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15 Traffic and Transport

15.1 Executive Summary

1. The assessment of traffic and transport effects is presented in Chapter 18 of the Consolidated Environmental Statement 2013 Volume 2 and Chapter 7 of the Consolidated Environmental Statement (ES) Addendum, Volume 2 June 2015.

2. This assessment concludes that the construction of the proposed Tyrone – Cavan Interconnector will result in a temporary increase in traffic levels on a number of roads within the study area. In accordance with the significance criteria detailed in Chapter 18 of the Consolidated ES, these increases are considered to be minor or negligible and as such not significant.

3. Haul routes for tower construction traffic have been identified for all construction sites from the nearest A or B class road.

4. Traffic generated during the operation and maintenance of the proposed Tyrone – Cavan Interconnector would be minimal and would not result in any significant effects.

5. Overall effects on the public highway by the construction of the overhead line and towers will be reduced by taking access from existing field gateways and laneways. Each access has been individually assessed and requirements for mitigation/enhancement have been identified and suitable measures proposed. The overall approach to mitigation has been to use existing accesses where possible and also adopt temporary traffic measures as the preferred option in order to maintain the environment.

6. With the implementation of mitigation measures such as an appropriate traffic management plan and suitable liaison with TransportNI, the residual traffic and transport effects are temporary and have been assessed as having an impact of negligible significance.

7. There has been no significant change to baseline conditions since the submission of the last addendum. This has been confirmed by review of the latest available data from TransportNI and through updated traffic surveys. It has been determined that there are no changes to the conclusions presented in Chapter 18 of the Consolidated ES.

8. An assessment of the transportation of the transformers to the proposed Turleenan substation has been undertaken. This transportation will require three trips by a 20-axle transporter to take each of the three 222 tonne transformers from Warrenpoint port to Moy. This transportation will take up to seven hours per trip and will result in local traffic disruption because of temporary road closures and the slow moving traffic.

9. Because of a sharp turn in Moy village, it will be necessary to transfer the transformers by crane from the 20-axle transporter to a smaller self-propelled trailer. This transfer will require two days per trip i.e. the transfer could take up to 15 hours over the two days; and six days in total. The three required trips will be spaced apart to minimise disruption.

10. There are likely to be localised short term moderate adverse impacts to road users with no long term impacts on completion of the transport of the transformers

11. Mitigation measures and publicity of the transformer transportation will inform and help to minimise the disruption. The mitigation measures will include police escorts, appropriate signage of alternative routes and diversions, and undertaking works in daylight only.

15.2 About the Author(s)

12. The traffic and transport assessment of the proposed Tyrone – Cavan Interconnector was undertaken by Mr. Tim Robinson, AECOM.

13. Mr. Robinson has a Master of Transport (Engineering) Degree from the University of London. He is a member of the Chartered Institution of Highways and Transportation, and a member of the Royal Town Planning Institute. He is a Chartered Town Planner specialising in transportation. He has over 30 years of experience including transportation consultancy experience at AECOM since 1995.

14. Mr. Robinson leads a team of transportation specialists who undertake a wide range of projects across several sectors for both public and private clients. He has managed the transport inputs for a number of large schemes in Northern Ireland such as the A6 Claudy to Dungiven Roads Scheme. He has particular experience in the transport inputs to EIA studies in projects in the UK and Ireland.

15. Mr Robinson is supported at the Public Inquiry by Mr Nathan Clarke of ALE. Mr Clarke led the haulage route assessment for the transformers required at the proposed substation. Nathan Clarke has worked for Abnormal Load Engineering Ltd as a Project Manager for the past 4 years. In this time, he has project managed a substantial number of transmission, distribution and power projects across the UK and Ireland.

16. Recent examples relevant to this particular project are those transformer deliveries and installations to numerous rural substations in Ireland for ESB and a number for SONI in Northern Ireland over the past 2-3 years. These used a combination of girder frame and self-propelled trailers which are being proposed for the project and dealt with the challenges posed by the rural nature of roads in NI and Ireland. More specifically, ALE conducted a delivery and installation of a transformer from Warrenpoint to Tandragee Substation in 2014 which utilised a large proportion of the proposed route for this project.

17. Mr Fay Lagan of AECOM undertook the assessment of the environmental effects of the haulage route assessment for the transformers and that is addressed in Technical Report 12 (Community Amenity, page 5).

15.3 Policy and Guidance Informing Assessment

18. Policy and guidance information is contained in the Consolidated ES, Chapter 18 – Transport (pages 586 - 588) and the Statement of Case that has been prepared for the proposed Tyrone – Cavan Interconnector

15.4 Summary of Documents

19. This technical report summarises and incorporates by reference the content of the documents submitted in support of the planning applications for the proposed Tyrone – Cavan Interconnector in respect of transport. The relevant documents are:

- Consolidated ES Statement, Volume 2, Chapter 18 – Transport (pages 582 – 614);
- Consolidated ES Statement, Volume 3 Part 5 of 5 , Appendix 18A - Transport Assessment;
- Consolidated ES Statement Addendum, Volume 2, Chapter 7 – Haulage Route Assessment;
- Tower 102 in the Consolidated ES Addendum (section 1.9);
- Cumulative Impact Assessment in the Consolidated ES Addendum(section 5.3.12); and
- Transboundary Impact Assessment in the Consolidated ES Addendum(section 6.3)

20. This technical report must therefore be read in conjunction with the Consolidated ES Addendum, and not as a standalone document.

21. In a general sense all EIA documentation is interrelated and, particularly with respect to the interaction of impacts, all the EIA documents are relevant. For clarity the documents the author considers to be the key documents are summarised above. The reader should form his or her own view on what documents within the Consolidated ES and its Addendum are relevant, and key, to the topic under consideration.

22. In the interest of readability these documents are not reproduced in full in this technical report.

15.5 Further Environmental Information for the Purposes of the Inquiry

23. Since the publication of the Consolidated ES and its Addendum, the following environmental information has become available, and is presented to the inquiry for the purposes of the inquiry. Accordingly, and by virtue of Regulation 23(6) of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 the requirements of paragraphs (4) and (5) of the said Regulation 23 do not apply.

24. Recent baseline conditions have been reviewed and it is confirmed that they are not significantly different to the baseline conditions reported in the Consolidated ES Volume 1 Chapter 18 (see further under Section 15.18).

15.6 Scope of Assessment

25. The assessment of traffic impact, presented in Chapter 18 of the Consolidated Environmental Statement (ES) and Chapter 7 the Consolidated Environmental Statement Addendum, included consideration of traffic effects during construction and operation. During construction the assessment quantitatively considered the effects of traffic at the construction sites i.e. the substation and the towers and the potential effect of this traffic. Once operational the assessment considered the effect of the proposed Tyrone – Cavan Interconnector on traffic associated with the substation and the towers.

26. Further details are provided in the Consolidated ES Volume 3 Appendix 18A Transport Assessment.

27. The need for a transport assessment was identified by TransportNI (then Roads Service). A meeting held on 10th January 2013 confirmed the scope of the assessment, which follows Transport Assessment Guidelines for Development Proposals in Northern

Ireland, having regard to specific points in relation to these applications including access points, haulage routes and traffic management.

15.7 Consultation Responses

28. The pre-submission consultation for the assessment is presented in detail in the Consolidated ES Chapter 6 Scoping and Consultation (pages 151 - 156).

29. Consultation responses have been received from TransportNI in the Department for Infrastructure (formerly the Department of Regional Development Roads Service)

30. The scope of the Transport Assessment was outlined at a meeting with TransportNI (then Roads Service) as described above.

31. In all its responses, TransportNI has no objections subject to a number of conditions and informatives.

32. Prior to carrying out the physical survey, ALE consulted with TransportNI to establish the most suitable port of entry and any major restrictions on roads to the proposed substation site at Turleenan. It was clear from the initial consultation with TransportNI that both Belfast Port and Foyle Port (Londonderry Port) were out of the question due to restrictions on roads from Belfast, namely the M1 and the overall distance from Derry~Londonderry to the site.

33. Once it was agreed with TransportNI that Warrenpoint was the best point of entry, ALE continued consultation with TransportNI to establish the best route in terms of structural capacity.

15.8 Methodology and Surveys

34. This is a summary of the information contained in the Consolidated ES, Chapter 18 – (pages 582 - 599) and Chapter 7 of the Consolidated ES Addendum.

35. During construction, potential traffic effects will be primarily associated with the generation of additional road vehicle trips, therefore surveys have focussed on collecting traffic data.

36. In the first instance traffic data for the general study area was collated from the Roads Service Traffic and Travel Information Annual Traffic Census Reports. This was included in the Consolidated ES, Volume 1, Chapter 18, Section 18.3.3. This showed that at the sites identified that traffic flows were decreasing annually.

37. In addition a series of traffic surveys were undertaken using Automatic Traffic Counters. These were set down at 42 locations, along roads likely to be affected by construction traffic. The average daily weekday traffic flows at these locations is included in the Consolidated ES, Volume 1, Chapter 18, Section 18.3.3 and example flows include 8,522 vehicles on the A29 Moy Road at one end of the scale and 25 vehicles on the Ballyhoy Road at the other end of the scale. The surveys identified that many of the roads that are likely to be affected are not heavily trafficked.

38. In addition traffic collision data for the study area was collated. This was included in the Consolidated ES, Volume 1, Chapter 18, Section 18.3.4.

15.9 Assessment Overview

39. This is a summary of the information contained in the Consolidated ES, Chapter 18 - (pages 599 - 610) and Chapter 7 of the Consolidated ES Addendum.

40. A Transport Assessment has been undertaken to assess the traffic impacts of the construction of the towers and the associated overhead lines and the construction and post construction operation of the ancillary substation at the townland of Turleenan.

41. Two separate elements with respect to traffic generation have been assessed for the substation. The first is the construction and the second is the operation of the substation post construction.

42. The construction of the substation has identified that a maximum amount of additional vehicles associated with the construction process is 200 vehicles per day. The substation will be accessed from the B106 Trewmount Road. A temporary access for construction traffic has been designed in accordance with DCAN 15, giving an access sightline of 4.5m x 168.3m.

43. Post construction traffic flows associated with the substation are much reduced with on average one vehicle per week. There may be occasions of more intense maintenance and therefore, as worst case, 10 vehicles per day might use the access. The permanent access will be relocated slightly further south to the temporary access but will have the same sightlines.

44. All parking in both construction and post construction will be off the public highway with 6 parking spaces at the substation when it is operational.

45. The construction of the tower bases, towers and installation of overhead lines will have temporary traffic impacts and these have been assessed in detail in the Consolidated ES, Volume 1, Chapter 18, Section 18.4 and in the Transport Assessment (Appendix 18 of the Consolidated ES.

46. The temporary traffic generations associated with construction of the overhead lines and towers have been calculated for each site. Traffic generations have been calculated for each stage of construction depending on the level of equipment, construction material, staff, etc., being brought to the site. These have allowed daily and peak hour traffic volumes to be calculated for each site.

47. The temporary traffic generations expected during the construction period of three years will vary between towers depending on the tower type and the ground conditions and these have all been calculated individually. The total of 15 construction days will be required by the majority of accesses. On this basis the average traffic flows for each tower are between 6 and 26 vehicles per day. In some instances there are more intense activities on a particular day which create some maximums and these trips are in the range 15 – 58 trips per day i.e. 29 in and 29 out per day.

48. The percentage impacts of these flows on the background traffic, identified as being part of the network to be used to access the individual tower locations, have been calculated. The range of percentage impacts is in the order of 32% - 244% but the percentages are a reflection of the low background traffic flows rather that significant increases in traffic, e.g. Ballyhoy Road had a daily traffic flow of 26 vehicles and with the addition of 18

vehicles associated with construction gives a percentage of 70 per cent. The 244% refers to an unclassified road on the access to tower 102 which has 30 vehicles added to it during construction.

49. Following this exercise an assessment was undertaken of the capacity of the public roads in question to accommodate this temporary generated traffic. This showed that all the roads in question had the capacity to accommodate the background and the temporary generated traffic.

50. In terms of site access points each tower access was reviewed to check that all construction vehicle movements could take place. If this was not possible then temporary improvements including access widening to the access have been identified or else traffic management arrangements put in place.

51. As a further check, each site access and the haul route to it from the nearest main road was assessed i.e. the haul routes. In some instances the routes are wide enough for two way traffic. On others, whilst the road is narrower there are informal passing opportunities where, if two vehicles meet (as occurs currently) they can pass each other at a number of locations. The latter represents the position for the majority of haul routes but there are a number of site access points that require temporary traffic management measures e.g. one way systems. These have been established as feasible but final detail will be agreed with TransportNI and the contractor as part of the Construction Traffic Management Plan.

52. Post construction there will be some maintenance required for the overhead line, no more than once every two years except in emergencies, therefore the traffic impacts are negligible.

53. In conclusion the construction of the proposed Tyrone – Cavan Interconnector would result in a temporary increase in traffic levels on a number of roads within the study area. These increases are considered to be minor and as such not significant.

54. The transformer transportation will require three trips by a 20-axle transporter to transport each of the three 222 tonne transformers from Warrenpoint port to Moy. This transportation will take up to seven hours per trip and will result in local traffic disruption because of temporary road closures and the slow moving traffic.

55. Mitigation measures and publicity of the transformer transportation will inform and help to minimise the disruption. The mitigation measures will include police escorts, appropriate signage of alternative routes and diversions, and undertaking works in daylight only.

56. The decommissioning of the proposed Tyrone – Cavan Interconnector is assessed in Chapter 1 of the Consolidated ES Addendum (page 5). The effects of decommissioning would be temporary and of a similar scale to or less than the construction phase, as described and assessed in the Consolidated ES. Similar mitigation measures as described for the construction stage in the Consolidated ES should be again implemented to ensure the minimisation or elimination of any environmental impacts.

15.10 Baseline Conditions

57. This is a summary of the information contained in the Consolidated ES, Chapter 18 – Transport (pages 588 – 599) and Chapter 7 of the Consolidated Environmental Statement (ES) Addendum.

58. Baseline traffic flows have been collated and collected from a number of sources. The Roads Service Traffic and Travel Information 2006 – 2010 Annual Traffic Census had been consulted for relevant data. This traffic census data was not available for the period 2011-2015 at the time of writing the Consolidated ES Volume 1 Chapter 18. This is discussed further below.

59. Historical traffic flow data for sites on the A and B-class roads in the vicinity have been examined as shown in Table 18.4 in the Consolidated ES. This shows traffic flows in the ranges 5-10,000 vehicles per day.

60. In addition a number of traffic surveys were undertaken. Base traffic flow data was obtained from a series of Automated Traffic Counters (ATCs) installed within the study area in May 2012 and January 2013. The surveys took place at 42 locations within the area and average daily weekday traffic flows ranged from 12 to 8,522 vehicles.

61. With respect to the Personal Injury Accident Review included in Section 18.3.4 of Consolidated ES this included a traffic collision history of the study area. It detailed the accident data between 2008 and 2010 (the latest available at the time of writing).

62. Traffic collision data for the study area was also collated. This was included in the Consolidated ES, Volume 1, Chapter 18, Section 18.3.4. There were three collision points within 10 metres of a proposed access. These were caused by driver error and did not require remedial actions.

63. As part of the haulage route assessment for the transformers, a detailed route survey was undertaken to determine the best possible route, noting obstacles and potential pinch points along that route. The survey was assessed in terms of physical clearance and also potential issues with structural capacities. This included a survey of Warrenpoint Port and the route to the proposed substation to identify any constraints. Street furniture that will need to be temporarily removed has been identified.

15.11 Assessment of Impacts Without Proposed Mitigation

64. This is a summary of the information contained in the Consolidated Environmental Statement (ES), Chapter 18 – Transport (pages 599 – 610) and Chapter 7 of the Consolidated ES Addendum.

65. In terms of the site access to the substation a new site access is proposed. During the construction phase, if this mitigation measure was not provided then a substandard access would be in place with the possibility of negative impacts on road safety and convenience of users caused where traffic is accessing/egressing the site entrance at the substation during construction.

66. Post construction, without mitigation of the impacts, there may still be negative impacts but they will be less, as traffic flows associated with the operational stage are much lower compared to the construction period.

67. In terms of the towers, if the mitigation was not provided during construction then the possibility of increased negative impacts on road safety and convenience of users would occur. Post construction there are no mitigation measures as the traffic flows are insignificant.

68. The impacts identified in the haulage route assessment are described in Technical Report 12 (Community Amenity).

15.12 Proposed Mitigation

69. This is a summary of the information contained in the Consolidated ES, Chapter 18 - Transport (pages 610 - 613) and Chapter 7 of the Consolidated Environmental Statement (ES) Addendum.

70. Annex 10 of Appendix 18A in Consolidated ES tabulates the mitigation/enhancement measures for each of the accesses identified in Section 18.5. This includes temporary access widening and temporary traffic management. Further detail on this is included in Section 4.9.2 of Appendix 18A of Consolidated ES.

71. Prior to construction, a Construction Traffic Management Plan would be prepared and submitted to TransportNI following consultation with other stakeholders such as the Police Service of Northern Ireland. An outline plan has been drawn up at this stage; see Annex 11 of Appendix 18A. However, the appointed contractor would finalise this traffic management plan (within the parameters set by the outline plan) with TransportNI and adhere to its detail during the construction of the line. This plan would include the following:

- If required, appropriate Police or contractor escort to accompany movement of components to be agreed with the Transport NI and Police where appropriate;
- Advanced notification to the general public warning of transport movements;
- Informative road signage warning other users of forthcoming construction traffic movements;
- Arrangement for regular road maintenance and cleaning, e.g. road sweeping in the vicinity of the substation and construction site access points as necessary;
- In order to reduce traffic and parking impacts, construction personnel would be required to travel to the construction sites in mini-buses / staff work van type vehicles;
- Wheel cleaning/dirt control arrangements at key stages of construction; and
- Provision of temporary signs and traffic control where necessary.

72. With respect to the route haulage assessment for large equipment needed for the proposed substation at Turleenan, the proposed mitigation measures are identified in the Consolidated ES Addendum Volume 2 Section 7 Chapter 7.3.3.

73. In terms of the haulage route assessment, mitigation measures and publicity of the transformer transportation will inform and help to minimise the disruption. The mitigation measures will include police escorts, appropriate signage of alternative routes and diversions, and undertaking works in daylight only.

15.13 Residual Impacts With Proposed Mitigation

74. This is a summary of the information contained in the Consolidated Environmental Statement (ES), Chapter 18 - Transport (page 613) and Chapter 7 of the Consolidated ES Addendum.

75. The mitigation measures described above, and short-term nature of the increase in traffic, will would result in minimal residual environmental effects in terms of traffic and transport.

76. This conclusion is justified by the use of a construction traffic management plan to minimise any impacts during construction; and specific traffic management arrangements for specific sections of road i.e. tailored for existing conditions.

77. Further details are provided in the Consolidated ES, Volume 1, Chapter 18, Sections 18.5 and 18.6 (Mitigation Measures and Residual Impacts).

78. With respect to the route haulage assessment for large equipment needed for the proposed substation at Turleenan with the proposed mitigation measures in place there is likely to be the potential for some short term moderate impact. Further details are in the Consolidated ES Addendum Volume 2 Section 7.34.

79. The impacts of the haulage route assessment are identified in Technical Report 12 (Community Amenity).

15.14 Cumulative Impacts

80. This is a summary of information that is contained Chapter 5 of the Consolidated ES Addendum (page 77). A further assessment of cumulative effects is outlined in the Joint Environmental Report for the proposed Interconnector project (i.e. the project in Northern Ireland and Ireland). This is contained in Volume 3 Appendix 2.1 of the Consolidated ES Addendum.

81. In considering the effect of the Tyrone - Cavan Interconnector, in terms of transport and potential interactions and cumulative effects associated with other development proposals, it is concluded that the potential cumulative transport impacts are imperceptible.

15.15 Transboundary Impacts

82. This is a summary of information that is contained Chapter 6 of the Consolidated ES Addendum (page 86). A further assessment of cumulative effects is outlined in the Joint Environmental Report for the proposed Interconnector project This is contained in Volume 3 Appendix 2.1 of the Consolidated ES Addendum.

83. There are no significant transboundary impacts associated with the proposed Tyrone – Cavan Interconnector.

15.16 Response to Third Party and Statutory Consultee Submissions

84. Between 2009 and 2012, there were 6,000 third party submissions made in relation to the proposed Tyrone – Cavan Interconnector. These were reviewed and taken into account in the writing of the Consolidated ES. Following the publication of that document in 2013, 2,957 third party submissions were made one of which related to transportation issues. All submissions that were made and have been taken into account in the writing of the Consolidated ES Addendum.

85. Between May 2015 and November 2016, there have been 594 third party submissions and of these 96 submissions made reference to transportation issues. The general issues raised by objectors relate to: Impacts on the road carriageway of construction traffic; Lack of assessment of traffic impacts; and Traffic congestion. The submissions did not raise any material considerations or any issues that were not dealt within the Consolidated ES and Addendum. The issues raised by the submissions are examined, analysed and evaluated in Chapter 18 of the Consolidated ES (Volume 2) and in Chapter 7 of Consolidated ES Addendum.

86. In all its responses, TransportNI has no objections subject to a number of conditions and informatives, which will be accepted and undertaken by the applicant.

15.17 Events since the Addendum

87. Since the publication of the Consolidated ES and its Addendum, the following environmental information has become available, and is presented to the inquiry for the purposes of the inquiry. Accordingly, and by virtue of Regulation 23(6) of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 the requirements of paragraphs (4) and (5) of the said Regulation 23 do not apply.

88. There has been no significant relevant policy or legislative changes since the submission of the Consolidated ES Addendum. The publication of the Strategic Planning Policy Statement for Northern Ireland in September 2015 retains the policy provisions of PPS3 and PPS13 as identified in paragraph 15.3.

89. There has been no significant change to baseline conditions since the submission of the last addendum. This has been confirmed by review of the latest available data.

90. The Roads Service Traffic and Travel Information Annual Traffic Census has now data available up to and including 2015 (the latest available). This traffic census data was not available for the period 2011-2015 at the time of writing the Consolidated ES Volume 1 Chapter 18.

91. This data has now been reviewed and is summarised in Appendix A of this document reflecting an updated version of Table 18.4 in the Consolidated ES. This shows that traffic flows on the roads in the study area in overall terms have not increased. Therefore the conclusions on the traffic and transport section still hold good. In addition a sample of automatic traffic counters from Table 18.5 in the Consolidated ES have been re-surveyed in October 2016:

- Site 1 Trewmount Road;
- Site 3 Culverog Road;

- Site 10 Dernalea Road;
- Site 27 Bracknagh Road; and
- Site 37 Sheetrim Road.

92. The updated traffic surveys were able to obtain average weekday flows to compare with those previously surveyed. These showed, that in line with other data reviewed, there have been some changes in traffic (both up and down) at the sites surveyed. Further detail is included in Appendix B.

93. Both sets of results demonstrate that there has been no material change in the traffic flows, reflecting the analysis from the Roads Service Traffic and Travel Information Annual Traffic Census and locally observed counts.

94. In addition we have reviewed collision data for the study for the period 2011-2015 inclusive. This is the latest data available.

95. The collision data has identified that since 2010 there have been 39 recorded collisions in the study area including two fatalities on A3 Monaghan Road although not directly onto access points. Three collisions (all slight) were close to a proposed access routes for towers 54, 56 and 72. It would appear that the collisions were caused by driver/motorcycle rider error. Further detail is included in Appendix C.

96. As there have not been three or more collisions at the same locations on the network no further consideration for remedial works is necessary.

97. The conclusions from the above confirm that there have been no significant changes to the baseline figures in the Consolidated ES. Therefore there are no changes to the conclusions presented in Chapter 18 of the Consolidated ES.

98. As outlined in the Statement of Case and in Construction Technical Report (No. 4), alternative access is required to Tower 40 because of the construction of a chicken shed. Two alternative access tracks are described and assessed in the Construction Technical Report (No. 4). An assessment in terms of traffic and transport for the alternative access tracks is included in that Technical Report.

99. Confirmatory aerial surveys of the entire proposed Tyrone – Cavan Interconnector (proposed substation area and 500m either side of the overhead line centreline, which includes the proposed access tracks) were undertaken in October 2016. This photography was reviewed in terms of the traffic baseline conditions and nothing of note was detected.

15.18 Summary and Conclusions

100. This is a summary of the information contained in the Consolidated Environmental Statement (ES), Chapter 18 - Transport (page 613) and Chapter 7 of the Consolidated ES Addendum.

101. The assessment concluded that the construction of the Proposed Development would result in a temporary increase in traffic levels on a number of roads within the study area. In accordance with the significance criteria detailed in Table 18.3 of the Consolidated ES, Volume 1, Chapter 18, the increases in traffic are considered to be minor or negligible and as such not significant.

102. Haul routes for construction have been identified as far as possible at this stage of the design process, i.e. before a contractor has been appointed. A number of potential suppliers have been identified and assessed in Consolidated ES, however it would be a decision of the contractor as to which supplier would be used. Therefore haul routes have been identified for all construction sites from the nearest A or B class road.

103. The construction of the proposed substation will require the transport of transformers from Warrenpoint as abnormal loads. The analysis undertaken in the Consolidated ES Addendum, Volume 2, Chapter 7 concludes that the transformer transportation will result in short-term traffic impacts, however the impacts will be limited to the duration of the transportation process carried out over a total of six days. Mitigation measures will help to limit the impacts and disruption, but there is the potential for localised short term moderate adverse impacts.

104. Overall effects on the public highway by the construction of the overhead line and towers will be reduced by taking access from existing field gateways and laneways. Each access has been individually assessed and requirements for mitigation/enhancement have been identified and suitable measures proposed.

105. Traffic generated during the operation and maintenance of the proposed Tyrone – Cavan Interconnector would be minimal and would not result in any significant effects.

106. The Transport chapter in the Consolidated ES, Volume 1, has assessed the likely significance of the traffic associated with the proposed Tyrone – Cavan Interconnector during construction and operation. With the implementation of mitigation measures such as an appropriate traffic management plan and suitable liaison with Transport NI, the residual traffic and transport effects are temporary and have been assessed as having an impact of negligible significance. The overall approach to mitigation has been to use existing accesses where possible and also adopt temporary traffic measures as a preferred option in order to maintain the environment.

107. The decommissioning of the proposed Tyrone – Cavan Interconnector is assessed in Chapter 1 of the Consolidated ES Addendum (page 5). The effects of decommissioning would be temporary and of a similar scale to or less than the construction phase, as described and assessed in the Consolidated ES.

108. There has been no significant change to baseline conditions since the submission of the last addendum. This has been confirmed by review of the latest available data from TransportNI and through updated traffic surveys. It has been determined that there are no changes to the conclusions presented in Chapter 18 of the Consolidated ES.

109. An assessment of the transportation of the transformers to the proposed Turleenan substation has been undertaken. This transportation will require three trips by a 20-axle transporter to transport each of the three 222 tonne transformers from Warrenpoint port to Moy. This transportation will take up to seven hours per trip and will result in local traffic disruption because of temporary road closures and the slow moving traffic.

110. Because of a sharp turn in Moy village, it will be necessary to transfer the transformers by crane from the 20-axle transporter to a smaller self-propelled trailer. This will result in the closure of the B106 in the centre of Moy square and a diversion system will be in operation at the northern and southern end of the square. This will result in local disruption to the traffic, as well as temporary visual and noise impacts and will disrupt the

normal daily activity of Moy village. This transfer will require two days per trip; six days in total. The three required trips will be spaced apart to minimise disruption.

111. There are likely localised short term moderate adverse impacts to road users with no long term impacts on completion of the transport of the transformers

112. Mitigation measures and publicity of the transformer transportation will inform and help to minimise the disruption. The mitigation measures will include police escorts, appropriate signage of alternative routes and diversions, and undertaking works in daylight only.

Appendix A Traffic and Travel Information Annual Traffic Census Update 2010-2015

Appendix A – The Roads Service Traffic and Travel Information Annual Traffic Census Update 2010-2015

REF NO.	LOCATION	2006		2007		2008		2009		2010		2011		2012		2013		2014	
		AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV	AADT	% HGV
417	A29 Keady Road	6,260	9.0	5,790	9.15	5,760	8.3	5,710	7.1	5,750	7.2	5,500	602	5,440	6.3	5,830	-	5,540	5.7
424	A3 Monaghan Road	6,660	11.0	6,880	11.06	6,580	10.6	6,490	10.1	6,260	9.9	6,130	9.8	5,920	9.3	5,940	-	5,730	-
428	B3 Derrynoose Rd	5,520	7.0	5,290	6.62	5,290	6.0	5,210	5.9	5,040	4.7	-	5	-	-	4,660	6.5	4,650	6.1
440	A29 Moy Road	-	-	10,580	11.1	10,500	10.7	10,510	9.7	10,310	10.0	10,250	9.7	9,880	9.3	10,240	9.3	10,390	9.1
442	A3 Monaghan Road	-	-	5,010	13.41	4,580	13.2	4,340	13.2	4,230	13.7	-	-	-	-	4,170	-	3,530	-
606	A29 Armagh Road	10,750	9.0	10,860	9.12	10,550	8.8	10,600	8.1	10,250	7.9	10,200	8.2	10,300	8.3	11,900	-	10,810	-

Appendix B ATC Survey Results Compared

Appendix B - ATC Survey Results Compared (May 2012/January 2013 versus October 2016)

SITE REF.	ROAD NAME	ROAD CLASSIFICATION	WEEKDAY DAILY TRAFFIC 2012/13	% HGV	WEEKDAY DAILY TRAFFIC 2016	% HGV
Site 1	Trewmount	B106	3,672	4%	3,170	9.2%
Site 3	Culverog Road	Unclassified	65	2%	58	16%
Site 10	Dernalea Road	Unclassified	210	5%	105	18%
Site 27	Bracknagh	Unclassified	45	20%	88	21%
Site 37	Sheetrim Road	Unclassified	27	4%	29	4%

Appendix C Collision Data 2011 – 2015

Appendix C – Collision Data 2011 – 2015

							SEVERITY OF CASUALTY		
REFERENCE	YEAR	LOCATION	PROXIMITY TO NEAREST ACCESS POINT	SEVERITY OF COLLISION	HGV INVOLVED	FARM VEHICLE INVOLVED	SLIGHT	SERIOUS	FATAL
CC2011110900750	2011	Moy Road	700m from T9	Slight	NO	NO	1	0	0
CC2011022300353	2011	Moy Road	320m from T9	Slight	NO	NO	1	0	0
CC2011101501274	2011	Moy Road	320m from T9	Slight	NO	NO	1	0	0
CC2011122200078	2011	Moy Road	150m from T9	Slight	NO	NO	1	0	0
CC2011032501011	2011	Benburb Road	60m from T24	Slight	NO	NO	2	0	0
CC2011121200411	2011	Tullysaran Road	60m from T41	Serious	NO	NO	0	1	0
CC2011020600054	2011	Monaghan Road	70m from T73	Slight	NO	NO	1	0	0
CC2012022900187	2012	Moy Road	730m from T9	Slight	NO	NO	1	0	0
CC2012120700754	2012	Monaghan Road	660m from T62	Fatal	NO	NO	0	0	1
CC2012112600554	2012	Monaghan Road	990m from T70	Slight	YES	NO	1	0	0
CC2012032400151	2012	Monaghan Road	480m from T71	Slight	NO	NO	1	0	0
CC2012111401063	2012	Derrynoose Road	350m from T99	Serious	NO	NO	1	1	0
CC2013041400462	2013	Trewmount Road	280m from T1	Serious	YES	NO	0	1	0
CC2013010600448	2013	Trewmount Road	370m from T1	Slight	NO	NO	3	0	0
CC2013041100236	2013	Trewmount Road	370m from T1	Slight	NO	NO	1	0	0
CC2013122600453	2013	Gorestown Road	730m from T15	Slight	NO	NO	1	0	0
CC2013120400339	2013	Culrevog Road	320m from T19	Slight	NO	NO	1	0	0
CC2013092800668	2013	Benburb Road	250m from T26	Slight	NO	NO	1	0	0
CC2013110400296	2013	Clonfeacle Road	240m from T29	Slight	YES	NO	1	0	0
CC2013060200623	2013	Clonfeacle Road	830m from T29	Slight	NO	NO	1	0	0
CC2013021600566	2013	Killylea Road	400m from T53	Slight	NO	NO	1	0	0
CC2013061101126	2013	Monaghan Road	620m from T70	Serious	NO	NO	0	2	0
CC2013062200368	2013	Monaghan Road	300m from T70	Slight	NO	NO	2	0	0
CC2013012801238	2013	Monaghan Road	420m from T71	Fatal	NO	NO	0	0	1
4910	2014	Moy Road	520m from T9	Serious	NO	NO	0	2	0
3860	2014	Syerla Road	720m from T14	Slight	NO	NO	1	0	0
1810	2014	Clonfeacle Road	830m from T30	Slight	NO	NO	3	0	0
3921	2014	Killylea Road	750m from T53	Slight	YES	YES	1	0	0
5707	2014	Killylea Road	15m from T54	Slight	NO	NO	1	0	0
4120	2014	Monaghan Road	520m From T70	Slight	YES	NO	1	0	0
312	2014	Monaghan Road	560m from T71	Serious	NO	NO	0	1	0
2660	2015	Trewmount Road	890m from T1	Slight	NO	NO	1	0	0
4101	2015	Moy Road	970m from T9	Slight	NO	NO	4	0	0
3745	2015	Gorestown Road	730m from T16	Slight	NO	NO	2	0	0
3374	2015	Benburb Road	140m from T23	Serious	NO	NO	0	1	0
5557	2015	Killylea Road	400m from T54	Slight	NO	NO	1	0	0
2915	2015	Monaghan Road	230m from T72	Slight	NO	NO	1	0	0
450	2015	Monaghan Road	830m from T73	Slight	NO	NO	4	0	0
1813	2015	Derrynoose Road	350m from T99	Slight	NO	NO	2	0	0