code of Recommendations for the Welfare of Laying Hens and Red Tractor Assurance for Farms - Standards for Poultry and Layers, make no reference to high voltage OHL or EMFs.
39. There are over 12,000 km of 400 kV OHLs in Ireland and the UK³. Most of these networks oversail agricultural land. SONI and its advisers are not aware of any significant negative effects on cattle or sheep along these networks. The Veterinary section of the Department of Agriculture and Rural Development (now DAERA) stated in Appendix 6A of Volume 3 of the Consolidated ES "*there are no apparent effects on livestock health or welfare*" and Section 7.4.4.1 of the Consolidated ES quotes the UK Government Policy Statement EN-5 (DECC 2011) – "*There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agricultural significant consequences*".

11.9 EMF and Bees

40. Mr Canning gives several observations on claimed effects on honey bees due to electric fields.

Response

41. Impacts on hives has been dealt with in Chapter 7 (EMFs) of the Consolidated ES, where it is explained that the overhead line and the substation are compliant with UK policy; and that there is (with minor exceptions i.e. an effect of the electric fields on the structure of beehives) no effect on farming, flora and fauna. Chapter 7, Section 7.6, paragraph 250 identifies that impact on beehive structure are readily eliminated by

³ <http://www.cigre.org/var/cigre/storage/original/application/f61d0ebd5531fcbcd39ef222fc7e8948.pdf>

screening the hive by means of a grounded metal cover. Alternatively hives, which take up very little ground, could be moved to an alternative location.

11.10 Future Development Opportunities

42. Mr McNally claims that the land use adjoining his family home and his business will suffer due to erection of the proposed lines, potentially hindering many future development opportunities and planning permission applications.
43. Mr Kelly raises concerns relating to the impact on his farm business stating; *“restricting potential future developments due to the proximity of this overhead line as it is less than 50m from existing farm installations.”*
44. In point No 5 Mr Hughes states “Future Planning on my Land for farm buildings etc will be over due to the restriction corridor either side of the proposed line”

Response

45. The scope of the Land Use Assessment in Chapter 14 of Volume 2 and Appendix 14A of Volume 3 of the Consolidated ES addresses impacts on agriculture, horticulture and commercial tree plantations and does not assess the potential development of this land for non-agricultural, non-horticultural and non-commercial tree planting purposes. The issue of planning permissions for non-agricultural developments (e.g. dwelling houses) is addressed in the planning statement of case.
46. The impact on the operation and expansion of existing farmyards and existing planning permissions for farmyards is assessed in the Land Use assessment by consideration of the proximity of the proposed overhead lines and the boundary of the affected land parcel. In the vicinity of Mr McNally’s property (between towers 94 and 95) there are no significant impacts on farmyards.
47. Elsewhere along the proposed Tyrone - Cavan Interconnector there are a small number of moderate and major impacts due to impacts on farmyards and commercial tree plantations, however overall these impacts will not have

a significant impact on the availability of land for non-agricultural, non-horticultural and non-commercial tree planting purposes.

48. The presence of the OHLs will restrict future commercial tree plantations. However, currently only 1% of the land along the proposed Tyrone - Cavan Interconnector is used for commercial tree planting – and there is no commercial forestry between towers 94 and 95. Any entitlement of landowners / occupiers to compensation arising from restrictions on future commercial tree plantations will be assessed in accordance with the legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended).
49. Mr Kelly's land is shown as land parcel LNI-0148 in sheet 9 of Figure 14.10 of Volume 4 of the Consolidated ES and the impact assessment of this land parcel is presented in Annex 14.1 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. The OHL oversails the corner of the farm for approximately 50m and is located 80m from the nearest part of the farmyard. There is a low impact on the potential for farmyard expansion due to the location of the proposed OHL on an adjoining land parcel at a distance of 80m. There is an imperceptible impact on this land parcel.
50. The proposed Tyrone - Cavan Interconnector is located more than 300m east from Mr Hughes' farmyard and the impact on the potential for farmyard expansion is not significant.

11.11 Effects on Mr and Mrs Todd's Farm Business

51. Mr & Mrs Todd express the following concerns in relation to Land Use.
52. In point No 1 Mr and Mrs Todd express concerns about the potentially "huge" - though unspecified - impact on their farm business as the proposed Tyrone – Cavan Interconnector "runs almost the entire length of the farm".
53. In point No 4 Mr and Mrs Todd refer to studies which highlight the negative impact of overhead lines on crops on livestock.
54. Also in point No 4 Mr and Mrs Todd refer to an impact on GPS systems in farm machinery.

55. In point No 4 Mr and Mrs Todd suggest that spraying in the vicinity of overhead lines is “very dangerous”.
56. In point No 5 Mr and Mrs Todd state that “*planning for a house, farm building etc will be at an end*” due to the proposed OHL.

Response

57. Mr and Mrs Todd's farm is shown as land parcel LNI-0055 in sheet 4 of Figure 14.10 of Volume 4 of the Consolidated ES and the impact assessment of this land parcel is presented in Annex 14.1 of Appendix 14A to Part 4 of Volume 3 of the Consolidated ES. There will be 5 towers, 4 stringing sites, one guarding location new access roads on this 101 hectare land parcel. Construction activity will occur for approximately 150 days over a 6 – 12 month period. Farming operations and cropping under the proposed OHLs can continue with a low level of permanent disturbance. The main farmyard is approximately 300m and a smaller farmyard will be located approximately 100m from the proposed OHLs and therefore the operations within these yards will not be significantly affected. The residual impact overall is imperceptible due to the permanent restriction of <0.2% of the land at the base of the 5 towers, short – medium term damage caused to approximately 1% of the farm during construction and a low level of permanent disturbance due to the presence of the overhead lines and towers.
58. The issue of EMFs and farming is addressed the EMF Technical Reports which state that the authoritative bodies who have examined this issue have concluded that there are no significant effects. The Veterinary section of the Department of Agriculture and Rural Development stated in Appendix 6A of part 1 of Volume 3 of the Consolidated ES “*there are no apparent effects on livestock health or welfare*” and Section 7.4.4.1 of Volume 2 of the Consolidated ES quotes the UK Government Policy Statement EN-5 (DECC 2011) – “*There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agricultural significant consequences*”. There is no reference to EMFs in Northern Ireland food quality assurance schemes (e.g. Northern Ireland Beef and Lamb, Cereal

and Dairy Quality Assurance Scheme Standards and Rules). Similarly there is no reference to EMFs in the Standards and Rules for any of the organic bodies in Northern Ireland (Organic Farmers & Growers, I.O.F.G.A, and National Trust). Farming along the 12,000 km of 400 kV OHLs in Ireland and the UK is no different from that on adjoining land.

59. As identified in Section 7.4.4.2 of the Consolidated ES, SONI and its advisors are aware of no scheme for awarding accreditation or particular status to farms that would be jeopardised by the presence of an overhead line. Specifically, neither the rules governing organic status (Defra 2006) nor those governing “Farm Quality Assurance” (Livestock and Meat Commission 2010) appear to make any mention of overhead lines or EMFs. Therefore the Land Use Assessment assumes that there are no known negative impacts to livestock or plant health or food quality due to EMFs from the proposed overhead lines.
60. GPS devices mounted on tractors, and the mapping software attached to them, can be used as a tool to improve accuracy and efficiency in many farming operations such as sowing, fertilising and spraying crops. A common example of how GPS can be used is a farmer spreading fertiliser in a grass field. The GPS device (and associated mapping software) will indicate on a monitor mounted in the cab of the tractor which direction he should drive on to minimise overlaps and gaps in his fertiliser applications. The software can also record his application rates and the area of land covered. Some advanced systems can self-steer tractors, so for example as the tractor approaches the headland the system will steer and turn the tractor and adjust the spraying rates and widths on the sprayer to avoid overlaps of ground already sprayed. Currently while GPS equipment is widely available its uptake is mainly limited due to cost implications and the perception that the additional information is neither cost effective nor beneficial. A Defra 2012 Farm Practices Survey in the UK showed that approximately 22% of farmers use GPS in some way or other.
61. GPS equipment regularly experiences interference when operating close to trees or buildings. Low levels of interference may also occur with GPS equipment operating close to the proposed Interconnector. Where this type

of interference occurs the machinery can be operated manually by the operator. GPS systems can be used by farmers with high voltage OHLs with a low level of disturbance and the potential effect is assessed as not significant.

62. Spraying conventional field crops under the proposed OHLs will not present any danger due to spray drift because of the 9m clearance. Section 14.5.3 of Appendix 14A of Volume 3 of the Consolidated ES has assessed the danger associated with folding spray booms in the vicinity of any OHL and it is recognised in the assessment of impacts in Annex 14.1 to Appendix 14A of Volume 3 of the Consolidated ES that the presence of the OHLs will be an additional risk on this mixed livestock and tillage farm. The nature of this risk is not significant and there are many orchards with existing low voltage overhead lines (with lower height clearances).
63. The farmyard will be approximately 300m and a smaller farmyard will be located approximately 100m from the proposed OHLs and therefore the operations within this yard will not be significantly affected. There is adequate land adjoining these yards to allow for adequate expansion in the future. Any entitlement of landowners / occupiers to compensation as a result of restrictions on commercial tree planting will be assessed in accordance with the general principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended). The issue of planning permission for dwelling houses is addressed in SONI's Statement of Case (December 2016).

11.12 Costs on Landowners

64. In section 4 of his submission, referring to Chapter 14 – Community Amenity and Land Use, Mr Lennon states that *"It is clear that a significant range of costs will fall on local communities, residents, businesses and land owners yet there is no details on these in this Chapter"*.

Response

65. The Land Use impact assessment in Appendix 14A of Volume 3 of the Consolidated ES addresses in detail the impacts on agriculture, horticulture

and commercial tree plantations during the construction and operational phases and sets out the mitigation measures required. While the scope of the Land Use assessment does not include a calculation of these costs, any entitlement to compensation – including the Annual Wayleave Rental Scheme - on the part of landowners / occupiers will be assessed in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended).

66. In section 4 of his submission Mr Lennon also states that:

This project will have a range of socio-economic impacts;

Property devaluation;

Loss of farm/rural income;

Impact on EU cross compliance requirements for rural areas; and

Loss of development potential.

67. Furthermore he states;

“In particular agricultural businesses form the most prevalent type of enterprise on the proposed route of the interconnector yet as has been noted in Para 1 there is significant omissions in respect of the works associated with the construction and maintenance of the line and how these may impact on individual agricultural enterprises in respect of their requirement to meet EU and UK agri – environmental and financial support policies and where necessary to seek prior approval before engaging or permitting any works which may contravene these policies”.

Response

68. The issue of property devaluation is addressed in the Planning Statement of Case.
69. As noted above, any entitlement to compensation – including the Annual Wayleave Rental Scheme - on the part of landowners / occupiers will be assessed in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order

1992 (as amended). These payments are agreed after liaising with a number of organisations, including the Country Land and Business Association and National Farmers Union and use a scientific formula produced by the Agricultural Development Advisory Service to calculate, revise and recommend payment rates on a regular basis.

70. The Cross-Compliance conditions are designed to promote sustainable agricultural practices in Europe and reflect a number of environmental and other objectives. They are good farm management practices, and encourage responsible stewardship of the land. DAERA inspects farmers to ensure they are compliant with these conditions and can impose penalties on the area based payments if the farmer is not compliant. There are two aspects to Cross-Compliance. The first of these is compliance with specific articles known as the Statutory Management Requirements (SMRs). The second aspect of Cross-Compliance is a requirement that all those in receipt of area based payments must maintain all their land in Good Agricultural and Environmental Condition (GAEC). There has been consultation with DAERA when compiling the Consolidated ES. Section 14.5 of Appendix 14A of Volume 3 of the Consolidated ES addresses in detail potential effects during construction and operational phase. For example, the mitigation Section 14.6.1 of Appendix 14A of Volume 3 of the Consolidated ES shows how SONI will comply with such policies, as mentioned by Mr Lennon, by complying with any DAERA regulation relating to animal or plant disease. Also mentioned in this section is the mitigation to notify DAERA of the location of the proposed Tyrone - Cavan Interconnector.
71. The construction of the proposed Interconnector could in rare situations potentially affect landowners' ability to comply with certain Cross Compliance conditions, for example:
- If cattle were allowed to move between land holdings due to lack of fencing. This unlikely issue is addressed in the mitigation paragraph 8 of Section 14.6.1 of Appendix 14A of Volume 3 of the Consolidated ES – *“Appropriate fencing will be erected to exclude livestock from sites of construction and to keep livestock within farm boundaries”*. Also an undertaking to comply with DAERA regulations pertaining to animal and

plant diseases is given in Section 14.6.1 of Appendix 14A of Volume 3 of the Consolidated ES; and,

- If existing farm habitats such as hedgerows or Countryside Management Scheme area based options are disturbed.

In Section 14.5.3 of Appendix 14A of Volume 3 of the Consolidated ES it is noted that participants in agri-environmental schemes, such as the Countryside Management Scheme, can be potentially affected where trees or farm habitats are removed or damaged. Such cases would be assessed on a case-by-case basis. Land owners may assert “Force Majeure” where they are not responsible for the potential breach of condition. Any compensation payable to land owners will be calculated in accordance with the general legal principles of compensation in Northern Ireland and the provisions of the Electricity (Northern Ireland) Order 1992 (as amended). However, because the length of potential permanent hedgerow removal is so low (approx. 300m) and the area of land disturbance is so low (approx. 26 hectares), these potential impacts are assessed as not significant overall.

72. The operation of the proposed Interconnector will not significantly affect land owners ability to comply with the Cross Compliance conditions. There is no significant issue with existing overhead line networks throughout Northern Ireland and the UK in terms of compliance with Cross Compliance conditions. It is the policy of DAERA that area based schemes such as the Basic Payment and Areas of Natural Constraints Scheme can be claimed for the land at the base of the tower, however, a worst case scenario is assumed in the Land Use assessment where this land (3.6 hectares along the entire Tyrone - Cavan Interconnector) is not available for grazing or for area based payments.
73. The potential impact from noxious weeds at the base of towers is addressed in Section 14.5.3 of Appendix 14A of Volume 3 of the Consolidated ES. This potential impact would be a breach of GAEC regulations, but again is not a significant impact overall.

11.13 Effects on Mr Raymond Hughes's Orchard

74. Mr Hughes states that the proposed Tyrone - Cavan Interconnector will require the removal of a large number of trees to facilitate access. He expresses concerns in relation to health and safety of workers underneath the proposed OHL and concerns relating to dangers associated with airblast spraying underneath the proposed OHL.

Response

75. Mr Hughes's land parcel is identified as LNI-0040 in Sheet 3 of 10 in Figure 14.10 of Volume 4 of the Consolidated ES. The very high sensitivity of the orchard enterprise is recognised in Annex 14.1 to Appendix 14A of Volume 3 of the Consolidated ES. The residual impact on this enterprise is assessed to be moderate adverse due to the impact on the management on the orchard including the requirement to control the height of trees and spraying operations, along with other health and safety considerations (e.g. using ladders and other high reach equipment). However, orchards throughout Northern Ireland operate with overhead lines crossing over fruit trees and it is noted that there is an existing low voltage OHL crossing this farm and that trees are grown underneath it. Therefore in the context of the impact on existing orchards from the existing OHL network the proposed Tyrone to Cavan Interconnector is acceptable.

11.14 Conclusions

76. In conclusion, nothing in the objectors' Statements of Case and representations serves to undermine the conclusions set out in the SONI Statement of Case and supporting Technical Reports. As stated in SONI's Main Rebuttal Document, the proposed Tyrone - Cavan Interconnector remains clearly acceptable in planning terms.