



**TRANSMISSION INTERFACE ARRANGEMENTS BETWEEN**

**SONI LTD**

**AND**

**NORTHERN IRELAND ELECTRICITY NETWORKS LTD**

**TIA SUBSIDIARY DOCUMENT NO 2**

**OPTION APPRAISAL**

**27 FEBRUARY 2023**



## Transmission Interface Arrangements between SONI Ltd and Northern Ireland Electricity Networks Ltd

### TIA Subsidiary Document No 2

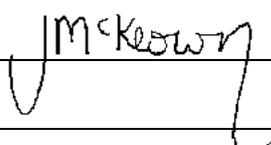
### Option Appraisal

### Document Authorisation

#### For and on behalf of SONI Limited

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## 1 Introduction

- 1.1 This TIA Subsidiary Document (TIASD) is one of a series which collectively defines the pre-construction processes required to plan and develop a large-scale infrastructure project identified in the Transmission Development Plan.
- 1.2 However, the Parties consider that all the steps set out in each TIASD in the series may not be necessary in every case, taking into account the scale, location and technology of a particular project. Where the Parties agree, the application and scope of each TIASD in the series may be varied or scaled back in appropriate circumstances.
- 1.3 This TIASD should be read in conjunction with the Transmission Interface Arrangements (TIA). It can only be changed in accordance with Section P of the TIA.
- 1.4 A copy of this TIASD may be obtained on each Party's website, subject to the provisions of Section A, paragraph 3 of the TIA.
- 1.5 Terms which are capitalised shall be interpreted according to the definitions in Section 10 of this TIASD.
- 1.6 This TIASD refers to or summarises the relevant provisions of the TIA applicable to the process described in this TIASD in order to place that process in context. In the event of any inconsistency between the provisions of this TIASD and the TIA the provisions of the TIA shall prevail. It is not the intention of this TIASD to revise or amend the rights and obligations of the Parties as stated in the TIA.
- 1.7 In the event of any inconsistency between the provisions of this TIASD and another TIASD, the Parties shall agree which provision(s) shall take precedence pending amendment of the appropriate TIASD as may be required under Section P of the TIA.

## 2 Overview

- 2.1 Figure 1 illustrates a high-level summary of the overall pre-construction process and lists the six TIASDs in the series. This TIASD covers steps 2 – 6.
- 2.2 It specifies the process to be followed when carrying out Option Appraisal (as per Section C sub-paragraph 10.6.3 and Section D sub-paragraph 9.6.3 of the TIA) in order to identify the Preferred Transmission Reinforcement Option.
- 2.3 A process map is contained in Appendix A of this document and the following sections provide additional detail to that contained in the process map.
- 2.4 The Parties recognise that the design evolution is an iterative process and achieving good design which best satisfies the Parties' legal and regulatory obligations requires:
- (i) careful technical, environmental and economic assessment of the shortlisted Transmission Reinforcement Options, and
  - (ii) due consideration of consultation responses and representations from stakeholders, including landowners.
- 2.5 Given that the responsibilities for these activities are split between the Parties, each having its own priorities, the Parties recognise the importance of co-ordination and co-operation in determining the optimal design, with the aim of seeking to achieve the

same outcome that would be accomplished if only one party was undertaking the process. The outcome should be that which is in the best interest of consumers having due regard for the environment and stakeholders.

- 2.6 The process map does not illustrate any feedback loops. It is felt that to include such loops would cause the process map to be unnecessarily complex. However, the Parties shall frequently review and backcheck earlier decisions to establish if they are still sound. Where new information is acquired which challenges the validity of an earlier decision then the Parties shall reconsider that decision taking the new information into account in order to establish if the decision should still stand or not.
- 2.7 This TIASD does not define specific timescales nor deadlines for activities. These could not be defined in a generic document. TIA Subsidiary Document 3 requires the Parties to develop and agree a Pre-construction Programme prior to the commencement of the Option Appraisal process. Therefore, this document should be read in conjunction with the Pre-construction Programme prepared under TIA Subsidiary Document 3.
- 2.8 The arrows within the process map solely indicate the sequence of activities and should not be interpreted in any other way, such as exchanges of data.
- 2.9 The Option Appraisal process starts once a Need Case has been established which defines the need to address potential non-compliances or asset replacement requirements on the Transmission System and after the project-specific Pre-construction programme has been agreed.
- 2.10 The Option Appraisal process shall be carried out in accordance with the Pre-construction Programme developed and agreed between the Parties in accordance with TIA Subsidiary Document 3.
- 2.11 The Option Appraisal process consists of seven principal phases:
- (i) Identification of a list of technically feasible options
  - (ii) Development of a shortlist of Transmission Reinforcement Options
  - (iii) Appraisal each Transmission Reinforcement Option on the shortlist
  - (iv) Identification of the initial Preferred Transmission Reinforcement Option (which SONI may refer to as the "Preliminary Preferred Option" in stakeholder engagement)
  - (v) Stakeholder engagement on the appraisal process and the selection of the initial Preferred Transmission Reinforcement Option
  - (vi) Consideration of Stakeholder engagement Feedback
  - (vii) Confirmation of the Transmission Reinforcement Option to be taken forward to the next stage which may include Route Corridor Studies

### **3 Identification of a list of technically feasible options**

- 3.1 An initial list of technically feasible options to address the Need Case will be drawn up by SONI.

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- 3.2 Consideration will be given to technically feasible options which address the Need Case and do not require the construction of new infrastructure, either by making use of or modifying existing infrastructure or by operational or market-based solutions.
- 3.3 Wherever possible, consideration shall be given at this stage to developing technically feasible options which address more than one Need Case. For example, it is possible that an asset replacement need and a load related need may arise near to each other on the Transmission System and both might be dealt with by a single Transmission Reinforcement Project.
- 3.1 The TIA provides in Section S for circumstances where new or modified connections to the Distribution System may require transmission works. Where appropriate, consideration shall also be given at this stage to developing technically feasible options which also resolve Need Cases arising out of distribution connections. In this situation SONI and NIE Networks shall cooperate in the identification and assessment of options that will resolve the Need Cases.
- 3.2 In some cases, there could be a substantial number of technically feasible options which could address the Need Case. At this stage, any option which does not appear to offer any material benefit over another option will not receive further consideration.
- 3.3 The final list of technically feasible options, including descriptions and technical details of each, shall be provided by SONI to NIE Networks.
- 3.4 NIE Networks shall review the technically feasible options and provide feedback from an asset owner perspective.
- 3.5 SONI shall give due consideration to NIE Networks' views and finalise a list of technically feasible options. Where SONI's decision on the final list of technically feasible options is inconsistent with NIE Networks' views an explanation of the decision shall be provided to NIE Networks.

#### **4 Development of a shortlist of Transmission Reinforcement Options**

- 4.1 SONI shall carry out a high-level appraisal of the technically feasible options with the aim of developing a shortlist of Transmission Reinforcement Options to be taken forward for detailed Option Appraisal.
- 4.2 It is not possible to be prescriptive about the aspects of each option which shall be appraised in every project. As a minimum, SONI will consider capital costs, operational costs, environmental impacts and technical considerations, such as benefits and disbenefits from operational, construction and maintenance perspectives.
- 4.3 SONI shall consider the results of the high-level appraisal and develop a shortlist of Transmission Reinforcement Options.
- 4.4 The number of options included in the shortlist will vary in each case but every effort shall be made to ensure the shortlist includes no more than five Transmission Reinforcement Options as, in general, more than this is likely to prove unmanageable when carrying out detailed appraisals at the next stage.
- 4.5 SONI shall provide the high-level appraisal report to NIE Networks, along with the shortlist of Transmission Reinforcement Options.

4.6 NIE Networks shall review the high-level appraisal of the technically feasible options and the selection of the shortlist of Transmission Reinforcement Options. Feedback from an asset owner perspective shall be provided to SONI.

4.7 SONI shall give due consideration to NIE Networks' views and finalise the shortlist of Transmission Reinforcement Options to be taken forward for further Option Appraisal. Where SONI's decision on the final shortlist of Transmission Reinforcement Options is inconsistent with NIE Networks' views an explanation of the decision shall be provided to NIE Networks.

## **5 Appraisal of each Transmission Reinforcement Option on the shortlist**

5.1 The Parties shall separately carry out detailed appraisal of each Transmission Reinforcement Option on the shortlist.

5.2 It is envisaged this will be a desktop assessment across all aspects of the appraisal.

5.3 In the case of new infrastructure, it may not be possible at this stage to collect detailed information as there may be no link to a precise geographic location. However, there will be sufficient information to consider the relative advantages and disadvantages of each option (in terms of environment, technical and cost) and thus inform the decision-making process.

5.4 SONI shall carry out an appraisal of each option considering, as a minimum, operational, lifetime cost (e.g. losses) and environmental aspects.

5.5 NIE Networks shall carry out an appraisal of each option from an asset owner perspective considering, as a minimum, technical, maintainability, constructability, capital and lifetime cost (e.g. maintenance and mid-life replacement) aspects.

5.6 NIE Networks shall document the results of its appraisal and provide the results to SONI for inclusion in the appraisal report.

5.7 SONI shall give due consideration to NIE Networks' views.

5.8 SONI shall document the results of SONI's appraisal and combine its results with NIE Networks' appraisal.

## **6 Identification of the initial Preferred Transmission Reinforcement Option**

6.1 After considering all the appraisal results SONI shall select the initial Preferred Transmission Reinforcement Option, finalise the appraisal report and provide a copy to NIE Networks.

6.2 NIE Networks shall review the appraisal report, consider the choice of Preferred Transmission Reinforcement Option and provide feedback to SONI from an asset owner perspective.

6.3 SONI shall give due consideration to NIE Networks' feedback and confirm the initial Preferred Transmission Reinforcement Option.

6.4 Where SONI's decision on the initial Preferred Transmission Reinforcement Option or any aspect of the final appraisal report are inconsistent with NIE Networks' views an explanation shall be provided to NIE Networks.

6.5 As stated in paragraph 5.2 of this TIASD, it is envisaged that the Option Appraisal process will be a desktop exercise. However, there may be cases where, for example, siteworks, soil investigations or detailed asset inspections are required to reduce the risk of the initial preferred option being non-viable. Where agreed by the Parties such site activities shall be carried out at this stage.

6.6 However, where reasonable assumptions can be made about asset or soil conditions costly inspections should be avoided until after the Authority has granted Transmission Network Pre-construction Project (TNPP) approval.

## **7 Stakeholder Engagement**

7.1 It may be necessary at this stage to prepare the stakeholder engagement<sup>1</sup> strategy. It may also be considered appropriate to make the TNPP submission to the Authority prior to stakeholder engagement. The Parties shall consider these matters and agree the approach to be taken.

7.2 The Parties shall prepare the required documentation and stakeholder engagement materials relevant to their areas of expertise to enable the audiences (e.g. key stakeholders, statutory consultees and local communities) to understand the Option Appraisal and the selection of the initial Preferred Transmission Reinforcement Option, ensuring an effective stakeholder engagement. This could include reports, environmental and technical assessments and explanations of the features of each shortlisted Transmission Reinforcement Option.

7.3 The Parties shall jointly undertake the consultation, each providing sufficient resources to support their areas of expertise.

## **8 Consideration of Stakeholder Engagement Feedback**

8.1 Following the stakeholder engagement each Party shall document feedback relevant to its business. The Parties shall meet and work co-operatively to develop a comprehensive and accurate record of the stakeholder engagement feedback which will form part of the application for Consent and to consider whether or not there is a need to reconsider the selection of the initial Preferred Transmission Reinforcement Option and will help inform the Functional Specification.

## **9 Confirmation of the Preferred Transmission Reinforcement Option**

9.1 SONI shall confirm the Preferred Transmission Reinforcement Option to be taken forward for the TNPP submission and Route Corridor Studies taking due account of NIE Networks' views and stakeholder feedback. Where SONI's selection is not consistent with NIE Networks' views an explanation of the decision shall be provided to NIE Networks.

9.2 SONI shall finalise the stakeholder engagement report and publish it on the SONI website, making public its decision on the Preferred Transmission Reinforcement Option.

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<sup>1</sup> The Stakeholder Engagement strategy sets out the stakeholders relevant to the project and the planned engagement approach such as how and when engagement would be implemented.

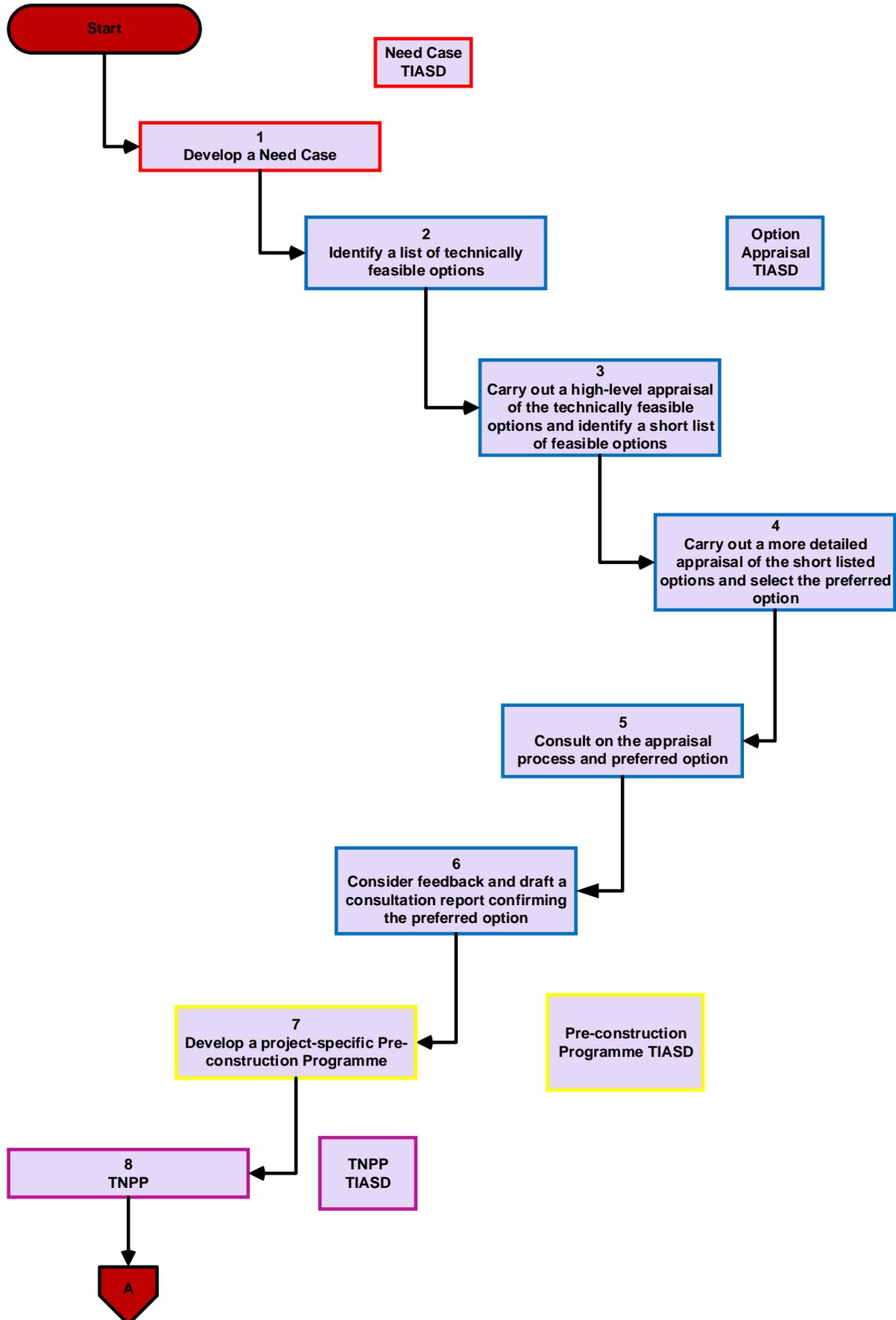
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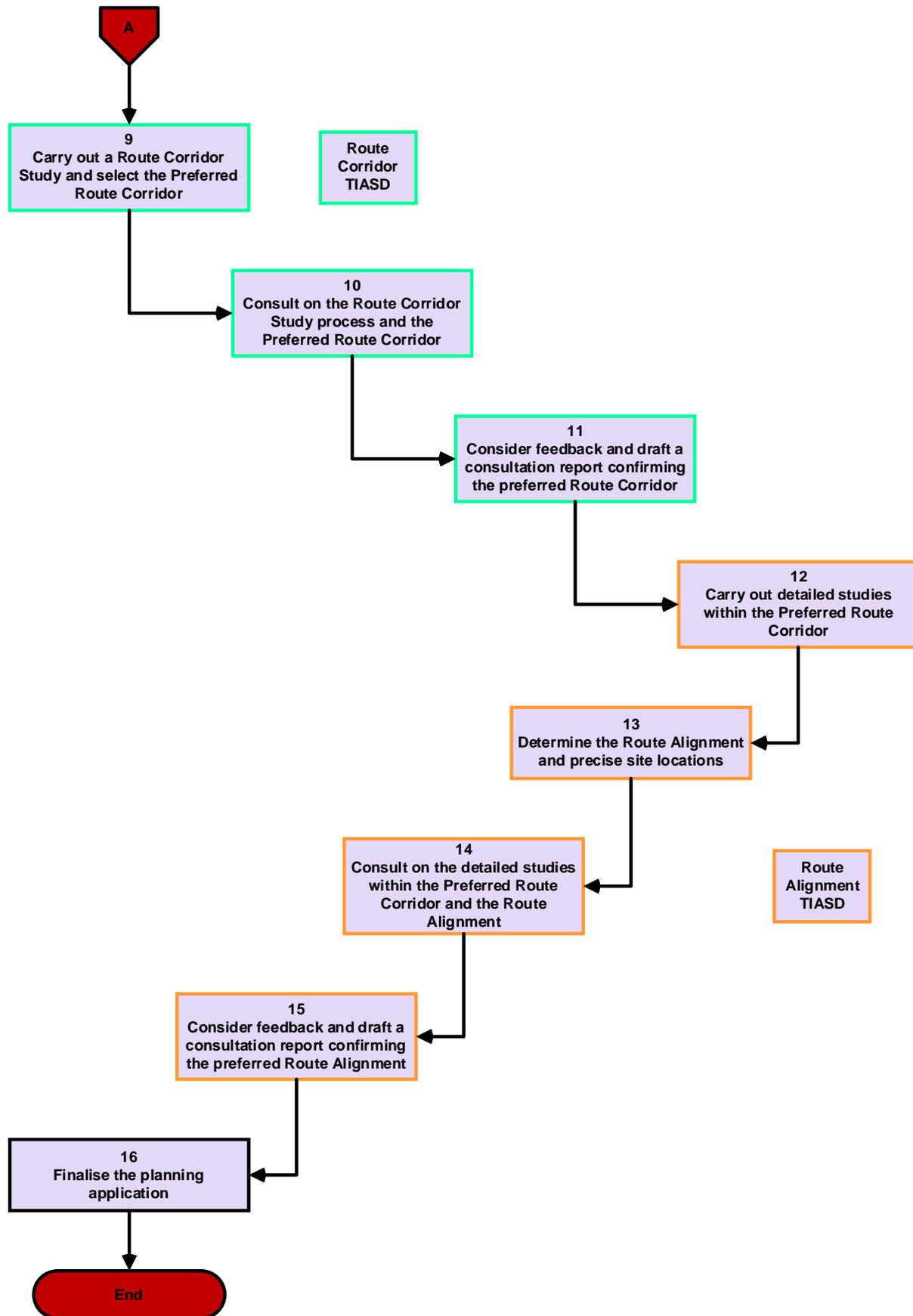
## 10 Definitions

Term	Definition
Apparatus	All equipment in which electrical conductors are used, supported or of which they may form a part.
Authorised Area	As defined in NIE Networks' licence.
Authority	The Utility Regulator as established under the Energy Order.
Consent	The planning permission or approval under primary or subordinate legislation, in particular Article 40 of the Order.
Distribution System	The electric lines within the Authorised Area, owned and operated by NIE Networks (but not, for the avoidance of doubt, any lines forming part of the Transmission System) and any other electric lines which the Authority may specify as forming part of the Distribution System, including (in each case) any electrical plant and/or meters used in connection with distribution.
Energy Order	The Energy (Northern Ireland) Order 2003.
Grid Code	The code of that name drawn up pursuant to SONI's Transmission Licence as amended from time to time in accordance with SONI's Transmission Licence.
Modifications	Actual or proposed replacement, renovation, modification, alteration, or construction by or on behalf of a User or NIE Networks to either the User's Plant or Apparatus or the manner of its operation or NIE Networks' Plant or Apparatus or the manner of its operation
Need Case	A document which explains the need to consider Modifications to the Transmission System in order to ensure the Parties continue to comply with the relevant Transmission Licence. It explains the consequences of doing nothing but does not propose solutions to resolve the Need Case.
Option Appraisal	In this TIASD, the process used to narrow down the list of technically feasible options and identify a Preferred Transmission Reinforcement Option.
Order	The Electricity (Northern Ireland) Order 1992.
Party or Parties	SONI Ltd ("SONI") and Northern Ireland Electricity Networks Ltd ("NIE Networks").
Plant	Fixed and moveable items used in the generation and/or supply and/or transmission of electricity other than Apparatus.
Pre-construction Programme	The programme prepared in accordance with TIA Subsidiary Document 3.

Term	Definition
Preferred Transmission Reinforcement Option	The Transmission Reinforcement Option identified by SONI to be taken forward for Route Corridor Studies.
Route Corridor	A swathe of land between the proposed start and end points, within which an overhead transmission line or underground transmission cable could be located.
Route Corridor Study	An appraisal of the planning and environmental constraints to identify potential Route Corridor options and potential transmission substation site locations within a defined Study Area.
Study Area	An area within which the Preferred Transmission Reinforcement Option may be developed and which will be examined by gathering and assessing environmental, geographical and other relevant information.
TIA Subsidiary Document or TIASD	A subsidiary document forming part of the TIA as listed in Schedule 1 of the TIA.
Transmission Interface Arrangements or TIA	The document of that name prepared pursuant to Condition 18 of the SONI Transmission Licence and Condition 17 of NIE Networks Transmission Licence.
Transmission Licence	A licence to participate in the transmission of electricity granted under Article 10(1)(b) of the Order.
Transmission System	The system owned by NIE Networks and operated by SONI consisting (wholly or mainly) of high voltage lines and electrical plant operating at a nominal voltage of 110 kV or greater.
User	Any person who is a “user” under particular sections of the Grid Code and has a Connection Agreement

Figure 1 – High-level Summary of the Overall Pre-construction Process





**Appendix A – Process Map**

