

# National Roads Telecommunications Services Project

## Schedule 1.2 to NRTS Project Agreement

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Schedule 1: Statement of Requirements

Schedule 1.2: Processes

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GD00323/RT/E/483 Issue 1

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**1 ORGANISATION AND PROCESSES FOR THE NRTS PROJECT**

**1.1 [Not Used]**

**1.2 [Not Used]**

**1.3 [Not Used]**

**1.4 [Not Used]**

*Figure 1-1 [Not Used]*

## 1.5 NRTS Project Organisation

1.5.1 [Not Used]

### How the HA will Manage the NRTS Project

1.5.2 [Not Used]

1.5.3 [Not Used]

1.5.4 [Not Used]

1.5.5 [Not Used]

### *Preparation Phase*

1.5.5.1 [Not Used]

1.5.5.2 [Not Used]

1.5.5.3 [Not Used]

1.5.5.4 [Not Used]

1.5.5.5 [Not Used]

### *Service Delivery Phase*

1.5.5.6 [Not Used]

1.5.5.7 [Not Used]

1.5.5.8 [Not Used]

### *NRTS Co's Project Management Obligations*

1.5.5.9 [Not Used]

1.5.5.10 **M** NRTS Co shall be proactive in eliciting HA requirements and those of other organisations whose activities impinge on it.

1.5.5.11 **M** There shall be regular meetings between the appropriate representatives of the HA and NRTS Co as set out in Clause 25 of the Project Agreement (Contract Management).

### NRTS Co's External Interfaces – The Interfacing Organisations

1.5.6 [Not Used]

1.5.7 **M** Interfacing Organisations are the organisations that NRTS Co shall work with or interface with whilst undertaking highways activities throughout the NRTS Contract.

- 1.5.8 **M** The NRTS Co project team shall establish regular liaison meetings with the Interfacing Organisations. Liaison shall be at the appropriate management, operational or technical level, and at the appropriate frequency, to ensure that NRTS Co activities are planned and seamlessly co-ordinated with those of any other organisation with which NRTS Co interacts (or on which its activities impinge).
- 1.5.9 **M** The initial list of Interfacing Organisations includes those shown in Table 1-1. NRTS Co shall develop and regularly update, monthly or as otherwise agreed, the list of Interfacing Organisations. The list shall be a Type A Record and shall as minimum include:
- Organisation Name.
  - Contact Name and details.
  - Frequency of liaison.
  - Type of liaison (meetings, call etc).
  - Summary of the interaction between the Interfacing Organisation and each process.

Interfacing Organisation	Comment
Channel Tunnel Rail Link (CTRL)	The CTRL company responsible for building and operating the high-speed rail link which runs parallel to the M20 in places. The rail link uses overhead power cables, which carry high traction currents. These induce currents in the M20 longitudinal cable. CTRL is responsible for implementing mitigation measures to be completed by the end of 2003, i.e. around the same time as the projected Execution Date for the NRTS Contract.
LE Crossing (formerly Dartford River Crossing (DRC) plc)	Operational responsibility for the Dartford River Crossing (a toll bridge and tunnel) under contract to the public sector.
Design, Build, Finance and Operate (DBFO) Companies	Companies with a contract to Design, Build, Finance and Operate (under a Public Private Partnership) a trunk road on behalf of the HA for a period, typically, of 30 years. Examples include the A1 between Darrington and Dishforth, the A419, the M40, etc. The communications arrangements on DBFO roads that shall apply as at the Execution Date are set out in Annex H.
HA Logging Environment (HALOGEN) Contractor and other systems suppliers	HA systems such HALOGEN have been, or are being, provided by a variety of suppliers. NRTS Co may need changes or new facilities added to these systems e.g. to enable its use of the HALOGEN system for fault monitoring. It will be NRTS Co's responsibility to negotiate terms with any such suppliers.
HA Network Strategy Directorate	The HA department responsible for planning the future construction, operation and maintenance contracts typically in the period of 5 to 10 years beyond the present day.
HA Operations Directorate	The HA department responsible for planning and implementing the construction, operation and maintenance contracts over the next 5 years. These contracts include requirements for communications activities that will affect the NRTS Project.
HA Safety, Standards and Research (SSR) Directorate	The SSR Directorate is responsible for controlling a number of documents for which the HA is the issuing authority including the DMRB and the suite of NMCS2 specifications. Various Change Control Boards (CCB) and working groups such as the IP Working Group meet to control changes to these documents. NRTS Co will from time to time be required to attend these, or comment on the work of, CCBs where it is related to NRTS Co activities/responsibilities.



Interfacing Organisation	Comment
HA SSR Directorate Electrical Support Teams	There are electrical support teams that provide support to the Operations Directorate on all electrical and communications matters. These are regionally based.
HA SSR Directorate Environmental Team	The HA team responsible for agreeing HA policy on environmental issues and providing environmental support to HA project sponsors.
HA SSR Directorate Network Communications Operation and Maintenance (NCOM) Team	NCOM generally covers Regional Maintenance Contractor maintenance policy.
HA SSR Directorate Technical Approval Authority (TAA) Team	The team is the HA's TAA for proposals for the design of structures having an impact on the safety of road users.
Highways Departments in UK National Assemblies	The National Assemblies for Wales and Scotland departments which have the HA's role (responsibility for the strategic road network) in Wales and Scotland. The National Motorways Communications System currently interfaces with that of Wales and shares some common telecommunications infrastructure. Further details are provided in Annex D.4.
Home Office Police Service Development Branch (PSDB)	Responsible for the development of enforcement and security applications that use Transmission Services. The PSDB liaises directly with the HA and will continue to do so in future.
Local Highways Authorities (LHAs)	<p>LHA's operate and maintain roads other than the All Purpose Trunk Roads (for which the Secretary of State is responsible). This can include motorways (e.g. the A38(M) and, if the scheduled de-trunking proceeds, the M32) as well as other inter-urban and urban roads. Certain of these roads are part of the NRTS Project Road Network since arrangements exist where the Secretary of State (represented by the HA) has accepted responsibility to provide one or more of the Services.</p> <p>There will be an operational interface (particularly in respect of roadside works) between NRTS Co and LHA's where Trunk Roads are contiguous with other roads.</p> <p>The HA also has communications links to urban traffic control systems with various local authorities, including, for example:</p> <ul style="list-style-type: none"> <li>• Hampshire Country Council – a link to the ROMANSE office in Southampton;</li> <li>• Birmingham City Council – a link to the MATISSE project office.</li> </ul> <p>The number of such links is expected to grow in future as traffic data interchange standards become more developed and more traffic control systems are developed to manage the interactions between urban and inter-urban traffic. NRTS Co may be requested to provide these links in future as Transmission Service Type Instances.</p>
M6 Toll (the contractor is Midlands Expressway Limited)	<p>The M6 Toll contractor MEL will provide the HA with two spare communications fibres for emergency use along the M6 Toll. In return the HA will provide dual routing along the M6 to ensure robustness of the M6 Toll communications system. NRTS Co can use the fibres for any HA or HA connected use but not for private revenue generating purposes. No service level obligations on M6 Toll are attached to this facility.</p> <p>The interface between M6 Toll circuits, which need to continue on into Perry Barr Control Office over the NRTS Transmission Network, and NRTS Co circuits, will be at Transmission Stations at either end of the M6 Toll road. These will be shared facilities between M6 Toll and NRTS Co (refer to the <i>Control and Management of Access of Personnel to NRTS Co Sites</i> constraint in Schedule 1.3 section 3.8 (Statement of Requirements: General Constraints))</p>

Interfacing Organisation	Comment
Managing Agent Contractor (MAC)	The MAC effectively performs the roles of both the MA and the TMC. The MAC is a replacement of the MA and TMC.
Managing Agent (MA)	The MA manages the activities of the Term Maintenance Contractor (TMC) on behalf of the HA.
National Transmission Maintenance Contractor (NTMC)	<p>Until such time as NRTS Co takes over responsibility for this function (refer to the <i>Prepare Service</i> process in section 8.5) the NTMC is responsible for the maintenance of the national transmission network.</p> <p>NRTS Co will “shadow” the work of the NTMC until such time as it takes over responsibility for this function (refer to the <i>Prepare Service</i> process in section 8.5).</p>
National Transmission Works Contractor (NTWC)	A specialist contractor appointed by the Highways Agency to undertake the National Transmission Works Contractor contract.
Police	The traffic police within the local police force (may be more than one point of contact for each Police Control Office area).
Network Rail	The HA has wayleaves with rail and other land owners for cable runs. For example, the Manchester Police Control Office is linked by cables routed over Network Rail land.
Regional Maintenance Contractors (RMCs)	The RMCs for National Motorway Communications System (NMCS) equipment including the Roadside Devices and Control Office systems such as COBS.
RMC Management Consultant (RMCMC)	RMC Management Consultant manages the activities of one or more RMCs on behalf of the HA.
Scheme Consultants	Consulting engineers appointed by the HA to provide consultancy services for a specific scheme.
Scheme Contractors	A contractor appointed by the HA to provide construction services for a particular scheme.
Severn River Crossings plc	The concessionaire for the Severn Crossings (toll bridges).
Term Maintenance Contractor (TMC)	The TMC undertakes all routine road maintenance and small projects on motorways and trunk roads within a defined area.
Traffic Information Services Limited (TIS) formerly known as the Traffic Control Centre Company (TCC Co)	The Public Private Partnership contractor for the National Traffic Control Centre that will collect and disseminate traffic related information and strategic routing advice.
TrafficMaster	A private company that has a network of traffic flow sensors, some of which are located on HA structures such as bridge parapets.
Transport for London (TfL)	Responsible for the operation and maintenance of roads in the Greater London Authority area. Some HA cables currently run on TfL controlled roads and the HA also provides some communications links to TfL.

Table 1-1 Interfacing Organisations

1.5.10 [Not Used]

1.5.11 [Not Used]

1.5.12 [Not Used]

- 1.5.13      **M**      Although not formally an Interfacing Organisation, the HA manages the supply of its communications and transmission equipment for schemes and maintenance through an HA-owned stores at Yate, near Bristol. Yate stores will not be transferred to NRTS Co and NRTS Co shall remove from Yate all National Transmission Network equipment spares and cables, for nil consideration, to dispose of as it sees fit, as part of the Transmission Service transition under the *Prepare Service* process (section 8.5).
- 1.5.14      [Not Used]
- 1.5.15      [Not Used]
- 1.5.16      [Not Used]
- 1.5.17      **M**      NRTS Co shall comply with the requirements relating to Interfacing Organisations and Interfacing Agreements set out in Annex D.
- 1.5.18      [Not Used]
- 1.5.19      [Not Used]

### NRTS Co's Organisation Plan

- |        |   |
|--------|---|
| 1.5.20 | [Not Used]  |
| 1.5.21 | [Not Used]  |
| 1.5.22 | <p><b>M</b> NRTS Co shall produce and maintain an Organisation Plan detailing the structure, roles, responsibilities and skills for the NRTS Co operational organisation, i.e. the organisation responsible for the day-to-day management, operation and build. The Organisation Plan shall include the following for each phase of the contract (Preparation and Build, Service Delivery and Handback).</p> <ul style="list-style-type: none"> <li>• Organisation structure identifying all the main functional teams.</li> <li>• For each team:             <ul style="list-style-type: none"> <li>– Responsibilities.</li> <li>– Roles including required skills and experience.</li> <li>– Reporting.</li> <li>– Location.</li> </ul> </li> <li>• Relationship between the various parts of NRTS Co and each of the Interfacing Organisations listed in Table 1-1.</li> </ul> |
| 1.5.23 | <p><b>M</b> Secondly, the Organisation Plan shall indicate the roles and responsibilities of all the major stakeholders in NRTS Co including equity partners, consortium members and key subcontractors.</p>  |
| 1.5.24 | <p><b>M</b> Thirdly, the Organisation Plan shall include a definition of the governance arrangements (the set of policies and practices about how the NRTS Co organisation is directed and managed).</p>  |
| 1.5.25 | <p><b>M</b> NRTS Co shall produce and maintain a Staffing Plan. The Staffing Plan shall include the following items.</p> <ul style="list-style-type: none"> <li>• Key staff and their experience.</li> <li>• The staffing levels (grades and numbers) for each team.</li> </ul>   |
| 1.5.26 | [Not Used]  |

*Table 1-2 [Not Used]*

**1.6 [Not Used]**

## 2 CONTRACT MANAGEMENT PROCESSES

### 2.1 [Not Used]

### 2.2 Manage Contract

#### 2.2.1 [Not Used]

(M) Scope	
2.2.1.1	The process by which the NRTS Contract shall be managed ensuring visibility of NRTS Co's performance and regular contact between the HA and NRTS Co Contract Managers. Other obligations are set out in Clause 25 of the Project Agreement (Contract Management).
2.2.1.2	[Not Used]
(I) Need	
2.2.1.3	[Not Used]
(M) Output(s)/Objective(s)	
2.2.1.4	The fixed output of this process shall be agreement on precise payments, compensation and/or other remedies required at the end of each reporting and invoicing period.
2.2.1.5	<p>NRTS Co shall also make available for discussion with the HA Contract Manager the following monthly reports along with the Monthly Invoice:</p> <ul style="list-style-type: none"> <li>Monthly projections of HA costs for the year ahead, particularly including variable price projects, i.e. Ad Hoc Projects.</li> <li>Project progress reports from the <i>Manage Projects</i> process (section 7.4).</li> <li>Performance of the Aerial Site Service against NRTS Co's own published service level agreements with its customers.</li> <li>Network performance reports providing statistical analysis and graphical representations of current performance and historical trends.</li> <li>Changes to the NRTS Forward Programme including those arising from the <i>Capture Requirements and Plan</i> process (section 5.13).</li> <li>Report on performance against Service Level Targets.</li> <li>Report on performance against Key Performance Indicators.</li> <li>Schedule of Non-Compliances in accordance with the <i>Facilitate Audit and Inspection</i> process (section 5.6). Changes in the last month and progress with corrective actions.</li> <li>Serious Fault and Incident Investigations – Progress of investigations reported at monthly meetings as well as in day-to-day liaison between NRTS Co and the HA.</li> <li>Disputes – Progress of matters in dispute.</li> <li>Contract Variations – Progress of negotiations on all variations.</li> <li>Process or procedures under development – Progress of negotiations in the <i>Develop Registered Document</i> process (section 4.2).</li> </ul>
2.2.1.6	These reports shall be discussed at the monthly Contract Management meetings when exceptional matters arise.

<b>(M) Applicability</b>	
2.2.1.7	All Services
<b>(M) Related processes</b>	
2.2.1.8	This process shall interact with all other processes for progress reporting, exception reporting and performance issues.
<b>(M) Requirements</b>	
2.2.1.9	NRTS Co shall provide monthly invoices, performance reports as listed in Outputs above, notification of claims for damages, evidence supporting claims for Relief or Compensation Events and other documentation relating to payment and performance (for details refer to Schedule 30 (Payment Mechanism) and Schedule 27 (Service Credit Regime).
2.2.1.10	NRTS Co shall respond to reasonable HA requests for answers to specific technical questions, Parliamentary Questions and other enquiries relating to the Services.
<b>(M) Monitoring</b>	
2.2.1.11	Through the monthly Contract Management meetings and the monthly reports defined by this process.
<b>(I) Frequency</b>	
2.2.1.12	[Not Used]
2.2.1.13	[Not Used]
2.2.1.14	[Not Used]

Table 2-1 Manage Contract Process Template

Additional Information

2.2.2	[Not Used]
2.2.3	[Not Used]
2.2.4	[Not Used]
2.2.5	<b>M</b> The HA is introducing a new System for Financial Management (SFM) that supports the electronic management of payments and financial forecasts. The aim is to give contractors remote access to the system so that transactions can be carried out entirely electronically (e.g. paperless invoicing). NRTS Co shall use SFM via an appropriate interface.
2.2.6	<b>M</b> NRTS Co shall interface to NOMAD in order to provide and maintain the information defined in "NOMAD SFM Data Specification". NRTS Co shall comply with the interface requirements defined in "NOMAD SFM Data Specification" and "NOMAD SFM and Asset Status Guide".
<b>2.3</b>	<b>[Not Used]</b>

**3**      **[NOT USED]**

## **4 DEVELOPMENT PROCESSES**

### **4.1 Introduction**

4.1.1 [Not Used]

4.1.2 [Not Used]

#### Registered Documents

4.1.3 [Not Used]

4.1.4 [Not Used]

4.1.5 [Not Used]

4.1.6 [Not Used]

4.1.7 [Not Used]

4.1.8 [Not Used]

#### The Specification of Obligations, Registered Documents and Variations

4.1.9 [Not Used]

4.1.10 [Not Used]

4.1.11 [Not Used]

4.1.12 [Not Used]

4.1.13 [Not Used]

4.1.14 [Not Used]

*Figure 4-1 [Not Used]*

4.1.15 [Not Used]

4.1.16 [Not Used]

4.1.17 [Not Used]

4.1.18 [Not Used]

4.1.19 [Not Used]

4.1.20 [Not Used]

#### Excluded Registered Documents

4.1.21 [Not Used]

4.1.22 [Not Used]



4.1.23 [Not Used]

4.1.24 [Not Used]

### Categories of Registered Document

4.1.25 [Not Used]

*Table 4-1 [Not Used]*

### Summary

4.1.26 [Not Used]

4.1.27 [Not Used]

4.1.28 [Not Used]

4.1.29 [Not Used]

4.1.30 [Not Used]

*Table 4-2 [Not Used]*

### The Development Processes

4.1.31 [Not Used]

4.1.32 [Not Used]

4.1.33 [Not Used]

4.1.34 [Not Used]

4.1.35 **M** All the *Development* Processes in this section are overhead processes funded under the Base Service Charge. So, NRTS Co shall be responsible for meeting all costs associated with the development, drafting, production and revision of Registered Documents for which NRTS Co is the issuing authority, including any re-work reasonably required by the HA before it agrees that the document is ready for issue.

4.1.36 [Not Used]

4.1.37 [Not Used]

4.1.38 **M** Wherever in these processes the HA shall review documents for which NRTS Co is the issuing authority or agree to them being issued, this shall imply no warranty or liability for the HA as to the suitability, accuracy or quality of the document, or its fitness-for-purpose.

*Figure 4-2 [Not Used]*

## 4.2 Develop Registered Document

### 4.2.1 [Not Used]

<b>(M) Scope</b>	
4.2.1.1	<p>NRTS Co shall document all of its activities:</p> <ul style="list-style-type: none"> <li>to provide a standard defining how NRTS Co discharges its obligations, against which compliance and performance can be measured and by which the validity and magnitude of proposed variations in obligations can be assessed. This is essential to management of the NRTS Contract;</li> <li>to specify the interfaces that exist between NRTS Co, the Interfacing Organisations, users and other stakeholders at the managerial, operational and technical levels, i.e. to define how NRTS Co appears to the outside world;</li> <li>to document every relevant aspect of NRTS Co's internal operations to support Step-In should it prove necessary, for Handback of the Services and to support re-tendering at the end of the Contract Term.</li> </ul>
<b>(I) Need</b>	
4.2.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
4.2.1.3	Design, development, maintenance and operation of the Document Management System, version control of Registered Documents, issuing of the new and/or modified documents of the various categories specified in Table 4-6.
<b>(M) Applicability</b>	
4.2.1.4	Initial development and subsequent revision of all Registered Documents that collectively cover all Services, NRTS Processes and Constraints.
<b>(I) Related processes</b>	
4.2.1.5	[Not Used]
<b>(M) Requirements</b>	
4.2.1.6	<p>Either party can request changes to documents under this process. The key activities involved are:</p> <ul style="list-style-type: none"> <li>Document revision, issue and version control.</li> <li>Design, build, maintenance and operation of a Document Management System.</li> </ul>
<b>(M) Monitoring</b>	
4.2.1.7	Via the <i>Manage Contract</i> process.
<b>(I) Frequency</b>	
4.2.1.8	[Not Used]
4.2.1.9	[Not Used]

Table 4-3 Develop Registered Document Process Template

### Additional Information

4.2.2 [Not Used]

#### *The Document Management System*

4.2.2.1 [Not Used]

4.2.2.2 **M** NRTS Co shall design, develop, operate and maintain the definitive Document Management System that identifies which version of which document is in force at which time and who is the issuing authority.

4.2.2.3 **M** NRTS Co shall record in the Document Management System:

- any variants of documents which can exist, for example, for the different organisations involved (e.g. procedures for interfacing with external organisations) and/or different regions (e.g. policies and procedures can vary with the different HA Area Teams);
- whether or not a document is a Registered Document which is Excluded, which means that it is excluded from requiring the HA's consideration under Schedule 8 of the Project Agreement (but still subject to a right of review as defined in paragraph 4.2.6);
- where a master copy of the document itself is located, if it is not available on-line through the Document Management System, or some other database.

4.2.2.4 **M** NRTS Co shall maintain a repository or repositories of documents such that it shall be able to retrieve and supply at the HA's request a copy of the current version of any Registered Document.

4.2.2.5 **M** NRTS Co shall comply with the further requirements regarding the Document Management System given in Annex B.

4.2.2.6 **M** To facilitate the tracking of documents for which others, particularly the HA, are the issuing authority, NRTS Co shall use a document referencing and version numbering system incorporated in the Document Management System which is compatible with that of the HA. NRTS Co shall also develop version control procedures that are compatible with those of the HA.

4.2.2.7 **M** A document shall be defined as any written document, drawing, file, audio, video or image material issued in hard or soft copy including the software expression of specifications (such as database schemas or workflow procedures).

4.2.2.8 **M** The Document Management System shall be fully accessible via the NRTS Web Site (refer to paragraph 5.9.2.20).

4.2.2.9 **M** In designing and developing new documents for which it is the issuing authority, NRTS Co shall use electronic documents and digitised media unless it is demonstrably not practicable to do so or would represent poor value for money to the HA.

4.2.2.10 **M** NRTS Co shall continue to use electronic documents and digitised media where it is taking on responsibility for documents from others (e.g. the As-built Drawings from the HA).

4.2.2.11 **M** NRTS Co shall upgrade existing documents from paper to electronic format whenever it is reasonable and cost effective to do so (e.g. following a major revision of the document).

- 4.2.2.12 **M** NRTS Co shall use the Document Management System to:
- manage Registered Documents for which it is the issuing authority;
  - record which documents are Excluded;
  - track the version in force of documents for which others are the issuing authority but which affect NRTS Co directly (such as the data format and interface specifications of HA records systems which NRTS Co is required to update – refer to paragraph 4.2.2.49).

4.2.2.13 [Not Used]

4.2.2.14 [Not Used]

4.2.2.15 [Not Used]

4.2.2.16 [Not Used]

- 4.2.2.17 **M** From the Execution Date, NRTS Co shall take over the contents of the NRTS Data Room. NRTS Co shall discuss and agree with the HA what should happen to each type of document.

### *Registered Documents*

- 4.2.2.18 **M** Registered Documents shall be all documents that are listed in the Document Management System. Note: NRTS Co shall have a section of the DMS for its internal use outside the scope of this Project Agreement, this shall not contain any documentation contemplated in this Project Agreement.
- 4.2.2.19 **M** Inclusion on the Document Management System shall signify that a document is under issue management and version control.
- 4.2.2.20 **M** Documents may be marked by NRTS Co as Excluded, only with the express agreement of the HA Contract Manager. The HA may propose, for agreement with NRTS Co, that a document is Excluded but the HA also retains an absolute right (acting reasonably) to require that a document is Excluded.
- 4.2.2.21 **M** Excluded Registered Documents may be un-marked by NRTS Co only with the express agreement of the HA Contract Manager. The HA may propose, for agreement with NRTS Co, that a document is no longer Excluded. The HA also retains a right to require that a document is no longer marked as Excluded in accordance with paragraph 4.2.2.22. All changes in Excluded status of Registered Documents shall be recorded in the Document Management System.
- 4.2.2.22 **M** If the HA identifies that the Excluded Registered Document conflicts with the obligations set out in the Project Agreement or the requirements set-out in other Registered Documents it shall be entitled to issue a Level 3 Non-Compliance which is individually Material in accordance with Schedule 27. The Level 3 Rectification Period shall be 15 Business Days unless otherwise agreed. If the Non-Compliance has not been rectified with-in the Rectification Period the HA shall be entitled to un-mark the Un-Excluded status of the document.

Note: If the reasons for un-marking the Excluded Registered Document are safety related then their shall be no notification period.

4.2.2.23 [Not Used]

- 4.2.2.24 **M** For records stored in an electronic database other than the Document Management System, the specification of the database and the database application shall be Registered Documents. The database itself shall also be a Registered Document. It shall be under issue management like all Registered Documents in the sense that all updates to the database are available on-line in accordance with paragraph B.1.2.15. The individual database records shall be permanently Excluded Registered Documents.

*Registered Documents based on existing HA standards*

- 4.2.2.25 [Not Used]
- 4.2.2.26 [Not Used]
- 4.2.2.27 [Not Used]
- 4.2.2.28 **M** NRTS Co shall assist the HA in revising HA documents which directly or indirectly impact on specifications issued by NRTS Co. NRTS Co shall also assist the HA to revise and re-issue versions of documents such as the DMRB, SHW and TRMM to take into account the existence, role and responsibilities of NRTS Co.
- 4.2.2.29 [Not Used]
- 4.2.2.30 **M** NRTS Co shall take on responsibility for the relevant parts of DMRB, SHW and TRMM as defined and agreed with the HA in the Registered Document "Working Practices". NRTS Co shall comply with the requirements of the DMRB, SHW and TRMM, as at the Execution Date, for all equipment and structures placed on the highway and in relation to all other on-site activities, until such time as it has developed Registered Documents that supersede the relevant parts of these documents in accordance with this *Develop Registered Document* process.
- 4.2.2.31 **M** The HA will continue to retain control of Protected Streets generally by binding all contractors to comply with its standards and working practices. In order that other contractors recognise and comply with the requirements of NRTS Co within the Protected Streets environment, NRTS Co shall produce and agree with the HA the "Special Requirements" needed by NRTS Co. These will be included by the HA in the future construction contracts of others (and where necessary applied through variations to current contracts). This shall be completed before the Interim Service Start Date.

*Registered Documents to be developed from scratch*

4.2.2.32      **M**      NRTS Co shall as a minimum develop and issue the documents specified in the different Parts of Schedule 1(Statement of Requirements). These are listed in Table 4-4.

4.2.2.33      [Not Used]

Document Category	Document Name
Working Practices	<p>(An important set of documents under this category are those that NRTS Co will have to develop to supersede the DMRB, SHW, TRMM, etc. as discussed in paragraph 4.2.2.30).</p> <p>NRTS Co Health and Safety policy and practices.</p>
NRTS Project Standards <sup>1</sup>	<p>NRTS Project Standard for Appearance and Impact on Surroundings.</p> <p>NRTS Project Standard for Permanent Access.</p> <p>NRTS Project Standard for Site Protection.</p> <p>NRTS Project Standard for Power Supplies (General).</p> <p>NRTS Project Standard for Power Supplies (Vacating and Decommissioning).</p> <p>NRTS Project Standard for Earthing and Lightning Protection.</p> <p>NRTS Project Standard for Electromagnetic Compatibility.</p> <p>NRTS Project Standard for Non-Ionising Electromagnetic Radiation.</p> <p>NRTS Project Standard for Planning Approvals.</p> <p>NRTS Project Standard for Compliance with Environmental Requirements.</p> <p>NRTS Project Standard for Identification and Labelling.</p> <p>NRTS Project Standard for External Communications and Power Interfaces.</p> <p>NRTS Project Standard for Cable Ducts.</p> <p>NRTS Project Standard for Cable Pair Allocation.</p> <p>NRTS Project Standard for Cable Repair and Replacement.</p> <p>NRTS Project Standard for Location of Equipment and Infrastructure.</p> <p>NRTS Project Standard for Sustainability of Equipment and Infrastructure.</p> <p>NRTS Project Standard for Traffic Management Provision.</p> <p>NRTS Project Standard for Roadspace Booking.</p> <p>NRTS Project Standard for Frequency of Access.</p>

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<sup>1</sup> The scope of these NRTS Project Standards is described in General Constraints (Schedule 1.3)

Document Category	Document Name
NRTS Project Standards (Continued)	<p>NRTS Project Standard for Lane Closures.</p> <p>NRTS Project Standard for Access Procedures and Controls.</p> <p>NRTS Project Standard for Control and Management of Access to NRTS Co Sites.</p> <p>NRTS Project Standard for HA Branding and Communications.</p> <p>NRTS Project Standard for Support for Existing Highways Agency Systems and Trials.</p> <p>NRTS Process Standard for Contract Management.</p> <p>NRTS Process Standard for Registered Document Development.</p> <p>NRTS Process Standard for Get Consent to Service Solution.</p> <p>NRTS Process Standard for Get Structural Approval.</p> <p>NRTS Process Standard for Get Consent to Standard Construction Details.</p> <p>NRTS Process Standard for Damage Notification.</p> <p>NRTS Process Standard for Maintaining Service Continuity.</p> <p>NRTS Process Standard for Fault Management.</p> <p>NRTS Process Standard for Damage Repair and Re-instatement.</p> <p>NRTS Process Standard for Auditing and Inspection.</p> <p>NRTS Process Standard for the Location and Marking of Buried Assets.</p> <p>NRTS Process Standard for Duct Space Management.</p> <p>NRTS Process Standard for User Services.</p> <p>NRTS Process Standard for Network Management.</p> <p>NRTS Process Standard for Aerial Sites Management.</p> <p>NRTS Process Standard for Remedial Works.</p> <p>NRTS Process Standard for Requirements Capture and Planning.</p> <p>NRTS Process Standard for Installation Design.</p> <p>NRTS Process Standard for Service Provisioning (Schemes and Works).</p> <p>NRTS Process Standard for Service Activation.</p> <p>NRTS Process Standard for Service Deactivation.</p> <p>NRTS Process Standard for Service Removal.</p> <p>NRTS Process Standard for Service Conversion.</p> <p>NRTS Process Standard for Preparation of Project Proposals.</p> <p>NRTS Process Standard for Consultancy Services.</p> <p>NRTS Process Standard for Camera Mast Management.</p>
Standard Operating Procedures	<p>Test procedures for Bespoke and Generic Transmission Service Types.</p> <p>Fault Notification Procedure.</p> <p>Fault Allocation Procedure.</p> <p>NRTS Site Access Procedure (e.g. for access to Transmission Stations).</p> <p>Serious Faults and Incident Handling Procedure.</p> <p>Operational Procedures and Interface Agreements for interfacing with the various Interfacing Organisations (Table 1-1).</p>

Document Category	Document Name
Policy Documents and Plans	Organisation Plan including Staffing Plan. Security Policy. Disaster Recover Plan. Plans for Service Take-On. Build Programme. Handback Plan.
System Specifications	The documentation defined in Annex B.
Technical Specifications	Service Solution for the Transmission Services.
	Service Provisioning Capabilities Rules.
	Service Solution Specification and Test Plan.
	Service Solution Certificate.
	Type Approval Specification.
	Type Approval Certificate.
	Standard Construction Details Specification.
	Standard Construction Details Certificate.
User Guides	NRTS Services Guide. NRTS Guide to the Aerial Sites Service. Application Guidelines. Installation Guide.
Drawings	As-built Drawings for all communications infrastructure along, under, in or over the highway and verge.
Records	See paragraph 4.2.2.47.

*Table 4-4 Initial List of Registered Documents (at the Execution Date)*

4.2.2.34 [Not Used]

4.2.2.35 [Not Used]

4.2.2.36 [Not Used]

4.2.2.37 [Not Used]



- 4.2.2.38 **M** The latest dates by which NRTS Co shall take all Registered Documents from preliminary drafts to the first issue of the final full version of each category of Registered Documents shall be as shown in Table 4-5.

Note: contractual timescales for producing key Registered Documents is defined in Annex F.

Document Category	Issue Date
Working Practices	Before the Actual Service Start Date for any Service requiring on-site access for works, i.e. the Transmission Service, the Aerial Site Service, the Camera Mast Service or, possibly, the Consultancy Service.
NRTS Standards	NRTS Project Standards shall be finalised before the Actual Service Start Date for any Service requiring on-site access for works.  NRTS Process Standards shall be finalised before the Actual Service Start Date of any Service.
Standard Operating Procedures	Before the Actual Service Start Date for any Service requiring on-site access for works.
Policy Documents and Plans	Before the first Actual Service Start Date of any of the Services.
System Specifications	Preliminary versions by the Execution Date. Updated subsequently as the systems are developed in line with the system development timetables proposed by NRTS Co and agreed with the HA. Full functionality for all systems shall be available at latest by the Build Completion Date.
Technical Specifications	The Service Solution Specification and Test Plan shall be fully drafted and agreed prior to the start of Factory Acceptance Testing.  The Service Solution Specification and Test Plan, Type Approval Specifications and Standard Construction Detail specifications will be produced as a result of seeking consents through <i>Get Consent to Service Solution</i> process (section 4.3), <i>Get Structural Approval</i> process (section 4.4) and <i>Get Consent to Standard Construction Details</i> process (section 4.5). These consents shall be obtained before NRTS Co can begin installation of any equipment or structures.
User Guides	Before the Actual Service Start Date for the relevant Service.
Drawings	By the Build Completion Date in accordance with paragraph F.15.1.2.
Records	The databases and database applications shall be completed and ready for use by the Actual Service Start Date for any Service. Records shall be created and added to the database as a consequence of day-to-day operations.

*Table 4-5 Latest Dates for Final Development of Registered Documents*

### *NRTS Standards*

- 4.2.2.39 [Not Used]
- 4.2.2.40 [Not Used]
- 4.2.2.41 [Not Used]
- 4.2.2.42 **M** NRTS Co shall develop the NRTS Process Standards listed in Table 4-4. The NRTS Process Standard shall define for a process:
- the various steps and stages of the process including flow charts;
  - the interactions with Interfacing Organisations;
  - the interactions with other processes including workflow and information flow, where appropriate;
  - the use of NRTS Required Systems and related information;
  - the outputs of the process;
  - the performance standards to which those outputs shall be delivered;
  - the indicators and quantities by which those standards are measured (service level definitions, Service Level Targets, key performance indicators, etc.);
  - how the performance data will be presented to the HA.
- 4.2.2.43 [Not Used]
- 4.2.2.44 **M** The NRTS Process Standards shall also define for a process:
- the methods by which defined outputs are to be delivered;
  - how the performance standards will be met and maintained;
  - how the metrics data will be captured and processed;
  - how the process will be monitored and audited internally, including the records that are generated by the process.

### *Records*

- 4.2.2.45 [Not Used]
- 4.2.2.46 [Not Used]
- 4.2.2.47 **M** NRTS Co shall produce and maintain three types of record as described in Table 4-6.
- 4.2.2.48 **M** NRTS Co shall identify what Type A, Type B and Type C Records are required and agree with the HA a timetable for their production, at latest by the relevant Actual Service Start Date.
- 4.2.2.49 **M** NRTS Co shall note that the HA record systems and arrangements are “live” systems and will change and evolve throughout the duration of the NRTS Contract. Where NRTS Co is required to interface to HA record systems, NRTS Co shall respond and interface to any changes in the HA systems accordingly. NRTS Co shall identify and respond to the evolution of these systems, through liaison with the relevant working groups and by tracking the relevant versions of specifications as Registered Documents.
- 4.2.2.50 **M** Annex B provides a data model that shows all Record Types, the logical relationship between them, and the underlying database systems.

### *Type A Records*

- 4.2.2.51 **M** NRTS Co shall build, operate and maintain various database systems and their associated records. These include the Document Management System, the Predictive Asset Management System, the Fault Management System and the Service Schedule. These are Type A Record systems.

### *Type B Records*

- 4.2.2.52 **M** NRTS Co shall create and update various records within systems maintained by the HA. For example these include NOMAD, the System for Financial Management (SFM), the Structures Management Information System (SMIS), the Geotechnics Data Management System and the Environmental Management System.

- 4.2.2.53 [Not Used]

### *Type C Records*

- 4.2.2.54 [Not Used]

- 4.2.2.55 **M** NRTS Co shall produce and maintain Type C Records which shall be available for inspection by the HA. Type C Records include the following which are described under the *Record Keeping* Constraint in section 5 Schedule 1.3 (Statement of Requirements: General Constraints):

- Manuals and files;
- Communications Circuit Test Records;
- Electrical Test Records;
- Cable Loading Information;
- Cable Pair and Fibre Allocation;
- Cable Joints;
- Cable Repairs;
- Software and Licenses;
- Constraint Compliance Records.

### *Adding and Removing Documents from the Register*

- 4.2.2.56 [Not Used]

- 4.2.2.57 **M** Either the HA or NRTS Co may propose additions of document(s) to, or removals of document(s) from, the Document Management System. Such changes can affect the scope of obligations to which NRTS Co is subject. Additions and removals shall be considered as a proposed variations under the Variation Clauses (35, 36 and 37) defined in the Project Agreement, unless both the NRTS Co and HA Contract Managers agree the change is trivial and can proceed directly.

### *Development of Registered Documents*

- 4.2.2.58 [Not Used]
- 4.2.2.59 **M** NRTS Co shall be responsible for the content, drafting and issue of all NRTS Co issued Registered Documents.
- 4.2.2.60 **M** For the avoidance of doubt, the task of development, revision and re-issue of all Registered Documents that relate to obligations already defined by the Execution Date (including statements of method relating to the same) shall be regarded as part of the overhead costs of NRTS Co paid for under the Base Service Charge, refer to Schedule 30 (Payment Mechanism).
- 4.2.2.61 [Not Used]
- 4.2.2.62 **M** For major documents, and documents where there is little existing material to work from, NRTS Co shall establish and support review groups with the HA and other external organisations at the appropriate level of expertise and seniority to assist in the scoping and development of documents. The function of these review groups shall be to review and comment on drafts of documents produced by NRTS Co.
- Note: the HA obligations are defined in Schedule 8.
- 4.2.2.63 **M** The composition and terms of reference of any such review groups shall be identified by NRTS Co and agreed with the HA.
- 4.2.2.64 **M** All Registered Documents shall be agreed by the HA and NRTS Co before they are issued. The approval authority for the HA shall be the Contract Manager who may delegate the reviewing of any Registered Document to the relevant review group, one of the project team or other appropriate expert. If agreement cannot be reached, both parties have recourse to Clause 68 of the Project Agreement (Dispute Resolution Procedure).
- 4.2.2.65 **M** When Registered Documents are first issued, NRTS Co shall be responsible for recording the document details on the Document Management System and, subsequently, for its version control and re-issue.

### *Changes to Registered Documents*

- 4.2.2.66 [Not Used]
- 4.2.2.67 **M** NRTS Co shall be responsible for drafting any changes as they will appear in the up-issued document. This draft shall be filed with the Change Request. The Change Request shall detail as a minimum:
- the scope of the proposed changes to the document;
  - the reasons for the change;
  - the originator of the change;
  - the organisations and/or persons required to approve the change;
  - the timescales for the change;
  - a change history;
  - a list of known future changes.
- 4.2.2.68 **M** The Change Request and draft shall be submitted by NRTS Co to the appropriate review group (if any) or other expert nominated by the HA, for their review and, following any requested amendments, their agreement.

- 4.2.2.69 **M** NRTS Co shall establish and support similar review group arrangements with the Interfacing Organisations as part of its overall liaison requirements under the *Capture Requirements and Plan* process (section 5.13).
- 4.2.2.70 [Not Used]
- 4.2.2.71 **M** NRTS Co shall interface with the NMCS2 Change Control Board (CCB) established by the NMCS2 development team within the SSR Directorate of the HA to process changes relating to the National Motorway Communications System. NRTS Co shall attend, on an as needed basis, a proportion of what are currently monthly meetings of the Change Control Board.
- 4.2.2.72 **M** There will be other working groups established and managed by the HA, or its other contractors, that NRTS Co shall need to liaise with, including, where necessary, attending meetings. This is in order for NRTS Co to monitor and review:
- documents which may affect NRTS Co methods;
  - statements about NRTS Co contained in documents describing the interface with NRTS Co from a third party perspective (e.g. MA/MAC operational procedures).
- 4.2.2.73 **M** Provided the HA has not objected to the issue of the document(s) in accordance with Clause 17.4 of the Project Agreement (Overall Standards of Performance), NRTS Co shall make the changes to the Registered Document(s), re-issue the document and record the details on the Document Management System.

#### *Changes to Other Documents*

- 4.2.2.74 [Not Used]
- 4.2.2.75 **M** NRTS Co shall monitor and assist with the development of any documents that have, or could have as a result of changes, a direct bearing on NRTS Co activities through its involvement in the relevant working groups throughout the Contract Term. More specifically:
- NRTS Co shall attend HA Change Control Boards and comment on changes drafted by the HA to documents for which the HA is the issuing authority but where there is an interface with, or potential impact on, NRTS Co.
  - NRTS Co shall attend HA Change Control Boards and draft changes to documents for which the HA is the issuing authority but where there is a need to describe a NRTS Co activity or some aspect of NRTS Co's standards and methods, for example, which impact on the HA or its contractors.
- 4.2.2.76 **M** NRTS Co shall keep track of the re-issue of relevant other documents (those which directly affect it – see paragraph 4.2.2.12) via the Document Management System.

#### *The As-built Drawings*

- 4.2.2.77 **M** As-built Drawings record the actual communications infrastructure that has been installed on the Project Road Network and other sites, and all subsequent modifications to it. They are updated by scheme contractors, the maintenance contractors, and any other organisations that, from time to time, carry out installation or further works on the infrastructure. They are also used to communicate proposed designs for installations to other contractors.
- 4.2.2.78 [Not Used]

- 4.2.2.79 **M** NRTS Co shall act as the single national issuing authority for As-built Drawings relating to telecommunications. This means, NRTS Co shall register, issue for update to the relevant contractor, track and version control all As-built Drawings for the communications infrastructure across the whole Project Road Network.
- 4.2.2.80 **M** NRTS Co shall develop a complete set of computerised As-built Drawings using the latest version (as defined in paragraph 5.10.4.2) of AutoCAD™ software in which different drawing layers are used for the power cables, communications cables, civil infrastructure for telecommunications, end devices, etc.
- 4.2.2.81 **M** NRTS Co shall develop the standards for As-built Drawings and agree them in accordance with the *Develop Registered Document* process.
- 4.2.2.82 **M** Some existing As-built Drawings are in hard-copy only (up to approximately 25,000). Whenever major changes are required to these drawings, or at some other appropriate opportunity, they shall be replaced. NRTS Co shall re-draw them on the AutoCAD™ system.

### Performance

- 4.2.3 [Not Used]
- 4.2.4 **M** Documents shall be prepared, submitted for review, revised and re-submitted until agreed by the HA in accordance with Schedule 8 (Authority Events) unless the HA has agreed that the Registered Document is Excluded from Schedule 8 of the Project Agreement.
- 4.2.5 **M** Unless stated otherwise in this Schedule for the submission activity concerned, or as agreed in the Submission Plan, there shall be a Right of Objection, Category determined in accordance with Schedule 8, in respect of all document submissions to this *Develop Registered Document* process. NRTS Co shall reflect this requirement in its NRTS Process Standard for "*Registered Document Development*" that shall also provide, among other things, that:
- As-built Drawings shall be updated within 40 Business Days to reflect the relevant real-world changes. The standard of production and update of As-built Drawings shall meet or exceed that defined in the existing HA specification MCH1652, which can be found in the NRTS Data Room.
- 4.2.6 **M** Registered Documents that are agreed by the HA and NRTS Co to be Excluded shall be subject to the requirements for issue and version control as stated within section 4.2. The HA reserves the right to review Excluded Registered Documents.
- 4.2.7 [Not Used]
- 4.2.8 [Not Used]

### Categories of Registered Document

NRTS Document Type	Description
Working Practices	<p>The Design Manual for Roads and Bridges (DMRB), the Specification for Highway Works (SHW) and the Trunk Road Routine Maintenance Manual (TRMM) are key HA Working Practice documents covering the design, construction and maintenance respectively of highways works which are aimed principally at design consultants, scheme contractors and maintenance contractors.</p> <p>As at the Execution Date, none of these documents recognise the existence or possibility of a "NRTS Co" supplying telecommunications services.</p> <p>So, NRTS Co will, for example, be subject to the entire Design Manual for Roads and Bridges (under, for example, the <i>Permanent Access</i> constraint (section 2.3 Schedule 1.3 (Statement of Requirements: General Constraints)) until such time as it has developed and agreed with the HA superseding specifications. These superseding specifications will need to include, for example:</p> <ul style="list-style-type: none"> <li>• Service Solution Specification(s) defining the technical design of the certified solution (refer to the <i>Get Consent to Service Solution</i> process (section 4.3));</li> <li>• NRTS Co's standards for duct installation (some of which may be carried out on NRTS Co's behalf by other contractors (refer to the Table of Responsibilities (Annex A Schedule 1.3 (Statement of Requirements: General Constraints)));</li> <li>• Helping the HA produce a revised DMRB for England which does recognise the existence of NRTS Co.</li> </ul>
Standards	<p>NRTS Co is required by Schedule 1.3 (Statement of Requirements: General Constraints) to develop, issue and maintain NRTS Project Standards that cover all on-site activities. These Standards will define what is to be done, how it is to be measured and how it is to be done in compliance with the Constraint. They will help to inform the Interfacing Organisations how NRTS Co operates. The HA will also monitor NRTS Co's own compliance with these Standards.</p> <p>For most of the NRTS Processes also, NRTS Co is required to develop, issue and maintain NRTS Process Standards. These both specify how a process is carried out and (either as a separate document or as a section in the specification) define the performance standards and the mechanisms by which this performance is to be measured and assured.</p>
Standard Operating Procedures	<p>These documents define how common operational procedures are to be carried out by NRTS Co staff and sub-contractors and/or the Interfacing Organisations (for example, the procedures to be used by NRTS Co staff accessing sites on the Severn River crossings).</p>

NRTS Document Type	Description
Policies and Plans	NRTS Co is required to develop and issue several policy documents and associated plans such as, in accordance with the <i>Manage Network</i> process (section 5.10), the Security Policy and Disaster Recovery Plan.
System Specifications	These documents define the functional and technical design of NRTS systems such as the Service Schedule, the NRTS Forward Programme and the Predictive Asset Management System.
Technical Specifications	These define the technical service solutions and the rules governing the design and installation of new Service infrastructure. Technical Specifications are the reference against which proposed changes will be measured to determine if the changes are of such a significant nature as to warrant (at the HA's discretion) that the "new" service solution is submitted for testing and certification in accordance with the <i>Get Consent to Service Solution</i> process (section 4.3).
User Guides	These documents define for the Interfacing Organisations and users of the Services what the NRTS outputs are, how they can be used and what the process is for obtaining them.
Drawings	<p>The main category of drawings for which NRTS Co will be the issuing authority are As-built Drawings. These record all of the infrastructure to be found in, on, under or over the verge and the highway, e.g. ducts, power cables, communication cables, cabinets and end devices. This includes infrastructure that lies outside of NRTS Co's responsibility. Other drawings may include floor plans, network schematics, transmission layouts, etc. All As-built Drawings are Excluded Registered Documents.</p> <p>The HA often refer to such drawings as "transmission records" since they record the current state of the network. This should not cause any confusion however, since both Drawings and Records as defined in this table are Excluded Documents.</p>



NRTS Document Type	Description
Records	<p>Records are documents produced as a result of day-to-day operations including operational performance reports, maintenance records, test records, quality assurance records, etc. Typically they will be stored in computerised database systems for which access is required to be available via the NRTS Web Site. The defining characteristic of records is that it is the whole collection of records in the database that represents the current state of NRTS Co's activities at any time, rather than a definition or specification in a single document.</p> <p>All records, <i>per se</i>, are Excluded Registered Documents. As Registered Documents, records are required to be version controlled and issue managed. Version control of records means that a fully auditable historical trail of records is to be retained (in accordance with Clause 27 of the Project Agreement (Records)) so that the state of an activity can be examined for any specified time in the past. Computerised records are "issued" by virtue of being available as soon as they are created on a database system accessible on-line to the HA. For a paper records system, NRTS Co shall maintain a computerised register of available records to comply with this requirement.</p> <p>There are three types of record systems that NRTS Co is required to use:</p> <ul style="list-style-type: none"> <li>• <b>Type A Records</b> – are records that NRTS Co is required to define, create, update and maintain in appropriate systems in accordance with explicit HA requirements. This includes, for example, fault records stored in the Fault Management System (required as part of the <i>Manage Faults</i> process at paragraph 5.4.2.1).</li> <li>• <b>Type B Records</b> – are records defined by the HA and stored and maintained in systems by the HA, but which NRTS Co is required to create and update (along with other HA contractors) as part of its operational responsibilities. Version control and issue management responsibilities in this case rest with the HA.</li> <li>• <b>Type C Records</b> – are records defined by NRTS Co and stored and maintained in systems or other document storage by NRTS Co. They are not explicitly required by the HA but are required in consequence of NRTS Co's obligation to demonstrate its compliance with NRTS Project and Process Standards and that internal quality assurance procedures are being followed. The records are also required as part of NRTS Co's obligations in respect of Step-In and Handback.</li> </ul>

*Table 4-6 The Categories of Registered Documents*

### 4.3 Get Consent to Service Solution

4.3.1 [Not Used]

<b>(M) Scope</b>	
4.3.1.1	NRTS Co shall undertake the <i>Get Consent to Service Solution</i> Process for all Services and new or materially changed parts of a Service (including Service Categories) in order to demonstrate to the HA that a proposed NRTS Co service solution is safe, compatible and compliant with interface and performance requirements such that the Service can be delivered without undue risk to the HA.
4.3.1.2	[Not Used]
<b>(I) Need</b>	
4.3.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
4.3.1.4	A completed technical specification, the Service Solution Specification.
4.3.1.5	An associated Test Plan and test results documents.
4.3.1.6	HA consent (normally) to deploy a service solution (the HA issues a Service Solution Certificate).
<b>(M) Applicability</b>	
4.3.1.7	All Services that result in the deployment of equipment on the network (the Transmission, Aerial Site and Camera Mast Services).
<b>(I) Related processes</b>	
4.3.1.8	[Not Used]
<b>(M) Requirements</b>	
4.3.1.9	NRTS Co shall demonstrate, to the satisfaction of the HA, that the proposed Service Solution Specification for any Service to be deployed is compliant and fit for purpose. Demonstration shall involve Factory Acceptance Testing and Site Acceptance Testing unless, exceptionally, both parties agree that it is unnecessary in a particular case.
4.3.1.10	NRTS Co shall also demonstrate to the HA any changes to the communications solutions used by devices that require Home Office approval, since Home Office approval may encompass aspects of the communications service used to support the device as well as the device itself.
<b>(M) Monitoring</b>	
4.3.1.11	The HA will not give consent if this process is not carried out satisfactorily.
<b>(I) Frequency</b>	
4.3.1.12	[Not Used]

Table 4-7 Get Consent to Service Solution Process Template

### Additional Information

4.3.2 [Not Used]

4.3.3 [Not Used]

### *General*

4.3.3.1 [Not Used]

4.3.3.2 **M** NRTS Co shall not deploy any service solution unless, and until, it has been certified in accordance with this *Get Consent to Service Solution* process.

4.3.3.3 **M** NRTS Co shall provide permanent private site testing facilities to support this process.

4.3.3.4 [Not Used]

4.3.3.5 **M** NRTS Co shall issue a NRTS Service Guide. This is a Registered Document that shall include a description of the full range of Services for the prospective end user of those Services and give guidance on the selection, specification, procurement and acceptance testing of Services.

4.3.3.6 **M** NRTS Co shall issue Application Guidelines. This is a Registered Document that shall be a more technical guide for application developers who need to understand the functionality of the Transmission Service, Service Type selection, interfacing, etc. It shall include a description of the sources of technical advice available to users and any technical design rules developers of applications and end devices that use the Services should take into account in their developments.

4.3.3.7 **M** NRTS Co shall support the development of the NRTS Services Guide and the Application Guidelines (both are Registered Documents) for the HA and other developers of applications which use the Services (end users). It shall provide access to HA staff and the HA's nominated representatives to the testing facilities while a service solution is being tested and shall consult with end users over aspects of service solution design and functionality which influence end device/application functionality. The knowledge gained from this interaction shall be reflected, as necessary, in revisions to the NRTS Services Guide and the Application Guidelines, which shall be re-issued.

4.3.3.8 [Not Used]

### *Service Solution Specification and Outline Test Plan*

- 4.3.3.9 **M** Where appropriate NRTS Co shall propose new service solutions and submit them to this testing process to obtain HA consent to their deployment.
- 4.3.3.10 **M** NRTS Co shall develop a full draft Service Solution Specification and outline Test Plan for the proposed service solution.
- 4.3.3.11 **M** The Service Solution Specification shall include the following elements:
- a full technical description of the service solution;
  - mandatory features of the service solution;
  - a specification of the delivered outputs;
  - a specification of the performance levels of the outputs and how they are to be measured and monitored, including acceptance testing, fault diagnostics and continuous monitoring;
  - a maintenance regime for the service solution (details to be entered into the PAMS and PMS);
  - an associated Asset renewal and replacement plan;
  - the basis for the design of the technical solution.
- The basis of the initial Transmission Service Solution Specification shall be the AS and GC documents and written responses to clarification questions as existing at the Execution Date. In the event that there is a conflict between these documents and Schedule 1, Schedule 1 shall take precedence. All content of these AS documents shall be covered in the Service Solution Specification and other Registered Documents for the Transmission Service, revised to reflect changes and deletions arising from the development and testing work associated with this *Get Consent to Service Solution* process (section 4.3), providing that such consent is subject to Clause 17.4 of Project Agreement.
- 4.3.3.12 **M** NRTS Co shall develop the maintenance regime on the basis of maintaining each component of the service solution infrastructure over its whole natural life however far that natural life may extend beyond the end of the Contract Term.
- 4.3.3.13 **M** NRTS Co shall renew/replace life-expired Assets with new Assets of at least equivalent standard. Specifically, NRTS Co shall only renew Longitudinal Network infrastructure that is currently designated Service Provisioning Capability B with infrastructure that is at least to the standard required for Service Provisioning Capability A.
- 4.3.3.14 **M** The Longitudinal Network being the cabling network (copper and fibre) that runs adjacent to the road network, which for the avoidance of doubt, is distinct from and excludes Local Communications Cabling.
- 4.3.3.15 [Not Used]

- 4.3.3.16      **M**      In developing the Test Plan, NRTS Co shall include for demonstration of the following:
- performance in accordance with the Service Solution Specification and relevant Service Type requirements under fully, heavily and lightly loaded conditions and over a range of distances where the solution is distance dependant;
  - resilience to noise and interference;
  - correct operation of equipment installed in roadside cabinets under the limits of temperature and vibration that can be encountered;
  - that the solution meets British Approval Board for Telecommunications (BABT) approval where appropriate;
  - that the solution does not cause interference or loss of performance of other Services likely to be carried over the same cable or co-located at the roadside;
  - the fault reporting interface, including the diagnostic tests and procedures for fault handover, e.g. to the RMC;
  - tests with standard reference devices and any test equipment used to demonstrate the detection and analysis of faults at the Service interface.
- 4.3.3.17      [Not Used]
- 4.3.3.18      **M**      In cases where the service solution could affect equipment or communications arrangements approved by the Home Office, NRTS Co shall consult with the Home Office regarding any permissions or approvals it is required to obtain and shall accommodate this in the Test Plan.
- 4.3.3.19      [Not Used]
- 4.3.3.20      **M**      NRTS Co shall submit the draft Service Solution Specification and outline Test Plan to the HA Contract Manager for review to see if further development can proceed.
- 4.3.3.21      [Not Used]
- 4.3.3.22      **M**      NRTS Co shall obtain the agreement of the HA Contract Manager (*via the Manage Contract* process (section 2.2)) to proceed further with a service solution development.
- 4.3.3.23      **M**      NRTS Co shall finalise the Service Solution Specification and Test Plan, incorporating its responses to the review, and agree arrangements for proceeding to private site testing (i.e. Factory Acceptance Testing) with the HA Contract Manager or other nominated HA representative.

### *Factory Acceptance Testing*

- 4.3.3.24 **M** NRTS Co shall set up, operate and monitor a full test deployment of the service solution at a private (off-road) site. This Factory Acceptance Testing shall use, where relevant, simulations of all infrastructure (notably the cables) and demonstrate to the HA's satisfaction that these provide accurate representations of the electrical and, where appropriate, optical characteristics of the real infrastructure.
- 4.3.3.25 **M** NRTS Co shall demonstrate to the satisfaction of the HA that the Factory Acceptance Tests in the agreed Test Plan have all been passed satisfactorily.
- 4.3.3.26 **M** NRTS Co shall self-certify the results of the Factory Acceptance Tests. However, the HA reserves the right (and typically will be likely) to require independent test certification and/or to witness the tests (to be agreed in the Test Plan). In either case, the HA will review the results of the tests to assure itself that they were carried out correctly and comprehensively, and that they did demonstrate the suitability of the service solution.
- 4.3.3.27 **M** NRTS Co shall (at its own cost) undertake any re-testing the HA may require. It shall not proceed to the Site Acceptance Testing (on-site testing) phase without the prior agreement of the HA.

### *Site Acceptance Testing*

- 4.3.3.28 **M** For Site Acceptance Testing, NRTS Co shall set up, operate and monitor a full test deployment of the service solution at an on-road site (if this stage is required by the agreed Test Plan).
- 4.3.3.29 **M** NRTS Co shall demonstrate to the satisfaction of the HA that the Site Acceptance Tests in the agreed Test Plan have all been passed satisfactorily.
- 4.3.3.30 **M** NRTS Co shall self-certify the results of the Site Acceptance Test. However, the HA reserves the right to require independent test certification and/or to witness the tests. In either case, the HA will review the results of the tests to assure itself that they were carried out correctly and comprehensively, and that they did demonstrate the suitability of the service solution.
- 4.3.3.31 **M** NRTS Co shall (at its own cost) undertake any re-testing the HA may require due to any failure to meet the obligations in paragraph 4.3.3.30.

### *Certification*

- 4.3.3.32 **M** Before a Certificate can be issued for a service solution, NRTS Co shall update and re-issue the appropriate standards, procedures, installation drawings and other Registered Documents in whole or in part. Refer to the *Provision Service* process (section 6.4). In particular, NRTS Co shall finalise and issue the Service Solution Specification and other associated Registered Documents so that they document fully and accurately all aspects of the service solution(s) to be consented to, reflecting the outcomes of the various test stages, before a certificate can be issued for that consent.

- 4.3.3.33 **M** On satisfactory completion of the testing and any necessary document drafting and re-issue, NRTS Co shall submit appropriate evidence to the HA. The HA shall have a Right of Objection, Category 3, or as agreed otherwise agreed in the Submission Plan, in relation to this submission. NRTS Co shall not be permitted to deploy the service solution until it has received a Service Solution Certificate from the HA in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events). The issue of a Service Solution Certificate signifies the HA's formal consent. It shall not mean or imply that the HA is approving or warranting the service solution in any way. The technical, design and performance risks and any liability rest entirely with NRTS Co.
- 4.3.3.34 **M** The HA reserves the right to specify that the deployment of a Service which supports safety-related applications or otherwise impacts on safety-related equipment shall be phased (i.e. initial deployments shall be "pilot" deployments, with appropriate monitoring and, if necessary, modifications and re-testing).
- 4.3.3.35 **M** If the Service Solution should prove to be incompatible or non-compliant, or to represent an unacceptable safety risk the HA shall be entitled to issue a Level 3 Non-Compliance which is individually Material in accordance with Schedule 27. The relevant part of the Certificate shall be withdrawn until the Non-Compliance has been rectified by resubmission of the relevant parts of the Service Solution for Consent via the *Get Consent to Service Solution* process. Notwithstanding the above, NRTS Co shall be entitled to deploy Service Solutions at NRTS Co's risk until the Consent has been re-instated provided that the Consent was not withdrawn on safety grounds.

4.3.3.36 [Not Used]

### Performance

4.3.4 [Not Used]

4.3.5 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Get Consent to Service Solution*".

4.3.6 [Not Used]

### Get Consent Prior to the Build Completion Date

- 4.3.7 **M** NRTS Co shall obtain consent for all defined Service Categories prior to the Build Completion Date.
- 4.3.8 **M** Prior to Build Completion, NRTS Co is permitted to phase the *Get Consent to Service Solution* process. If NRTS Co undertakes a phased Get Consent process the consent shall be obtained in the following order:
- Any new Longitudinal Infrastructure to be installed (e.g. cables, joints, cabinets etc).
  - National Transmission Network, excluding the Longitudinal Infrastructure.
  - Each Service Category.
- 4.3.9 **M** NRTS Co shall not undertake any infrastructure works until consent for the relevant infrastructure has been granted via the appropriate *Get Consent to Service Solution* process. Prior to the Build Completion Date Consent will not be withheld for the use of the HA existing standards, provided that NRTS Co shall always bear the risk that the HA existing standard is appropriate and compliant with the obligations under the NRTS Contract.
- 4.3.10 **M** If a Service Category fails its consent then NRTS Co shall bear the risk of modifying the infrastructure and/or NRTS Transmission Network.





### Testing of the NRTS Transmission Network

- 4.3.11 **M** NRTS Co shall adopt a systematic, structured approach for testing of the NRTS Transmission Network and individual service solutions. The approach shall be defined in the Test Plan. The Test Plan shall reference one or more Test Documents that shall define the scope and requirements for each stage and element of testing within the Test Plan.
- 4.3.12 **M** In producing Test Documents NRTS Co shall, as appropriate to the stage and scope of the particular tests, address the following items:
- References to the appropriate stage of a Test Plan.
  - Objectives of the tests, specifies any limiting factors (e.g. only applicable to ABC routers interfaced to XYZ modems).
  - The test methodology, including a risk assessment.
  - Any witness and milestone points.
  - Details of the physical, electrical and software test environment including test equipment, HA and NRTS Co systems / emulators / equipment and software.
  - References to applicable standards e.g. ITU, HA and NRTS Co.
  - The definition of inputs and outputs to be measured including variability of these over the test duration.
  - Details of Tests under normal and abnormal operations (e.g. to test fault reporting and system immunity).
  - The definition of measurement methods, parameters/values, performance and functional tests. This definition also includes user interaction tests e.g. GUI.
  - The definition of environmental and EMC parameters.
  - The pass/acceptance criteria and associated definitions defining requirements for any re-testing in the event of a test failure (e.g. based on principles within MCG1069).
  - The definition of the required outputs; i.e. test results and documentation.

## 4.4 Get Structural Approval

4.4.1 [Not Used]

<b>(M) Scope</b>	
4.4.1.1	The process that NRTS Co shall go through to obtain HA approval to deploy any generic structure or fixing.
<b>(I) Need</b>	
4.4.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
4.4.1.3	A completed design and installation specification for the structure – the Type Approval Specification.
4.4.1.4	A Type Approval Certificate for the structure or fixing.
<b>(M) Applicability</b>	
4.4.1.5	The Transmission Service, Aerial Site Service and Camera Mast Service, i.e. all Services where roadside structures can be deployed.
<b>(I) Related processes</b>	
4.4.1.6	[Not Used]
<b>(M) Requirements</b>	
4.4.1.7	Refer to the Additional Information section below.
<b>(M) Monitoring</b>	
4.4.1.8	The HA will not give approval if the process is not carried out satisfactorily.
<b>(I) Frequency</b>	
4.4.1.9	[Not Used]

Table 4-8 Get Structural Approval Process Template

### Additional Information

4.4.2 [Not Used]

4.4.3 [Not Used]

4.4.4 [Not Used]

### *General*

4.4.4.1 [Not Used]

4.4.4.2 [Not Used]

4.4.4.3 [Not Used]

4.4.4.4 [Not Used]

4.4.4.5 [Not Used]

4.4.4.6 [Not Used]

- 4.4.4.7 [Not Used]
- 4.4.4.8 [Not Used]
- 4.4.4.9 [Not Used]
- 4.4.4.10 **M** NRTS Co shall refer to the requirements of Statutory Type Approval as described in the latest version of TRG0500 or equivalent document in force at the time to confirm whether the requirements apply. If there are any doubts, then the Approval Authority (the HA) should be consulted.

### *The Structural Type Approval Process*

- 4.4.4.11 [Not Used]
- 4.4.4.12 **M** A submission for Structural Type Approval shall be similar in scope to the Approval In Principle (AIP) form, a standard example of which is given in Appendix A of DMRB 1.1 BA 32, and it shall define a design envelope for the structure or fixing. This may (as appropriate) specify maximum wind speeds, suitable ground conditions, details of the materials of the structure, its robustness and the engineering competence behind its design and production. The submission may also include manufacturer's QA certificates for the design, procurement, etc. of an existing product.
- 4.4.4.13 **M** NRTS Co shall submit the required documentation to the HA. This shall be a Hold Point Submission, Category 3. NRTS Co shall not deploy any structure that requires structural Type Approval until it is in receipt of a Type Approval Certificate for that structure issued by the HA in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).
- 4.4.4.14 [Not Used]
- 4.4.4.15 [Not Used]
- 4.4.4.16 **M** NRTS Co shall reflect the inspection and maintenance requirements specified for the structure in the rules underlying the Predictive Asset Management System.
- 4.4.4.17 [Not Used]
- 4.4.4.18 [Not Used]
- 4.4.4.19 **M** NRTS Co shall record, maintain and update information about all Type Approved structures in the HA's Structures Management Information System.

### Performance

- 4.4.5 [Not Used]
- 4.4.6 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "Get Structural Approval".
- 4.4.7 [Not Used]

## 4.5 Get Consent to Standard Construction Details

### 4.5.1 [Not Used]

<b>(M) Scope</b>	
4.5.1.1	The process is an HA review of, and consent to, standard equipment and installation designs (Construction Details) proposed by NRTS Co. The primary assessment criteria are road safety and visual impact (appearance and proliferation of roadside furniture).
4.5.1.2	“Construction Details” is a term used in the Specification for Highway Works (SHW) to describe drawings and other specifications used by contractors to install civil infrastructure (anything from access steps, to ducts, chambers, cabinet bases, retaining walls, etc). Construction Details for the National Motorway Communications System are known as “MCX drawings” by the MCX Series of drawings in which they are specified, but the more general term “Construction Details” is used for this NRTS Process
4.5.1.3	[Not Used]
<b>(I) Need</b>	
4.5.1.4	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
4.5.1.5	NRTS Co shall prepare various standard generic design and installation specifications which will be part of the overall Standard Construction Details Specification.
4.5.1.6	The HA will issue a consent to these standards – a Standard Construction Details Certificate – or reject them.
4.5.1.7	NRTS Co shall update its Installation Guide (a Registered Document – see Table 4-4). This specifies how the designs are to be constructed and what the working arrangements will be between NRTS Co and other contractors. The Installation Guide is envisaged as primarily for the use of other (civils) contractors such as scheme contractors but will also be used by NRTS Co when installing roadside infrastructure.
4.5.1.8	NRTS Co shall develop, and update where required, the associated Standards documents for the General Constraints, e.g. the NRTS Project Standard for Roadside Infrastructure (Appearance), which NRTS Co is required to produce by <i>the Appearance and Impact on Surroundings</i> constraint (section 2.2 of Schedule 1.3 (Statement of Requirements: General Constraints)).
<b>(M) Applicability</b>	
4.5.1.9	All on-site installations for all Services (Transmission Service, Aerial Site Service and Camera Mast Service).
<b>(I) Related processes</b>	
4.5.1.10	[Not Used]

<b>(M) Requirements</b>	
4.5.1.11	NRTS Co shall be responsible/liable for the safety of its own roadside equipment. The HA needs to consent to a generic NRTS Co approach, but shall not formally approve it. The consent shall mean only that the HA has no objections to the Standard Construction Details as a Highway Authority and also as the NRTS Project client.
4.5.1.12	The HA reserves the right to withdraw the consent where appropriate, e.g. following the results of a serious accident investigation that highlighted the need for changes in the equipment and/or installation guidelines. Such changes might be applied retrospectively and shall be at NRTS Co's risk.
4.5.1.13	For proposed generic roadside installations, NRTS Co shall submit to the HA, for assessment, a Standard Construction Details Specification, the Installation Guide (see paragraph 4.5.2.14) and also: <ul style="list-style-type: none"> <li>a risk assessment/road safety audit covering the entire equipment life cycle from installation and maintenance to removal;</li> <li>an environmental impact assessment;</li> <li>any third party approvals required, e.g. impact testing of roadside furniture and fixings.</li> </ul>
<b>(M) Monitoring</b>	
4.5.1.14	The HA will not give consent if the process has not been undertaken satisfactorily.
<b>(I) Frequency</b>	
4.5.1.15	[Not Used]

Table 4-9 Get Consent to Standard Construction Details Process Template

Additional Information

4.5.2 [Not Used]

*Standard Construction Details*

4.5.2.1 **M** NRTS Co shall develop and maintain the Standard Construction Details Specifications, which are Registered Documents (refer to section 4.2) and contain the whole collection of NRTS Co Standard Construction Details.

4.5.2.2 [Not Used]

4.5.2.3 [Not Used]

4.5.2.4 [Not Used]

4.5.2.5 [Not Used]

*HA guidelines on equipment location*

4.5.2.6 [Not Used]

4.5.2.7 [Not Used]

4.5.2.8 [Not Used]

4.5.2.9 [Not Used]

### *Obtaining Consent*

- 4.5.2.10 **M** NRTS Co shall obtain the HA's consent before any generic designs can be deployed on the roadside. Outline and detailed designs for any site will not be agreed to by the HA (refer to the *Capture Requirements and Plan* process in section 5.13 and the *Design Service Installation* process in section 6.3) unless they comply with (or vary in agreed ways with) certified Standard Construction Details and the Installation Guide.
- 4.5.2.11 **M** The HA's consent shall mean that it has reviewed the Standard Construction Details, primarily from the perspectives of highway safety and compliance with the General Constraints and is content to permit NRTS Co to install roadside Services in accordance with those Standard Construction Details. It shall not mean that the HA approves or warrants the designs in any way or that it bears any responsibility or liability for them.
- 4.5.2.12 [Not Used]
- 4.5.2.13 [Not Used]
- 4.5.2.14 **M** To obtain the HA's consent, NRTS Co shall prepare, and submit to the HA Contract Manager Standard Construction Details Specification(s) setting out the general physical design guidelines for its chosen solution(s), the Installation Guide containing general guidelines on the working procedures between NRTS Co and other contractors, the construction, installation, inspection and maintenance of the designs, including access considerations and the other documentation required by paragraph 4.5.1.13.
- 4.5.2.15 [Not Used]
- 4.5.2.16 [Not Used]
- 4.5.2.17 **M** NRTS Co shall submit to the HA to seek its consent a full set of documentation supporting the certification of the Standard Construction Details. The HA shall have a Right of Objection Period, Category 3, or as agreed otherwise agreed in the Submission Plan, in relation to this submission. NRTS Co shall not be permitted to deploy the Standard Construction Details until it has received a Certificate from the HA in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events). The issue of a Standard Construction Details Certificate signifies the HA's formal consent to deploy.
- 4.5.2.18 **M** NRTS Co shall reflect the maintenance regime defined in the Installation Guide in the rules underlying the entries in the Predictive Asset Management System for the assets described by the certified Standard Construction Details.
- 4.5.2.19 **M** If a Standard Construction Detail should prove to be incompatible or non-compliant, or to represent an unacceptable safety risk, the HA shall be entitled to issue a Level 3 Non-Compliance which is individually Material in accordance with Schedule 27. The relevant part of the Consent Certificate shall be withdrawn until the Non-Compliance has been rectified by resubmission of the relevant parts of the Standard Construction details for Consent via the *Get Consent to Service Solution* process. Notwithstanding the above, NRTS Co shall be entitled to deploy installations based on Standard Construction details at NRTS Co's risk until the Consent has been re-instated provided that the Consent was not withdrawn on safety grounds.

Performance

4.5.3 [Not Used]

4.5.4 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Get Consent to Standard Construction Details*”.

4.5.5 [Not Used]

## **5 OPERATIONAL PROCESSES**

### **5.1 Introduction**

5.1.1 **M** The *Operational* Processes cover all activities (visible to the HA) concerned with keeping the delivery of the Services going. NRTS Co shall carry out these processes.

5.1.2 [Not Used]

5.1.3 [Not Used]

5.1.4 [Not Used]

5.1.5 [Not Used]

5.1.6 [Not Used]

*Figure 5-1 [Not Used]*



## 5.2 Notify Damage

### 5.2.1 [Not Used]

<b>(M) Scope</b>	
5.2.1.1	This process covers notifications in relation to damage to HA assets by NRTS Co, or to NRTS Co Assets by the HA, its contractors, or third parties.
<b>(I) Need</b>	
5.2.1.2	[Not Used]
5.2.1.3	[Not Used]
5.2.1.4	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.2.1.5	Records of incidents of damage to HA assets by NRTS Co, or to NRTS Co Assets by the HA, its contractors or other third parties.
5.2.1.6	Notifications to the HA when damage incidents occur.
5.2.1.7	A NRTS Process Standard for “ <i>Damage Notification</i> ” that defines the procedure for recording incidents of damage and notifying the HA, that is compatible with the current HA procedure (since this will continue to be followed by other contractors).
<b>(M) Applicability</b>	
5.2.1.8	All Services and NRTS Co commercial activities on the Project Road Network and/or other land owned by the HA.
<b>(I) Related processes</b>	
5.2.1.9	[Not Used]
<b>(M) Requirements</b>	
5.2.1.10	Compliance with the agreed NRTS Process Standard.
<b>(M) Monitoring</b>	
5.2.1.11	The performance of this process will be monitored against the service levels set out in the agreed NRTS Process Standard.
<b>(I) Frequency</b>	
5.2.1.12	[Not Used]

Table 5-1 Notify Damage Process Template

### Additional Information

- 5.2.2      **M**      NRTS Co shall develop a NRTS Process Standard for “*Damage Notification*” that shall identify the procedures, contact arrangements and standards by which all aspects of damage incident recording and notification are undertaken. This shall dovetail with the HA instructions (that may be modified to take account of NRTS Co) and be agreed and reviewed with the HA in accordance with the *Develop Registered Document* process (section 4.2).
- 5.2.3      **M**      The NRTS Process Standard shall initially be developed from MCH1598 that sets out procedures for recording damage (using form TR430 with photographic or other evidence attached as appropriate).
- 5.2.4      [Not Used]
- 5.2.5      [Not Used]

### Performance

- 5.2.6      **M**      This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Damage Notification*”.

## 5.3 Maintain Service Continuity

### 5.3.1 [Not Used]

(M) Scope	
5.3.1.1	This process covers internal reworking by NRTS Co of parts of the transmission network affected by events, such as road schemes, other schemes, and temporary disruptions to roadside devices.
(I) Need	
5.3.1.2	[Not Used]
5.3.1.3	[Not Used]
5.3.1.4	[Not Used]
5.3.1.5	[Not Used]
5.3.1.6	[Not Used]
5.3.1.7	[Not Used]
5.3.1.8	[Not Used]
(M) Output(s)/Objective(s)	
5.3.1.9	Uninterrupted Services.
5.3.1.10	Telecommunications Bypasses and associated work planned and programmed within the NRTS Forward Programme.
5.3.1.11	HA Planned Outages recorded.
(M) Applicability	
5.3.1.12	All Services dependent on the roadside network infrastructure.
(I) Related processes	
5.3.1.13	[Not Used]
(M) Requirements	
5.3.1.14	NRTS Co shall plan and implement the Telecommunications Bypass and other support measures necessary to ensure continuity of the Services affected by planned road schemes.
5.3.1.15	Such NRTS Co activities shall be included in the NRTS Forward Programme, refer to the <i>Capture Requirements and Plan</i> process (section 5.13).
5.3.1.16	The scheme may require that roadside Service Delivery Points are moved, i.e. Deactivated, Provisioned at a new site and Activated as "Live" Service Type Instance (for the details on NRTS Co operations in the context of schemes, refer to <i>Tasking Processes</i> (section 6)). Such activity will be Tasked by the HA in parallel with NRTS Co's obligation to accommodate disruption to the longitudinal cable through communications bypasses and/or temporary cabling arrangements.
5.3.1.17	The scheme may also require that Service Type Instances are temporarily cut-off. The HA may notify NRTS Co that these are to be treated as HA Planned Outages.

<b>(M) Monitoring</b>	
5.3.1.18	Dates of disruptions and planned arrangements for ensuring service continuity should be recorded in the NRTS Forward Programme. If there is a loss of Service due to a planned disruption that NRTS Co was informed about (or should, in accordance with the NRTS Process Standard for “Requirements Capture and Planning” – see section 5.13, have known about) then this will be treated as an Outage of the Service Type Instances concerned. If no HA Planned Outages have been notified by the HA, then the Outage(s) will be deemed to be Attributable (for details of how faults are managed refer to the <i>Manage Faults</i> process (section 5.4)).
<b>(I) Frequency</b>	
5.3.1.19	[Not Used]

Table 5-2 Maintain Service Continuity Process Template

Additional Information

5.3.2 [Not Used]

*Transition Period Requirements*

5.3.2.1 **M** During the Transition Period, NRTS Co shall note the current arrangements for the provision of Telecommunications Bypasses (a temporary arrangement to maintain the provision of a Service whilst the permanent communications circuit is disturbed during major roadside construction activities) and other temporary arrangements, from information relating to the National Transmission Maintenance Contractor contract and National Transmission Works Contractor contract and subsequently from work shadowing (see the *Prepare Service* process, paragraph 8.5.17). NRTS Co shall be responsible for the provision of Telecommunications Bypasses in accordance with this process for scheme works that disrupt the Longitudinal Cabling as part of the Interim Service in accordance with paragraph 8.5.13.

*General Requirements*

5.3.2.2 **M** NRTS Co shall, as part of the maintenance of the NRTS Forward Programme, keep updated a programme of planned circuit telecommunications bypass and temporary cabling arrangements to support changes in requirements for Transmission Services that arise as a consequence of road schemes and standalone works such as maintenance works. Refer to the *Capture Requirements and Plan* process (section 5.13).

5.3.2.3 **M** NRTS Co shall implement the planned Telecommunications Bypasses including any special protection and access arrangements needed, coordinating this work with the scheme manager, scheme contractor and others as the situation requires in order to minimise any interference with the scheme works. Details of how NRTS Co will operate in the context of road schemes are given in section 6.2.

5.3.2.4 [Not Used]

Figure 5-2 [Not Used]

5.3.2.5 [Not Used]

### *Disruption to Longitudinal Cabling*

- 5.3.2.6 **M** NRTS Co shall determine, plan, implement, maintain and remove the Telecommunications Bypass arrangements necessary to maintain continuity of all Services except for those which the HA has temporarily suspended (by ordering the Deactivation of Service(s) (see section 6.6) and their subsequent Activation (see section 6.5)) or notified as HA Planned Outages.
- 5.3.2.7 **M** NRTS Co shall restore the longitudinal cabling as necessary to the disrupted section of the network at an appropriate time towards the end of the scheme works as agreed with the scheme contractor and prior to the removal of the Telecommunications Bypass and other temporary arrangements, so as to ensure continuity of the Services (or to enable restoration of those Services that the HA has temporarily suspended or notified as HA Planned Outages). This work shall be undertaken and paid for as a Regrading i.e. not part of the bypass activity. NRTS Co shall prepare the Task Authorisation for the appropriate Regrading for agreement with the HA.
- 5.3.2.8 **M** NRTS Co shall be responsible for maintaining service continuity during Regrading works. NRTS Co shall not be entitled to any payments for maintaining service continuity during such works.

### *Disruption to Local Services*

- 5.3.2.9 [Not Used]
- 5.3.2.10 [Not Used]
- 5.3.2.11 [Not Used]
- 5.3.2.12 **M** NRTS Co shall record the details from any HA Planned Outage Notices in the Service Schedule and the NRTS Co Fault Management System.
- 5.3.2.13 **M** If there are any Service Type Instances that will be affected by disruption to the Local Communications Cabling from the road scheme, that the HA either does not suspend or does not notify as HA Planned Outages (at its sole discretion), then NRTS Co shall be responsible for implementing any alternative communications arrangements that it considers necessary to maintain the continuity of those Service Type Instances. NRTS Co shall identify any such work and plan it within the NRTS Forward Programme.
- 5.3.2.14 **M** In the case that the HA does not suspend affected STI(s), nor notify HA Planned Outage(s) in connection with a planned HA civil works scheme, if the HA withholds its consent to a reasonable request from NRTS Co that a Telecommunications Bypass be deployed, then NRTS Co shall not be subject to deductions under the Service Credit Regime under the following circumstances:
- 1 The deductions arise through Outages caused by the HA civil works scheme and it is reasonable to expect that the Outages would not have occurred had a Telecommunications Bypass been deployed, and;
  - 2 The request from NRTS Co for a Telecommunications Bypass identified that the planned HA civil works are expected to:
    - involve disruption to NRTS cables or equipment, or
    - extend more than approximately 20m along the verge and involve mechanical excavation near the cable.

### Performance

5.3.3 [Not Used]

5.3.4 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Maintaining Service Continuity*".

## 5.4 Manage Faults

### 5.4.1 [Not Used]

<b>(M) Scope</b>	
5.4.1.1	<p>NRTS Co shall establish, attribute, rectify, record and report Service failures (Outages) and other faults. NRTS Co shall also inform the HA about:</p> <ul style="list-style-type: none"> <li>• Outages (because these are linked to payment deductions);</li> <li>• Faults that affect resilience (so that the HA can monitor NRTS Co's compliance with the requirements specified in section 15.14 of Schedule 1.1a (Statement of Requirements: Transmission Service));</li> <li>• Serious, Persistent or Recurrent faults (because NRTS Co is required to investigate and report to the HA on these fault types and take action to prevent their recurrence, see paragraph 5.10.3.3);</li> <li>• The recorded history of all faults (in case of Step-In and for Handback and re-tendering on the Expiry Date or the earlier termination of the NRTS Contract).</li> </ul>
<b>(I) Need</b>	
5.4.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.4.1.3	The primary objectives of this process are to fix faults and restore Service (assuming there has been an Outage).
5.4.1.4	<p>The other main outputs of this process are:</p> <ul style="list-style-type: none"> <li>• attribution and recording of all Outages;</li> <li>• fault management;</li> <li>• historical fault data and statistics;</li> <li>• Fault Notification Procedure;</li> <li>• Fault Allocation Procedure.</li> </ul>
<b>(M) Applicability</b>	
5.4.1.5	Transmission Service and Camera Mast Service. NRTS Co might wish to manage faults at Aerial Sites using the same process and systems.
<b>(I) Related processes</b>	
5.4.1.6	[Not Used]
<b>(M) Requirements</b>	
5.4.1.7	The requirements are stated in Additional Information below. In brief, the process involves fault identification and checking, fault reporting, informing Interfacing Organisations, fault rectification (at the roadside it may mean interfacing with third parties), service restoration and notification in real-time.
5.4.1.8	<p>The HA requires NRTS Co to:</p> <ul style="list-style-type: none"> <li>• respond to faults, diagnose and rectify them to restore Service (if affected) as rapidly as possible;</li> <li>• record all faults and their attribution to provide the data on which payments and performance monitoring will be based.</li> </ul>

<b>(M) Monitoring</b>	
5.4.1.9	NRTS Co shall produce reports which shall be monitored and discussed through the <i>Manage Contract</i> process (section 2.2), including: <ul style="list-style-type: none"> <li>• fault reports including by what means NRTS Co became aware of the fault, trigger times and attribution for each fault;</li> <li>• maintenance of the NRTS Web Site to show fault related information and fault statistics.</li> </ul>
5.4.1.10	Fault records will be audited by the HA from time to time. Independent records of faults are also maintained by the RMC and by the Control Office Based System (COBS) automatic fault logger.
<b>(I) Frequency</b>	
5.4.1.11	[Not Used]

Table 5-3 Manage Faults Process Template

**Additional Information**

5.4.2 [Not Used]

*General*

- 5.4.2.1 **M** NRTS Co shall provide and maintain a computerised fault tracking and management system. This is termed the Fault Management System.
- 5.4.2.2 **M** NRTS Co shall integrate the Fault Management System with the NRTS Help Desk call centre and the NRTS Web Site, which are required systems of the *Support Service Users* process (section 5.9). Details of Fault Tickets, Outages, faults and related information shall be accessible via the NRTS Web Site.
- 5.4.2.3 [Not Used]
- 5.4.2.4 **M** NRTS Co shall keep and maintain a historic record of all fault data for a period of the later of the duration required under Clause 27 of the Project Agreement (Records) and 3 years. Historic data, also, shall be available via the NRTS Web Site.
- 5.4.2.5 **M** Further information about the Fault Management System and the HA's requirements regarding systems is given in Annex B.1.

*Process Start*

- 5.4.2.6 **M** NRTS Co shall monitor for faults through, as a minimum the following:
- notification by NRTS Co's own systems such as network management systems;
  - discovery by NRTS Co through its analysis of reports from HA or third party systems;
  - notification by NRTS Co personnel;
  - notification by HA personnel or other parties designated by the HA (such as the RMC).

NRTS Co shall aim to detect all faults before they are reported by non-NRTS Co personnel and/or systems (excluding HALOGEN).



- 5.4.2.7 [Not Used]
- 5.4.2.8 [Not Used]
- 5.4.2.9 **M** NRTS Co shall monitor power supplies associated with the Services and treat power supply failures as faults.
- 5.4.2.10 [Not Used]
- 5.4.2.11 [Not Used]
- 5.4.2.12 **M** NRTS Co shall log all new details of all new or currently known faults in the Fault Management System. This shall include the date and precise time of the notification, the source of the notification, the number and type of Service Instances(s) affected and all other available details. If this is the first notification of an Outage, NRTS Co shall mark the date and precise time as the “Event A” time. NRTS Co shall also comply with other fault recording and reporting requirements relating to the Transmission Services specified in section 15.11 Schedule 1.1a (Statement of Requirements: Transmission Service).
- 5.4.2.13 [Not Used]
- 5.4.2.14 **M** A Highways Agency Planned Outage Notice is a written request by the Highways Agency detailing the date and duration of an HA Planned Outage for a specific Service Type Instance(s) and/or Camera Site Instance(s).
- 5.4.2.15 **M** NRTS Co shall mark the date and precise time that a HA Planned Outage is scheduled to start (as stated in the HA Planned Outage Notice) as “Event C” and the precise time it is scheduled to end as “Event D”.
- 5.4.2.16 **M** NRTS Co shall validate the reported and logged fault. If an Outage has been notified and there is a HA Planned Outage Notice recorded in the Fault Management System corresponding to the Service Instances of the reported Outage then the times shall be checked. If Event A matches or is after Event C, but not later than Event D, the fact that the Outage is Planned shall be communicated back to the person(s) who reported the Outage and posted on the NRTS Web Site. If an Outage has been notified and there is no associated HA Planned Outage Notice or Event A is later than Event D, then a Fault Ticket shall be raised.
- 5.4.2.17 **M** The term “Fault Ticket” shall mean a uniquely identified record of a particular fault that is created when a fault is first reported and accumulates all progress, testing, rectification and other information associated with that fault until the fault is confirmed as rectified and the fault is “closed”.
- 5.4.2.18 **M** Outages (that are not the subject of HA Planned Outage Notices) shall result in the generation of an associated Fault Ticket. NRTS Co shall post Fault Tickets on the NRTS Web Site and ensure the information they contain reflects the current state of the fault investigation and rectification work, as well as the current estimated time that the Outage will be restored.
- 5.4.2.19 **M** The validation of a reported Outage and the raising of a Fault Ticket shall be processed in not more than 5 minutes of the Outage being logged in NRTS Required Systems.
- 5.4.2.20 [Not Used]
- 5.4.2.21 [Not Used]

*Fault Tracking*

- 5.4.2.22 [Not Used]
- 5.4.2.23 **M** NRTS Co shall define and agree the list of individuals and parties to be contacted, and an appropriate escalation procedure before Step 2.
- 5.4.2.24 **M** NRTS Co shall develop and agree a Fault Notification Procedure. This shall include a categorisation of faults, how they are to be managed and a list of the individuals to be contacted in the event of faults. This shall be a Registered Document and maintained in accordance with the *Develop Registered Document* process (section 4.2). NRTS Co shall make contact as required, directly and proactively (i.e. including confirming that the notification has been received by the relevant individual).
- 5.4.2.25 **M** NRTS Co shall alert designated personnel in the HA, and/or the Interfacing Organisations, e.g. RMCs, of a fault affecting delivery of any Services within 5 minutes of the Fault Ticket being raised. Notification shall be in accordance with the Fault Notification Procedure.
- 5.4.2.26 **M** NRTS Co shall supply the status of the Fault Ticket, e.g. as it progresses through fault diagnosis, field service despatch, rectification work, re-testing, acceptance and fault clearing, in real-time both via the NRTS Web Site and to NRTS Help Desk callers.

*Fault Allocation for Rectification*

- 5.4.2.27 [Not Used]
- 5.4.2.28 [Not Used]
- 5.4.2.29 [Not Used]
- 5.4.2.30 **M** NRTS Co shall have a Fault Allocation Procedure listing how the responsibility for faults is to be diagnosed and the hand-over of Fault Ticket information for faults “in-progress” is to be achieved. This shall be a Registered Document and maintained in accordance with the *Develop Registered Document* process (section 4.2).
- 5.4.2.31 **M** Where practical, NRTS Co shall develop definitive and objective circuit testing tools and techniques to enable the rapid allocation of faults to the correct responsible party and to support the acceptance testing of “rectified” Service Instances.
- 5.4.2.32 **M** Where NRTS Co determines that the fault in the end-to-end delivery of a particular Service Instance is attributable to an item of equipment that is not the responsibility of NRTS Co, e.g. a MIDAS Transponder, then NRTS Co shall provide all relevant details of the fault and the tests undertaken by NRTS Co to establish that the fault is attributable to the HA or parties designated by the HA, to enable the fault to be resolved as rapidly as possible.

### *Fault Rectification*

5.4.2.33 [Not Used]

5.4.2.34 [Not Used]

5.4.2.35 **M** NRTS Co shall record details of all actions taken to diagnose, allocate rectification work and clear faults on the associated Fault Ticket in the Fault Management System.

5.4.2.36 **M** NRTS Co shall develop definitions of the categories of fault and their treatment in the Fault Notification Procedure. The HA particularly requires visibility of Serious, Persistent and/or Recurrent faults and that they are investigated by NRTS Co and action taken to prevent them occurring again in future. NRTS Co shall, as a minimum use the following definitions, any other definitions shall be agreed with the HA:

- Serious Fault – a fault resulting in contravention of one or more of the resilience requirements for the Transmission Service as set out in section 15.14 Schedule 1.1a (Statement of Requirements: Transmission Service);
- Serious Incident - Health and Safety incidents, traffic incidents, the affects of lightning strikes and high-voltage transients (power surges) and spillages as defined in Schedule 1.3 (Statement of Requirements: General Constraints),
- Persistent Fault – any fault that has not been rectified within 48 hours of when it was first notified;
- Recurrent Fault – any fault with demonstrably the same location and cause that recurs within 24 hours.

Serious Faults and Serious Incidents shall be reported to the appropriate parties within one hour of NRTS Co becoming aware of the occurrence.

5.4.2.37 **M** Different categories of fault shall have different reporting requirements and priority. This is exemplified by Serious, Persistent and Recurrent faults in paragraph 5.4.2.39 below.

5.4.2.38 **M** NRTS Co shall have a Fault Notification Procedure (developed and maintained in accordance with the *Develop Registered Document* process in section 4.2). This shall include definition of the categories of faults and their management and, for each category, which persons and parties are to be notified of the fault. It shall also define how investigations and rectification of faults are to be managed, how faults are escalated and how follow-up investigations required for some categories of fault are to be carried out.

5.4.2.39 **M** NRTS Co shall investigate thoroughly Serious, Recurrent and/or Persistent incidents and faults. This may generate follow-up actions for internal technical investigations or third parties, e.g. NRTS Co's suppliers. The outcomes of such investigations shall be recorded in the Fault Management System and shall, if required by the HA, be reported via the *Manage Contract* process (section 2.2).

5.4.2.40 **M** In the case of Outages, NRTS Co shall endeavour to restore Services as quickly as possible.

- 5.4.2.41 **M** If NRTS Co decides a call-out of one of its own field service engineers is necessary, NRTS Co shall:
- comply with all the appropriate aspects of Schedule 1.3 (Statement of Requirements: General Constraints) for roadside working including Cable Repair/Replacement, Traffic Management Provision, Access Procedures and Controls, and Records;
  - if access to the roadside is temporarily prevented, e.g. because the Police have closed the motorway where equipment is in a dangerous state following accident damage, then NRTS Co shall record the precise time and duration of the Access Prevented State as defined in section 16.6 Schedule 1.1a (Statement of Requirements: Transmission Service) on the associated Fault Ticket(s) in the Fault Management System.
  - comply with, and co-ordinate with, the existing HA motorway and All-Purpose Trunk Roads repair and reinstatement procedures (claims for, and notification of third party damage shall be carried out according to the *Notify Damage* process (section 5.2));
  - take account of others in the overall priorities of operating and maintaining the highway and the operation of safety related systems.
- 5.4.2.42 **M** NRTS Co shall operate an appropriate field service and maintenance organisation to enable the attendance of a suitably skilled and equipped maintenance engineer at the likely location of a fault within the agreed response time.
- 5.4.2.43 **M** NRTS Co shall exercise due care when undertaking service restoration and ensure that any permanent repairs are made to the same or better industry standards than applied to the equipment when it was first installed.

#### *Service Restoration*

- 5.4.2.44 **M** NRTS Co shall re-commission and test the Services affected by the fault after the fault has been rectified.
- 5.4.2.45 **M** NRTS Co shall develop and agree the procedure by which rectified faults shall be accepted as part of the Fault Allocation Procedure.
- 5.4.2.46 **M** The fault (including Outages) is defined as ending when one or more of the following occurs:
- NRTS Co staff have notified the affected parties that the fault is cleared;
  - the affected parties have been automatically notified of the fault clearance by the NRTS Required Systems;
  - the affected parties (who might also be in attendance) have notified NRTS Co that the fault is cleared.
  - other mechanism as agreed in the relevant Process Standards.
- 5.4.2.47 **M** NRTS Co shall record the details and time of this event and, if the fault was an Outage, and the requirements section 16.4 Schedule 1.1a (Statement of Requirements: Transmission Service) for Event B have also been met, mark the event as Event B. Event B signifies the end of the Outage (or any other fault).
- 5.4.2.48 **M** There shall be a proving period, as defined in paragraph 16.4.1 of Schedule 1.1a (Statement of Requirements: Transmission Service), after Event B during which time, if the same fault (i.e. a fault with the same cause) recurs, then it is deemed to be a continuation of the original fault or Outage, not a new fault or Outage. Such faults are termed Recurrent Faults.

### *Fault Attribution*

- 5.4.2.49 **M** NRTS Co shall record the outcome of all faults. NRTS Co shall, as a minimum, record the outcome as one of the following:
- No fault found.
  - Fault attributable to NRTS Co (a fault was found in the equipment and/or services for which NRTS Co is responsible).
  - Fault attributable to others (a fault was found in equipment and/or Service, e.g. the roadside device itself, which is not the responsibility of NRTS Co).
- 5.4.2.50 **M** If the fault resulted in an Outage, NRTS Co shall calculate and record the Outage Hours, the Attributable Outage Hours and Availability as defined in sections 16.3 to 16.19 inclusive Schedule 1.1a (Statement of Requirements: Transmission Service).
- 5.4.2.51 [Not Used]
- 5.4.2.52 **M** If the fault was the result of damage by a third party, NRTS Co shall notify the HA in accordance with the *Notify Damage* process (section 5.2).

### Performance

- 5.4.3 [Not Used]
- 5.4.4 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Fault Management*".

## 5.5 Re-instate Assets

5.5.1 [Not Used]

<b>(M) Scope</b>	
5.5.1.1	This process covers damage repairs (including emergency repairs and temporary fixes) and re-instatement of assets following unplanned incidents such as accidental damage, cable breaks and damage by fire, lightning strikes, land slip, etc.
5.5.1.2	<p>NRTS Co shall be responsible for damage repairs and re-instatement of the Assets it manages. In discharging this responsibility:</p> <ul style="list-style-type: none"> <li>• NRTS Co shall lock into and co-ordinate with established HA procedures to ensure a consistent approach to damage repair and re-instatement;</li> <li>• NRTS Co shall not knowingly compromise existing HA arrangements;</li> <li>• NRTS Co shall recognise the priority of others operating on the highway in damage re-instatement, particularly after road traffic accidents when, for example, the Police might have temporarily closed the motorway.</li> </ul>
<b>(I) Need</b>	
5.5.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.5.1.4	Agreed NRTS Process Standard for " <i>Damage Repair and Re-instatement</i> " to provide a mechanism to repair damaged assets (including emergency repairs) and plan and undertake the permanent re-instatement of assets that does not conflict with the operations of the RMC and other Interfacing Organisations.
5.5.1.5	Assets re-instated.
<b>(M) Applicability</b>	
5.5.1.6	All Services.
<b>(I) Related processes</b>	
5.5.1.7	[Not Used]
<b>(M) Requirements</b>	
5.5.1.8	Compliance with the agreed NRTS Process Standard.
<b>(M) Monitoring</b>	
5.5.1.9	The performance of this process will be monitored against the service levels set out in the agreed NRTS Process Standard.
<b>(I) Frequency</b>	
5.5.1.10	[Not Used]
5.5.1.11	[Not Used]

Table 5-4 Re-instate Assets Process Template

### Additional Information

- 5.5.2 **M** NRTS Co shall develop a NRTS Process Standard for “*Damage Repair and Re-instatement*” that shall identify the procedures, contact arrangements and standards by which all aspects of NRTS Co, HA contractor and third party damage repair and re-instatement are undertaken. This shall dovetail with the HA instructions (that may be modified to take account of NRTS Co) and be agreed and reviewed with the HA in accordance with the *Develop Registered Document* process (section 4.2)
- 5.5.3 **M** The NRTS Process Standard shall be developed from MCH1598 and TRMM, which set out the current procedures for emergency and temporary repairs and re-instatement of assets.
- 5.5.4 **M** NRTS Co shall ensure that structural damage to Assets (of which a common example is cable damage caused by other HA contractors) is properly recorded through the *Notify Damage* process (section 5.2). It shall also ensure that re-instatement work is scheduled taking into account the operational priorities and constraints of the current site “possessor” and recorded in the NRTS Forward Programme.
- 5.5.5 [Not Used]
- 5.5.6 **M** NRTS Co shall re-instate Assets in accordance with the Asset replacement criteria agreed as part of the certified Service Solution Specification (refer to the *Get Consent to Service Solution* process paragraph 4.3.3.12) and stated in the NRTS Process Standard for “*Damage Repair and Re-instatement*”.

### Performance

- 5.5.7 [Not Used]
- 5.5.8 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Damage Repair and Re-instatement*”.
- 5.5.9 **M** Sections 16.7 and 16.8 respectively of Schedule 1.1a (Statement of Requirements: Transmission Service) define the Allowable Restoration Times for emergency/temporary repairs and for the subsequent permanent reinstatement of Assets.

## 5.6 Facilitate Audit and Inspection

5.6.1 [Not Used]

<b>(M) Scope</b>	
5.6.1.1	NRTS Co shall inspect and audit all of its work. NRTS Co shall implement quality management processes to demonstrate that processes, procedures, requirements and constraints are being complied with.
<b>(I) Need</b>	
5.6.1.2	[Not Used]
5.6.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.6.1.4	An Inspection or Audit Report giving the HA inspector's conclusions on the effectiveness of internal quality management procedures and the level of compliance of NRTS Co's processes and outputs, and identifying any remedial action.
5.6.1.5	Regular monthly reports on Non-Compliances, specifying corrective actions to be taken.
<b>(M) Applicability</b>	
5.6.1.6	All aspects of NRTS Co's operations, i.e. including third party commercial services and the Services themselves.
<b>(M) Related processes</b>	
5.6.1.7	All processes that are required to produce NRTS Process Standards.
5.6.1.8	All General Constraints that are required to produce NRTS Project Standards.
5.6.1.9	All Records that NRTS Co is required to keep.
5.6.1.10	All Registered Documents.
<b>(M) Requirements</b>	
5.6.1.11	<p>NRTS Co is required to assist the HA in carrying out its audits and inspections of NRTS Co. This means, NRTS Co shall:</p> <ul style="list-style-type: none"> <li>assist the HA in inspecting databases and other systems, e.g. the Fault Management System, by demonstrating them, providing additional user accounts etc. as required;</li> <li>provide access (where this is not already provided via the NRTS Web Site) to the relevant files, documents and systems relating to the outputs to be audited and the staff time necessary to support the HA's auditors in their work;</li> <li>assist in other ways specified in the requirements in Additional Information, below.</li> </ul>
<b>(M) Monitoring</b>	
5.6.1.12	Against the agreed standards specified in the NRTS Process Standard for "Auditing and Inspection".
<b>(I) Frequency</b>	
5.6.1.13	[Not Used]

Table 5-5 Facilitate Audit and Inspection Process Template



### Additional Information

5.6.2 [Not Used]

5.6.3 [Not Used]

5.6.4 [Not Used]

### *Informal audits and inspections*

- 5.6.4.1 **M** The HA will undertake informal audits. NRTS Co shall facilitate such informal audits by providing the following via the NRTS Web Site:
- Status of Service Level Targets as defined in Schedule 27 (Service Credit Regime).
  - Status of Key Performance Indicators as defined in the relevant NRTS Standard.
  - Status of Non-Compliances.

Such information shall be provided in a summary form (i.e. by exception) with the ability to access and review the underlying detailed information.

### *Formal audits and inspections*

- 5.6.4.2 **M** The HA may require a formal audit and inspection by serving NRTS Co with an Audit and Inspection Notice (at least 5 Business Days in advance) that will set out particulars such as the date of the visit, the item(s) to be audited and the names of the HA auditors who will undertake the work.
- 5.6.4.3 **M** NRTS Co shall make available for audit and inspection all the documents, files, systems and other materials that are specified by the Audit and Inspection Notice or are requested by the HA at the time of the audit.
- 5.6.4.4 **M** To facilitate the formal audit and inspection:
- NRTS Co is required by the *Develop Registered Document* process (section 4.2) to develop and maintain a single repository of master copies of all current issues of version controlled documents as listed in the Document Management System;
  - NRTS Co shall develop and maintain a single database reference to all Records, i.e. one that provides a “single view” of all NRTS data relating Instances of Services to their associated Assets, HA connected devices, maintenance records, Fault Tickets, test results, etc (see Annex B for further detail);
  - NRTS Co shall permit the temporary removal or copy of a document or extract for review by the HA or its representatives.
- 5.6.4.5 **M** During the audit, NRTS Co shall provide staff to assist as required. NRTS Co shall endeavour to make available key NRTS management staff for interview if required.

5.6.4.6 [Not Used]

### *Drop-in audits and inspections*

- 5.6.4.7 **M** NRTS Co shall provide access to the HA (or representatives on its behalf) to undertake audit visits and inspections at a few hours' notice or with no notice if the HA has reasonable cause to consider such an action necessary (e.g. following a major Service failure).

5.6.4.8 [Not Used]

5.6.4.9 [Not Used]

#### *Audit and inspection outcomes*

5.6.4.10 [Not Used]

5.6.4.11 **M** A breach of NRTS Co's internal quality assurance procedures shall follow the process defined in Schedule 27 (Service Credit Regime) to deal with Non-Compliances.

5.6.4.12 [Not Used]

5.6.4.13 [Not Used]

#### *Quality Management System*

5.6.4.14 **M** NRTS Co shall provide, operate and maintain a Quality Management System that shall record and track the progress of all Non-Compliance currently in issue and maintain a history of such items for a period of at least 3 years.

5.6.4.15 **M** The Quality Management System shall be fully accessible via the NRTS Web Site.

5.6.4.16 **M** NRTS Co shall use the Quality Management System to record Notices, the corrective actions associated with the Notices and progress in completing the corrective actions.

5.6.4.17 **M** NRTS Co shall prepare a report each month showing the new Notices, cleared Notices and corrective actions still in progress arising over the previous month. This report shall be delivered and discussed, when necessary, in accordance with the *Manage Contract* process (section 2.2).

#### *Non-Compliance*

5.6.4.18 **M** NRTS Co shall comply with the requirements of Schedule 27 (Service Credit Regime) for Non-Compliances.

5.6.4.19 **M** Non-Compliances shall provide a deadline by which corrective action has to be taken to prevent a re-occurrence of the Non-Compliance.

5.6.4.20 [Not Used]

5.6.4.21 **M** For a Non-Compliance as defined by Schedule 27, NRTS Co shall carry out the corrective action specified in their Preventative Action Report within the specified timescales in accordance with the *Do Remedial Work* process (section 5.12). Following the stated deadline(s), NRTS Co shall be subject to re-audit, at NRTS Co's expense (capped at £5,000), to verify that the actions have been completed satisfactorily.

5.6.4.22 [Not Used]

### Performance

- 5.6.5 [Not Used]
- 5.6.6 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Auditing and Inspection*”.
- 5.6.7 **M** This Process Standard shall provide that NRTS Co shall increase the frequency of internal auditing of the relevant activity following the occurrence of a Level 3 or higher Non-Compliance and conduct an investigation of the internal processes (or record why such an investigation is not applicable) to identify why the failure occurred and what changes are required to prevent a recurrence. NRTS Co shall produce a Preventative Action Report detailing the results of the investigation and the actions to be taken.

### Accuracy and Completeness Audit

- 5.6.8 **M** NRTS Co shall maintain all Records such that they are:
- Accurate i.e. reflects the actual status of the entities they record.
  - Complete i.e. include ALL the required records for the type of entity.
- 5.6.9 **M** NRTS Co shall undertake an annual audit of the accuracy and completeness of all records. The audit shall examine a “representative sample” of records. NRTS Co shall agree what constitutes a “representative sample” with the HA prior to the audit in accordance with the agreed Process Standard.
- 5.6.10 **M** NRTS Co shall produce a Record Accuracy and Completeness Report detailing the outcome of each audit and any corrective actions. NRTS Co shall provide the HA with the report.
- 5.6.11 **M** Where accuracy and/or completeness issues are found NRTS Co shall.
- For data existing at the Execution Date, correct all inaccuracies by the Relevant Assumption Date or by such other date as may be agreed with the HA.
  - For all other records correct all inaccuracies within 3 months or as otherwise agreed with the HA.

This shall not remove NRTS Co obligations to maintain up to date information as set out in Annex B.1.2.15.

## 5.7 Locate Buried Assets

5.7.1 [Not Used]

<b>(M) Scope</b>	
5.7.1.1	NRTS Co shall identify on request the location and type of cables, ducts, cable joints, chambers and other underground assets. Requests may come from HA staff or other contractors.
<b>(I) Need</b>	
5.7.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.7.1.3	Agreed NRTS Process Standard for the “ <i>Location and Marking of Buried Assets</i> ” that tells other contractors what the procedure is for requesting cable location and what service levels NRTS Co will operate to.
5.7.1.4	Located and marked roadside Assets. NRTS Co is not required to expose buried Assets as part of this process.
<b>(M) Applicability</b>	
5.7.1.5	Transmission Service, Aerial Site Service and Camera Mast Service.
<b>(I) Related processes</b>	
5.7.1.6	[Not Used]
<b>(M) Requirements</b>	
5.7.1.7	NRTS Co shall produce and maintain an agreed NRTS Process Standard for the “ <i>Location and Marking of Buried Assets</i> ” in accordance with the <i>Develop Registered Document</i> process (section 4.2).
5.7.1.8	NRTS Co shall respond within the timescale defined in Service Level Targets (48 hours) in Schedule 27 (Service Credit Regime) to requests from HA staff or third parties to identify and mark the location of NRTS Co Assets on-site as part of any roadside works where buried infrastructure will be, or could be, disturbed by contractors.
5.7.1.9	NRTS Co shall coordinate its location and marking activities on-site with the Managing Agents, Managing Agent Contractors, and Regional Maintenance Contractor and Management Consultant.
<b>(M) Monitoring</b>	
5.7.1.10	Monitoring by HA via feedback from MAs, MACs and the RMC and RMCMC. The number of cable damage incidents as recorded by the <i>Notify Damage</i> process (section 5.2) also provides a proxy to the effectiveness of this process. Performance shall be monitored against the Service Level Targets and the Key Performance Indicators specified in the NRTS Process Standard for this process.
<b>(I) Frequency</b>	
5.7.1.11	[Not Used]

Table 5-6 Locate Buried Assets Process Template

Additional Information

5.7.2 [Not Used]

5.7.3 **M** Prior to the first Actual Service Start Date, NRTS Co shall develop and agree with the HA a NRTS Process Standard for the "*Location and Marking of Buried Assets*". This shall include Service Level Agreements on response times.

5.7.4 [Not Used]

5.7.5 [Not Used]

Performance

5.7.6 **M** NRTS Co shall provide a location service to HA staff and contractors on request to identify the location of any buried Asset for which it is responsible within the Project Road Network. This shall be carried out in accordance with the procedure, and to the service levels and response times, specified in the NRTS Process Standard for this process.

5.7.7 **M** If NRTS Co incorrectly marks the location of buried Assets, or fails to respond at all to a request to do so, it shall be liable for any subsequent cable damage and for any Service Outages that might result, notwithstanding the obligation on contractors to employ safe and careful digging practices.

## 5.8 Manage Duct Space

5.8.1 [Not Used]

<b>(M) Scope</b>	
5.8.1.1	This process covers the recording, allocation and management of all duct space, communication cables and fibres. It includes all ducts (whether longitudinal, local, through structures or cross carriageways and slip roads) and cable troughs.
<b>(I) Need</b>	
5.8.1.2	[Not Used]
5.8.1.3	[Not Used]
5.8.1.4	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.8.1.5	Agreed NRTS Process Standard for " <i>Duct Space Management</i> " that defines the procedures by which duct space will be allocated, how allocations will be recorded and managed, how the HA and other contractors interact with NRTS Co in regard to this process, and what service levels will be met.
5.8.1.6	Records and allocations of duct space, cables and fibres.
<b>(M) Applicability</b>	
5.8.1.7	Transmission Service, Aerial Site Service and Camera Mast Service. All commercial services to third parties.
<b>(I) Related processes</b>	
5.8.1.8	[Not Used]
<b>(M) Requirements</b>	
5.8.1.9	NRTS Co shall define the procedures governing the allocation of spare duct space, cable and fibre capacity in the NRTS Process Standard for " <i>Duct Space Management</i> ".
5.8.1.10	NRTS Co shall take account of competing requests for duct space between power, communications and other cable requirements in accordance with the <i>Cables and Cable Ducts</i> constraint section 2.14 Schedule 1.3 (Statement of Requirements: General Constraints).
5.8.1.11	NRTS Co shall arbitrate (using the defined procedures in the Process Standard) between competing requests, allocate duct space, record the allocation and verify that it has been followed in practice.
<b>(M) Monitoring</b>	
5.8.1.12	Through any complaints registered via the NRTS Help Desk. Performance shall be monitored against the standards defined in the NRTS Process Standard for " <i>Duct Space Management</i> ".
<b>(I) Frequency</b>	
5.8.1.13	[Not Used]

Table 5-7 Manage Duct Space Process Template

### Additional Information

- 5.8.2      **M**      NRTS Co shall track requirements for duct space, and cable and fibre capacity for lighting, power supplies, communications, and other purposes through the *Capture Requirements and Plan* process (section 5.13). NRTS Co shall take account of these requirements when making decisions about the allocation of spare capacity, particularly during the outline design stage of schemes (under the *Capture Requirements and Plan* process) and during detailed design (under the *Design Service Installation* process in section 6.3).
- 5.8.3      **M**      NRTS Co shall record all duct space, cable and fibre allocations in accordance with the *Record Keeping* Constraint section 5 Schedule 1.3 (Statement of Requirements: General Constraints). This shall apply to all ducts and troughs used, or potentially to be used, by NRTS Co whenever new information is available about those ducts.
- 5.8.4      [Not Used]
- 5.8.5      **M**      NRTS Co is permitted to visit locations on a Protected Street in accordance with the *Only Hardshoulder Closures to Install NRTS Co Longitudinal Infrastructure* constraint (Schedule 1.3 section 3.6).
- 5.8.6      **M**      NRTS Co shall track and record when and where it has installed new duct infrastructure on a Protected Street. NRTS Co shall make this information available to the HA on request.
- 5.8.7      [Not Used]

### Performance

- 5.8.8      [Not Used]
- 5.8.9      **M**      This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Duct Space Management*".

## 5.9 Support Service Users

### 5.9.1 [Not Used]

<b>(M) Scope</b>	
5.9.1.1	NRTS Co shall provide users with day-to-day support for all network operations activity which is visible to the HA, i.e. that which supports NRTS Service users, including, as a minimum, issue of passwords, information on operating status, progress of jobs, allocation of static address blocks and answers to technical queries.
<b>(I) Need</b>	
5.9.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.9.1.3	A reliable and available transmission network that meets its performance requirements.
5.9.1.4	An agreed NRTS Process Standard for “ <i>User Services</i> ” that shall include Service Level Targets and key performance indicators with respect to the NRTS Help Desk and the NRTS Web Site and other user support activities.
5.9.1.5	The on-going outputs required by the HA are: <ul style="list-style-type: none"> <li>• help desk providing current status information, technical help, etc.;</li> <li>• web site providing on-line access to all the NRTS Required Systems and Registered Documents, plus additional technical documentation and other information about the Services;</li> <li>• Predictive Asset Management System;</li> <li>• Planned Maintenance Schedule.</li> </ul>
<b>(M) Applicability</b>	
5.9.1.6	All Services except Consultancy.
<b>(I) Related processes</b>	
5.9.1.7	[Not Used]
<b>(M) Requirements</b>	
5.9.1.8	The HA's requirements (described below) relate only to outputs of this process, not to how the process is carried out (clearly this is a core NRTS Co responsibility subject only to its obligations under the NRTS Contract).
<b>(M) Monitoring</b>	
5.9.1.9	Against the performance standards defined in the NRTS Process Standard for “ <i>User Services</i> ”.
<b>(I) Frequency</b>	
5.9.1.10	[Not Used]

Table 5-8 Support Service Users Process Template



### Additional Information

5.9.2 [Not Used]

### *Predictive Asset Management System*

5.9.2.1 [Not Used]

5.9.2.2 **M** Prior to the Actual Service Start Date for each Service (it is a condition of Service Take-On), NRTS Co shall design and implement a Predictive Asset Management System (PAMS). Refer to Annex F for further details.

5.9.2.3 [Not Used]

5.9.2.4 **M** In addition to complying with Clause 14.2 of the Project Agreement (Predictive Asset Management System) NRTS Co shall ensure that the PAMS shall record data including, for every Transmission Service Type Instance, Camera Site Instance and Aerial Site as well as all underlying communications infrastructure, the following:

- Asset identifier;
- identifier for all Service Type/Camera Site Instances supported by the Asset;
- location of the Asset;
- any other relevant location, configuration or addressing information;
- Provisioning and Activation dates;
- full maintenance history;
- age and working life expectancy of each Asset;
- maintenance procedures;
- equipment specifications;
- any associated Health and Safety information;
- supplier details;
- Regional Maintenance Contractor maintenance area;
- Asset condition data.

5.9.2.5 **M** The predictive functionality of the PAMS shall incorporate rules for the replacement and renewal of Assets, developed as a requirement of the Service Solution Specification (see paragraph 4.3.3.11). More generally, the PAMS shall be able to use internal rules and procedures that enable the most cost-effective maintenance and replacement strategy to be determined from historic maintenance and Asset life-data.

5.9.2.6 **M** NRTS Co shall maintain and keep up-to-date the data and rules recorded in the PAMS. NRTS Co shall particularly ensure that the data recorded on the PAMS continues to correspond accurately to the actual deployment and use of Assets.

5.9.2.7 **M** The rules governing the predictive functionality of the PAMS, shall be readily available to the HA for audit and inspection.

5.9.2.8 **M** The PAMS shall comply with additional requirements regarding systems given in Annex B.

### *Planned Maintenance Schedule*

- |          |            |  |
|----------|------------|--|
| 5.9.2.9  | [Not Used] |  |
| 5.9.2.10 | [Not Used] |  |
| 5.9.2.11 | [Not Used] |  |
| 5.9.2.12 | [Not Used] |  |
| 5.9.2.13 | [Not Used] |  |
| 5.9.2.14 | <b>M</b>   | NRTS Co shall develop, populate and maintain a Planned Maintenance Schedule that shall set out the timing, location, frequency and nature of all planned maintenance activity (including that for Assets solely connected with NRTS Co's commercial third party services located on the Project Road Network and/or other land owned by the HA). |
| 5.9.2.15 | <b>M</b>   | Initial implementation of the Planned Maintenance Schedule is a requirement for Service Take-On (see paragraph 8.5.17).  |
| 5.9.2.16 | <b>M</b>   | NRTS Co shall enter the results from maintenance activity (i.e. what was done and when, what the condition of the Asset was, etc.) into the PAMS to enable Asset condition and actual Asset-life predictions to be updated and refined.  |

### *Documentation*

- |          |          |   |
|----------|----------|---|
| 5.9.2.17 | <b>M</b> | NRTS Co shall maintain adequate documentation of the NRTS Transmission Network and the associated operating procedures to enable the HA, or a designated third party, to take over operation in the event of Step-In or termination of the NRTS Contract. This is in accordance with the <i>Record Keeping</i> Constraint section 5 Schedule 1.3 (Statement of Requirements: General Constraints). It shall include specifications, procedures, equipment manuals, configuration data, drawings, schematics, test scripts and results, certificates, etc. It shall also include leasing and wayleave agreements, radio licenses and other commercial and contractual documentation relating to the network. |
| 5.9.2.18 | <b>M</b> | NRTS Co shall develop and maintain an on-line repository of documentation relating to network operations that is available to users of the Services via the NRTS Web Site.  |

### *NRTS Web Site*

- 5.9.2.19 [Not Used]
- 5.9.2.20 **M** NRTS Co shall develop, operate and maintain a NRTS Web Site which shall hold information including:
- Service status, including:
    - current network operating status;
    - planned works affecting users, e.g. maintenance downtime;
    - Planned Outages notified by the HA;
    - fault tracking: information on the current status of all active faults including estimated Service restoration times.
  - Documentation, including:
    - the NRTS documentation repository;
    - As-built Drawings (where in electronic format);
    - copies of Registered Documents.
  - Systems, including full user access to the following systems, subject to any agreed user profiles:
    - Document Management System;
    - Service Schedule;
    - NRTS Forward Programme;
    - Fault Management System;
    - Quality Management System;
    - Predictive Asset Management System;
    - Planned Maintenance Schedule;
    - And all other systems as identified in Annex B.
- 5.9.2.21 **M** The NRTS Web Site shall be available on a 24-hours-a-day and 7-days-a-week basis, excluding planned downtime. The total unplanned downtime shall not exceed 2 hours per calendar month. The maximum planned downtime shall not exceed 4 occurrences per year and a cumulative total of 16 hours per year outside of Prime Hours.
- 5.9.2.22 **M** Prime Hours shall be defined as the hours of the day during which planned downtime shall not be permitted. Prime Hours shall be 06.00 to 18.00 on Monday to Friday inclusive.
- 5.9.2.23 **M** NRTS Co shall administer access to the NRTS Web Site. Different levels of access shall be available under password control to different categories of user.
- 5.9.2.24 **M** The NRTS Web Site shall be available via the Internet to HA users of the Services and other organisations authorised by the HA Contract Manager.
- 5.9.2.25 **M** NRTS Co shall be responsible for the security of the NRTS Web Site and ensuring that it complies with the Security Policy described under the *Manage Network* process from paragraph 5.10.7.2.
- 5.9.2.26 **M** NRTS Co shall have a contingency plan to go into operation for times when the NRTS Web Site is not available, particularly to support the continuity of the *Manage Faults* process (section 5.4).

### *NRTS Help Desk*

- 5.9.2.27 **M** NRTS Co shall develop and operate a NRTS Help Desk facility for the HA and other organisations designated by the HA. For the avoidance of doubt, the NRTS Help Desk shall be a technical help desk facility to be staffed by personnel knowledgeable and experienced in matters connected with the NRTS Project.
- 5.9.2.28 **M** The Help Desk shall be available on a 24 hours-a-day 7-days-a-week basis:
- by telephone through a single national local rate number;
  - by e-mail through a single NRTS Help Desk mailbox.
- 5.9.2.29 **M** The NRTS Help Desk performance shall be subject to a Service Level Target, defined in Schedule 27 (Service Credit Regime).

### *Table 5-9 [Not Used]*

- 5.9.2.30 **M** NRTS Co shall provide the same information and status queries via the NRTS Help Desk as are available to users of the NRTS Web Site, refer to paragraph 5.9.2.20. In addition, the NRTS Help Desk shall be the main channel by which:
- Regional Maintenance Contractor personnel and others can report faults and Outages to NRTS Co;
  - NRTS Co shall respond to specific technical queries, e.g. relating to the characteristics and features of the various Service Types available in Schedule 1.1a (Statement of Requirements: Transmission Service).
- 5.9.2.31 **M** During Prime Hours, NRTS Co shall support all enquiry types as defined in paragraph 5.9.2.30. Outside of Prime Hours, NRTS Co shall at minimum provide the faults reporting and tracking service defined in section 5.4.
- 5.9.2.32 [Not Used]
- 5.9.2.33 [Not Used]
- 5.9.2.34 **M** The response time for each user action on the NRTS Web Site shall be less than 2 seconds for all users. The 'Web Site response time' is defined as the time taken from when a request is received into the NRTS network at the Network Operations Centre, until a relevant and appropriate response is sent to the user.
- 5.9.2.35 **M** NRTS Co shall establish a NRTS Web Site User Group to review and agree the NRTS Web Site design.
- 5.9.2.36 **M** NRTS Co shall agree with the HA the definition of 'closed' Help Desk calls and emails in accordance with the *Develop Registered Document* process (section 4.2). NRTS Co shall close the agreed percentage of Help Desk calls and emails within the timescales defined in Annex A to Schedule 27 (Service Credit Regime) with a response or solution that is satisfactory to the enquirer.

## 5.10 Manage Network

5.10.1 [Not Used]

<b>(M) Scope</b>	
5.10.1.1	NRTS Co shall undertake the management of the network-based Services (the Transmission Service, and commercial data transmission services, including backhaul for the Aerial Site Service) for those aspects visible to the HA including the outputs required by the HA. This shall include fault tracking and attribution, billing, performance monitoring and security.
5.10.1.2	[Not Used]
5.10.1.3	[Not Used]
<b>(I) Need</b>	
5.10.1.4	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.10.1.5	<p>The HA requires the following outputs:</p> <ul style="list-style-type: none"> <li>Fault management – NRTS Co is responsible for developing tools for reporting and analysing fault histories. Serious, Persistent and/or Recurrent faults and incidents are to be investigated and reported via the <i>Manage Contract</i> process (section 2.2).</li> <li>Configuration management – NRTS Co is responsible for upgrading software held in network management systems and network elements to ensure that it remains reasonably current and for recording and backing-up all configuration data.</li> <li>Accounting management – NRTS Co is responsible for developing and maintaining the Service Schedule, including the Service Provisioning Capability (SPC) categorisation of all roads, and the billing system.</li> <li>Performance management – NRTS Co is responsible for monitoring and managing the dynamic performance of the network.</li> <li>Security management – NRTS Co is responsible for developing, and implementing as necessary, a Security Policy.</li> <li>NRTS Co shall develop and maintain a Disaster Recovery Plan and associated standby facilities.</li> </ul>
<b>(M) Applicability</b>	
5.10.1.6	The Transmission Service and commercial data transmission services including backhaul for the Aerial Site Service.
<b>(I) Related processes</b>	
5.10.1.7	[Not Used]
<b>(M) Requirements</b>	
5.10.1.8	Refer to below.
<b>(M) Monitoring</b>	
5.10.1.9	This process will be monitored against the standards set out in the NRTS Process Standard for “ <i>Network Management</i> ”.

(I) Frequency	
5.10.1.10	[Not Used]

Table 5-10 Manage Network Process Template

5.10.2 [Not Used]

### Fault Management

5.10.3 [Not Used]

### *Fault Histories*

5.10.3.1 [Not Used]

5.10.3.2 **M** NRTS Co shall develop Fault Management System reports that enable the analysis of the fault histories of all faults, the diagnosis of the faults, the actions undertaken to clear them and the performance times associated with those actions.

### *Serious or Dangerous Faults*

5.10.3.3 **M** NRTS Co shall investigate Serious, Persistent and Recurrent Faults and Serious Incidents. The definitions of these terms are given under the *Manage Faults* process (paragraph 5.4.2.36).

5.10.3.4 **M** Special procedures apply to the investigation of any faults or incidents that give rise directly, or are a contributing factor in, serious accidents or incidents on the road network. NRTS Co shall investigate the fault(s) and incidents and their consequences, storing all information in the Fault Management System so that it is available for any subsequent enquiry, and recording the lessons to be learnt and actions to be taken. Note: the definition of incidents is to be defined as part of the Fault Notification Procedure.

5.10.3.5 **M** NRTS Co shall submit a written report of the investigation covering the situation, the fault(s), their causes, their consequences and actions to prevent a recurrence to the HA Contract Manager via the *Manage Contract* process (section 2.2) or otherwise as required.

5.10.3.6 [Not Used]

### Configuration Management

5.10.4 [Not Used]

#### *Software*

5.10.4.1 **M** NRTS Co shall ensure that the HA (and/or a new NRTS Service provider) has the capability to provide the Services for 2 years following the Expiry Date or the early termination of the NRTS Contract or in case of Step-In in accordance with Clause 61 of the Project Agreement (Handback of Working System) of the Project Agreement.

5.10.4.2 **M** NRTS Co shall operate and upgrade the licensed software components of all NRTS Co systems, such that the version in use is not older than 2 full released versions from the latest commercially available and supported version of the software or its direct replacement, or if it has been 3 years since it was last upgraded, whichever is the sooner, unless other upgrade requirement are agreed in writing with the HA on a case by case basis:

- All NRTS Required Systems as defined in Annex B;
- All other systems used by NRTS Co in the delivery of the Services;
- other software controlled network elements (routers, multiplexers, etc.).

5.10.4.3 **M** Such software upgrades shall be at no additional cost to the HA. NRTS Co shall ensure that all additional features and functionality provided by the release shall be available to the HA. For NRTS Required Systems all new features and functionality shall be made available to the HA provided that they do not require development work to enable over and above that required to implement the upgrade. New NRTS Required Systems features and functionality that do require additional coding and hardware to be enabled will be considered as Ad Hoc Projects when required by the HA.

5.10.4.4 [Not Used]

5.10.4.5 **M** NRTS Co shall notify the HA in advance of any planned upgrade.

#### *Configuration record keeping*

5.10.4.6 [Not Used]

5.10.4.7 **M** NRTS Co shall create and maintain records of the current NRTS Transmission Network configuration including, for example, the allocation of Service Type Instances to channels, configuration parameters in routers and switches, address tables, etc. Appropriate records shall similarly be kept and maintained for other service solutions. These records shall form part of the NRTS technical documentation repository (refer to paragraph 5.9.2.18).

5.10.4.8 [Not Used]

### Accounting Management

5.10.5 [Not Used]

### Service Schedule

5.10.5.1 **M** The Service Schedule shall contain the details of every Service Type Instance and Camera Site Instance from the time that it is "Ordered" through all states until it is "Removed" (refer to Figure 6-1).

5.10.5.2 **M** NRTS Co shall produce a Service Schedule prior to Service Take-On. Refer to Annex F for further details.

5.10.5.3 [Not Used]

5.10.5.4 **M** NRTS Co shall design, develop, implement and maintain a Service Schedule which shall record:

- every Transmission Service Type Instance, Aerial Site and Camera Site Instance;
- for each Instance, site or mast:
  - a unique identifier;
  - account identifier (for the Transmission and Camera Mast Services, this shall always be the HA; for Aerial Sites, this shall be the Mobile Network Operators leasing aerial space);
  - the associated Service and, where applicable, Service Type;
  - a link to details of any Designated Link(s) used to provide the Instance;
  - the current status of the Instance or Camera Mast Site (as defined in Figure 6-1) and the status history (dates, approvals, links to test results and records). Essentially, what is required here is "order tracking" data;
  - a link to the PAMS for all the assets associated with the Instance, site or mast;
  - a link to the Fault Management System for all the fault history associated with the Instance and Attributable Outage Hours over the reporting period;
  - a link to the Service Provisioning Capabilities of the Upstream and Downstream Service Delivery Points and their precise geographic location.

5.10.5.5 **M** The Service Schedule shall provide a variety of pre-formatted reports (e.g. of all "Live" Service Instances, or all "Ordered" Services in a particular RMC Area) and it shall also support *ad hoc* queries.

5.10.5.6 [Not Used]



*Billing Information*

- 5.10.5.7 **M** NRTS Co shall be responsible for preparing Monthly Invoices for all Services, which shall be submitted and discussed in accordance with the *Manage Contract* process (section 2.2), Clause 26 of the Project Agreement (Reports and Information) and Clause 29 of the Project Agreement (Invoicing and Payment).
- 5.10.5.8 [Not Used]

*Service Provisioning Capability Tracking*

- 5.10.5.9 [Not Used]
- 5.10.5.10 **M** NRTS Co shall design, develop, implement and maintain a geospatial information system that records the SPC designation of any point in England.
- 5.10.5.11 **M** The system shall have a map-based interface. This shall provide the SPC of any location whose coordinates are entered as part of a query or is drilled down to from a map.
- 5.10.5.12 **M** The system shall also link SPC data to the associated Standard Price list and the current status of SPC Rules. Specifically, NRTS Co shall track the status of Localities against the SPC Rules; refer to Annex H.1.2 Schedule 1.1a (Statement of Requirements: Transmission Service).

Performance Management

- 5.10.6 [Not Used]

*Dynamic Performance Monitoring*

- 5.10.6.1 [Not Used]
- 5.10.6.2 [Not Used]
- 5.10.6.3 **M** NRTS Co shall monitor the performance of the packet-based Transmission Services in real-time, dynamically managing network parameters to maintain Service levels at or better than the Performance Requirements.
- 5.10.6.4 **M** It shall be NRTS Co's responsibility to monitor the HA's use of Access Line Bandwidth.
- 5.10.6.5 **M** NRTS Co shall detect and report to the HA any periods when the HA's data traffic exceeds the maximum Access Line Utilisation.
- 5.10.6.6 **M** Where such periods of over-loading of the network can be shown by NRTS Co to the satisfaction of the HA to have resulted in a corresponding Outage of any Instances of Service Type 8 then such Outage time shall not be Attributable to NRTS Co.
- 5.10.6.7 **M** NRTS Co shall maintain historical data relating to packet-network Service usage for a period of not less than 3 years.
- 5.10.6.8 **M** NRTS Co shall use analysis of usage trends as an input into future planning of HA requirements.

- 5.10.6.9 **M** NRTS Co shall be responsible for planning the future capacity requirements of the NRTS Transmission Network and takes the risk that its network capacity is sufficient to meet the HA's demand (both in terms of volume and spatial distribution). Schedule 1.1a (Statement of Requirements: Transmission Service) defines the required maximum network capacity in accordance with paragraph 17.5.15.

### Security Management

- 5.10.7 [Not Used]

### Security Policy

- 5.10.7.1 [Not Used]

- 5.10.7.2 **M** NRTS Co shall observe Good Industry Practice in relation to appropriate security to meet the HA's needs. Reference shall be made to the following standards, though NRTS Co is expected to apply reasonable judgement in balancing the level of security against cost:
- BS ISO/IEC 17799, the Code of Practice for Information Security Management;
  - ISO/IEC 15408, the Common Criteria for Information Technology Security Evaluation.
- 5.10.7.3 **M** This Good Industry Practice shall be codified by NRTS Co in the NRTS Security Policy document. The Security Policy shall be developed and agreed with the HA in accordance with the *Develop Registered Document* process (section 4.2). The Security Policy shall include mitigation measures, operating procedures and controls in relation to:
- Confidentiality Risks, i.e. accidental or deliberate damage inflicted on the NRTS Co systems or networks that impairs Service delivery. For example, the unauthorised access to, or interference with, data contained in, or HA equipment connected to, NRTS Co systems and networks;
  - Availability Risks, i.e. attacks on NRTS Co systems or networks that reduce Service capacity (e.g. Denial of Service attacks);
  - Integrity Risks, i.e. intentional or unintentional actions by a person or persons that affect the integrity of data contained in NRTS Co systems or networks, or HA devices connected to them.
- 5.10.7.4 **M** The Security Policy shall identify the specific risks and the measures to be taken to minimise their likelihood.
- 5.10.7.5 **M** NRTS Co shall commission a security audit of the network, by an independent organisation acceptable to the HA, every 2 years or after a major breach of security. The cost of this security audit and of any remedial actions that arise from it shall be borne by NRTS Co. The auditor's report shall be submitted to the HA as part of the *Manage Contract* process (section 2.2).
- 5.10.7.6 **M** NRTS Co shall immediately inform the HA of any significant security breaches that occur and undertake the other actions defined by the Security Policy to be taken in this event.
- 5.10.7.7 **M** Relevant aspects of the Security Policy shall be reflected by NRTS Co in its Service Solution Specifications, System Specifications, NRTS Services Guide, Application Guidelines and other Registered Documents that are required to be developed by NRTS Co and agreed with the HA in accordance with the *Develop Registered Document* process (section 4.2).

### *User Authorisation and Access*

- 5.10.7.8 **M** NRTS Co shall be responsible for designing, developing, operating and administering all user/device validation and authorisation procedures. In particular, this shall include:
- issuing passwords and setting up user profiles for access to the NRTS Web Site;
  - access control and alarm monitoring at Transmission Stations;
  - physical access control to NRTS Co facilities, infrastructure and Assets.
- 5.10.7.9 [Not Used]
- 5.10.7.10 [Not Used]
- 5.10.7.11 **M** NRTS Co's Security Policy shall contain details of:
- A risk based methodology,
  - Any threat to roadside equipment.
- 5.10.7.12 **M** Automated remote access control is not required for existing roadside cabinets, however, this shall not negate or compromise any other requirements upon NRTS Co.

### Disaster Recovery Planning

- 5.10.8 [Not Used]

### *Disaster Recovery Plan*

- 5.10.8.1 **M** NRTS Co shall develop, agree and maintain a Disaster Recovery Plan in accordance with the *Develop Registered Document* process (section 4.2).
- 5.10.8.2 **M** NRTS Co's Disaster Recovery Plan shall lock into and coordinate with the disaster recovery plans developed (or in development) by the different police forces, HA plans with respect to the Control Office Based System and the National Motorway Communications System and with other relevant bodies.
- 5.10.8.3 **M** The Disaster Recovery Plan shall define the standby resources and facilities and actions to be taken when events occur that significantly affect NRTS Co's ability to provide the Services.
- 5.10.8.4 **M** NRTS Co shall put in place the standby resources, facilities and other measures and maintain them in the required state of readiness as defined by the Disaster Recovery Plan. These resources shall enable the Network Operations Centre staff to manage the network and provide the Services according to the Disaster Recovery Plan.
- 5.10.8.5 **M** Overall, NRTS Co's approach to Service continuity shall provide a continuum between:
- events against which the network-based Services are designed to be resilient (termed Defined Events in section 16.7 Schedule 1.1a (Statement of Requirements: Transmission Service));
  - events for which specific contingencies are put in place and actions planned under the Disaster Recovery Plan;
  - events which are considered by both parties to be so unlikely or so large in impact that the cost of contingency measures cannot be justified.

- 5.10.8.6 **M** Every 2 years, or when circumstances require (e.g. following a major incident), NRTS Co shall review with the HA and other relevant parties the Disaster Recovery Plan and, if necessary, revise and re-issue it. NRTS Co shall also implement any changes required as a result of the review to the standby facilities and resources.

### Performance

- 5.10.9 [Not Used]
- 5.10.10 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Network Management*”.

### Support

- 5.10.11 **M** NRTS Co shall provide Support for:
- All Assets (equipment and software).
  - All NRTS Co systems (including those defined in Annex B).
- 5.10.12 **M** NRTS Co Support shall include:
- Technical support, 24 hours a day, 7 days a week, via the phone or web
  - On-site engineering support and parts;
  - Remote diagnosis of problems and faults;
  - Maintenance, including patches, fixes and upgrades to latest versions;
  - Debugging hardware, where hardware cannot be exchanged-on site and software;
  - Repair, return and extended warranty including 2<sup>nd</sup> and 3<sup>rd</sup> line support;
  - one complete technical refresh i.e. replacement of the NRTS Required Systems hardware during the Contract Term as agreed with the HA.

The support package shall include hardware upgrades (e.g. new processors, extra memory) required to support the latest agreed software.

- 5.10.13 **M** NRTS Co shall agree and document in the NRTS Process Standards for “*Network Management*” and “*NRTS Systems Architecture*” in accordance with the *Develop Registered Document* process (section 4.2) detailed Key Performance Indicators for the Support of all NRTS Co equipment, software and systems.

## 5.11 Manage Aerial Sites

5.11.1 [Not Used]

<b>(M) Scope</b>	
5.11.1.1	This process covers the management and administration of all the Aerial Sites (not the Camera Mast Sites – since these are tasked by the HA).
<b>(I) Need</b>	
5.11.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.11.1.3	To ensure that the interests of the HA and road users are preserved in the delivery of the Aerial Site Service and that NRTS Co activities in respect of this Service are transparent to, and compatible with those of, the HA.
5.11.1.4	The generation of revenue through the provision of Aerial Site Services for Mobile Network Operators (MNOs) and other commercial third parties.
5.11.1.5	A NRTS Guide to the Aerial Sites Service that shall define the services, terms and conditions on which NRTS Co shall offer the Aerial Site Service to commercial customers and to what performance standards it shall operate.
5.11.1.6	A NRTS Process Standard for “ <i>Aerial Sites Management</i> ” that shall define what NRTS Co will do to carry out its obligations to the HA and to what performance standards.
<b>(M) Applicability</b>	
5.11.1.7	Aerial Site Service.
<b>(I) Related processes</b>	
5.11.1.8	[Not Used]
<b>(M) Requirements</b>	
5.11.1.9	Refer to Additional Information section below.
<b>(M) Monitoring</b>	
5.11.1.10	NRTS Co's performance shall be monitored against the service levels defined in the NRTS Process Standard for this process.
<b>(I) Frequency</b>	
5.11.1.11	[Not Used]

Table 5-11 Manage Aerial Sites Process Template

Additional Information

5.11.2 [Not Used]

5.11.3 [Not Used]

5.11.4 [Not Used]

5.11.5 **M** NRTS Co shall use MCH1967A in addition to the requirements of section 5.11 of this document to develop its *Manage Aerial Sites* processes.

*NRTS Co Responsibilities*

- 5.11.5.1 **M** In accordance with this *Manage Aerial Sites* process NRTS Co shall:
- “be responsible for” the design, installation, maintenance, repair and removal (as necessary) of all Aerial Infrastructure and Aerial Electronics installed on Highway Land and/or on Other HA Land;
  - identify potential sites for the installation of masts and possible structures for the fixing of Aerials, either in anticipation of, or in direct response to, MNO requests;
  - co-ordinate any necessary planning, environmental, technical and safety approvals;
  - contract with MNOs to provide Aerial Infrastructure and Aerial Electronics to meet MNOs reasonable requests;
  - set charges and collect payments from the MNOs in relation to the use of Aerial Infrastructure and/ Aerial Electronics.

“be responsible for” means that NRTS Co is responsible for ensuring that the design, installation, maintenance, repair and removal of Aerial Infrastructure and Aerial Electronics comply with all NRTS Co’s obligations under the NRTS Contract. NRTS Co can choose to discharge this responsibility in whatever way it thinks fit, at its risk.

### *Introduction to the Process flowcharts*

5.11.5.2 [Not Used]

5.11.5.3 [Not Used]

5.11.5.4 [Not Used]

5.11.5.5 [Not Used]

### *Site Search*

- 5.11.5.6 **M** Where necessary, NRTS Co must obtain permission for access to sites. This is in accordance with the *Access Procedures and Controls* constraint (section 3.7 Schedule 1.3 (Statement of Requirements: General Constraints)). In general, permission will be necessary. There might be some off-motorway sites, or sites not on Protected Streets, where prior permission for a site inspection is not necessary.

*Figure 5-3 [Not Used]*

### *Site Location*

5.11.5.7 [Not Used]

- 5.11.5.8 **M** NRTS Co shall be responsible for identifying any possible future HA requirement that might impact on a proposed location for an Aerial Site.

- 5.11.5.9 **M** NRTS Co shall not develop individual Aerial Sites if the HA objects and shall modify its development plans or include mitigation measures before the site is brought into service or, in *extremis*, remove the Aerial Infrastructure at an individual site, if so required by the HA.

- 5.11.5.10 **M** NRTS Co shall define and specify in accordance with the *Develop Registered Document* process (section 4.2) the sub-process by which it determines what constraints might apply to the prospective development of any particular site.

### *Environmental Assessment*

5.11.5.11 [Not Used]

- 5.11.5.12 **M** NRTS Co shall perform an Environmental Assessment of each Aerial Site to be developed on Highway Land and/or on Other HA Land. This shall be done in accordance with the HA document "The Design and Environmental Assessment of Mobile Phone Masts and Aerials on Highways Agency Land" (Appendix 5 of MCH1967A) or superseding HA requirements for an environmental assessment. The appropriate parts of the environmental assessment shall be submitted to the HA for agreement at the relevant stages in the development of an Aerial Site.

### *Outline Design*

5.11.5.13 [Not Used]

*Figure 5-4 [Not Used]*

5.11.5.14 **M** NRTS Co requires the HA's permission as landowner for site development before applying for planning permission. NRTS Co shall submit outline design proposals for the development of an Aerial Site to the HA. The design shall employ, as appropriate, certified service solutions (in accordance with the *Get Consent to Service Solution* process (section 4.3)), structures that have Type Approval Certificates (in accordance with the *Get Structural Approval* process (section 4.4)) and certified Standard Construction Details (in accordance with the *Get Consent to Standard Construction Details* process (section 4.5)).

5.11.5.15 **M** The submission of outline design proposals to the HA shall be a Hold Point Submission, Category C. NRTS Co shall not proceed to develop the Aerial Site until it has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).

5.11.5.16 [Not Used]

### *Pre-Design Stage*

5.11.5.17 **M** Before starting the detailed design work, if deemed appropriate by the first part of the Environmental Assessment, NRTS Co shall complete the relevant parts of the second part of the Environmental Assessment.

*Figure 5-5 [Not Used]*

### *Site Design*

5.11.5.18 [Not Used]

*Figure 5-6 [Not Used]*

### *Mast Approval*

5.11.5.19 **M** NRTS Co shall obtain AIP (Approval in Principle) and TAF (Technical Approval Forms – the AIP equivalent used by DBFO contractors) for structures, in accordance with the *Get Structural Approval* process (section 4.4). AIP is also required for the mast itself.

*Figure 5-7 [Not Used]*



### *Agreements*

- 5.11.5.20 **M** NRTS Co shall seek planning permission from the local authority for all Aerial Site developments, in accordance with the *Planning Approvals* constraint (section 2.10 Schedule 1.3 (Statement of Requirements: General Constraints)).

*Figure 5-8 [Not Used]*

### *Site Construction*

- 5.11.5.21 **M** NRTS Co shall locate and mark buried Assets for which it is responsible under the *Locate Buried Assets* process (section 5.7). This includes the Longitudinal Network and Local Communications Cabling. However, there can be extensive Local Communications Cabling from the Service Delivery Points to Roadside Devices that remains under the responsibility of the RMC, which the RMC will locate on NRTS Co's behalf.

*Figure 5-9 [Not Used]*

### *Method Statement*

- 5.11.5.22 [Not Used]
- 5.11.5.23 [Not Used]
- 5.11.5.24 **M** The method statement shall call up, as appropriate, certified service solutions (in accordance with the *Get Consent to Service Solution* process (section 4.3)), structures that have Type Approval Certificates (in accordance with the *Get Structural Approval* process (section 4.4)) and certified standard construction details (in accordance with the *Get Consent to Standard Construction Details* process (section 4.5)).
- 5.11.5.25 [Not Used]

### *Installation*

- 5.11.5.26 [Not Used]
- 5.11.5.27 **M** NRTS Co shall only install the Aerial Infrastructure and Aerial Electronics in accordance with the outline design, and in accordance with the method statement.

### *Handover*

- 5.11.5.28 [Not Used]

*Figure 5-10 [Not Used]*

### *Completion Certificate – Acceptance Criteria*

- 5.11.5.29 **M** An Aerial Site Completion Certificate shall certify that:
- the Aerial Infrastructure and/or Aerial Electronics has been placed generally in accordance with the outline design and the method statement;
  - equipment to be maintained by HA contractors (as set out in paragraph 2.5.27 Schedule 1.1b (Statement of Requirements: Other Services) and the Table of Responsibilities in Annex A Schedule 1.3 (Statement of Requirements: General Constraints) has been accepted by those contractors;
  - all necessary documentation and records for the site (including updates to the Predictive Asset Management System, NOMAD, SMIS and other systems) have been produced and issued.
- 5.11.5.30 **M** NRTS Co shall submit to the HA appropriate evidence that the criteria in paragraph 5.11.5.29 have been met. The HA shall have a Right of Objection, Category 2, or as agreed otherwise agreed in the Submission Plan. NRTS Co shall not be permitted to bring the Aerial Infrastructure or Aerial Electronics into service at individual Aerial Sites until it has received a Completion Certificate from the HA in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).
- 5.11.5.31 [Not Used]

### *Further Works Access to Aerial Sites*

- 5.11.5.32 **M** NRTS Co shall not carry out any further works to the Aerial Infrastructure and/or Aerial Electronics within Highway Land and/or on Other HA Land except with the prior approval of the HA contractor responsible for the highway where the Aerial Site is located.
- 5.11.5.33 [Not Used]
- 5.11.5.34 **M** For any such further works so approved, NRTS Co shall give the HA and the local Police no less than 24 hours notice of the dates and times during which those works will be carried out. It shall comply with any requirements laid down by the HA and/or the Police for the purpose of preventing danger to, or minimising interference with, traffic on the road. This shall be done in accordance with the *Traffic Management Provision* constraint and *Roadspace Bookings* constraint (section 3.2 and section 3.3 of Schedule 1.3 (Statement of Requirements: General Constraints)).
- 5.11.5.35 **M** NRTS Co shall not be permitted access from Protected Streets to any other land, unless the access is needed to connect a third party telecommunications network to the NRTS Transmission Network and then only with prior approval in writing from the HA. NRTS Co shall install an interface cabinet at the highways boundary fence line.
- 5.11.5.36 [Not Used]

Performance

- |         |          |  |
|---------|----------|--|
| 5.11.6  | <b>M</b> | NRTS Co shall in accordance with paragraph 4.2.2.42 prepare and agree with the HA a NRTS Process Standard for " <i>Aerial Sites Management</i> ".  |
| 5.11.7  | <b>M</b> | This process shall be carried out to the performance standards specified in the NRTS Process Standard for " <i>Aerial Sites Management</i> ".  |
| 5.11.8  |          | [Not Used]   |
| 5.11.9  |          | [Not Used]   |
| 5.11.10 | <b>M</b> | NRTS Co shall specify its Service Level Agreements and the services it offers to commercial customers in the NRTS Guide to the Aerial Sites Service.   |
| 5.11.11 | <b>M</b> | The NRTS Guide to the Aerial Sites Service is a Registered Document that NRTS Co is required to develop in accordance with the <i>Develop Registered Document</i> process (section 4.2). NRTS Co shall monitor and report via the <i>Manage Contract</i> process (section 2.2) its actual performance against the specified Service Levels Agreements and provide other output measures. |
| 5.11.12 |          | [Not Used]   |

## 5.12 Do Remedial Work

5.12.1 [Not Used]

<b>(M) Scope</b>	
5.12.1.1	This process covers the HA's requirements in relation to the management and execution of remedial works arising from Non-Compliances (refer to the Schedule 27 (Service Credit Regime)).
<b>(I) Need</b>	
5.12.1.2	[Not Used]
<b>(M) Output(s)/ Objective(s)</b>	
5.12.1.3	A NRTS Process Standard for " <i>Remedial Works</i> " that shall specify the outputs and performance levels by which NRTS Co will discharge its obligations under this process.
5.12.1.4	Identification of rectification work planned in response to Non-Compliances in the NRTS Forward Programme.
5.12.1.5	Rectification of non-compliances and notification of the completion of actions arising from Non-Compliances.
<b>(M) Applicability</b>	
5.12.1.6	All Services.
<b>(I) Related processes</b>	
5.12.1.7	[Not Used]
<b>(M) Requirements</b>	
5.12.1.8	Following a Non-Compliance NRTS Co shall design, plan, schedule and undertake the required remedial work at its own cost. In some cases, immediate action may be required by NRTS Co in accordance with the Preventative Action Report in order to comply with the deadline set to put in place steps to ensure that no further Non-Compliances of this type shall arise
5.12.1.9	NRTS Co shall identify and, where appropriate, incorporate remedial works into the NRTS Forward Programme. Refer to the <i>Capture Requirements and Plan</i> process (section 5.13).
5.12.1.10	In the case of a Non-Compliance Notice, NRTS Co shall advise the HA upon remedy.
5.12.1.11	NRTS Co shall keep records of the receipt and remedy of Non-Compliances in the Quality Management System.
<b>(M) Monitoring</b>	
5.12.1.12	NRTS Co's performance of this process will be monitored against the NRTS Process Standard, particularly as evidenced by the data recorded in the Quality Management System.
<b>(I) Frequency</b>	
5.12.1.13	[Not Used]

Table 5-12 Do Remedial Work Process Template

### Additional Information

5.12.2 [Not Used]

### *Non-Compliances*

5.12.2.1 **M** Following a Non-Compliance NRTS Co shall plan and execute the corrective action as specified in its Preventative Action Report in order to comply with the deadline set to put in place steps which aim to ensure that no further Non-Compliances of this type shall arise, in accordance with Schedule 27 (Service Credit Regime). If there is on-site work to be carried out and the timescales allow, NRTS Co shall schedule and coordinate the work through the NRTS Forward Programme in accordance with the *Capture Requirements and Plan* process (section 5.13).

5.12.2.2 **M** NRTS Co shall stop work if ordered to by the HA, or other HA contractors, on health and safety grounds in accordance with Clauses 20 and 21 of the Project Agreement. The HA can also require NRTS Co to stop work if NRTS Co fails to meet the requirements of a Non-Compliance Preventative Action Report.

5.12.2.3 [Not Used]

*Figure 5-11 [Not Used]*

5.12.2.4 **M** NRTS Co shall give Level 3 or above Non-Compliances highest priority, planning and carrying out the corrective actions as soon as possible and certainly within the timescales specified. If there is on-site work to be carried out, NRTS Co shall look for and manage any scheduling conflicts with other work planned in the NRTS Forward Programme in accordance with the *Capture Requirements and Plan* process (section 5.13).

### *Time to Rectify*

5.12.2.5 [Not Used]

5.12.2.6 [Not Used]

5.12.2.7 [Not Used]

5.12.2.8 [Not Used]

5.12.2.9 [Not Used]

5.12.2.10 [Not Used]

### *Reporting Obligations*

5.12.2.11 **M** NRTS Co shall notify the HA Contract Manager as soon as corrective actions arising from Non-Compliance have been completed and, where appropriate, offer them for inspection or acceptance by the HA.

5.12.2.12 [Not Used]

Performance

5.12.3 [Not Used]

5.12.4 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Remedial Works*".

## 5.13 Capture Requirements and Plan

5.13.1 [Not Used]

<b>(IM) Scope</b>	
5.13.1.1	This process covers the capture and planning of requirements by NRTS Co, outline design activities and inclusion in the NRTS Forward Programme. NRTS Co shall take account of contractual interfaces that will be affected.
<b>(I) Need</b>	
5.13.1.2	[Not Used]
5.13.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
5.13.1.4	A NRTS Process Standard for “ <i>Requirements Capture and Planning</i> ” that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
5.13.1.5	Service requirements and works plans incorporated into the NRTS Forward Programme.
5.13.1.6	Outline design documents and plans.
5.13.1.7	Task Authorisation forms for approval by the HA.
<b>(M) Applicability</b>	
5.13.1.8	Transmission Service, Camera Mast Service and all other NRTS Co activities required under the NRTS Contract involving roadside work.
<b>(I) Related processes</b>	
5.13.1.9	[Not Used]
<b>(M) Requirements</b>	
5.13.1.10	See Additional Information section below.
<b>(M) Monitoring</b>	
5.13.1.11	NRTS Co's performance shall be monitored against the NRTS Process Standard via the reports and records accessible to the HA through the NRTS Web Site and via feedback from the HA and Interfacing Organisations.
<b>(I) Frequency</b>	
5.13.1.12	[Not Used]

Table 5-13 Capture Requirements and Plan Process Template

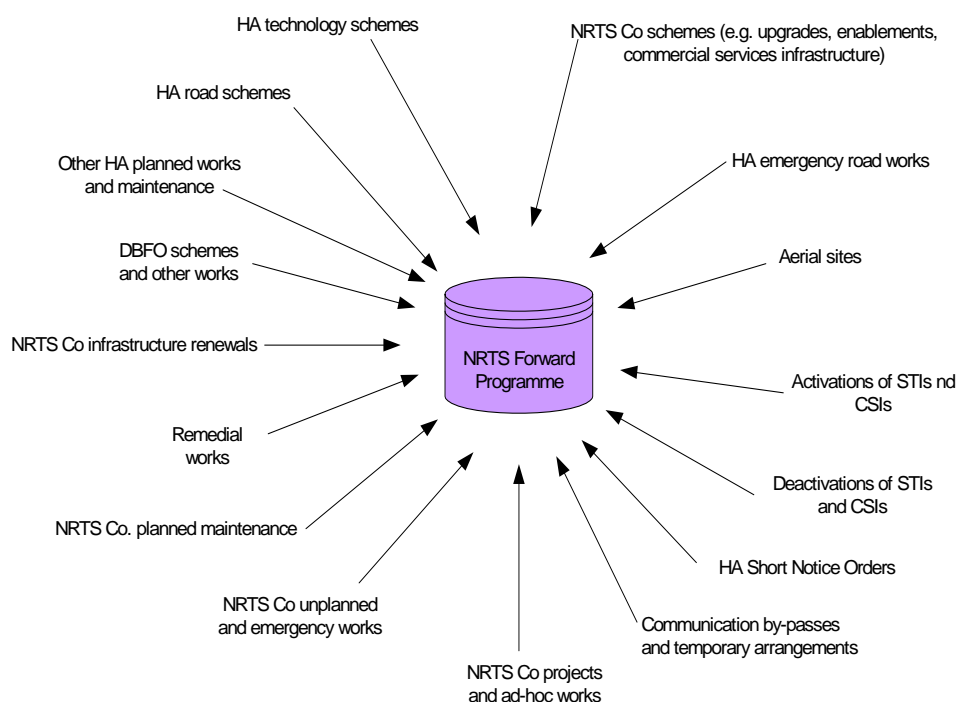
### Additional Information

- 5.13.2 **M** NRTS Co shall produce and agree, in accordance with the *Develop Registered Document* process (section 4.2) a Process Standard for “*Requirements Capture and Planning*”. This standard shall include the requirements of this section and address the points listed in Annex C.
- 5.13.3 [Not Used]
- 5.13.4 [Not Used]
- 5.13.5 [Not Used]

*NRTS Forward Programme*

- 5.13.5.1 **M** The NRTS Forward Programme shall be a works schedule and forward order book for Transmission Service Type Instances or Camera Site Instances. It shall be used to record and plan all future on-site work over a time horizon that extends over all the remaining years of the Contract Term. It shall also provide a historic works record in accordance with paragraph 5.13.5.3.
- 5.13.5.2 **M** The NRTS Forward Programme shall be a database system that is accessible to HA users, and other users designated by the HA, via the NRTS Web Site.
- 5.13.5.3 **M** NRTS Co shall design, develop and maintain the NRTS Forward Programme. This shall record all future works requirements, and maintain records of past works on-line for at least 3 years. It shall provide planning and reporting tools appropriate to its intended use.
- 5.13.5.4 **M** NRTS Co shall establish the interim NRTS Forward Programme (scope as defined in the Execution Date PS-DS025 and PS-DS033) by the Execution Date.
- 5.13.5.5 [Not Used]
- 5.13.5.6 **M** NRTS Co shall also develop and manage sub-programmes for NRTS Co works within specific HA schemes and other major projects. These sub-programmes shall be recorded and integrated in the NRTS Forward Programme so that changes affecting one are immediately reflected in the other (where relevant).
- 5.13.5.7 **M** The NRTS Forward Programme shall record all known requirements for future works, captured through proactive liaison and co-ordination with the Interfacing Organisations at an appropriate level and frequency.
- 5.13.5.8 **M** The NRTS Forward Programme shall be, at minimum, sufficiently integrated with the Planned Maintenance Schedule to enable planned maintenance activities automatically to be incorporated in the overall NRTS Co works programme and coordinated with other scheduled activities.
- 5.13.5.9 **M** Figure 5-12 indicates the range of inputs about future requirements that the NRTS Forward Programme shall as a minimum record.
- 5.13.5.10 **M** Annex B provides further general information and requirements relating to NRTS Required Systems.





*Figure 5-12 Inputs to the NRTS Forward Programme*

- 5.13.5.11 **M** NRTS Co shall regularly update the NRTS Forward Programme so that it co-ordinates with, and accurately reflects, both HA and NRTS Co works programmes.

#### *Capturing Requirements and Planning in the Context of HA Schemes*

5.13.5.12 [Not Used]

5.13.5.13 [Not Used]

5.13.5.14 [Not Used]

#### *Planned Works and Activities*

5.13.5.15 [Not Used]

#### *Other Proposed Works*

5.13.5.16 [Not Used]

### *Unplanned and Emergency Works*

- 5.13.5.17 [Not Used]
- 5.13.5.18 **M** NRTS Co shall enter unplanned and emergency works into, and shall update, the NRTS Forward Programme to assess and accommodate the impact of these occurrences on other works.
- 5.13.5.19 **M** NRTS Co shall agree with the HA the foreseeable situations and the procedures by which other affected parties shall be notified. This shall be part of the Operational Procedures to be agreed with Interfacing Organisations in accordance with the *Develop Registered Document* process (section 4.2). These procedures shall also reflect the requirements of NRTS Co's Security Policy, particularly with regard to risk identification and mitigation.

### *Approvals and Consents*

- 5.13.5.20 **M** NRTS Co shall give due consideration to the scheduling of all activities requiring planning, environmental or other consents from any Interfacing Organisation insofar as they impact on the delivery of the Services. These represent key dates and milestones that NRTS Co shall accommodate in its planning process. Recognising that NRTS Co's timescales are dependent on the Interfacing Organisation, NRTS Co shall aim to minimise any impact on the timing of the delivery of Services to the HA.

### The Capture Requirements and Plan Process

- 5.13.6 **M** The first stage and general activity of this process shall be on-going liaison with the Interfacing Organisations to identify and establish requirements. These requirements can have four main consequences for NRTS Co:
- Service Type/Camera Site Instances need to be changed, added or removed, i.e. the requirements will have an impact on the totality of Services listed in the Service Schedule;
  - Telecommunications Bypasses and other temporary arrangements need to be designed, planned and installed because the Service delivery infrastructure will be disrupted;
  - the NRTS Transmission Network in a particular area needs to be upgraded to meet future HA transmission requirements;
  - NRTS Co activities will be disrupted in some way as a result of the operations of Interfacing Organisations.
- 5.13.7 [Not Used]

### Outline Design

- 5.13.8 **M** NRTS Co shall undertake the outline design activities for all new Transmission Service Type Instances, Camera Site Instances and Standard Price items (such as Regrading and Telecommunications Bypasses) as part of this *Capture Requirements and Plan* process.
- 5.13.9 **M** NRTS Co shall produce an overall budgetary price for the outline design in accordance with Part 4 Schedule 30 (Payment Mechanism) using Standard Prices.
- 5.13.10 **M** The outline design shall include as a minimum;
- Number and type of Service Instances;
  - Approximate location of Service Instances including any ducts that are required;
  - Which Standard Construction Details apply and whether any departures will be required;
  - Project plan.
- 5.13.11 **M** If the outline design activity reveals the need for any departures from standards, NRTS Co shall identify, propose and gain approval for them in accordance with the requirements specified in paragraphs 6.3.3.8 and 6.3.3.9.
- 5.13.12 [Not Used]
- 5.13.13 **M** As soon as individual Instances of Services are identified in the NRTS Forward Programme (as part of planned works), they shall be defined as having the status "Identified" according to Figure 6-1. It shall be possible to produce a report from the NRTS Forward Programme listing all "Identified" Instances and their estimated Provisioning and Activation dates.
- 5.13.14 **M** NRTS Co shall apply the Service Provisioning Capabilities (SPC) Rules to any Transmission Service Type Instances that have been "Identified" in accordance with the sub-process defined in Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service), using the SPC tracking system set up in accordance with the *Manage Network* process (section 5.10).
- 5.13.15 **M** If as a result of applying the SPC Rules, or the HA's direct request, the Enablement or Regrading Notice Period applies NRTS Co shall immediately notify the HA of this fact by preparing a Task Authorisation for the Enablement or Regrading. The HA shall confirm whether and when it wishes to trigger the start of the relevant Notice Period (normally straight away) and will authorise or reject the Task Authorisation accordingly. If for the Enablement or Regrading in accordance with section 2.5 Schedule 1.3 (Statement of Requirements: General Constraints) a new or upgraded power supply or supplies from the Regional Electricity Company to the boundary fence is/are required, then NRTS Co shall include notification of this requirement and an indication of its cost in the Task Authorisation.

### Other Stages

- 5.13.16 **M** NRTS Co shall prepare and submit to the HA a Task Authorisation specifying, for all Service Instances, the Service Type or Camera Site Type, the Task to be carried out (Design, Provisioning, Activation, etc. as described in the *Tasking Processes* (section 6)), the associated timing of the Task and its precise location. The Task Authorisation shall also include any required Regrading, Enablements, and other Standard Price items changed since, or not covered by, earlier stages.
- 5.13.17 [Not Used]
- 5.13.18 [Not Used]
- 5.13.19 **M** If the Task Authorisation relates to a Design Task or Tasks, NRTS Co shall include preliminary specifications of any additional requirements such as Telecommunications Bypasses or other temporary arrangements, and other Standard Price items associated with the scheme. NRTS Co shall also specify a deadline by which the Design Task(s) shall be completed (at its risk). Note: such deadline can be changed with the agreement of the HA.
- 5.13.20 **M** The deadline shall be discussed by NRTS Co with the scheme manager and the HA. Where the required STIs and/or CSIs are not associated with a scheme, the timescales shall be as discussed with the main site possessor, e.g. the Police, or maintenance contractor as appropriate and shall take into account their operating needs and constraints, provided that any change to the timescales shall require the prior consent of the HA.
- 5.13.21 [Not Used]
- 5.13.22 [Not Used]
- 5.13.23 **M** If a Task Authorisation for “Identified” Instances that are to be Designed is approved by the HA, then the status of the Instances shall be changed to “Ordered”, refer to Figure 6-1. NRTS Co shall transfer information about the Instances to the Service Schedule from where their future state shall be tracked (because subsequent changes to the Instances will be linked to Standard Price payments for Tasks).
- 5.13.24 **M** NRTS Co shall plan, schedule and monitor through the NRTS Forward Programme all works which it has initiated or will initiate, including:
- planned maintenance;
  - works related to commercial third party services;
  - works related to Enablement or Regrading of an area to meet future HA Service requirements;
  - works relating to NRTS Transmission Network renewals;
  - other renewals of Assets used by NRTS Co in its provision of the NRTS Services;
  - NRTS Co must also take account of the HA's obligations to provide roadside communications facilities to other Interfacing Organisations, and the activities of these Interfacing Organisations themselves.

- 5.13.25 **M** NRTS Co shall monitor and produce regular reports for the HA from the Service Schedule of Instances which are in the “Deactivated” or “Provisioned” state and have been for some months. This is to establish whether the HA requires further Tasks in respect of these Instances either to Activate them or Remove them. NRTS Co shall explicitly notify the HA of any Instances in the “Provisioned” or “Deactivated” state that are within 6 months of the end of the time limit by which they can be (re)Activated without incurring a longer notice period, refer to paragraph 6.5.12.9.

#### *Redundant assets*

- 5.13.25.1 [Not Used]
- 5.13.25.2 **M** NRTS Co shall maintain the records of redundant Assets and Redundant Infrastructure in the Predictive Asset Management System. NRTS Co shall prepare reports of these Assets and Redundant Infrastructure and they shall be reviewed periodically by NRTS Co and the HA. The HA shall, from time-to-time, require that such Assets and infrastructure, which it has confirmed shall not be required in future, shall be removed by NRTS Co in accordance with Clause 15 of the Project Agreement (Removal of Assets and Equipment). This is separate, and in addition to, Service Instances and their associated local infrastructure that the HA may order NRTS Co to remove under the *Remove Service* process (section 6.7).
- 5.13.25.3 **M** When NRTS Co plans its own infrastructure renewals work (such as the replacement of cables that are life-expired) as part of its planned maintenance programme, it shall also plan and undertake the removal of the old, replaced, infrastructure.

#### Performance

- 5.13.26 [Not Used]
- 5.13.27 [Not Used]
- 5.13.28 [Not Used]
- 5.13.29 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Requirements Capture and Planning*”.
- 5.13.30 **M** NRTS Co shall report all changes to the NRTS Forward Programme that have occurred in the last month in accordance with the *Manage Contract* process (section 2.2).
- 5.13.31 **M** NRTS Co shall develop and maintain Operational Procedures, Agreements and Technical Interfaces for all Interfacing Organisations in accordance with the *Develop Registered Document* process (section 4.2) and Annex D.

## 6 TASKING PROCESSES

### 6.1 Introduction

#### General

- 6.1.1 [Not Used]
- 6.1.2 [Not Used]
- 6.1.3 **M** *Tasking* Processes are concerned with changes in the volume of Services provided, (e.g. additions and removals of Transmission Service Type Instances or Camera Site Instances), and changes in the status of Instances, (e.g. switching them “on” (Activating) or “off” (Deactivating)). Tasking Process are also concerned with other Call-Off items for which Standard Prices apply.
- 6.1.4 **M** A Task is a defined activity that can be ordered by the Highways Agency which include Design, Provisioning, Activation, Conversion, Deactivation and Removal and certain associated activities such as Enablement and Regrading. A Task shall be authorised by way of a written order issued by the HA known as a Task Authorisation.
- 6.1.5 **M** NRTS Co shall produce and agree, in accordance with the *Develop Registered Document* process (section 4.2) Process Standards for each of the *Tasking* Processes. These standards shall include the requirements of section 6 and address the points listed in Annex C.
- 6.1.6 [Not Used]
- 6.1.7 [Not Used]
- 6.1.8 [Not Used]

#### Possession of the Site or Road

- 6.1.9 [Not Used]
- 6.1.10 [Not Used]
- 6.1.11 [Not Used]
- 6.1.12 [Not Used]
- 6.1.13 [Not Used]

#### The Life-Cycle States of a Service Instance

- 6.1.14 [Not Used]
- 6.1.15 [Not Used]

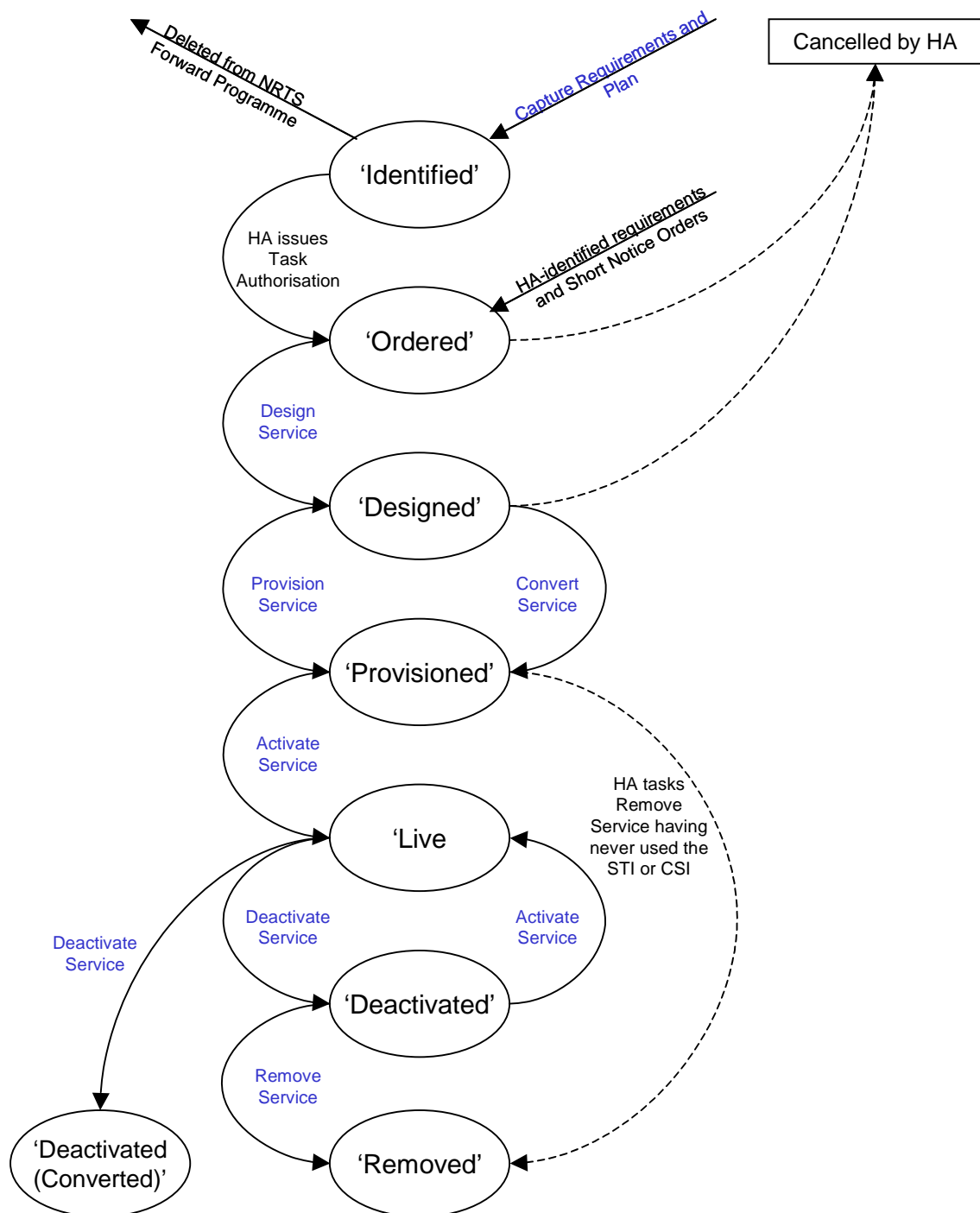


Figure 6-1 Service Instance State Transition Diagram

6.1.16 **M** The definition of the different states that a Service Instance can take shall be as shown in Figure 6-1. In the ensuing text the STI/CSI states are specified in “inverted commas” to differentiate them from the Tasks with which they are associated. For example, when a “Provisioned” STI is Activated it becomes “Live”.

6.1.17 [Not Used]

6.1.18 [Not Used]

- 6.1.19 **M** NRTS Co shall track the state of Service Instances from the moment they have been “Ordered”, using the Service Schedule. NRTS Co shall also maintain the history of status changes for each Service Instance using this system.

### Process Overview

- 6.1.20 **M** A diagrammatic representation of the relationship between the *Tasking* Processes and other NRTS Processes is shown in Figure 6-2. The ellipses show the stage payments for which the HA becomes liable.

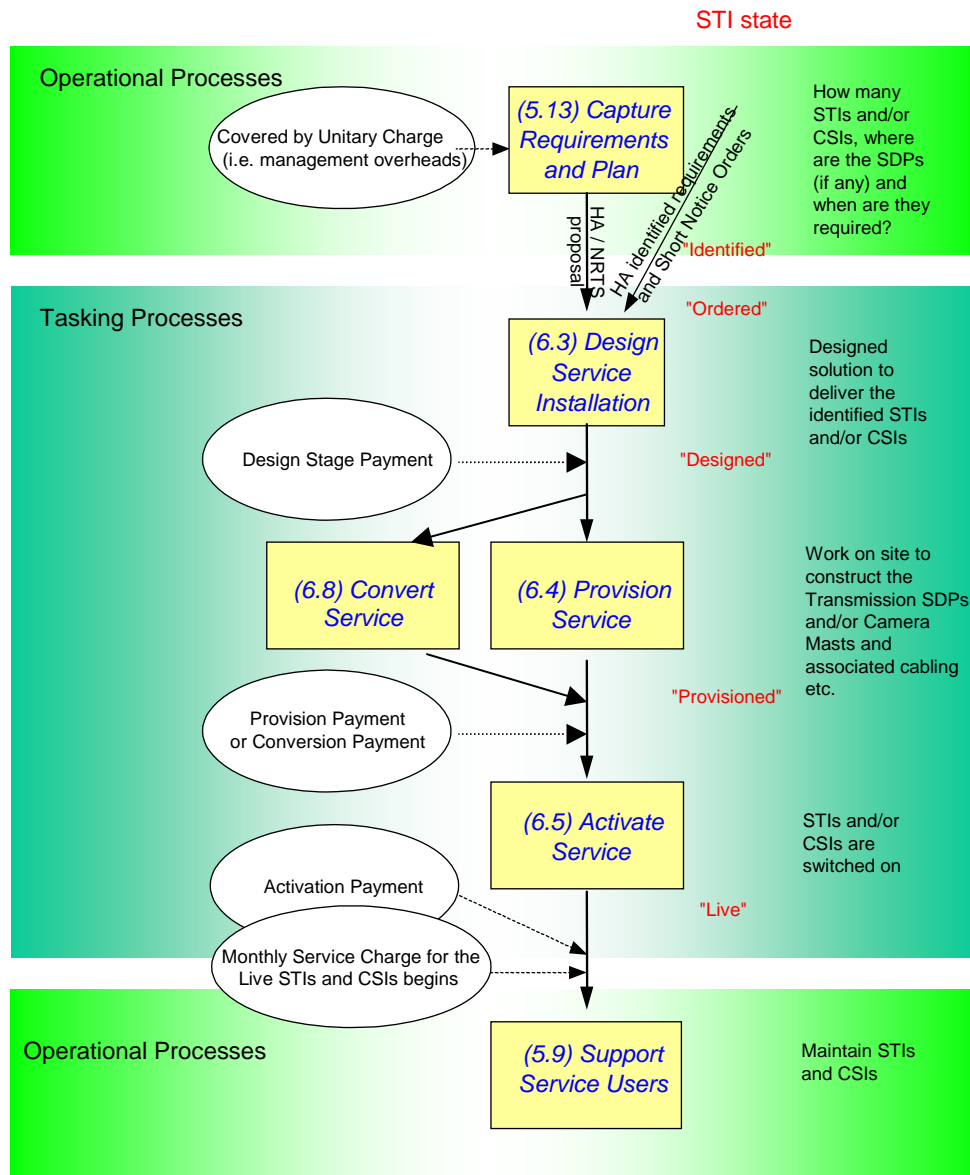


Figure 6-2 Relationship between the Operational and Tasking Processes



## 6.2 NRTS Co Processes in the Context of HA Schemes

### General

6.2.1 [Not Used]

6.2.2 [Not Used]

6.2.3 [Not Used]

6.2.4 **M** NRTS Co shall develop and agree with the HA, a NRTS Process Standard for “*Service Provisioning (Schemes and Works)*” – see also paragraph 4.2.2.42. This shall identify the division of responsibilities for foreseeable scenarios for infrastructure and Service Provision during schemes and small works and shall take into account possession of, and responsibility for, the highway and construction sites. It shall also take account of the contractual relationships and responsibilities of NRTS Co and parties working on behalf of the HA.

6.2.5 [Not Used]

### The Impact of Schemes on NRTS Co

6.2.6 [Not Used]

6.2.7 [Not Used]

6.2.8 [Not Used]

*Table 6-1 [Not Used]*

6.2.9 [Not Used]

### The Need for NRTS Co to Integrate its Activities into those of the Schemes

6.2.10 [Not Used]

6.2.11 [Not Used]

6.2.12 [Not Used]

### The Need for Third Parties to Execute Civil Works on NRTS Co's Behalf

6.2.13 [Not Used]

6.2.14 [Not Used]

6.2.15 [Not Used]

6.2.16 [Not Used]

6.2.17 [Not Used]

NRTS Co Early Involvement in Schemes

6.2.18	[Not Used]
6.2.19	[Not Used]
6.2.20	[Not Used]
6.2.21	[Not Used]

NRTS Design of Technical Solution

6.2.22	[Not Used]
6.2.23	[Not Used]
6.2.24	[Not Used]
6.2.25	[Not Used]

Construction of Civil Infrastructure

6.2.26	[Not Used]
6.2.27	[Not Used]
6.2.28	[Not Used]

Installation of Power Cable Network

6.2.29	[Not Used]
6.2.30	[Not Used]
6.2.31	[Not Used]
6.2.32	[Not Used]

Installation of NRTS Co Assets

6.2.33	[Not Used]
6.2.34	[Not Used]
6.2.35	[Not Used]

Testing the STIs and/or CSIs

6.2.36	[Not Used]
6.2.37	[Not Used]
6.2.38	[Not Used]

Switching “On” the STIs and/or CSIs

6.2.39 [Not Used]

6.2.40 [Not Used]

An Overview of the Whole Supply Cycle for STIs

6.2.41 [Not Used]

6.2.42 [Not Used]

6.2.43 [Not Used]

6.2.44 [Not Used]

6.2.45 **M** Figure 6-3 is a flow chart that shows the whole HA scheme life-cycle and the associated NRTS Processes by which Transmission STIs are supplied as part of the scheme. Activities performed by the HA’s scheme contractor(s) are shown on the left hand side of the diagram, where numbered boxes (e.g. “(4) Decision Report”) are described further in Table 6-2. NRTS Co’s activities are shown on the right hand side.

6.2.46 [Not Used]

6.2.47 [Not Used]

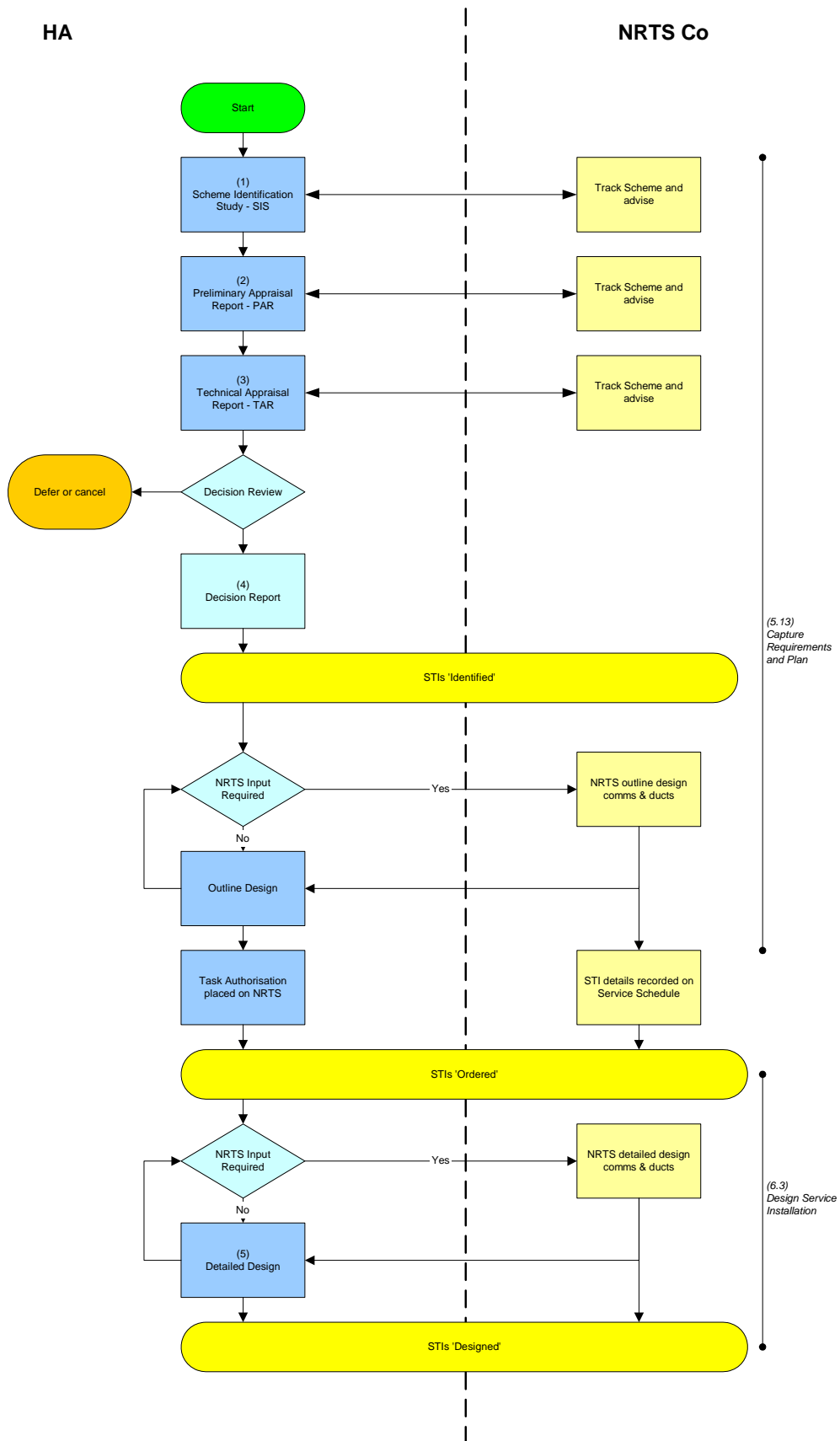


Figure 6-3 Overview of HA Schemes and the Supply of STIs by NRTS Co – Part 1 of 2

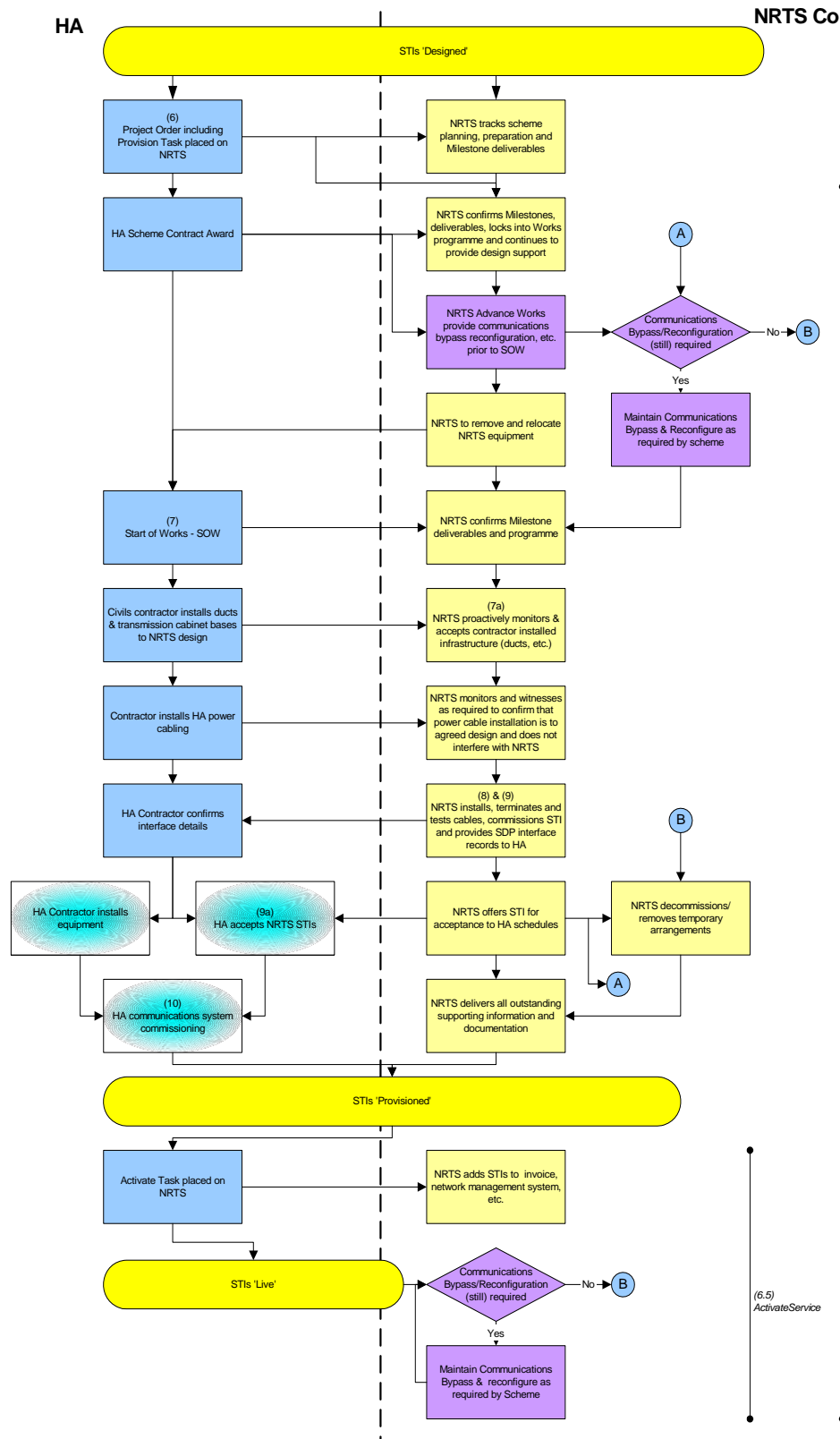


Figure 6-3 Overview of HA Schemes and the Supply of STIs by NRTS Co – Part 2 of 2

6.2.48 **M** Table 6-2 provides a commentary on the main stages, as far as telecommunications are concerned, of the HA scheme process<sup>2</sup> and what, in summary, NRTS Co's involvement shall be. The "Item" numbers refer to the numbered boxes on Figure 6-3.

6.2.49 [Not Used]

Item	Stage	Comments	NRTS Co Involvement
1	Scheme Identification Study (SIS)	This is part of the <i>Capture Requirements and Plan</i> process (section 5.13) paid for under the Base Service Charge.	NRTS Co identifies and tracks the progress of the potential scheme. NRTS Co provides input to SIS, as required. NRTS Co identifies the high-level Service requirements to support the scheme and its impact on the NRTS Transmission Network.
2	Preliminary Appraisal Report (PAR)	This is part of the <i>Capture Requirements and Plan</i> process (section 5.13) paid for under the Base Service Charge.	NRTS Co identifies and tracks the potential requirements and progress of the scheme. NRTS Co identifies the high-level Service requirements to support the scheme and its impact on the NRTS Transmission Network.
3	Technical Appraisal Report (TAR)	This is part of the <i>Capture Requirements and Plan</i> process (section 5.13) paid for under the Base Service Charge.	NRTS Co identifies and tracks scheme requirements and progress. NRTS Co provides input to TAR, as required. NRTS Co refines the high-level Service requirements to support the Scheme and its impact on the NRTS Transmission Network.
4	Decision Report	This is part of the <i>Capture Requirements and Plan</i> process (section 5.13) paid for under the Base Service Charge.	NRTS Co tracks scheme progress and prepares to react to the Decision Report.
5	Detailed Design	Can take 6 months to 1 year. Designer, HA Framework Contractor and NRTS Co work together. HA identifies potential Service requirements, including preliminary works and long notification requirements.	Design is an iterative process between the HA and the HA's Designer, the scheme contractor and NRTS Co. Design responsibilities are inter-related. NRTS Co identifies its infrastructure requirements in response to HA preliminary requirements for Services, which are driven by the location of roadside devices and electricity supply locations. NRTS Co continues to track the scheme and notes the potential impact of Service requirements.

<sup>2</sup> Road construction schemes can have a much longer life cycle of perhaps 10 to 15 years from consultation to opening. Detailed communications requirements are identified relatively late in this time period when the construction scheme locks into the stages shown in Table 6-2. NRTS Co should be aware for many years, therefore, that a road construction scheme is coming that will have requirements for NRTS Services from the regular liaison and monitoring of HA forward programmes that it carries out in accordance with the *Capture Requirements and Plan* process (section 5.13).

Item	Stage	Comments	NRTS Co Involvement
6	Project Order	Designer, HA Framework Contractor and NRTS Co work together. HA orders the Service Instances to be Provisioned.	NRTS Co confirms and agrees requirements and deliverables for planning and programming, ordering of Services and milestones as part of the process.
7	Start of Works (SOW)		NRTS Co proactively monitors and responds to milestones and deliverables in the Works Programme.
7a	Witnessing and acceptance by NRTS Co of items installed for NRTS Co by HA scheme contractor	HA accepts from contractor only when NRTS Co accepts.	NRTS Co to track and respond to contractor programme.
8	NRTS Co installs NRTS Co telecommunications infrastructure	Accepted Services typically required 8 weeks before opening.	NRTS Co to track and respond to contractor programme. NRTS Co carries out installation and testing work on its cables and equipment.
9	NRTS Co commissions NRTS Co infrastructure and Services	Tests required to measure the performance of each Service.	NRTS Co to track and respond to contractor programme.
9a	HA acceptance of NRTS Co STIs	Acceptance tests included in NRTS Process Standard for "Service Provisioning (Schemes and Works)".	NRTS Co carries out acceptance tests that may be witnessed by the HA
10	Roadside Devices installed, connected and Activated	Contract to install devices (framework contracts).	NRTS Co facilitates HA testing and commissioning of end devices.

*Table 6-2 HA Scheme Stages Summarising NRTS Co Involvement*

### Principal Responsibilities

6.2.50 [Not Used]

## 6.3 Design Service Installation

### 6.3.1 [Not Used]

<b>(M) Scope</b>	
6.3.1.1	This process covers the design of the installation of Transmission Service Type (STIs) or Camera Site (CSIs) Instances that have been Ordered. It does not deal with the design of new service solutions or new Service Types (this activity is covered by the <i>Get Consent to Service Solution</i> process in section 4.3).
<b>(I) Need</b>	
6.3.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
6.3.1.3	A NRTS Process Standard for " <i>Installation Design</i> " that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.3.1.4	The communications and civil infrastructure design for the work to be carried out by the scheme contractor (if applicable) on behalf of NRTS Co as well as the detailed design for the installation work that NRTS Co is responsible for carrying out itself as part of the scheme (or standalone works). The design documentation shall include As-built Drawings (refer to section 4.2.2.77).
6.3.1.5	A plan for the installation of the designed solution that locks into the overall plans for the scheme or standalone works.
6.3.1.6	A plan for any Telecommunications Bypass or temporary arrangements that may be required to maintain the continuity of the Transmission Service while the works are undertaken.
6.3.1.7	The state for each STI and/or CSI shall be changed from "Ordered" to "Designed" in the Service Schedule when the HA has confirmed that the detailed design phase for the scheme is complete.
<b>(M) Applicability</b>	
6.3.1.8	Transmission Service and Camera Mast Service.
<b>(I) Related processes</b>	
6.3.1.9	[Not Used]
<b>(M) Requirements</b>	
6.3.1.10	This process is started by the receipt of a Task Authorisation from the HA which specifies the new STIs and/or CSIs to be delivered (and/or converted from some types of existing STIs <sup>3</sup> ). NRTS Co shall develop a detailed design for the communications and power distribution networks, equipment, and other transmission changes that will be required to deliver the STIs/CSIs. Typically, these will be a mix of Transmission Service Types and, possibly, some Camera Masts which are needed as part of a road scheme, but single standalone STIs or CSIs are also sometimes required by the HA for roadside devices or for Centre-to-Centre Service Types, for example.
6.3.1.11	The HA can also issue a Task Authorisation which is a Short Notice Order for STIs/CSIs (see paragraphs 6.4.15.23 to 6.4.15.26). This may happen occasionally when the HA has an urgent need for new STIs/CSIs which NRTS Co will not have had prior knowledge of via the <i>Capture Requirements and Plan</i> process (section 5.13).
6.3.1.12	NRTS Co shall base the detailed designs on the Certified Service Solutions, Certified Type Approval Specifications and Certified Standard Construction Details that NRTS Co has previously obtained in accordance with the <i>Get Consent to Service Solution</i> process (section 4.3), <i>Get Structural Approval</i> process (section 4.4) and <i>Get Consent to Standard Construction Details</i> process (section 4.5).

<sup>3</sup> See the *Convert Service* process description in section 6.8 for details.



<b>(M) Requirements (Continued)</b>	
6.3.1.13	NRTS Co shall develop a programme for the delivery of the STIs/CSIs that locks into the schedule of the scheme for which the STIs/CSIs are required (if applicable) or the operational schedules and constraints of the maintenance contractor, site possessor (e.g. the Police for an STI being delivered into a Control Office) or other Interfacing Organisation as appropriate. The key dates of this programme shall be recorded in the NRTS Forward Programme; refer to the <i>Capture Requirements and Plan</i> process (section 5.13).
6.3.1.14	NRTS Co shall develop a plan for any Telecommunications Bypass or temporary arrangements that will be required to maintain the continuity of the Transmission Service when the works proceed.
6.3.1.15	When the HA has confirmed that it is satisfied that the detailed design is complete, NRTS Co shall submit to the HA all designs, plans and records as necessary resulting from the detailed design process, and record in the Service Schedule the state of the STIs/CSIs specified in the Task Authorisation as "Designed".
6.3.1.16	The HA shall then be liable for a stage payment for the design work; in accordance with Schedule 30 (Payment Mechanism).
<b>(M) Monitoring</b>	
6.3.1.17	The detailed design process for schemes will involve daily interaction between NRTS Co and the overall scheme designer. NRTS Co's progress shall be monitored against the scheme timetable and reported by exception through the <i>Manage Contract</i> process (section 2.2).
6.3.1.18	The process results in defined outputs (refer to above) that shall be assessed for quality and accepted or rejected by the HA (with advice, where appropriate, from the scheme designer).
6.3.1.19	NRTS Co's performance of this process shall be assessed against the levels specified in the NRTS Process Standard for " <i>Installation Design</i> ".
<b>(I) Frequency</b>	
6.3.1.20	[Not Used]

Table 6-3 Design Service Installation Process Template

**Additional Information**

6.3.2 [Not Used]

6.3.3 **M** NRTS Co shall ensure that the design process for a major scheme shall be an iterative process primarily between NRTS Co, the HA and the scheme designer, and where necessary consult other Interfacing Organisations as required.

**Structures**

6.3.3.1 **M** NRTS Co shall seek Approval In Principle (AIP) for all structures and fixings it wants to use in installing the STIs; refer to the *Get Structural Approval* process (section 4.4).

6.3.3.2 **M** NRTS Co shall submit completed AIP forms for each site, where necessary, to the Technical Approval Authority along with relevant site-specific information. This shall include details of the location and the condition of the ground or existing structure on which it is to be based as well as a reference to the Type Approval Certificate(s) for the generic structures and fixings to be used at the site.

6.3.3.3 **M** NRTS Co shall only commence on-site work, i.e. Provisioning or Conversion, where a structure is required, after receiving AIP, or agreement from the HA that AIP is not required for the use of a particular structure at the specified location.

6.3.3.4 [Not Used]

*Other information*

6.3.3.5 **M** The detailed designs prepared by NRTS Co shall also reference the certified Standard Construction Details, refer to the *Get Consent to Standard Construction Details* process (section 4.5) and, also the Certified Service Solution(s), refer to the *Get Consent to Service Solution* process (section 4.3) on which they are based.

6.3.3.6 [Not Used]

6.3.3.7 [Not Used]

6.3.3.8 **M** The HA procedure, the Departure Approvals System (DAS), for handling departures is described in the document 'Departure Submission Form and Guidance' contract 2/349. See also Annex C.2.3. NRTS Co shall follow the HA procedure for seeking approval for any proposed departures from HA standards (such as the Manual for Contract Documents for Highways Works).

6.3.3.9 **M** NRTS Co shall establish, maintain and operate an equivalent procedure to identify, record, track and process departure submissions seeking approval from the HA for departures from NRTS Co Standards.

6.3.3.10 **M** NRTS Co shall review in accordance with the SPC Rules Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service) the specification and plans for any Designated Links and Standard Priced items required to be able to Provision or Convert the STIs that may have been identified in the Design Task Authorisation at the outline design stage under the *Capture Requirements and Plan* process (section 5.13).

6.3.3.11 **M** NRTS Co has overall responsibility for the management of duct space and cable allocations in accordance with the *Manage Duct Space* process (section 5.8). NRTS Co shall carry out the detailed design for all longitudinal and local ducting for both telecommunications cabling and associated power cabling as part of its overall design task.

6.3.3.12 [Not Used]

6.3.3.13 [Not Used]

*Figure 6-4 [Not Used]*

6.3.3.14 [Not Used]

6.3.3.15 **M** For Camera Site Instances, the HA (or the CCTV scheme consultant) shall retain responsibility for identifying the location of the site (section 4.5 Schedule 1.1b (Statement of Requirements: Other Services)). When the HA has identified a site, the Site Type shall be noted in the Task Authorisation.

6.3.3.16 [Not Used]

6.3.3.17 **M** The HA can notify NRTS Co that a set of "Designed" Instances is to be cancelled (because there is no longer any prospect of the scheme going ahead – it may have been superseded, for example). NRTS Co shall delete the relevant STI and/or CSI records from the Service Schedule.

- 6.3.3.18 **M** Within schemes NRTS Co shall give at least 6 weeks notice of a request for access to geotechnical data, duct proving survey data, Environmental Reports and the preliminary design of the works to the HA. The HA will not unreasonably withhold access to the requested data if it is available at the time of request. Note: the HA has no obligation to provide any such information. NRTS Co shall be responsible for obtaining the information requested from the relevant parties i.e. not via the HA.

### Performance

- 6.3.4 [Not Used]
- 6.3.5 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Installation Design*".
- 6.3.6 **M** The timescales to which NRTS Co shall undertake this process shall be as required to complement the timetable and schedules of the associated scheme and as agreed with the scheme designer and the HA.
- 6.3.7 **M** NRTS Co shall perform the Design Task within the deadline agreed with the HA and specified in the Task Authorisation prepared by NRTS Co as a result of the outline design work carried out under the *Capture Requirements and Plan* process (section 5.13).
- 6.3.8 [Not Used]
- 6.3.9 **M** NRTS Co may also be required to carry out this *Design Service Installation* process under a Short Notice Order. In this case, NRTS Co shall undertake this process and the associated *Provision Service* process activities (section 6.4) within whatever timescales are specified.
- 6.3.10 **M** NRTS Co shall be subject to Schedule 27 (Service Credit Regime) in respect of late delivery (according to the agreed timescales) or non-delivery of the detailed design and failure correctly to maintain the STI and CSI status on the Service Schedule.

## 6.4 Provision Service

### 6.4.1 [Not Used]

<b>(M) Scope</b>	
6.4.1.1	The process of Provisioning one or more new Transmission Service Type Instances and/or Camera Site Instances.
<b>(I) Need</b>	
6.4.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
6.4.1.3	A NRTS Process Standard for “ <i>Service Provisioning (Schemes and Works)</i> ” that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.4.1.4	The physically built and tested new STIs and/or CSIs as specified in the original Task Authorisation issued by the HA.
6.4.1.5	The state for each STI and/or CSI is changed to “Provisioned” in the Service Schedule following acceptance testing when the HA has accepted the STIs/CSIs that NRTS Co has Provisioned.
<b>(M) Applicability</b>	
6.4.1.6	Transmission Service and Camera Mast Service.
<b>(I) Related processes</b>	
6.4.1.7	[Not Used]
<b>(M) Requirements</b>	
6.4.1.8	A one-off requirement on NRTS Co is to produce a NRTS Process Standard for “ <i>Service Provisioning (Schemes and Works)</i> ” to detail procedures, processes, responsibilities and milestones relating to NRTS Co's role in STI and CSI provisioning both in the context of schemes and standalone works. NRTS Co shall also define the acceptance procedures to be used for provisioned STIs and CSIs.
6.4.1.9	The HA will issue a Task Authorisation for Provisioning of the STIs and/or CSIs in a scheme, typically when the HA has obtained a Project Order for the scheme (since this is the point at which funds for the scheme are confirmed). Refer to item 6 in Table 6-2. This is the event by which NRTS Co shall start the <i>Provision Service</i> process (section 6.4).
6.4.1.10	NRTS Co shall update and maintain its programme plan for the works required to provision the STIs/CSIs within the context of the scheme or standalone works, as initially developed by NRTS Co during the <i>Design Service Installation</i> process (section 6.3).
6.4.1.11	NRTS Co shall continue to provide design support, updating and maintaining the detailed designs it prepared initially during the <i>Design Service Installation</i> process (section 6.3). Changes in the quantity or type of STIs shall be the subject of new Task Authorisations.
6.4.1.12	NRTS Co shall update its plans for any Telecommunications Bypasses and temporary arrangements required during the scheme works, and design in detail how they will be achieved. The scheduling, installation and maintenance of the bypasses and other arrangements shall be done in accordance with the <i>Maintain Service Continuity</i> process (section 5.3).

<b>(M) Requirements (Continued)</b>	
6.4.1.13	NRTS Co shall plan for and undertake the relocation of any of its own equipment affected by the scheme, e.g. equipment for commercial services to third parties, at no cost to the HA.
6.4.1.14	NRTS Co shall proactively monitor the progress of the scheme contractor and schedule, in a timely manner, the witnessing and acceptance of installation works undertaken by the scheme contractor to NRTS Co's design (such as ducts, chambers and cabinet bases).
6.4.1.15	NRTS Co shall schedule and undertake its installation responsibilities (refer to the Table of Responsibilities (Annex A Schedule 1.3 (Statement of Requirements: General Constraints)) for allocations) in a timely manner to complement and support the overall timescales and operating constraints of the scheme or standalone works.
6.4.1.16	NRTS Co shall install, terminate and test the communication and communications power cables required for the STIs and/or CSIs and submit them for acceptance by the HA (or its representative). NRTS Co shall carry out any modifications and retesting (at its cost) that the HA requires before it can accept the STIs/CSIs.
6.4.1.17	NRTS Co shall deliver all outstanding documentation, drawings, records, test results and supporting information as required in compliance with Schedule 1.3 (Statement of Requirements: General Constraints). It shall ensure that all relevant systems are updated (the Predictive Asset Management System (PAMS), National On-Line Motorway Asset Database (NOMAD), etc.).
6.4.1.18	When the HA has accepted the STIs and/or CSIs, NRTS Co shall record their status as "Provisioned" in the Service Schedule. The HA shall then be liable for Provisioning payments for the STIs/CSIs, refer to Schedule 30 (Payment Mechanism).
6.4.1.19	NRTS Co shall update and maintain planning information on the NRTS Forward Programme to show the current milestones and key dates for Provisioning of the relevant STIs/CSIs.
<b>(M) Monitoring</b>	
6.4.1.20	Via acceptance of various stages of the Provisioning work at the defined Milestones. Both NRTS Co and the scheme contractor are required to monitor progress on a day-to-day basis, and report problems, delays, etc. by exception through the <i>Manage Contract</i> process (section 2.2).
6.4.1.21	NRTS Co's performance of this process will be monitored against the standards specified in the NRTS Process Standard for " <i>Service Provisioning (Schemes and Works)</i> ".
<b>(I) Frequency</b>	
6.4.1.22	[Not Used]
6.4.1.23	[Not Used]

Table 6-4 Provision Service Process Template

### Additional Information

- 6.4.2 [Not Used]
- 6.4.3 [Not Used]
- 6.4.4 **M** When the status of the STIs and/or CSIs have been recorded as “Provisioned” in the Service Schedule then, NRTS Co shall settle payments to the HA in respect of:
- maintenance charges for Assets Provisioned by NRTS Co but to be maintained by the HA, such as site access and protection arrangements (safety fencing) as identified in the Table of Responsibilities (Annex A Schedule 1.3 (Statement of Requirements: General Constraints)) and Schedule 30 (Payment Mechanism).
- 6.4.5 [Not Used]
- 6.4.6 [Not Used]
- 6.4.7 **M** The Provisioning Task Authorisation issued by the HA may specify additional tasks to be carried out by NRTS Co as part of the provisioning work. NRTS Co shall carry out any additional tasks specified by the HA based on unitised Standard Prices, refer to the Schedule 30 (Payment Mechanism).
- 6.4.8 **M** NRTS Co shall apply the timescales stated in paragraph 6.3.3.18 for the request of information or infrastructure from the HA.
- 6.4.9 **M** Additional requirements can include Enablement, Regrading and/or the supply or upgrading of Designated Links. NRTS Co shall specify any additional requirements in full, plan and undertake their supply and installation in parallel with the activities to Provision the STIs carried out under this *Provision Service* process (section 6.4).
- 6.4.10 **M** When the Provisioning of an STI or CSI has been completed and they have been accepted by the HA, NRTS Co shall ensure that all database records and other documentation are up-to-date, particularly with respect to the Assets used in Provisioning the STI or CSI, in the following management systems:
- Predictive Asset Management System (PAMS);
  - NRTS Forward Plan and the Planned Maintenance Schedule (for the planned maintenance of the Assets);
  - Service Schedule (including setting the STI and/or CSI status to “Provisioned”);
  - other Records e.g. the National On-Line Motorway Asset Database (NOMAD) system;
  - As-built Drawings and other documents, as appropriate.

*Figure 6-5 [Not Used]*

## Performance

- 6.4.11 **M** The timescales to which NRTS Co shall undertake this process shall be such as to complement the timetable and schedules of the associated scheme and as discussed with the scheme contractor and the HA. Where the required STIs and/or CSIs are not associated with a scheme, the timescales shall be as discussed with the main site possessor, e.g. the Police in a Control Office, or maintenance contractor as appropriate, and shall take into account their operating needs and constraints provided that any change to the timescales shall require the prior consent of the HA.
- 6.4.12 [Not Used]
- 6.4.13 **M** The deadlines, sequence and notice periods for how the Design Task and Provisioning Task shall operate are diagrammatically represented in Figure 6-6.

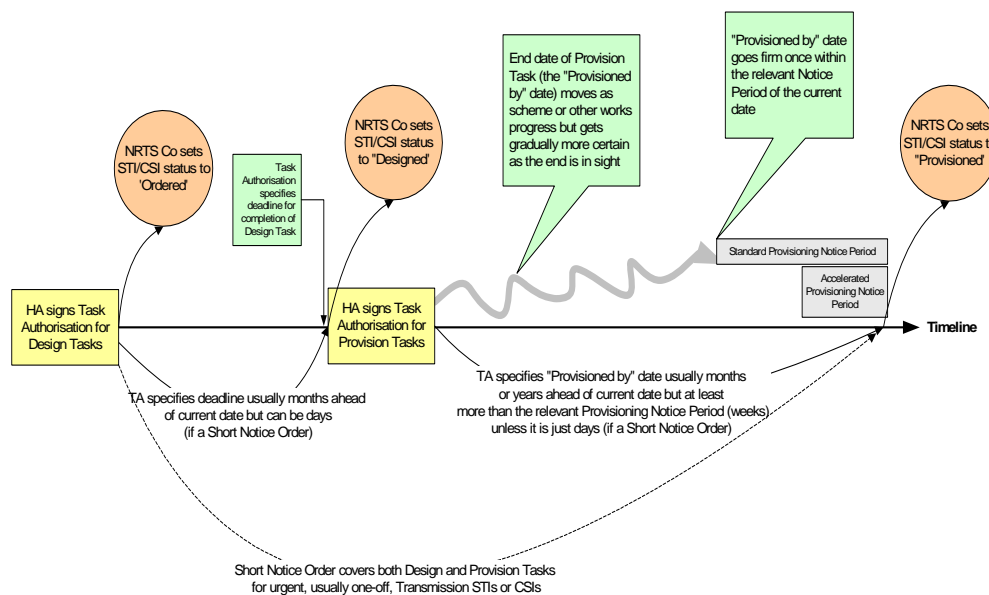


Figure 6-6 Deadlines and Notice Periods for the Design Task and Provisioning Task

- 6.4.14 [Not Used]
- 6.4.15 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "Service Provisioning (Schemes and Works)".

### *Provision of Transmission STIs*

- |           |            |  |
|-----------|------------|--|
| 6.4.15.1  | [Not Used] |  |
| 6.4.15.2  | [Not Used] |  |
| 6.4.15.3  | [Not Used] |  |
| 6.4.15.4  | <b>M</b>   | The Task Authorisation for Provisioning prepared by NRTS Co and signed-off by the HA shall specify the proposed “Provisioned” dates for the STIs (and/or CSIs) which shall comply with the applicable Standard or Accelerated Provisioning Notice Periods (unless this is a Short Notice Order – see paragraph 6.4.15.23).   |
| 6.4.15.5  | <b>M</b>   | As soon as the proposed/scheduled “Provisioned” date is within the Provisioning Notice Period of the current date, the “Provisioned” date shall “go firm” and shall not be changed subsequently. NRTS Co shall be subject to penalties in accordance with Schedule 27 (Service Credit Regime) for late delivery against that date.   |
| 6.4.15.6  | <b>M</b>   | NRTS Co shall complete the Provisioning of an STI by the specified “Provisioned” date.   |
| 6.4.15.7  | [Not Used] |  |
| 6.4.15.8  | [Not Used] |  |
| 6.4.15.9  | [Not Used] |  |
| 6.4.15.10 | [Not Used] |  |
| 6.4.15.11 | <b>M</b>   | By definition, only STIs and CSIs that are in the state “Designed” can be Provisioned, refer to Figure 6-1. If any of the STIs or CSIs identified in the Task Authorisation are not recorded as being “Designed” on the Service Schedule, NRTS Co shall notify the HA of the error and request a resubmission. If it is not a simple clerical error in the opinion of either Party, they shall further investigate and agree a resolution, escalating the issue in the first instance to the <i>Manage Contract</i> process (section 2.2). |
| 6.4.15.12 | [Not Used] |  |

### *Standard Provisioning Notice Periods*

- |           |          |   |
|-----------|----------|---|
| 6.4.15.13 | <b>M</b> | The Standard Provisioning Notice Periods for the Transmission Service shall be as defined in Table 6-5 and Table 6-6 and apply prior to, and after, the Transmission Full Service Start Date respectively (refer to the <i>Build Transmission Service</i> process (section 8.7)). In addition to these notice periods, the HA’s ability to order Provisionings is also subject to the SPC Rules set out in Annex H.1 (Schedule 1.1a (Statement of Requirements: Transmission Service) and to the limitation that prior to the Transmission Full Service Start Date, Generic Service Types can only be Called-Off if a Generic Service Start Date has been passed in the relevant area (see paragraph 8.7.4.1). Concurrent Enabling and/or Regrading Notice Periods may apply (refer to Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service)). The greyed-out entries in the Table 6-5 and Table 6-6 indicate “not applicable”, i.e. they are combinations of Service Type and Service Provisioning excluded by definition. |
| 6.4.15.14 | <b>M</b> | The Standard Provisioning Notice Periods shall apply when the Downstream Service Delivery Point (SDP) of the STI is to be Provisioned at a site where there is no existing telecommunications infrastructure.   |



From the RMC Area Take-On Date for the relevant area to the Transmission Full Service Start Date		Notice Period for STI Provisionings (where permitted in accordance with paragraph 6.4.15.13) by SPC of location of Downstream SDP			
Service Type (as aggregated by Service Category)		SPC A and SPC "ATMg"	SPC B	SPC C	SPC D
1	Bespoke Signalling and Monitoring	3 months	3 months	3 months	
2	Bespoke Traffic Detection	3 months	3 months	3 months	
3	Bespoke Telephones	3 months	3 months	3 months	
4	Bespoke CCTV	3 months	3 months	3 months	
5	X.25	3 months	3 months	3 months	3 months
6	Analogue Circuits	3 months	3 months	3 months	3 months
7	Public Telecommunications Services	3 months	3 months	3 months	3 months
8	IP Service	3 months	3 months	6 months	3 months
9	Point-to-Point Data Circuits	3 months	3 months	6 months	3 months
10	Switched Video Service	3 months	3 months	6 months	3 months
11	Switched ERT	3 months	3 months	6 months	3 months

Table 6-5 Provisioning Notice Periods before the Transmission Full Service Start Date

From the Transmission Full Service Start Date to the Expiry Date or the earlier termination of the NRTS Contract		Notice Period for STI Provisionings (where permitted in accordance with paragraph 6.4.15.13) by SPC of location of Downstream SDP			
Service Type (as aggregated by Service Category)		SPC A and SPC "ATMg"	SPC B	SPC C	SPC D
1	Bespoke Signals and Monitoring	6 weeks	6 weeks	3 months	
2	Bespoke Traffic Detection	6 weeks	6 weeks	3 months	
3	Bespoke Telephones	6 weeks	6 weeks	3 months	
4	Bespoke CCTV	3 months		6 months	
5	X.25	3 months	3 months	6 weeks	6 weeks
6	Analogue Circuits	6 weeks	6 weeks	6 weeks	6 weeks
7	Public Telecommunications Services	6 weeks	6 weeks	6 weeks	6 weeks
8	IP Service	3 months	3 months	3 months	2 months
9	Point-to-Point Data Circuits	3 months	3 months	3 months	2 months
10	Switched Video Service	4 months	4 months	3 months	4 months
11	Switched ERT	6 weeks	6 weeks	3 months	

Table 6-6 Provisioning Notice Periods after the Transmission Full Service Start Date

### *Accelerated Provisioning Notice Periods*

6.4.15.15 **M** Accelerated Provisioning Notice Periods shall apply when the Downstream SDP of the STI is to be Provisioned at a site where suitable telecommunications infrastructure already exists (as determined in accordance with the SPC Rules in Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service)).

6.4.15.16 [Not Used]

6.4.15.17 **M** The Accelerated Provisioning Notice Periods shall be one half of the time periods shown in Table 6-5 and Table 6-6 for all Service Types and SPCs.

6.4.15.18 [Not Used]

6.4.15.19 [Not Used]

### *Short Notice Orders*

6.4.15.20 [Not Used]

6.4.15.21 [Not Used]

6.4.15.22 [Not Used]

6.4.15.23 **M** The Provisioning Notice Period for Short Notice Orders shall be 5 Business Days for all combinations of Service Type and Service Provisioning Capability or less as agreed with NRTS Co, the site possessor (where applicable) and the HA at the time.

6.4.15.24 **M** The HA shall not issue Short Notice Orders for STIs unless it is feasible (as agreed between the HA and NRTS Co, acting reasonably) to complete the Provisioning work within the time available.

6.4.15.25 [Not Used]

6.4.15.26 **M** The Short Notice Order shall only apply after any applicable Enablement Notice Period has been served, refer to Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service).

### *Provision of Camera Site Instances*

6.4.15.27 **M** NRTS Co shall complete the Provisioning of a CSI within a defined Notice Period (the Provisioning Notice Period) that varies for different Site Types.

6.4.15.28 [Not Used]

6.4.15.29 [Not Used]

6.4.15.30 **M** The Provisioning Notice Periods shall start when the HA serves a Task Authorisation for the Provisioning of CSIs.

6.4.15.31 **M** As soon as the scheduled "Provisioned" date is within the applicable Provisioning Notice Period of the current date, the "Provisioned" date shall "go firm" and shall not be changed subsequently.

6.4.15.32 [Not Used]

6.4.15.33 **M** The Provisioning Notice Periods for CSIs shall be as defined in Table 6-7.

From the RMC Area Take-On Date - Camera Mast Service for the relevant area to the Expiry Date or the earlier termination of the NRTS Contract		Standard Provisioning Notice Period	Accelerated Provisioning Notice Period
Site Type			
1	Camera Mast in Level Verge	2 months	4 weeks
2	Camera Mast in Embankment	3 months	6 weeks
3	Camera Mast on Cutting	3 months	6 weeks

*Table 6-7 Provisioning Notice Periods for Camera Site Instances*

6.4.15.34 **M** Standard Provisioning Notice Periods shall apply when the CSI is to be Provisioned at a “green field” site (i.e. there is no existing Camera Infrastructure at the site).

6.4.15.35 **M** Accelerated Provisioning Notice Periods shall apply when the CSI is to be Provisioned at a site where a suitable base, mounting spigot and other Camera Infrastructure (excluding mast) already exists (e.g. this would apply to a mast swap on an existing base<sup>4</sup>).

6.4.15.36 [Not Used]

6.4.15.37 **M** The Provisioning Notice Period for Short Notice Orders shall be 5 Business days for all Site Types or less as agreed with NRTS Co, the site possessor (where applicable) and the HA at the time.

6.4.15.38 **M** The HA shall not issue Short Notice Orders for CSIs unless it is feasible (as agreed between the HA and NRTS Co, acting reasonably) to complete the Provisioning work within the time available.

<sup>4</sup> This operation does not change the Site Type (and there is, therefore, no equivalent of the STI Conversion Task for the Camera Mast Service). However, only the relevant elements of the ‘full’ site Standard Price for Provisioning shall apply in this instance.

## 6.5 Activate Service

6.5.1 [Not Used]

<b>(M) Scope</b>	
6.5.1.1	The process of making "Live" a "Provisioned" Transmission Service Type Instance or Camera Site Instance.
<b>(I) Need</b>	
6.5.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
6.5.1.3	A NRTS Process Standard for " <i>Service Activation</i> " that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.5.1.4	Live STI(s) and/or CSI(s).
6.5.1.5	Updated entries for the STIs and/or CSIs in the Service Schedule, Fault Management System, Predictive Asset Management System and NRTS Forward Plan.
<b>(M) Applicability</b>	
6.5.1.6	Transmission Service and Camera Mast Service.
<b>(I) Related processes</b>	
6.5.1.7	[Not Used]
<b>(M) Requirements</b>	
6.5.1.8	On receipt of a Task Authorisation to Activate STIs and/or CSIs, NRTS Co shall carry out all necessary updates to the NRTS Required Systems. For both STIs and CSIs, records of their status in the Service Schedule and Fault Management System shall be updated to "Live" and they shall be included in the active Planned Maintenance Schedule via the Predictive Asset Management System and the NRTS Forward Plan.
6.5.1.9	There shall be no acceptance testing for the Activation Task. An STI or CSI is designated "Live" automatically in accordance with paragraph 6.5.5, and the HA is then liable for the Activation Call-Off Charges for each STI or CSI in accordance with Schedule 30 (Payment Mechanism).
<b>(M) Monitoring</b>	
6.5.1.10	The STI or CSI is assumed to go "Live" within a fixed time period following the Activate Service Task Authorisation. If it in fact does not it will be picked up as an Outage and NRTS Co will be subject to Payment Deductions and Service Credits, in accordance with Schedule 27 (Service Credit Regime), for non-Availability of the STI or CSI.
6.5.1.11	NRTS Co's performance of this process will be monitored against the standards specified in the NRTS Process Standard for " <i>Service Activation</i> ".
<b>(I) Frequency</b>	
6.5.1.12	[Not Used]

Table 6-8 Activate Service Process Template

### Additional Information

- 6.5.2 [Not Used]
- 6.5.3 **M** The process shall be started when NRTS Co receives a Task Authorisation from the HA to Activate STIs and/or CSIs.
- 6.5.4 [Not Used]
- 6.5.5 **M** The Activate Service Task Authorisation shall specify a “Live” date for each STI and/or CSI which shall be recorded by NRTS Co in the Service Schedule and the NRTS Forward Plan. The STI or CSI shall be deemed to be “Live” automatically after midnight on the day of the specified “Live” date. Any absence of Service shall be recorded as an Outage if the STI or CSI is not in fact “Live” after midnight on the “Live” date.
- 6.5.6 **M** By definition, only STIs or CSIs that are in the state “Provisioned” or “Deactivated” can be made “Live”; refer to Figure 6-1. If any of the STIs or CSIs identified in the Activate Service Task Authorisation are not recorded as being in one of these states on the Service Schedule, NRTS Co shall notify the HA of the error and request a re-submission. If it is not a simple clerical error in the opinion of either party, they shall further investigate and agree a resolution, escalating the issue in the first instance to the *Manage Contract* process (section 2.2).

*Figure 6-7 [Not Used]*

- 6.5.7 **M** In all cases, when making an STI or CSI Live, NRTS Co shall add or update references to the STI/CSI in the following management systems:
- Predictive Asset Management System (PAMS);
  - NRTS Forward Plan and the Planned Maintenance Schedule (for the planned maintenance of the STIs and CSIs);
  - Service Schedule;
  - Fault Management System;
  - billing system;
  - other Records (such as NOMAD and SMIS entries) and documentation.
- 6.5.8 **M** The effect of making a Transmission Service Type Instance or Camera Mast Service “Live” is that it becomes part of the operational transmission network, monitored on a continuous basis for quality of service and for Outages.
- 6.5.9 [Not Used]
- 6.5.10 [Not Used]
- 6.5.11 [Not Used]
- 6.5.12 **M** NRTS Co shall remove any Telecommunications Bypasses and temporary arrangements that remain from the Provisioning and/or Conversion work on the STIs and shall update records, e.g. the National On-Line Motorway Asset Database (NOMAD) system, drawings and other documents as appropriate, handing these over to the HA in accordance with section 5 Schedule 1.3 (Statement of Requirements: General Constraints).

### *Activation Notice Periods*

- |           |          |   |
|-----------|----------|---|
| 6.5.12.1  | <b>M</b> | NRTS Co shall Activate the STI or CSI by midnight on the date specified in the Activate Service Task Authorisation (refer to paragraph 6.5.5), provided at least 48 hours notice is given by the HA.  |
| 6.5.12.2  | <b>M</b> | If the Task Authorisation was issued by the HA more than 28 days before the "Live" date it specifies, NRTS Co shall obtain the HA's confirmation before Activating the STIs and/or CSIs. NRTS Co shall seek such confirmation within 28 days of the specified "Live" date.  |
| 6.5.12.3  |          | [Not Used]  |
| 6.5.12.4  |          | [Not Used]  |
| 6.5.12.5  |          | [Not Used]  |
| 6.5.12.6  | <b>M</b> | The maximum permissible time between the "Provisioned" date of an STI or CSI and receipt of a Task Authorisation to Activate the same Service Instance shall be 24 months.  |
| 6.5.12.7  | <b>M</b> | The same maximum permissible time of 24 months shall apply between the receipt by NRTS Co of a Task Authorisation to Deactivate an STI or CSI and receipt of a Task Authorisation to (re)Activate the same Service Instance.  |
| 6.5.12.8  |          | [Not Used]  |
| 6.5.12.9  | <b>M</b> | If the maximum time in paragraph 6.5.12.6 or 6.5.12.7 is exceeded the applicable Activation Notice Period shall revert to that for Provisioning of the Service Instance at the applicable location (according to Table 6-5, Table 6-6 and Table 6-7). This extended Activation Notice Period shall be interpreted as the latest date by which the HA requires the STIs and/or CSIs to be "Live". NRTS Co shall endeavour to Activate the STIs or CSIs within a shorter period and shall notify the HA as soon as they are "Live". The HA shall not be liable for any further Activation Call-Off Charge in this case (it shall not be liable to pay the Provisioning Charge again). |
| 6.5.12.10 |          | [Not Used]  |

### Performance

- |        |          |   |
|--------|----------|---|
| 6.5.13 |          | [Not Used]  |
| 6.5.14 | <b>M</b> | This process shall be carried out to the performance standards specified in the NRTS Process Standard for "Service Activation". |

## 6.6 Deactivate Service

6.6.1 [Not Used]

<b>(M) Scope</b>	
6.6.1.1	The process by which a “Live” STI or CSI ceases to be “Live” (its status becomes “Deactivated” or “Deactivated (Converted)”).
<b>(I) Need</b>	
6.6.1.2	[Not Used]
6.6.1.3	[Not Used]
6.6.1.4	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
6.6.1.5	A NRTS Process Standard for “ <i>Service Deactivation</i> ” that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.6.1.6	Deactivated STIs or CSIs.
6.6.1.7	Updated entries for the STIs and/or CSIs in the Service Schedule, Fault Management System, Predictive Asset Management System and NRTS Forward Plan.
<b>(M) Applicability</b>	
6.6.1.8	Transmission Service and Camera Mast Service.
<b>(I) Related processes</b>	
6.6.1.9	[Not Used]
<b>(M) Requirements</b>	
6.6.1.10	A Deactivate Service Task Authorisation issued by the HA will specify, for each STI or CSI it lists, the date when the Service Instance is to be “Deactivated”. On the specified Deactivation date, NRTS Co shall carry out all necessary updates to the NRTS Required Systems. For both STIs and CSIs, their status in the Service Schedule and Fault Management System shall be updated to “Deactivated” and the maintenance records in the Planned Maintenance Schedule and Predictive Asset Management System, and the associated work schedules in the NRTS Forward Plan, shall be amended to reflect the fact that the STI or CSI is no longer Live.
6.6.1.11	The Task Authorisation may also list STIs (not CSIs) that have now been Converted into a new Service Type through the Convert Service process (section 6.8). The same Deactivation tasks are required as for any other STI Deactivation, but the status of the old (pre-conversion) STI shall be set to “Deactivated (Converted)” to signify that it has been permanently taken out of service.
6.6.1.12	There shall be no acceptance testing for the Deactivate Task. An STI or CSI is designated “Deactivated” automatically after the Deactivation date specified in the Deactivate Service Task Authorisation. At this point the HA is liable to pay any Deactivation Call-Off Charge and is no longer liable to pay any associated Marginal Service Charge, in accordance with Schedule 30 (Payment Mechanism).

<b>(M) Monitoring</b>	
6.6.1.13	Covered by normal Service monitoring. The STI or CSI is assumed to be Available until midnight on the specified Deactivation date.
6.6.1.14	NRTS Co's performance of this process shall be monitored against the standards defined in the NRTS Process Standard for " <i>Service Deactivation</i> ". This will include informal audits (see paragraph 5.6.4.1) to check, for example, that STI and CSI records have been updated within the timescales defined in the NRTS Process Standard.
<b>(I) Frequency</b>	
6.6.1.15	[Not Used]
6.6.1.16	[Not Used]

Table 6-9 Deactivate Service Process Template

Additional Information

- 6.6.2 [Not Used]
- 6.6.3 **M** NRTS Co shall undertake the required tasks so that the specified STIs and/or CSIs are "Deactivated" or "Deactivated (Converted)" on the Deactivation date(s) specified in the Deactivate Service Task Authorisation.
- 6.6.4 [Not Used]
- 6.6.5 **M** The Task Authorisation shall specify a Deactivation date for each STI and/or CSI, which shall be recorded by NRTS Co in the Service Schedule and the NRTS Forward Plan. The STIs/CSIs shall be deemed to be "Deactivated" or "Deactivated (Converted)" after midnight on the specified Deactivation date.
- 6.6.6 **M** By definition, only STIs or CSIs that are in the "Live" state can be "Deactivated"; refer to Figure 6-1. If any of the STIs or CSIs identified in the Task Authorisation are not recorded as being "Live" in the Service Schedule, NRTS Co shall notify the HA of the error and request a re-submission. If it is not a simple clerical error in the opinion of either party, they shall further investigate and agree a resolution, escalating the issue in the first instance to the *Manage Contract* process (section 2.2).

Figure 6-8 [Not Used]



- 6.6.7 **M** In all cases, when Deactivating an STI or CSI, NRTS Co shall update references to the STI or CSI in the following management systems:
- Predictive Asset Management System (PAMS);
  - NRTS Forward Plan (to remove the STI from planned maintenance (though not structural safety inspections));
  - Service Schedule (including changing its status from “Live” to “Deactivated” or “Deactivated (Converted)” as appropriate);
  - Fault Management System;
  - billing system;
  - other Record systems.

- 6.6.8 **M** NRTS Co shall maintain and keep on-line the records, drawings and other documentation relating to the STIs and CSIs, since “Deactivated” STIs may in future be re-Activated.

6.6.9 [Not Used]

6.6.10 [Not Used]

6.6.11 [Not Used]

6.6.12 [Not Used]

6.6.13 [Not Used]

6.6.14 [Not Used]

#### *Deactivation Notice Periods*

- 6.6.14.1 **M** NRTS Co shall Deactivate the STI or CSI by midnight on the date specified in the Deactivate Service Task Authorisation, provided at least 48 hours notice is given by the HA.

- 6.6.14.2 **M** If the Task Authorisation was issued by the HA more than 28 days before the Deactivation date it specifies, NRTS Co shall obtain the HA’s confirmation before Deactivating the STIs and/or CSIs. NRTS Co shall seek such confirmation within 28 days of the specified Deactivation date.

#### Performance

6.6.15 [Not Used]

- 6.6.16 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for “*Service Deactivation*”.

## 6.7 Remove Service

6.7.1 [Not Used]

(M) Scope	
6.7.1.1	This is the process of physically removing the transmission equipment, racks, cabinets, buried and above ground cabling, structures and foundations specific to an STI or CSI (and exceptionally an Aerial Site) and re-instatement of the site. The removal of longitudinal infrastructure (i.e. that which serves more than one STI) is addressed separately in Clause 15.4 (Removal of Non-Service Instance Assets)
(I) Need	
6.7.1.2	[Not Used]
6.7.1.3	[Not Used]
6.7.1.4	[Not Used]
(M) Output(s)/Objective(s)	
6.7.1.5	A NRTS Process Standard for “ <i>Service Removal</i> ” that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.7.1.6	A plan for the works in the NRTS Forward Programme to Remove the STI(s), CSI(s) and/or Aerial Sites.
6.7.1.7	Removal of equipment and infrastructure in accordance with NRTS Forward Programme and updating of Record systems at the agreed time, or to agreed criteria.
6.7.1.8	Revision of the state of the STIs and/or CSIs in the Service Schedule to “Removed”.
(M) Applicability	
6.7.1.9	Transmission Service and Camera Mast Service.
6.7.1.10	Aerial Site Service (under special circumstances).
(I) Related processes	
6.7.1.11	[Not Used]

<b>(M) Requirements</b>	
6.7.1.12	On receipt from the HA of a Remove Service Task Authorisation, NRTS Co shall identify and enter into the NRTS Forward Programme the activities for the Removal of the Service Instance(s) and/or Aerial Site(s) specified in the Task Authorisation and all of the equipment and infrastructure no longer required to provide the Service Instance(s) and/or Aerial Site(s).
6.7.1.13	NRTS Co shall design, plan, schedule, co-ordinate and undertake the removal of all infrastructure associated with the specified Service Instance(s) and/or Aerial Site(s) as required.
6.7.1.14	In many cases, another civils contractor will actually remove NRTS Co infrastructure as part of the preparation works for a scheme, such as road widening. In these cases, NRTS Co shall always disconnect and remove any and all of its affected equipment first. NRTS Co shall only receive a proportion of the full applicable Removal Charge in cases where another contractor removes the civil infrastructure, in accordance with the Schedule 30 (Payment Mechanism).
6.7.1.15	The planning of the work shall be co-ordinated with the relevant Interfacing Organisations, fitting in as required with other works (e.g. scheme works), maintenance work (e.g. duct or drain clearance) or operational requirements.
6.7.1.16	NRTS Co shall update the Predictive Asset Management System, the Service Schedule and other systems as necessary to reflect the Removal of the Service Instance(s) and/or Aerial Site(s).
6.7.1.17	When the HA is satisfied that the Removal of the Service Instance(s) and/or Aerial Site(s) is complete, NRTS Co shall update all associated Records, As-built Drawings, network schematics and other documents as necessary. The status of the relevant STIs and/or CSIs in the Service Schedule shall be set to "Removed" and the HA shall be liable for payment in accordance with Schedule 30 (Payment Mechanism).
<b>(M) Monitoring</b>	
6.7.1.18	Via acceptance of various stages of the Removal work. Both NRTS Co and the site possessor are required to monitor progress on a day-to-day basis and report problems, delays, etc. by exception through the <i>Manage Contract</i> process (section 2.2).
6.7.1.19	NRTS Co's performance of this process shall be monitored against the standards and acceptance tests specified in the NRTS Process Standard for " <i>Service Removal</i> ".
<b>(I) Frequency</b>	
6.7.1.20	[Not Used]

Table 6-10 Remove Service Process Template

### Additional Information

6.7.2 [Not Used]

*Figure 6-9 [Not Used]*

6.7.3 **M** The process shall be started when NRTS Co receives from the HA a Remove Service Task Authorisation.

6.7.4 [Not Used]

6.7.5 **M** By definition, only STIs or CSIs that are in the “Provisioned” state (exceptionally) or the “Deactivated” state can be Removed; refer to Figure 6-1. If any of the STIs or CSIs identified in the Task Authorisation are not recorded as being in one or other of these states on the Service Schedule, NRTS Co shall notify the HA of the error and request a re-submission. If it is not a simple clerical error in the opinion of either party, they shall further investigate and agree a resolution, escalating the issue in the first instance to the *Manage Contract* process (section 2.2).

6.7.6 **M** In all cases, when Removing a Service Instance and/or Aerial Site, NRTS Co shall update references to the Service Instance or Aerial Site and its associated Assets, as appropriate, in the following management systems:

- Predictive Asset Management System (PAMS);
- NRTS Forward Plan (to schedule the Removal works);
- Service Schedule;
- billing system;
- National On-Line Motorway Asset Database (NOMAD);
- HA Pavement Management System;
- other Records.

6.7.7 **M** The Predictive Asset Management System shall be updated to:

- archive all records of Assets required solely for the provision of the Removed STIs and/or CSIs, e.g. local access cabling, local power distribution cables, cabinets and equipment racks (that are not shared);
- identify, in the case of Transmission STIs or backhaul transmission circuits used by Aerial Sites that have been removed, longitudinal network Assets that are now redundant, e.g. longitudinal cabling, Designated Links, chambers, cabinets, possibly Transmission Stations, and associated transmission equipment.

6.7.8 **M** NRTS Co shall update the Records, As-built Drawings, schematics and other documentation associated with the assets that have been Removed.

6.7.9 [Not Used]

6.7.10 **M** To verify that cables and other equipment identified as redundant are actually not being used, the HA may require NRTS Co to undertake on-site testing/monitoring of the cables or other appropriate investigations.

- 6.7.11 **M** In some cases, STIs which have been Removed will have been supported by a Designated Link (refer to Annex H.2 Schedule 1.1a (Statement of Requirements: Transmission Service). That Designated Link may not now be wholly unused, e.g. there may still be other "Live" STIs that rely on it. But if the Designated Link uses leased services (i.e. where there is a recurring charge to the HA), NRTS Co shall assess the whole life cost case for down-sizing the capacity of the Designated Link, agree with the HA the appropriate action and undertake that action.
- 6.7.12 **M** NRTS Co shall re-instate sites following the removal of the associated Assets to HA standards as identified in the SHW or as subsequently defined by NRTS Co in the NRTS Process Standard for "*Service Removal*", developed by NRTS Co and agreed with the HA in accordance with the *Develop Registered Document* process (section 4.2).
- 6.7.13 [Not Used]
- 6.7.14 [Not Used]
- Aerial Sites*
- 6.7.14.1 [Not Used]
- 6.7.14.2 [Not Used]
- 6.7.15 **M** NRTS Co shall remove the Aerial Site(s) in accordance with the Clause 15.5 (Removal of Aerial Infrastructure or Aerial Electronics). This is at NRTS Co's own cost unless, when the removal is required by the HA, NRTS Co can demonstrate that the HA confirmed at the time of construction that there was no planned maintenance or enhancement of the Project Road Network that would affect the Aerial Site location.
- 6.7.15.1 [Not Used]
- Performance
- 6.7.16 [Not Used]
- 6.7.17 **M** NRTS Co shall record the proposed "Removed" dates in the NRTS Forward Programme and plan the removal work accordingly. If the Removals are part of a scheme or other works with which NRTS Co must co-ordinate, NRTS Co shall continuously update the "Removed" dates in the plan, in discussion with the HA and the scheme contractor or other site possessor, to reflect the changing actual progress of the scheme or other works. As soon as the proposed/scheduled "Removed" date is within the Removal Notice Period of the current date, the "Removed" date for the STIs/CSIs/Aerial Sites shall "go firm" and shall not be changed subsequently. NRTS Co shall be subject to Payment Deductions and Service Credits in accordance with Schedule 27 (Service Credit Regime) for late delivery against that date. NRTS Co shall complete the Removal task by the specified "Removed" date.
- 6.7.18 **M** The Removal Notice Periods shall be as defined in Table 6-11.

From a RMC Area Take-On Date – Transmission Service to the Expiry Date or the earlier termination of the NRTS Contract		Removal Notice Period by SPC category of the location of the Downstream SDP			
Service Type (as aggregated by Service Category)		SPC A or SPC “ATMg”	SPC B	SPC C	SPC D
1 to 11	Any Service Type	3 months	3 months	3 months	3 months

From a RMC Area Take-On Date – Camera Mast Service to the Expiry Date or the earlier termination of the NRTS Contract		Removal Notice Period by Site Type		
		Site Type 1	Site Type 2	Site Type 3
Camera Site Instance		3 months	3 months	3 months

From the Actual Service Start Date for the Aerial Site Service to the Expiry Date or the earlier termination of the NRTS Contract	Removal Notice Period
All Aerial Sites	3 months

Table 6-11 Removal Notice Periods

## 6.8 Convert Service

6.8.1 [Not Used]

<b>(M) Scope</b>	
6.8.1.1	This process is a variant to the Provisioning Task for Transmission STIs (only). It is used where a new STI is created through the conversion of an existing (Bespoke) STI to its new (generic) Service Type equivalent. The Service Type of the new STI in a Conversion defines the applicable notice periods, prices, etc, not the Service Type of the existing STI.
6.8.1.2	[Not Used]
<b>(I) Need</b>	
6.8.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
6.8.1.4	A NRTS Process Standard for “ <i>Service Conversion</i> ” that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
6.8.1.5	The replacement of one or more existing STIs with new STIs at the same location(s) as specified in the Convert Service Task Authorisation issued by the HA.
<b>(M) Applicability</b>	
6.8.1.6	Transmission Service.
<b>(I) Related processes</b>	
6.8.1.7	[Not Used]
<b>(M) Requirements</b>	
6.8.1.8	A one-off requirement is to produce a NRTS Process Standard for “ <i>Service Conversion</i> ” to detail the procedures, processes, responsibilities and milestones relating to NRTS Co’s role in STI conversion both in the context of schemes and standalone works.
6.8.1.9	The <i>Convert Service</i> process is the variant to the Provision Service process that is used for installing new (typically Generic Service) STIs by converting existing (typically Bespoke Service) STIs at the same location. All requirements of the <i>Provision Service</i> process apply unless otherwise stated in this section 6.8.
<b>(M) Monitoring</b>	
6.8.1.10	Via acceptance of various stages of the relevant activities as defined in the Task Authorisation and agreed with the HA.
6.8.1.11	NRTS Co’s performance of this process will be monitored against the standards specified in the NRTS Process Standard for “ <i>Service Conversion</i> ”.
<b>(I) Frequency</b>	
6.8.1.12	[Not Used]

Table 6-12 Convert Service Process Template

### Additional Information

- 6.8.2 [Not Used]
- 6.8.3 **M** The *Convert Service* process shall, as a minimum, apply to the conversion of the following Service Categories:
- Service Type 4C to ST10AP or Service Type 10AF.
  - Service Type 4A/B to Service Type 8R33k PTZ.
  - Service Type 3A to Service Type 11A.
- 6.8.4 **M** Other conversions shall be agreed with the HA.

### Process Steps

- 6.8.5 [Not Used]
- 6.8.6 **M** NRTS Co shall undertake the steps set out in Table 6-13 as part of the activities involved in Converting STIs.
- 6.8.7 **M** The notice period for all Conversion activities shall be the Accelerated Notice Period for the New STI as described in the *Provision Service* process (section 6.4).
- 6.8.8 **M** NRTS Co shall remove any Assets of the existing STI that are made redundant by the Conversion to the new STI (in accordance with Schedule 30 Annex A).
- 6.8.9 [Not Used]
- 6.8.10 **M** The Deactivation date for the existing STI and the Activation date for the new STI shall be the same date, unless the HA specifies that they are to be separated in time for any particular case.
- 6.8.11 [Not Used]
- 6.8.12 [Not Used]



Step	Process	Comments	STI Status	
			Existing STI	New STI
1	<i>Capture Requirements and Plan</i>	As part of this process NRTS Co shall identify the requirements for Conversions and produce the relevant outline designs	"Live"	"Identified" (and linked to the same SDP(s) as the existing STI)
2a	<i>Design Service Installation</i>	Upon receipt of a Task Authorisation (which lists the STIs to be Converted) NRTS Co shall commence the detailed design of the Conversion	"Live"	"Ordered"
2b		When the detailed design has been completed and accepted by the HA the new STI status shall be set to "Designed". The HA pays a stage payment of the applicable Conversion Charge	"Live"	"Designed"
3	<i>Convert Service</i>	The <i>Provision Service</i> process steps shall be followed to provide the new STI making appropriate re-use of the existing STI assets. The Accelerated Notice Periods for the relevant (new) STI shall apply. On completion the HA pays the remaining part of the applicable Conversion Charge.	"Live"	"Provisioned"
4a	<i>Deactivate Service</i>	NRTS Co shall prepare and the HA sign-off a Task Authorisation to Deactivate the existing STI. This shall be timed to coincide with the date of switch over to the new STI and the Activation of the new STI, unless the HA requests otherwise. The HA pays the Deactivation Charge for the applicable (existing) STI	"Deactivated (Converted)"	"Provisioned"
4b	<i>Activate Service</i>	At the same time the new STI is Activated. The switch over shall be planned to minimise the down-time of the STI notwithstanding the Allowable Outage Hours	"Deactivated (Converted)"	"Live"

Table 6-13 The Convert Service Process in Context

- 6.8.13 **M** The following Allowable Outage Hours shall apply as detailed in Table 6-14 to the period between the existing STI being switched off and the new STI being switched on in all cases where the same date has been specified for the Deactivation of the existing STI and the Activation of the new STI.

Service Type Conversion	Allowable Outage Hours
ST1B/C to ST1A	See paragraph 6.8.14
ST4C to ST10AP or ST10AF	1
ST4A/B to ST 8R33k PTZ	2
ST3A to ST11A	3

*Table 6-14 Allowable Outage Hours between Switching Off Existing STIs and Switching On New STIs*

- 6.8.14 **M** For Conversions of ST1B/C to ST1A (as described in Schedule 1.1a Annex K), the Allowable Outage Hours shall be agreed between the HA and NRTS Co on a scheme-by-scheme basis and shall be the minimum number of hours that can be reasonably achieved using the mechanisms to minimise Outage time outlined in Schedule 1.1a Annex K or other mechanisms devised by NRTS Co where these offer a further reduction in Outage time.

### Pricing

- 6.8.15 **M** When undertaking the Convert Service Process the relevant Standard Price Conversion Charge for the new STI shall apply, in accordance with Schedule 30 (Payment Mechanism), in place of the Provisioning Charge.

## 7 AD HOC PROJECTS PROCESSES

### 7.1 [Not Used]

### 7.2 Prepare Project Proposal

#### 7.2.1 [Not Used]

(M) Scope	
7.2.1.1	<p>This process covers obtaining a proposal and quote from NRTS Co for an Ad Hoc Project including:</p> <ul style="list-style-type: none"> <li>• Consultancy Services;</li> <li>• Specification and supply of Designated Links except Designated Links using PTO leased lines (refer to section H.2.3 Schedule 1.1a (Statement of Requirements: Transmission Service));</li> <li>• technical services, e.g. compatibility testing for third party end device suppliers;</li> <li>• design and build projects;</li> <li>• migration of PCOs to an RCC;</li> <li>• works to remove any infrastructure referred to in the Redundant Equipment List as set out in Clause 15.2 of the Project Agreement (Removal of Equipment set out in the Redundant Equipment List) or subsequently identified and agreed to have been redundant at the Execution Date as set out in Clauses 15.2.6 and 15.2.7 (Removal of Redundant Equipment identified after the relevant RMC Area Take-On Date);</li> <li>• Other work as defined as Ad Hoc Projects in this Project Agreement.</li> </ul>
7.2.1.2	[Not Used]
(I) Need	
7.2.1.3	[Not Used]
(M) Output(s)/Objective(s)	
7.2.1.4	A NRTS Process Standard for " <i>Preparation of Project Proposals</i> " that shall define what NRTS Co shall do to meet its obligations under this process and to what performance levels.
7.2.1.5	A proposal and quote (an Ad Hoc Project Proposal), produced by NRTS Co, for an Ad Hoc Project based on a Project Specification.
7.2.1.6	An Instruction to Proceed is issued by the HA if it accepts the proposal and quote (such accepted quote being the Ad Hoc Project Estimated Expenditure).
(M) Applicability	
7.2.1.7	Consultancy Service and projects allied to NRTS Co's capabilities as the organisation responsible for delivering the Services.
(I) Related processes	
7.2.1.8	[Not Used]

<b>(M) Requirements</b>	
7.2.1.9	On receipt of a Project Specification from the HA, NRTS Co shall prepare a proposal of work that defines the nature, purpose and scope of an Ad Hoc Project and a charge for such work based in accordance with paragraphs 6.1 to 6.17 of Part 4 of Schedule 30 (Payment Mechanism).
<b>(M) Monitoring</b>	
7.2.1.10	NRTS Co's performance of this process shall be monitored against the standards specified in the NRTS Process Standard for " <i>Preparation of Project Proposals</i> ".
<b>(I) Frequency</b>	
7.2.1.11	[Not Used]

Table 7-1 Prepare Project Proposal Process Template

Additional Information

7.2.2 [Not Used]

7.2.3 [Not Used]

Figure 7-1 [Not Used]

7.2.4 [Not Used]

7.2.5 **M** The HA has the right to proceed directly to the *Manage Open Supply* process (section 7.3). In this case, NRTS Co shall act as the HA's design agent only (it is not permitted to prepare a project proposal to undertake the work itself).

7.2.6 **M** NRTS Co shall also, from time to time, prepare a Project Specification for work for which it has identified a requirement. A notable example is for the procurement of Designated Links, refer to Annex H.2 Schedule 1.1a (Statement of Requirements: Transmission Service).

7.2.7 **M** On receipt of a Project Specification issued by the HA, or on HA acceptance of a Project Specification prepared by NRTS Co, NRTS Co shall prepare a technical proposal and commercial quotation (the Ad Hoc Project Proposal) to include a description of its:

- understanding of the project;
- technical approach;
- resources and project management;
- staffing proposals, including CVs;
- overall budget, cost breakdown, associated mark-ups and any other commercial aspects.
- the applicability of Project Agreement Clauses 35 and 36.

7.2.8 [Not Used]

- 7.2.9 **M** The price of an Ad Hoc Project in accordance with Schedule 30 Part 4 paragraphs 6.2 and 6.3 shall comprise the entire scope of the project excluding:
- all activities which are covered under the Transmission, Aerial Site or Camera Mast Services such as network management and planning, network upgrades to meet future HA requirements, etc with each such activity having a separate price as set out in Schedule 30;
  - activities for which there is a comparable Standard Price including Tasks (the Design, Provision, Conversion, Activation, Deactivation or Removal of Services), defined services under the Consultancy Service (such as hire of specialist testing facilities) and other Standard Price items.
- If the project scope actually includes any defined Tasks, these shall be ordered through the normal route – the *Tasking* Processes – described in section 6.
- 7.2.10 [Not Used]
- 7.2.11 **M** The staff resources for the variable element shall be priced either as a Consultancy Service Charge in accordance with Schedule 30 Part 4 paragraph 5, if Consultancy Service staff are being used, or Ad Hoc Project Labour Charges for other staff, in accordance with Schedule 30 Part 4 paragraph 6.6. NRTS Co shall quote project specific prices for the Plant, Equipment, Material and subcontractor costs and time. The overall budget presented in the project proposal represents the Ad Hoc Project Estimated Expenditure (the 'target cost') as defined in the Schedule 30 (Payment Mechanism). NRTS Co shall not charge staff resources relating to Call-Off items for which Standard Prices exist (for example, the management, design, implementation, and testing of an STI are covered under the Provisioning Charge.)
- 7.2.12 [Not Used]
- 7.2.13 **M** If NRTS Co cannot respond to the HA's request, it shall notify the HA within 5 Business Days of the date of receipt of the Project Specification with a Rejection Notice stating the reasons for its rejection. NRTS Co can only reject a Project Specification on one or more of the following grounds:
- it is not technologically feasible;
  - it would, if implemented, contravene a Law;
  - it would, if implemented, either result in NRTS Co being in breach of, or have a material adverse effect on its ability to perform, its obligations under the NRTS Contract;
  - it would, if implemented, cause an unacceptable health and safety risk to NRTS Co's staff, the HA or third parties;
  - it is demonstrably outside of the competence or capability of NRTS Co to undertake the work.
- 7.2.14 **M** If the HA believes that NRTS Co has unreasonably rejected the Project Specification and the parties cannot readily agree, the parties have recourse to Clause 68 of the Project Agreement (Dispute Resolution Procedure). One possible outcome of the Dispute Resolution Procedure is that NRTS Co's rejection of the Project Specification is over-ruled.
- 7.2.15 **M** The proposal and quotation shall be submitted to the HA within 20 Business Days of the date of receipt of the Project Specification or other longer period as set by the HA in any particular case.
- 7.2.16 **M** If NRTS Co fails to submit a proposal and quotation by the submission deadline or it had earlier submitted a Rejection Notice, the HA shall consider its options. Typically, the HA will require that the Project Specification shall be processed by NRTS Co through the *Manage Open Supply* process (section 7.3).
- 7.2.17 [Not Used]

- 7.2.18 **M** If the proposal or quotation is rejected by the HA, or NRTS Co cannot agree to the conditions specified by the HA for its acceptance, the HA may, at its sole discretion, require NRTS Co to proceed via the *Manage Open Supply* process (section 7.3).
- 7.2.19 **M** If the HA accepts the proposal, the HA shall issue NRTS Co with a written Instruction to Proceed. NRTS Co shall then proceed with the assignment as specified in the Project Specification and technical proposal, under the terms agreed in the commercial quotations, in compliance with the Specific Constraints set out in section 3.5 Schedule 1.1b (Statement of Requirements: Other Services). If there are elements of the Ad Hoc Project that need to be sub-contracted, NRTS Co shall procure these elements through the *Manage Open Supply* process (section 7.3). NRTS Co shall manage the Ad Hoc Project overall in accordance with the *Manage Projects* process (section 7.4).

### Performance

- 7.2.20 **M** NRTS Co shall in accordance with paragraph 4.2.2.42 prepare and agree with the HA a NRTS Process Standard for "*Preparation of Project Proposals*".
- 7.2.21 **M** This process shall be carried out to the performance standards specified in the NRTS Process Standard for "*Preparation of Project Proposals*".

## 7.3 Manage Open Supply

7.3.1 [Not Used]

<b>(M) Scope</b>	
7.3.1.1	This process covers managing the procurement of elements of, or entire, Ad Hoc Projects whose scope is defined in the associated Project Specification.
7.3.1.2	[Not Used]
<b>(I) Need</b>	
7.3.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
7.3.1.4	Competitive quotes and selection of a suitable contractor or supplier to undertake the work or supply the service described by the Project Specification.
7.3.1.5	Execution of a suitable sub-contract with the selected supplier (or direct contract with the HA) to undertake the work.
<b>(M) Applicability</b>	
7.3.1.6	Ad Hoc Projects, in whole or in part, relating to all Services (including consultancy services that need to be sub-contracted, e.g. to a specific technical specialist, as part of an overall Consultancy Service project).
<b>(I) Related processes</b>	
7.3.1.7	[Not Used]
<b>(M) Requirements</b>	
7.3.1.8	Refer to Additional Information section below.
<b>(M) Monitoring</b>	
7.3.1.9	NRTS Co shall draw up a procurement timetable to be agreed with the HA. NRTS Co shall be monitored against that timetable and the outputs of the process.
<b>(I) Frequency</b>	
7.3.1.10	[Not Used]

*Table 7-2 Manage Open Supply Process Template*

### Additional Information

- 7.3.2 [Not Used]
- 7.3.3 **M** For those Ad Hoc Projects that the HA requires NRTS Co to act as its design consultant, NRTS Co shall be responsible for scoping and specifying the work and managing the procurement process on the HA's behalf. It will result in a contract between the HA and the selected contractor to undertake the whole of the Ad Hoc Project. NRTS Co shall then act as the managing consultant on the HA's behalf to oversee the execution of the Ad Hoc Project in accordance with the *Manage Projects* process (section 7.4).
- 7.3.4 **M** The trigger events for this process shall be:
- The HA prepares a Project Specification and instructs NRTS Co to undertake this *Manage Open Supply* process.
  - NRTS Co prepares a Project Specification which is agreed by the HA, and the HA instructs NRTS Co to undertake this *Manage Open Supply* process.
  - NRTS Co prepares a proposal for an Ad Hoc Project (in accordance with the *Prepare Project Proposal* process (section 7.2)) that is accepted by the HA and which requires some elements, or the whole project, to be outsourced.
  - The rejection by NRTS Co (via a Rejection Notice) of a Project Specification prepared by the HA, or submission by NRTS Co of a proposal and quotation for the Ad Hoc Project which is unacceptable to the HA. After considering its options, the HA chooses to instruct NRTS Co to undertake this *Manage Open Supply* process.
- 7.3.5 [Not Used]
- Figure 7-2 [Not Used]*
- 7.3.6 **M** NRTS Co shall develop and revise the Project Specification as appropriate to make it suitable for external suppliers to bid for, e.g. modifying the scope of work or breaking it down into smaller contractable units. This shall be done in liaison with the HA "customers" for the Ad Hoc Project.
- 7.3.7 **M** NRTS Co shall draw up a list of potential suppliers for the project and a procurement timetable and plan giving key dates and milestones.
- 7.3.8 **M** NRTS Co shall submit the revised Project Specification, the budget, the list of potential bidders and the procurement plan to the HA for its agreement. The procurement process shall not begin until NRTS Co has obtained written consent, in the form of an Instruction to Proceed, from the HA.
- 7.3.9 **M** NRTS Co shall be responsible for administration of the procurement process including preparation and distribution of the invitations to bid, receipt of bids, evaluation of bids and award of contract.
- 7.3.10 [Not Used]
- 7.3.11 **M** NRTS Co shall provide a full breakdown of all its costs incurred in carrying out this process. If NRTS Co will not be carrying out any of the work of the Ad Hoc Project itself, i.e. it is acting in the role of design consultant on the HA's behalf, then the HA will pay NRTS Co for this work as a Consultancy Service.



- 7.3.12      **M**      The HA shall have a right of veto over the results of the evaluation. NRTS Co shall demonstrate to the HA's satisfaction that the procurement process has been sufficiently open and competitive to achieve best value for money for the HA. The project budget must be acceptable and affordable to the HA.
- 7.3.13      [Not Used]
- 7.3.14      **M**      If NRTS Co will be carrying out part of the work of the Ad Hoc Project itself, then NRTS Co shall negotiate and agree a sub-contract between itself and the selected supplier and shall ensure that all relevant principles of procurement law are not breached either by NRTS Co and/or on behalf of the HA. NRTS Co shall be responsible for ensuring that it, together with its sub-contractor(s), will meet the HA's requirements as set out in the agreed Project Specification. NRTS Co shall bear the risk associated with non-performance by its sub-contractor.
- 7.3.15      **M**      When a prospective sub-contractor has been selected and agreed by the HA in accordance with Clause 24 of the Project Agreement, the HA will issue a written Instruction to Proceed to NRTS Co and NRTS Co shall execute the contract with the selected sub-contractor.

### Performance

- 7.3.16      **M**      NRTS Co's performance of this process shall be monitored against:
- the key dates and milestones identified in the agreed procurement plan;
  - the quality of the outputs produced.

## 7.4 Manage Projects

7.4.1 [Not Used]

<b>(M) Scope</b>	
7.4.1.1	This process covers the management of Ad Hoc Projects once NRTS Co has been given an Instruction to Proceed by the HA.
<b>(I) Need</b>	
7.4.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
7.4.1.3	A project plan and updates to the NRTS Forward Programme.
7.4.1.4	Updates to all systems, Records and Registered Documents (schedules, drawings, etc.) affected by the Ad Hoc Project.
7.4.1.5	Progress reports to the HA Contract Manager.
<b>(M) Applicability</b>	
7.4.1.6	Commissioned activities relating to any of the Services.
<b>(I) Related processes</b>	
7.4.1.7	[Not Used]
<b>(M) Requirements</b>	
7.4.1.8	Refer to Additional Information section below.
<b>(M) Monitoring</b>	
7.4.1.9	This is the monitoring process for Ad Hoc Projects.
<b>(I) Frequency</b>	
7.4.1.10	[Not Used]

*Table 7-3 Manage Projects Process Template*

### Additional Information

7.4.2 [Not Used]

7.4.3 [Not Used]

7.4.4 **M** On receiving an Instruction to Proceed, NRTS Co shall plan and programme the Ad Hoc Project, i.e. preparing a project plan. NRTS Co shall also record key project phases and milestones in the NRTS Forward Programme.

7.4.5 **M** NRTS Co shall manage the progress of all current Ad Hoc Projects according to the project plans, the NRTS Forward Programme and the agreed budgets for those projects.

- 7.4.6 **M** NRTS Co shall provide written reports on the progress of each Ad Hoc Project comprising:
- progress in last month;
  - progress planned in next month;
  - progress against plan and budget;
  - any changes to the project plan;
  - any staffing and other resourcing issues;
  - any exceptional items.
- 7.4.7 **M** The progress reports shall be tabled and may be discussed at meetings between the NRTS Co and HA Contract Manager in accordance with the *Manage Contract* process (section 2.2).
- 7.4.8 **M** NRTS Co shall ensure that all Ad Hoc Project work undertaken, whether by itself or by its sub-contractors, shall comply with the Schedule 1.3 (Statement of Requirements: General Constraints), particularly where the Ad Hoc Project involves roadside activities, and all its other obligations under the NRTS Contract.
- 7.4.9 [Not Used]

#### Performance

- 7.4.10 **M** The performance of the Ad Hoc Project shall be monitored against the key milestones and deliverables identified in the project plan and the NRTS Forward Programme.

## **8            TRANSITION PROCESSES**

### **8.1           Introduction**

8.1.1        **M**     The *Transition* Processes are once-off processes that cover all the required activities leading up to the Base Service Charge Date and also the handing back of the Services by the Expiry Date or the earlier termination of the NRTS Contract.

8.1.2        [Not Used]

8.1.3        [Not Used]

8.1.4        [Not Used]

8.1.5        [Not Used]

*Table 8-1 [Not Used]*

8.1.6        [Not Used]

8.1.7        [Not Used]

**8.2           [Not Used]**

**8.3           [Not Used]**

**8.4           [Not Used]**

## 8.5 Prepare Service

### 8.5.1 [Not Used]

<b>(M) Scope</b>	
8.5.1.1	This once-off NRTS Process covers the preparation activities NRTS Co is required to complete before it can Take-On any of the Services.
<b>(I) Need</b>	
8.5.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
8.5.1.3	The output of this process is successful delivery of the plans for Service Take-On agreed with the HA as at the Execution Date. The preparation includes completion of the milestone events identified in Annex F.
8.5.1.4	This includes the production and agreement of items identified below.
<b>(M) Applicability</b>	
8.5.1.5	All Services to be Taken-On.
<b>(I) Related processes</b>	
8.5.1.6	[Not Used]
<b>(M) Requirements</b>	
8.5.1.7	See below.
<b>(M) Monitoring</b>	
8.5.1.8	Day to day observation of the progress of NRTS Co in completing preparation tasks in accordance with the agreed plan for Service Take-On and successful completion of milestones events and acceptance tests in accordance with Annex F.
<b>(M) Frequency</b>	
8.5.1.9	Once for each Service

*Table 8-2 Prepare Service Process Template*

### Asset Transfer, Latent Defects and Remedial Works

- 8.5.2 [Not Used]
- 8.5.3 [Not Used]
- 8.5.4 **M** Prior to the Relevant Assumption Date, NRTS Co shall identify and plan any Legacy Asset Remedial Works it believes to be necessary to eliminate or mitigate the performance, compliance or statutory risks it will be exposed to, particularly in relation to the Legacy Assets.
- 8.5.5 **M** Legacy Asset Remedial Works means work undertaken on Legacy Assets to repair and remediate them to bring them up to a standard that:
- (other than for those non-compliant aspects of the Assets as recorded on the Waived Non-Compliance List) complies with NRTS Project and Process Standards;
  - complies with Health and Safety and other statutory obligations; and
  - is in a condition that NRTS Co is satisfied adequately mitigates the performance risk associated with the Asset.
- Where a Legacy Asset does not comply with Health and Safety regulations remedial work will be carried out either by the HA before the Relevant Assumption Date or by NRTS Co after the Relevant Assumption Date under an Ad Hoc Project (section 7).

### *Performance Risk*

- 8.5.5.1 **M** NRTS Co shall take all performance risk on all Assets (including those recorded on the Waived Non-Compliance List) from the Relevant Assumption Date until the earlier of the Expiry Date and the early termination of the NRTS Contract.

### *Compliance Risk*

- 8.5.5.2 **M** It may be that some of the Legacy Assets which will become the responsibility of NRTS Co on the Relevant Assumption Date currently breach the NRTS Project and Process Standards. The Applicable Standards for an Asset shall be:
- The installation standards such as the DMRB, prevailing at the time of installation.
  - The condition standards, such as the NRTS Project Standard for “*Appearance and Impact on Surroundings*” that were prevailing at the time of inspection.
- 8.5.5.3 [Not Used]
- 8.5.5.4 [Not Used]
- 8.5.5.5 [Not Used]

### *Waived Non-Compliance List*

- 8.5.5.6 [Not Used]
- 8.5.5.7 [Not Used]
- 8.5.5.8 [Not Used]
- 8.5.5.9 **M** Waived Non-Compliance List has the meaning given in Clause 1.1 (Definitions). All Assets individually identified on the Waived Non-Compliance List shall be waived from all liability under the Non-Compliances section of Part 1 Schedule 27 (Service Credit Regime) relating to the particular characteristic and paragraphs of the named standard(s) that the Asset is non-compliant with until the record of the Waived Asset has been removed from the Waived Non-Compliance List in accordance with its definition in Clause 1.1 of the Project Agreement (Definitions) EXCEPT THAT all the performance risk, Health and Safety liability and other statutory obligations remain entirely with NRTS Co.
- 8.5.5.10 **M** Where the circuit length exceeds HA standards for STIs in Service Categories 1, 2 and 3 and for Service Types 4A and 4B the following shall apply:
- the Non-Compliance of excess length shall qualify as a waived Non-Compliance;
  - NRTS Co shall be responsible for ensuring the performance of such STIs shall be as described in paragraph 14.9.6.1 Schedule 1.1a (Statement of Requirements: Transmission Service).
- 8.5.5.11 **M** Prior to the Relevant Assumption Date, NRTS Co is permitted to add Legacy Assets to the Waived Non-Compliance List in accordance with Clause 11.21 of the Project Agreement (Inspection of Legacy Assets and Non-Compliance). From the Relevant Assumption Date, compliance risk on all Legacy Assets thereafter discovered to be non-compliant with Applicable Standards rests with NRTS Co.

### *Health and Safety Risk*

- 8.5.5.12 [Not Used]
- 8.5.5.13 **M** After the Relevant Assumption Date, NRTS Co shall be responsible for all Assets in respect to Health and Safety Laws and its other statutory obligations. Unlike compliance risk, the health and safety risk will arise from statutory obligations on NRTS Co, as the then responsible contractor which cannot be waived.
- 8.5.5.14 **M** Various Assets for which the HA retains a maintenance responsibility such as Access Infrastructure and Protection Infrastructure are made available to NRTS Co. The HA is satisfied that the condition of such assets meets (in some cases with planned maintenance in the future) health and safety requirements. Subject to Clause 20.2 of the Project Agreement (Observance of Health and Safety Law), NRTS Co may use these assets entirely at its own risk in respect of its statutory responsibilities or it may make alternative arrangements (at its own cost).
- 8.5.5.15 **M** NRTS Co shall plan whatever Legacy Assets Remedial Works programme it deems necessary to meet its statutory obligations in respect of those Assets for which it will assume responsibility on the Relevant Assumption Date.
- 8.5.5.16 [Not Used]

### *Carrying Out The Remedial Works*

- 8.5.5.17 **M** NRTS Co shall schedule and carry out the Remedial Works as part of its planned maintenance activities or, where appropriate, as part of its renewals programme (as agreed with the HA and manifested in the Predictive Asset Management System and NRTS Forward Programme in accordance with the *Build Transmission Service* process at paragraph 8.7.1.9) and transition plans more generally (as agreed with the HA and manifested in the Plans for Service Take-On in accordance with the *Prepare Service* process at paragraph 8.5.20.14).
- 8.5.5.18 **M** Remedial Works shall be carried out to NRTS Co's agreed plans and at its cost.

### Redundant Equipment

- 8.5.6 **M** Prior to the Relevant Assumption Date, in a similar manner as for the Waived Non-Compliance List, NRTS Co shall identify those assets that are already redundant or that will be rendered redundant by the proposed Service Solution and, in agreement with the HA, add them to the Redundant Equipment List as defined in Clause 1.1 of the Project Agreement (Definitions). In accordance with Clause 15.2 (Removal of Equipment set out in the Redundant Equipment List), the HA may require NRTS Co to remove such equipment, though the HA is under no obligation to do so.

### Transition Requirements – All Services

- 8.5.7 **M** The transition from the current arrangements to the Take-On of the Services by NRTS Co shall have 3 main steps:
- Step 1a – Access to the roadside for survey and inspections, including non-intrusive testing on Project Road Network relating to any of the Services.
  - Step 1b – Commence civil and construction works.
  - Step 2 – Operation, maintenance, sustainment and new works relating to the National Transmission Network.
  - Step 3 – Operation, maintenance, sustainment and new works relating to the local connections and Service Type Instances.

Table 8-3 summarises the requirements by Service.

- 8.5.7.1 **M** Highway Land (or Operational Land) means any land within the highway boundary on the Trunk Road Network.:
- 8.5.8 [Not Used]



Service	Step 1a/ Step 1b	Step 2	Step 3	Notes
Transmission Service	Yes	Yes	Yes	To provide a Service Type Instance (the basic unit of the Transmission Service) NRTS Co must have all procedures in place to allow safe working on Project Road Network (Step 1a), commencement of civil and construction work (Step 1b), it must be running the National Transmission Network (Step 2) and have done everything necessary to commence Taking On all local circuits within a PCO Area / other Trial Area (Step 3).
Aerial Site Service	Yes	*	*	To construct Aerial Sites, NRTS Co must have completed Step 1b.  * In order to provide backhaul services over the National Transmission Network Steps 2 and 3 are also required (alternatively MNO's may use their own fixed radio links for backhaul).
Camera Mast Service	Yes	No	No	This Service does not use the Transmission Service and could be Taken-On after Step 2 requirements have been completed.
Consultancy Service	+	+	+	+ NRTS Co can undertake study projects at any time after the Execution Date. However, NRTS Co may require works access to the roadside (Step 1a), commencement of civil and construction work (Step 1b) the National Transmission Network (Step 2) or local circuits (Step 3) for some consultancy projects.

Table 8-3 Prepare Service Requirements by Service

**Step 1a**

- 8.5.9 **M** The preparation for Step 1a shall include the following activities:
- development, and agreement with the HA, of the initial procedures for identification and labelling (by bar coding where applicable) of Assets;
  - preparations necessary to fulfil the requirements of NRTS General and Service Specific Constraints;
  - preparations necessary to fulfil the requirements of all NRTS Processes, including starting to establish the systems, functions and resources needed to undertake the NRTS Processes;
  - demonstration to the HA that NRTS Co staff are ready and responsible to perform surveys and non-intrusive testing on the roadside (e.g. training requirements have been met);

The requirements for demonstrating that the conditions have been met to achieve Step 1a shall be as defined in Annex F.4.

- 8.5.10 **M** NRTS Co shall submit the evidence required for Step 1a as listed in Annex F.4 to the HA to seek its consent to proceed. The HA shall have a Right of Objection, Category 2, or as agreed otherwise agreed in the Submission Plan in relation to this submission. Step 1a shall not be deemed to have been completed until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events). NRTS Co shall not be permitted access to the roadside until it has completed Step 1a.

Step 1b

- 8.5.11 **M** NRTS Co shall undertake the following activities in preparation for Step 1b which shall be completed in accordance with paragraph 8.5.12 before NRTS Co shall be able to commence civil and construction works:
- continued preparations necessary to fulfil the requirements of Constraints;
  - continued preparations necessary to fulfil the requirements of all NRTS Processes NRTS Co;
  - Health and Safety, CDM and QA procedures in place, including demonstration of NRTS Co's competence to act as Principal Contractor in accordance with the CDM Regulations;
  - demonstration to the HA that NRTS Co staff are ready and responsible to work on the roadside (e.g. training requirements have been met);
  - documentation of the relevant operational, technical and physical interfaces (i.e. the limit of NRTS Co's obligations);
  - Have obtained all necessary Consents;
  - development, and agreement with the HA, of the relevant procedures for identification and labelling (by bar coding where applicable) of Assets;
  - continuing monitor and capture of HA requirements to develop the NRTS Forward Programme in preparation for the *Capture Requirements and Plan* process (section 5.13).

The requirements for demonstrating that the conditions have been met to achieve Step 1b shall be as defined in Annex F.4.2.

- 8.5.12 **M** NRTS Co shall submit the evidence required for Step 1b as listed in Annex F.4 to the HA to seek its consent to proceed. The HA shall have a Right of Objection, Category 2, in relation to this submission. Step 1b shall not be deemed to have been completed until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events). NRTS Co shall not be permitted to commence civil and construction works until it has completed Step 1b.
- 8.5.12.1 **M** After the completion of Step 1b, NRTS Co shall be allowed to commence civil and construction works and other works that do not affect the existing National Transmission Network. NRTS Co shall not commence the following until after the Interim Service Start Date:
- any works that affect the existing National Transmission Network, including any work on existing Transmission Stations,
  - fibre reallocation work as defined in paragraph 8.7.2.

Transmission Service Transition

- 8.5.13 **M** Once Step 1a has been completed in accordance with paragraph 8.5.10, NRTS Co shall shadow the current NTMC for a short period (expected to be no longer than 1 month) in order to gain experience in maintaining the current National Transmission Network. When NRTS Co has completed Step 2 in accordance with paragraph 8.5.19, NRTS Co shall be permitted to Take-On the operation and maintenance of the existing National Transmission Network (termed the Interim Service as defined in Clause 1.1 of the Project Agreement (Definitions)). The date of the Take-On of the Interim Service is termed the Interim Service Start Date. It is a single "big bang" Take-On of the whole NTMC role nationally (in contrast with the Take-On of local connections which is done area-by-area – see paragraph 8.5.20).
- 8.5.14 **M** Also following the completion of Step 1a, NRTS Co shall shadow the current NTWC for a short period in order to gain experience and demonstrate to the HA its ability to carry out the NTWC tasks.

8.5.15 [Not Used]

8.5.16 **M** Following the occurrence of each of Step 1a and Step 1b, but prior to the Interim Service Start Date, at the time NRTS Co or any Contractor Party undertakes or performs:

- a) any survey, audit or labelling works; and
- b) any civil and construction works.

(together the “Step 1 Works”)

NRTS Co shall:

- in connection with the Step 1 Works provide the RMC and the NTMC and NTWC with reasonable notice of the activities to be undertaken by NRTS Co or any Contractor Party, the programme of events and the proposed method of working;
- take due account of any comments received from the RMC, NTMC and/or NTWC;
- invite the HA contractor who is responsible for those Assets connected with the relevant Step 1 Works to be present during the period in which such works are being carried out and to take account of all reasonable requirements and instructions of the relevant HA contractor.

NRTS Co shall be responsible for the costs of any damage or outage that is a direct consequence of any act or omission of NRTS Co or any Contractor Party during these works in accordance with Clauses 44 and 45 of the Project Agreement.

Step 2

- 8.5.17      **M**      NRTS Co shall undertake the following activities in preparation for Step 2 which shall be completed in accordance with paragraph 8.5.19 before NRTS Co shall be able to Take-On the Interim Service:
- establishment of the fault monitoring facilities including the Fault Management System itself;
  - continued preparations necessary to fulfil the requirements of Constraints;
  - continued preparations necessary to fulfil the requirements of all NRTS Processes, including agreement of the principles for Factory Acceptance Testing and Site Acceptance Testing in accordance with the *Get Consent to Service Solution* process (section 4.3) which NRTS Co must undertake before it can deploy any new Service Solution;
  - audit and confirmation of all HA Assets to be taken over on the Interim Service Start Date;
  - agreed inventory of all communications cabling and other NMCS equipment (such as cabinets) in Yate stores to be passed to NRTS Co and their removal by NRTS Co, in accordance with paragraph 1.5.13;
  - checking and, as necessary, population of the National On-Line Motorway Asset Database (NOMAD);
  - initial build and population of the Predictive Asset Management System (PAMS), including Records associated with the Transmission Service;
  - initial build and population of the Planned Maintenance Schedule and undertaking of any remedial works required by the current assets;
  - recording of all damaged cables and temporary repairs from records kept by the NTMC, NTWC and RMC on the Predictive Asset Management System;
  - plans for labelling of power supplies, where applicable separating fusing and isolation arrangements of what will become NRTS Co equipment in shared HA cabinets, and other activities relating to power supplies (in accordance with the *Power Supplies* constraint section 2.5 Schedule 1.3 (Statement of Requirements: General Constraints));
  - surveying by NRTS Co of all buildings and cabinets (including Transmission Station buildings) to identify any equipment and power arrangements that are not covered under the NRTS Contract. The HA and NRTS Co shall agree arrangements for their removal or (exceptionally) special access arrangements for their on-going maintenance;
  - finalisation of the format and presentation of monthly network performance/availability reports and other management reports for the Interim Service;
  - establishment of an overview programme for Service Take-On activities;
  - establishment of work-shadowing arrangements with the existing NTMC and NTWC operations;
  - audit of current Telecommunications Bypass arrangements;
  - population of the NRTS Forward Programme with current and planned future national transmission works;
  - development and agreement with the HA of the Service Handback Plan for the NRTS Transmission Network;
  - Planned Carrier Interruption process;
  - Shadowing of NTMC has taken place;

- NRTS Co has assembled engineering and management team to cover all work disciplines currently performed by NTMC;
- capture of relevant site specific Service Delivery Point (SDP) Record information, where SDP interface Record information does not relate to existing standard details or records;
- Develop, document and agree, in accordance with section 4.3 test procedures for all Services to be Taken-On;
- documentation of the all operational, technical and physical interfaces (i.e. the limit of NRTS Co's obligations);
- development, and agreement with the HA, of the procedures for identification and labelling (by bar coding where applicable) of Assets;

The requirements for demonstrating that the conditions have been met to achieve Step 2 shall be as defined in Annex F.5.

- |          |          |  |
|----------|----------|--|
| 8.5.18   | <b>M</b> | The responsibilities, scope and functions of the Interim Service shall be as defined in Clause 1.1 of the Project Agreement (Definitions).   |
| 8.5.19   | <b>M</b> | NRTS Co shall submit the evidence required for Step 2 in accordance with Annex F.5 to the HA to seek its consent to proceed. This shall be a Hold Point Submission, Category 3, Step 2 shall not be deemed to have been completed until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).  |
| 8.5.19.1 | <b>M</b> | Following Step 2 (Interim Service Start Date): <ul style="list-style-type: none"> <li>• NRTS Co will commence labelling of power supplies and applicable separating fusing and isolation arrangements of what will become NRTS Co equipment in shared HA cabinets, and other activities relating to power supplies (in accordance with the <i>Power Supplies</i> constraint section 2.5 Schedule 1.3 (Statement of Requirements: General Constraints));</li> <li>• NRTS Co shall commence rationalisation and re-splicing of existing fibres, using multiplexing equipment and local connection changes where required.</li> </ul> |

Step 3

- 8.5.20 **M** NRTS Co shall undertake the following activities in preparation for Step 3 on completion of which, in accordance with paragraph 8.5.20.1, NRTS Co shall be able to commence Take-On responsibility for the operation, maintenance, sustainment and new works relating to the local connections and Service Type Instances within any RMC Area:
- completion of the performance monitoring system for local STIs and the Fault Management System;
  - production of a list of Service Type Instances to be “Live” following Service Take-On, i.e. populating the Service Schedule. This can include operating and maintaining existing STIs that are partly or wholly compliant with Generic Service Types (such as the IP-based services that currently are used in the M25 Controlled Motorway scheme);
  - building and population of the Predictive Asset Management System, including STI/SDP attributes and all associated Records;
  - audit and confirmation of all HA assets and services to be taken over on each RMC Area Take-On Date;
  - verification and non-intrusive testing by NRTS Co of the condition and performance of existing STIs to satisfy any NRTS Co requirements before Service Take-On;
  - audit of current local telecommunications bypass arrangements and the schemes they are supporting;
  - population of the NRTS Forward Programme with current and planned future works;
  - building and population of the Planned Maintenance Schedule and undertaking of any Remedial Works required to the current assets;
  - finalisation and agreement of the Service Handback Plans;
  - finalisation of the format and presentation of monthly network performance/availability report and other management reports;
  - finalisation of the Service Take-On Plan developed in accordance with *Develop Registered Document* (section 4.2);
  - NRTS Co has assembled engineering and management team to cover all work disciplines currently performed by NTMC/NTWC/RMC/MAC/CQAC etc.;
  - Continued preparations to fulfil NRTS Constraints;
  - Continued preparations to fulfil NRTS Processes;
  - STIs and other assets live following Service Take-On have been audited;
  - Schedule of all leased Assets and services in each RMC Area has been produced;
  - Where applicable labelling of power supplies of NRTS equipment in shared HA cabinets has taken place.

The requirements for demonstrating that the conditions have been met to achieve Step 3 shall be as defined in Annex F.6.

- 8.5.20.1 **M** NRTS Co shall submit the evidence required for Step 3 in accordance with Annex F.6 to the HA to seek its consent to proceed. The HA shall have a Right of Objection, Category 2, or as agreed otherwise agreed in the Submission Plan in relation to this submission. Step 3 shall not be deemed to have been completed until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).

## Take-On of RMC Areas

### *1<sup>st</sup> (Trial) PCO Area or other Trial Area agreed with HA*

- 8.5.20.2 **M** On completion of Step 3 activities in accordance with paragraph 8.5.20.1 NRTS Co shall commence the Take-On of local services in accordance with the agreed Service Take-On Plan. In the first (trial) PCO Area or other Trial Area NRTS Co shall perform those obligations of the RMC that relate to the operation and maintenance of the STIs and the local transmission network as set out in Annex G.1 (subject to the scope of NRTS Co's obligations under the NRTS Contract) for a trial operating period. The duration of the trial period for each area shall be as specified in PSDS-033. During the trial period, NRTS Co shall work with the RMC to provide the local transmission services. This period will endure for a sufficient time such that both Parties are content that the new NRTS Co processes, systems, operations and maintenance interfaces are working satisfactorily and the successful conclusion will be evidenced in accordance with Annex F.10.1.1. Lessons learnt during this period shall be fed back by NRTS Co into the development of their processes, systems and interfaces
- 8.5.20.3 **M** Following satisfactory completion of this trial period in accordance with the requirements set out in Annex F.10. NRTS Co shall assume all day-to-day responsibility for the operation and maintenance of the STIs in this PCO Area/other Trial Area. However, the RMC will retain 'ownership' of the assets and ultimate responsibility for the local transmission network until the RMC Area Take-On Date (in accordance with paragraph 8.5.20.9). The date of this event is termed the 1st Partial Area Take-On Date. NRTS Co's performance in this area shall start being monitored in accordance with Schedule 27 (Service Credit Regime).

### *2<sup>nd</sup> (Trial) PCO Area or other Trial Area agreed with HA*

- 8.5.20.4 **M** After the 1st Partial Area Take-On Date, NRTS Co shall repeat the activities set out in paragraph 8.5.20.2 to establish the new processes and interfaces within a second PCO Area or other Trial Area as specified in PS-DS033, in the same RMC Area. The duration of the trial periods shall be specified in PS-DS033.. The successful conclusion will be evidenced in accordance with Annex F.10.1.1.
- 8.5.20.5 [Not Used]
- 8.5.20.6 **M** As with the 1st PCO Area or other Trial Area, lessons learnt during the operation of this 2nd Area shall be fed back by NRTS Co into the development of its processes, systems and interfaces.
- 8.5.20.7 **M** Following satisfactory completion of this second trial period in accordance with the requirements set out in Annex F.10, NRTS Co shall, assume all day-to-day responsibility for the operation, and maintenance of the STIs in this PCO Area/other Trial Area. As already stated in paragraph 8.5.20.3, however, the RMC will retain 'ownership' of the assets and ultimate responsibility for the local transmission network until the RMC Area Take-On Date (in accordance with paragraph 8.5.20.9). The date of this event is termed the 2nd Partial Area Take-On Date. NRTS Co's performance in this second Area shall also start being monitored in accordance with Schedule 27 (Service Credit Regime).



*Remainder of PCO Areas or other Trial Areas, within an RMC Area*

- 8.5.20.8     **M**     Subject to the HA's agreement NRTS Co shall Take-On the operation and maintenance of local connections and Service Type Instances for any remaining PCOs/RCCs within a single RMC Area before submitting to qualify for the 1st Partial Area Take-On Date for the first PCO Area or other Trial Area, as agreed with the HA, in another RMC Area. Preparation activities (in accordance with paragraph 8.5.20.2) can, however, be undertaken in different RMC Areas in parallel.
- 8.5.20.9     **M**     The event of Taking-On a whole RMC Area shall be termed the <nth> RMC Area Take-On Date (where 'n' will be 1 to 8). NRTS Co shall submit the evidence required for the RMC Area Take-On in accordance with the *Take-On Service Area* Process (section 8.6). On an RMC Area Take-On Date NRTS Co becomes subject to Schedule 27 (Service Credit Regime) for the entire RMC Area. It is also the Relevant Assumption Date for all Assets in that RMC Area meaning (in accordance with paragraph 8.5.5.11) that NRTS Co assumes performance risk and compliance risk (excluding the compliance risk on the non-compliant aspects of those Assets on the Waived Non-Compliance List) and its statutory responsibilities as the contractor responsible for the safety of installations and Assets.
- 8.5.20.10    [Not Used]

*Take-On of the remaining RMC Areas*

- 8.5.20.11    **M**     In each new RMC Area the Take-On of the first and (where applicable) second PCO Areas and/or other Trial Areas agreed with the HA shall be treated as trials whereby the interfaces and procedures, that need to be developed in detail with each RMC, can be tried out and refined for application in the remaining PCOs/RCC in that RMC Area. These, and subsequent operation and maintenance transitions, shall be in accordance with a plan and methodology developed by NRTS Co, in accordance with the *Develop Registered Document* process (section 4.2), to take account of lessons learnt from the first trial area (or areas)) Taken-On.
- 8.5.20.12    [Not Used]
- 8.5.20.13    **M**     Subsequent RMC Areas shall be transferred to NRTS Co according to the agreed Service Take-On Plan until all STIs are the responsibility of NRTS Co. NRTS Co must Take-On its responsibilities for all PCOs and/or the RCC in an RMC Area before Taking-On the next RMC Area, this shall not prevent the NRTS Co take-on of RMC Areas in parallel. The date when NRTS Co Takes-On the last PCO/RCC in the last RMC Area, in accordance with the *Take-On Service Area* process (section 8.6) shall be termed the Actual Service Start Date for the Transmission Service.



### *Planning and Monitoring*

- 8.5.20.14     **M**     Prior to the Interim Service Start Date, NRTS Co shall produce in accordance with the *Develop Registered Document* process (section 4.2) the Service Take-On Plan for the Transmission Service, which is a plan for the Take-On of the Transmission Service on an RMC Area by RMC Area basis. This plan shall become part of the NRTS Forward programme. NRTS Co shall review and update the plan in accordance with the *Capture Requirements and Plan* process (section 5.13).
- 8.5.20.15     **M**     During the HA's RCC migration programme, NRTS Co shall allow access to their network and Assets to other contractors who are reconfiguring circuits from PCOs to RCCs. NRTS Co shall manage access to the telecommunications network in the areas which it has Taken-On (i.e. from the relevant RMC Area Take-On Date) and use all reasonable endeavours through the effective coordination of the activities of the various parties to minimise delay and disruption to the parties concerned. All activities related to this requirement shall be paid for under the Base Service Charge.
- 8.5.20.16     [Not Used]

### *Transition of HA Cable Installation Activities*

- 8.5.20.17     **M**     At the Execution Date, a number of HA contracts installing cable infrastructure will be continued through to completion by the extant contractor. This will result in cable installation contracts working alongside NRTS Co for some time after the Execution Date. NRTS Co shall manage access to the network in the areas which it has Taken-On and use all reasonable endeavours through the effective coordination of the activities of the various parties to minimise delay and disruption to the parties concerned.
- 8.5.20.18     [Not Used]
- 8.5.20.19     [Not Used]

### *Transition of Cable Testing Activities*

- 8.5.20.20     **M**     The Cable QA Consultant (CQAC) is a specialist consultant who approves cable loading patterns produced by the cable design consultants and witnesses the cable testing performed by the cable installation contractors. The duties of the CQAC include those set out in Annex G.2. NRTS Co shall start to shadow the CQAC at the Interim Service Start Date and subsequently assume the role of the CQAC on the RMC Area Take-On Date, for each RMC Area. NRTS Co shall thereafter witness the testing of cables delivered by extant cabling schemes within the areas where NRTS Co has taken over this responsibility. NRTS Co's witnessing of these tests shall provide assurance that cable installations provided by others after the Execution Date shall be compliant with the cable testing requirements of the Design Manual for Roads and Bridges and other referenced documents. The responsibilities of CQAC will diminish as NRTS Co Takes-On RMC Areas and will be subsumed entirely by NRTS Co on the Actual Service Start Date for the Transmission Service.
- 8.5.20.21     [Not Used]

### *Transition of Provisioning Activities*

- 8.5.20.22 [Not Used]
- 8.5.20.23 **M** Any Provisioning activities or other Tasks which have been ordered by the HA with other contractors, such as, the RMC, prior to NRTS Co Taking-On an RMC Area shall be completed by the other contractor. NRTS Co shall (provided it is after the relevant Partial Area Take-On Date and/or the RMC Area Take-On Date for the area in which the STI(s) are located) Take-On responsibility for the STIs provisioned by the other contractor on their completion.
- 8.5.20.24 **M** After the RMC Area Take-On Date NRTS Co shall perform all Call-Off Tasks for all STIs in that Area ordered by the HA, excluding work in progress by those other contractors.
- 8.5.20.25 **M** In areas where the necessary network capability already exists to support hybrid generic IP-based services (in accordance with paragraph 8.7.4.17) the HA may order the Design, Provisioning, Activation, Deactivation or Removal of STIs of the same hybrid generic type:
- after the Interim Service Start Date; and
  - after the RMC Area Take-On Date for the relevant area; and
  - prior to any Generic Service Start Date for that area.
- 8.5.20.26 **M** After a Generic Service Start Date (as defined in paragraph 8.7.4.1) has been passed for an RMC Area, the HA may require new STIs of any Generic Service Type to be Designed, Provisioned, Activated, Deactivated, Removed or Converted in that area
- 8.5.20.27 [Not Used]

*Figure 8-1 [Not Used]*

### Camera Mast Service Transition

- 8.5.21 [Not Used]
- 8.5.22 **M** The transition of maintenance responsibilities for Camera Site Instances shall take place RMC Area by RMC Area, allowing the Camera Mast Service transition to be coordinated with the Take-On of the Transmission Service. Once NRTS Co has completed the Take-On of all the PCOs/RCC in an RMC Area, i.e. it has achieved an RMC Area Camera Mast Service Take-On Date, it shall carry out on-site works and maintenance activities in that area.
- 8.5.23 [Not Used]
- 8.5.24 [Not Used]
- 8.5.25 **M** When NRTS Co Takes-On maintenance responsibilities for Camera Site Instances in an RMC Area it shall undertake future Design, Provisioning, Activation, Deactivation and Removal Tasks in accordance with the *Tasking* Processes (section 6). Extant Camera Mast Site installation activities being undertaken by other contractors will continue to their completion, when new Camera Mast Sites will come under NRTS Co's maintenance responsibilities.

### Transition of Requirements Capture and Planning

8.5.25.1 [Not Used]

8.5.25.2 [Not Used]

#### *During the Transition Period*

8.5.25.3 [Not Used]

8.5.25.4 **M** NRTS Co shall satisfy itself that the initial forward programme developed by HA and passed to it prior to the Execution Date is complete and accurate. The HA will not warrant the completeness or accuracy of this programme.

8.5.25.5 **M** Thereafter, NRTS Co shall monitor HA requirements following the *Capture Requirements and Plan* process (section 5.13) and update the plan as required. During the Transition Period NRTS Co may need to liaise with Interfacing Organisations more frequently than subsequently during the Contract Term, in order to manage the transfer of STIs and PCO/RCC areas to NRTS Co's control effectively.

8.5.25.6 **M** NRTS Co shall take account of planned schemes for Roadside Infrastructure when designing and constructing the infrastructure to complete the SPC A requirements.

### Performance

8.5.26 **M** The HA shall monitor NRTS Co's performance in completing preparation tasks against the agreed plans for Service Take-On. Exceptions raised by either Party will be discussed, and remedial actions identified, through the *Manage Contract* process (section 2.2).

8.5.27 [Not Used]

8.5.28 [Not Used]

*Figure 8-2 [Not Used]*

## 8.6 Take-On Service Area

8.6.1 [Not Used]

<b>(M) Scope</b>	
8.6.1.1	This is an acceptance process. Through it the HA certifies that all <i>Prepare Service</i> (section 8.5) activities have been carried out satisfactorily and that NRTS Co can Take-On its responsibilities for operation, maintenance and Tasks under the NRTS Contract for the Aerial Site Service or the Consultancy Service on a national basis or, for the Transmission Service or the Camera Mast Service, on an RMC Area basis.
<b>(I) Need</b>	
8.6.1.2	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
8.6.1.3	The HA will issue a Service Completion Certificate to NRTS Co (upon satisfactory completion of all relevant <i>Prepare Service</i> activities) or an Area Completion Certificate where Take-On Service Area activities are completed to a staged programme.
8.6.1.4	The Service is added to the monthly invoice (refer to Schedule 30 (Payment Mechanism)).
<b>(M) Applicability</b>	
8.6.1.5	All Services.
<b>(I) Related processes</b>	
8.6.1.6	[Not Used]
<b>(M) Requirements</b>	
8.6.1.7	[Not used]
8.6.1.8	NRTS Co shall finalise the Service Take-On acceptance test specifications before the first submission to Take-On a Service.
8.6.1.9	The HA (or its appointed representative) will carry out the agreed checklist and other enquiries it may consider necessary, scheduled according to the agreed plans for achieving Service Take-On for each Service area.
8.6.1.10	Upon issue of a Completion Certificate or an Area Completion Certificate NRTS Co shall assume responsibility for the Service under the NRTS Contract.
<b>(M) Monitoring</b>	
8.6.1.11	This is an acceptance process. Outcomes will be discussed via the <i>Manage Contract</i> process (section 2.1).
<b>(M) Frequency</b>	
8.6.1.12	Once for each Service and part of a Service (the Transmission Service and Camera Mast Service will be Taken-On RMC Area by RMC Area).

Table 8-4 Take-On Service Area Process Template

8.6.2 [Not Used]

### Transmission Service and Camera Mast Service

- 8.6.3 [Not Used]
- 8.6.4 [Not Used]
- 8.6.5 **M** The requirements for demonstrating that all the conditions have been met to achieve an RMC Area Take-On Date shall be as defined in Annex F.11. NRTS Co shall submit the required evidence in accordance with Annex F.11 to the HA to seek its consent to proceed. This shall be a Hold Point Submission, Category B. An RMC Area Take-On shall not be deemed to have been completed until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).
- 8.6.6 **M** NRTS Co shall plan and manage the detailed arrangements involved in Taking-On its responsibilities under the NRTS Contract from the current contractor, after the HA has issued the relevant Completion Certificate for the Service or part of a Service.
- 8.6.7 **M** NRTS Co shall notify the HA of the actual RMC Area Take-On Date, for a service, from which date NRTS Co shall receive payment for that Service or part-Service (subject to the terms of Schedule 30 (Payment Mechanism) and shall be subject to its performance requirements and other Service obligations under the NRTS Contract.

### Aerial Site Service

- 8.6.8 [Not Used]
- 8.6.9 **M** The acceptance procedures to be defined and undertaken by NRTS Co for the Aerial Site Service shall demonstrate to the HA's satisfaction that NRTS Co has completed all the required *Prepare Service* activities and that it has all the resources, processes, systems and other capabilities in place to provide the Service competently and safely.
- 8.6.10 **M** The requirements for demonstrating that all the conditions have been met to achieve the Actual Service Start Date for the Aerial Site Service shall be as defined in Annex F.8. NRTS Co shall submit the required evidence in accordance with Annex F.8 to the HA to seek its consent to proceed. The HA shall have a Right of Objection, Category 2, or as agreed otherwise agreed in the Submission Plan, in relation to this submission. In accordance with Part 2 (Submissions) of Schedule 8 (Authority Events) the HA shall issue a Completion Certificate if it consents to the submission (or NRTS Co shall be deemed to be in receipt of a Completion Certificate if the HA's consent is deemed).
- 8.6.11 **M** NRTS Co shall not be permitted to operate the Aerial Site Service until it is in receipt of a Completion Certificate from the HA. NRTS Co shall notify the HA of the Actual Service Start Date for the Aerial Site Service following the issue of a Completion Certificate when NRTS Co assumes responsibility for providing the Aerial Site Service. NRTS Co shall not be permitted to provide backhaul services to support the Aerial Site Service until after the Interim Service Start Date.

### Consultancy Service

- 8.6.12      **M**      The acceptance procedures to be defined and undertaken by NRTS Co for the Consultancy Service shall demonstrate to the HA's satisfaction that NRTS Co has completed any required *Prepare Service* activities and that it has all the resources, processes, systems and other capabilities in place to provide the Service competently and safely.
- 8.6.13      **M**      The requirements for demonstrating that all the conditions have been met to achieve the Actual Service Start Date for the Consultancy Service shall be as defined in Annex F.7. NRTS Co shall submit the required evidence in accordance with Annex F.7 to the HA to seek its consent to proceed. The HA shall have a Right of Objection, Category 2, or as agreed otherwise agreed in the Submission Plan, in relation to this submission. In accordance with Part 2 (Submissions) of Schedule 8 (Authority Events) the HA shall issue a Completion Certificate if it consents to the submission (or NRTS Co shall be deemed to be in receipt of a Completion Certificate if the HA's consent is deemed).
- 8.6.14      **M**      NRTS Co shall not be permitted to provide the Consultancy Service until it is in receipt of the Completion Certificate from the HA. NRTS Co shall notify the HA of the Actual Service Start Date for the Consultancy Service following the issue of a Completion Certificate when NRTS Co is ready to provide the Consultancy Service (including those associated with undertaking Ad Hoc Projects as described in section 7).

### Performance

- 8.6.15      [Not Used]
- 8.6.16      **M**      NRTS Co's performance in Taking-On Services and Service Areas shall be monitored against the plans developed by NRTS Co. Exceptions raised by either party will be discussed, and remedial actions identified, through the *Manage Contract* process (section 2.2).

## 8.7 Build Transmission Service

8.7.1 [Not Used]

<b>(M) Scope</b>	
8.7.1.1	This process applies only to the Transmission Service.
8.7.1.2	[Not Used]
<b>(I) Need</b>	
8.7.1.3	[Not Used]
<b>(M) Output(s)/Objective(s)</b>	
8.7.1.4	In accordance with NRTS Co's agreed plan for Service Take-On and its Build Programme, an orderly roll out of Full Service Capability across the country and completion of its Build Programme.
8.7.1.5	Records of inspections of HA required upgrade tasks being completed.
8.7.1.6	Area Completion Certificates issued by the HA that signify the HA's satisfaction that the NRTS Transmission Network infrastructure has been delivered, and acceptance tests passed, in accordance with the agreed NRTS Co Build Programme.
<b>(M) Applicability</b>	
8.7.1.7	Transmission Service only.
<b>(I) Related processes</b>	
8.7.1.8	[Not Used]
<b>(M) Requirements</b>	
8.7.1.9	Prior to Step 1b of the <i>Prepare Service</i> process, NRTS Co shall prepare in accordance with the <i>Develop Registered Document</i> process (section 4.2) a Build Programme that includes the detailed plans by which Full Service Capability is to be achieved across the country within agreed timescales. The Build Programme shall be maintained and updated to take into account the HA's requirements via the <i>Capture Requirements and Plan</i> process (section 5.13). NRTS Co shall develop the Build Programme from the preliminary Build Programme agreed prior to the Execution Date.
8.7.1.10	NRTS Co shall incorporate the planned works in the NRTS Forward Programme, coordinating the work with other HA programmes through the <i>Capture Requirements and Plan</i> process (section 5.13).
8.7.1.11	Other requirements are as defined in Additional Information below.
<b>(M) Monitoring</b>	
8.7.1.12	NRTS Co's performance of this process shall be monitored against the Build Programme.
<b>(M) Frequency</b>	
8.7.1.13	This is a once-off process covering any phased plan for achieving Full Service Capability status for the Transmission Service.

Table 8-5 Build Transmission Service Process Template

### Additional Information

- 8.7.2 **M** Following the Interim Service Start Date NRTS Co shall ensure the availability of the required fibres by rationalising the utilisation of the existing fibres, using multiplexing equipment where required. Where NRTS Co can demonstrate and the HA agrees that such multiplexing is not capable of making the 4 fibres required for the NRTS Co solution available, the HA will issue appropriate instructions to NRTS Co.
- 8.7.3 **M** In addition to video multiplexing, NRTS Co shall maximise the availability of existing fibres and minimise disruption by:
- co-ordinating activities with the organisations undertaking the PCO to RCC migration;
  - co-ordinating the network development programme with any schemes identified in through the *Capture Requirement and Plan* process (section 5.13);
  - Consolidating work to free up fibres with the SC4 to SC10 conversions (refer to paragraph 8.7.4.6).

8.7.4 [Not Used]

### *Definitions*

- 8.7.4.1 **M** Full Service Capability shall mean, (for the Project Road Network) that:
- shorter notice periods apply for the Provisioning of Service Type Instances (see Table 6-6);
  - Generic Service Capability shall apply for all RMC Areas. Generic Service Capability shall mean only that different SPC Rules apply (refer to Annex H.1 Schedule 1.1a (Statement of Requirements: Transmission Service) such that NRTS Co shall Provision Generic Service Types under the Standard Price list if so Tasked by the HA. NRTS Co may declare earlier Generic Service Start Date(s) for particular RMC Area(s). A Generic Service Start Date for an RMC Area shall mean that Generic Service Capability (i.e. different SPC Rules) shall apply;
  - NRTS Co shall provide full SPC A capability in accordance with the SPC 'A' coverage detailed in the table in Annex A of Schedule 12 (Warranted Information).



- 8.7.4.2      **M**      The Build Completion Date shall follow the issue of the final Area Completion Certificate by the HA and shall mean that NRTS Co has completed the roll out of its network build programme as defined and agreed with the HA prior to the Execution Date and that it has fulfilled the following associated HA requirements:
- the conversion of all hybrid Generic (IP-based) Service Types as required by the Build Completion Date in accordance with paragraph 8.7.4.3 to comply fully with the definition of the appropriate Service Type (typically this will mean Service Type 8) specified in section 10 Schedule 1.1a (Statement of Requirements: Transmission Service);
  - for those RCC areas in which PCO to RCC migration has occurred 6 months previously or earlier, the conversion of all Service Type 4C (Bespoke CCTV video links) to Service Type 10Ax (switched video connections to the cameras) and Service Type 10Bx (connections to the switched video network at the PCO or RCC) and the completion of the associated requirements for digital video recording as required by the Build Completion Date in accordance with paragraph 8.7.4.6;
  - the completion of the longitudinal infrastructure in accordance with the SPC 'A' coverage detailed in the table in Annex A Schedule 12 (Warranted Information);
  - the availability of full system functionality for all NRTS Required Systems in accordance with paragraph B.1.2.5;
  - full diversity requirements for the NRTS Transmission Network have been met as described in section 15.14 Schedule 1.1a (Statement of Requirements: Transmission Service).

The requirements for demonstrating that all the conditions have been met to achieve the Actual Build Completion Date are detailed in Annex F.15.

#### *Conversion of hybrid Generic Service Types*

- 8.7.4.3      **M**      NRTS Co shall Take-On the operation and maintenance of some existing STIs that are hybrid Generic (IP-based) services. Though IP-based, they are not fully compliant with the specifications of the Generic Service Types section 10 to section 13 Schedule 1.1a (Statement of Requirements: Transmission Service). NRTS Co shall carry out whatever modifications are necessary to make them fully compliant as part of its activities in accordance with paragraphs 10.9.11, 10.9.11.1 and 10.9.11.2 Schedule 1.1a (Statement of Requirements: Transmission Service).

### *Conversion of Bespoke CCTV to Switched Video*

8.7.4.4 [Not Used]

8.7.4.5 [Not Used]

8.7.4.6 **M** NRTS Co shall convert (to the quantities indicated below) Instances of Service Type 4C that exist on the SPC A network (as defined in the SPC 'A' coverage detailed in the table in Annex A of Schedule 12 (Warranted Information) to Service Category 10, with the exception of the fixed cameras on M42 J4a to J7. The conversion of any particular STI shall be carried out by the later of:

- the Build Completion Date;
- and 6 months after the date the PCO in which the STI is found was migrated into its RCC.

This conversion work shall consist of:

- Converting Instances of Service Type 4C to Service Type 10AP. The quantity converted shall be:
  - a minimum of 810 STI (supported by suitably equipping 105 Transmission Stations), plus
  - such additional Instances of Service Category 4C as can be supported by the 182 spare encoder ports resulting from the conversion activity (refer also to paragraph 8.7.4.8).
- Provisioning 32 Instances of Service Type 10BD and 32 Instances of Service Type 10BMPEGx at each of the 7 RCCs.
- Ensuring that the Switched Video Network can function correctly with service control messages across the Service Control Interface (see paragraphs 12.11.16 and 12.11.17 Schedule 1.1a (Statement of Requirements: Transmission Service)).
- Removing all Instances of Service Types 4D and 4E where these are no longer required.

Where required, the Provisioning of all necessary Service Category 10BD and 10MPEG services at PCOs and other third party locations to replace existing Service Category 4 arrangements shall commence after the Transmission Full Service Start Date and shall be carried out to a programme that runs concurrently with the programme to convert RCCs to Service Types 10Bx and 10BMPEGx. Until these new services have been Provisioned NRTS Co shall maintain the existing arrangements for providing these video feeds.

8.7.4.7 **M** The *Build Transmission Service* process activities and the transition plan shall incorporate all necessary activities to complete conversion of all Service Type 4C to Service Type 10AP (as defined in paragraph 8.7.4.6) including obtaining consent for Service Category 10 in accordance with the *Get Consent to Service Solution* process (section 4.3).

8.7.4.8 **M** The conversion work (as defined in paragraph 8.7.4.6) shall be undertaken on a RMC Area by RMC Area basis. The conversion shall start after RMC Area Take-On Date and the *Convert Service* process (section 6.8) shall be followed. NRTS Co shall convert no later than 6 months after the Actual Build Completion Date, and at no additional cost to the HA, all instances of Service Type 4C beyond the 810 to be converted in accordance with paragraph 8.7.4.6, upto a maximum of 992 where permitted by the SPC Rules defined in Annex H Schedule 1.1a (Statement of Requirements: Transmission Service). Such conversions may trigger Enablements in accordance with the Enablement rules. The additional 182 Service Type 4C to be converted will use spare encoder ports available in the relevant Transmission Station. This conversion shall not affect the number or capacity of DVRs to be supplied under the Base Service Charge.

- 8.7.4.9 **M** NRTS Co shall minimise the CCTV down time at each PCO/RCC area. The maximum Allowable Outage Hours per STI/camera instance shall be as shown in Table 6-14.
- 8.7.4.10 **M** Where NRTS Co's plans involve operating a PCO/RCC area with a combination of Service Category 4 and Service Category 10 then the underlying Service Category will be transparent to the users.
- 8.7.4.11 **M** NRTS Co shall identify in the Service Take-On Plan the approach, key tasks, stages and timing of the Service Category 4 to Service Category 10 conversion.
- 8.7.4.12 **M** NRTS Co shall not commence the conversion of the Service Category 4 to Service Category 10 conversion in a PCO area until the circuits in that PCO area have been integrated into the RCC under the HA's PCO to RCC migration programme (see section 8.7.16).

### *Upgrades to Support Service Provisioning Capability A*

- 8.7.4.13 **M** NRTS Co shall develop in accordance with the *Develop Registered Document* process (section 4.2) a Build Programme to meet the requirement for selected roads to have SPC A capability as shown on the SPC 'A' coverage detailed in the table in Annex A of Schedule 12 (Warranted Information).
- 8.7.4.14 **M** NRTS Co shall create and prioritise the Build Programme into phases of delivery where each phase covers a different geographic area. Within each geographic area, NRTS Co shall further prioritise the Build Programme according to:
- The requirements and progress of the technology schemes as determined by the *Capture Requirements and Plan* process (section 5.13).
  - The status of the optical fibre installed around the HA road network.
- 8.7.4.15 [Not Used]
- 8.7.4.16 **M** Within any one phase of the Build Programme, NRTS Co may at its discretion propose further staged milestones for the early delivery of SPC A on selected sections of road within the area defined by the phase. These further milestones, termed Generic Service Start Dates, will allow early Provisioning of Generic Service Types for which the Standard Prices will be paid for this and other Tasks (Removal etc).
- 8.7.4.17 **M** Prior to the Generic Service Start Date in an area, in accordance with paragraph 8.5.20.25, the HA shall have the right to call off additional instances of hybrid Generic (IP-based) services where:
- There is an SDH network already installed.
  - There is capacity to support the STIs on the installed SDH network.
  - There are available ports with appropriate interfaces on the SDH multiplexers.

NRTS Co shall operate and maintain these STIs to the same performance and standard as the existing hybrid Generic (IP-based) STIs. For the purposes of Tasking, Provisioning and operation of these STIs the HA shall treat them as if they were Service Category 8 STIs. As required by paragraph 8.7.4.3, NRTS Co shall convert these STIs to comply fully with the definition of the appropriate Service Type.

- 8.7.4.18 **M** Following the Execution Date, NRTS Co shall further review its Build Programme, taking into account the HA's requirements via the *Capture Requirements and Plan* process (section 5.13), and if necessary make any final changes to the SPC roll-out programme.

- 8.7.4.19 **M** NRTS Co shall build out the NRTS Transmission Network as necessary to deliver SPC A capability in accordance with its agreed Build Programme. As a back stop, the HA requires that Full Service Capability (as defined in paragraph 8.7.4.1) shall automatically be deemed to apply 2 years after the Effective Date, regardless of whether NRTS Co has completed its planned build out programme or not.
- 8.7.4.20 **M** The Build Programme shall define the acceptance procedures to be carried out by NRTS Co, that must demonstrate to the HA's satisfaction that the NRTS Transmission Network infrastructure has been delivered as specified.
- 8.7.4.21 **M** The requirements for demonstrating that all the conditions have been met to achieve the Build Completion Date shall be as defined in Annex F.15. NRTS Co shall submit the required evidence in accordance with Annex F.15 to the HA to seek its consent to proceed. The HA shall have a Hold Point, Category 3, Period in relation to this submission. The Build Completion Date shall not be deemed to have been achieved until NRTS Co has received the HA's consent in accordance with Part 2 (Submissions) of Schedule 8 (Authority Events).]
- 8.7.4.22 [Not Used]
- 8.7.4.23 [Not Used]
- 8.7.4.24 [Not Used]

#### Beyond the Build Completion Date

- 8.7.5 [Not Used]

#### *Renewals: Programme and Definitions*

- 8.7.5.1 **M** NRTS Co shall define in its renewals plan the programme of subsequent renewals, throughout the Contract Term, of Assets within the NRTS Transmission Network infrastructure that are on the Project Road Network. This programme shall be reflected in the Planned Maintenance Schedule and NRTS Forward Programme.
- 8.7.5.2 **M** The identification of what renewals are required shall be in accordance with the rules initially proposed as part of the Service Solution Specifications (see paragraph 4.3.3.11) and subsequently refined as part of the on-going asset management function supported by the PAMS (see paragraph 5.9.2.6).
- 8.7.5.3 **M** In respect of cables three definitions shall apply:
- Cable Replacement shall mean the installation of new cable between two adjacent joints to the standard of the currently installed cable. The locations of any intermediate joints must be the same as those of the existing cable infrastructure while maintaining service continuity.
  - Cable Renewal shall mean the installation of new cable infrastructure to the current NRTS standard (i.e. ducted). The locations of the intermediate joints can be unrelated to those of the existing cable infrastructure but shall be in accordance with the certified Standard Construction Details. Cable Renewal requires a complete length of cabling to be renewed between adjacent Transmission Stations. The locations of the SDPs for the existing roadside services shall remain as they are and NRTS Co shall maintain the continuity of the existing STIs.
  - Copper Cable Rejointing, shall mean the activity of renewing the terminations in copper cable while maintaining service continuity.

Other Requirements

8.7.6 [Not Used]

- 8.7.7 **M** NRTS Co is free to choose either of the approaches to Cable Renewals identified below:
- Replacing the longitudinal cable in such a way that the local connections (between the longitudinal network and the roadside SDP) can be retained.
  - Replacing the longitudinal cable in such a way that the local connections (between the longitudinal network and the roadside SDP) need replacing.

Either way, the chosen approach shall include reconnection of the existing SDPs back into the renewed cable infrastructure.

8.7.8 [Not Used]

8.7.9 [Not Used]

8.7.10 [Not Used]

- 8.7.11 **M** NRTS Co shall Replace or Renew a minimum total length of cable defined in Clause 14.5 of the Project Agreement to the relevant NRTS cable standards over the duration of the NRTS Contract. Alternatively, NRTS Co may Re-joint 10km of copper cable in place of each 1km of Cable Renewal.

8.7.12 [Not Used]

- 8.7.13 **M** NRTS Co shall renew a minimum number of Transmission Stations (some of which are Type 617 Cabinets) as defined in Clause 14.6 of the Project Agreement to current standards over the duration of the NRTS Contract.

8.7.14 [Not Used]

- 8.7.15 **M** Notwithstanding the above requirements, NRTS Co shall carry out all other renewals it believes to be necessary to meet its performance obligations under the NRTS Contract.

### *Upgrades Of NMCS Infrastructure*

- 8.7.15.1 **M** NRTS Co shall also carry out the following upgrades to the existing NMCS infrastructure, as part of its planned maintenance activity. The achievement of the Build Completion Date shall not be dependent on these upgrades being completed, but they are part of the overall development activity of the Transmission Service.
- Move any Local Communications Controllers for Service Type 1 not in PCOs/RCCs to the appropriate PCO/RCC in accordance with paragraph 3.7.5 Schedule 1.1a (Statement of Requirements: Transmission Service).
  - Convert Stand Alone Controllers and other non-standard arrangements to Service Type 1A in accordance with paragraph 3.7.10 of Schedule 1.1a (Statement of Requirements: Transmission Service).
  - Move any Local Communications Controllers for Service Type 2 not in PCOs/RCCs to the appropriate PCO/RCC in accordance with paragraph 4.8.8 Schedule 1.1a (Statement of Requirements: Transmission Service).
  - Convert Service Type 2A to 2B in accordance with paragraph 4.8.12 Schedule 1.1a (Statement of Requirements: Transmission Service).
  - [Not Used]
- 8.7.15.2 **M** These upgrades of the existing NMCS infrastructure shall be planned by NRTS Co in the Planned Maintenance Schedule as part of its normal planned maintenance activities. All upgrades shall be completed within the Contract Term.

### PCO to RCC Migration

- 8.7.16 **M** The HA is carrying out a programme to migrate PCOs into RCCs. This programme will continue during the period of NRTS Co's Service Take-On and Build Programme. For each RCC area, the HA's contractor(s) will reconfigure all of the transmission circuits using the existing transmission network so the circuits terminate in the RCC. This will be done at the same time as each PCO area is integrated into the RCC. NRTS Co shall liaise with the HA's contractor(s) to ensure that this reconfiguration and integration can proceed at the same time as NRTS Co carries out its Build Programme and Service Take-On activities.

### *Background*

- 8.7.16.1 [Not Used]
- 8.7.16.2 [Not Used]
- 8.7.16.3 [Not Used]
- 8.7.16.4 [Not Used]
- 8.7.16.5 [Not Used]
- 8.7.16.6 [Not Used]
- 8.7.16.7 [Not Used]
- 8.7.16.8 [Not Used]
- 8.7.16.9 [Not Used]

8.7.16.10 [Not Used]

8.7.16.11 [Not Used]

*Approach to re-configuring video transmission circuits*

8.7.16.12 **M** For each RCC area, the HA's contractor(s) will reconfigure the CCTV circuits so that the cameras can be viewed and controlled from the RCC. Where possible links to old PCOs will be provided using MPEG/x services over appropriate Designated Links. Some existing PCOs require Pan, Tilt and Zoom (PTZ) control and so also require to be enabled for low latency PQL1 feeds, as defined in Annex E.

8.7.16.13 **M** NRTS Co shall implement the necessary Enablements and active infrastructure to allow the Provisioning of the defined number of SDP 10BW-1 in each PCO that will retain the capability to view and control CCTV pictures as part of the convert Service Category 4 to Service Category 10 requirements (see paragraph 8.7.4.6). The quantity and location of each type is identified in Annex E. These Enablements shall also support Service Category 8 SDPs for camera control and selection. The quantity of these is also identified in Annex E.

8.7.16.14 [Not Used]

8.7.16.15 [Not Used]

8.7.16.16 [Not Used]

8.7.16.17 [Not Used]

8.7.16.18 [Not Used]

8.7.16.19 [Not Used]

*NRTS Co Responsibilities*

8.7.16.20 **M** Combining the transmission circuits associated with several PCOs into a single RCC will involve works within the Control Offices to re-configure and re-terminate cables as well as works in the associated Transmission Stations. NRTS Co shall liaise with the RCC consultant through the *Capture Requirements and Plan* process (section 5.13) to ensure that NRTS Co's work is coordinated with the HA's RCC Contractor's work.

8.7.16.21 **M** Some of the migrations to RCCs are likely to happen during NRTS Co's network build-out. The migration work only involves changes to the Upstream SDPs and within the network itself. It is not, therefore, analogous to Provisioning or other Tasks. Instead, any PCO to RCC migration work to be carried out by NRTS Co will be identified as a separate Ad-Hoc Project and priced accordingly, based on the pricing model for migrating services from PCOs to RCCs in Annex A Schedule 17 (Cost Model).

8.7.16.22 [Not Used]

8.7.16.23 [Not Used]

8.7.16.24 **M** If NRTS Co is required to provide ducts and cabling as part of the RCC migration (only likely to be the case between the RCC and the motorway) then this shall be identified as a separate Ad-Hoc Project and priced using Standard Prices for the duct and cable installation in accordance with Schedule 30 (Payment Mechanism).

8.7.16.25 [Not Used]



- 8.7.16.26     **M**     Where the HA requests NRTS Co to undertake a full PCO to RCC migration, NRTS Co shall undertake all necessary transmission works needed in accordance with HA instructions. The work shall be ordered by the HA and carried out under the *Ad Hoc Project* processes (see section 7). This work shall exclude:
- a)     Works related to the movement, modification or amalgamation of COBS equipment.
  - b)     Changes to, or movement of, PCO/RCC Operator Interfaces.
  - c)     Changes to roadside equipment addressing.

8.7.16.27     [Not Used]

#### Performance

8.7.17     [Not Used]

8.7.18     [Not Used]



## 8.8 Handback Service

8.8.1 [Not Used]

(I) Scope	
8.8.1.1	NRTS Co shall ensure Services are handed back to the HA or transferred, by way of a seamless transition process, into a future contract upon termination.
8.8.1.2	[Not Used]
(I) Need	
8.8.1.3	[Not Used]
8.8.1.4	[Not Used]
(M) Output(s)/Objective(s)	
8.8.1.5	An agreed Service Handback Plan, covering each of the Services, to be provided by NRTS Co.
8.8.1.6	Execution of that plan in preparation for the Expiry Date or the earlier termination of the NRTS Contract and full support for the party taking over the Services so as to ensure a smooth transition.
(M) Applicability	
8.8.1.7	All Services.
(I) Related processes	
8.8.1.8	[Not Used]
(M) Requirements	
8.8.1.9	NRTS Co shall develop and maintain a Service Handback Plan for each Service to facilitate any handback or transfer of Services into a follow-on contract, including tendering, negotiation, implementation and seamless transition. The Service Handback Plan shall include a programme, with a full specification of what NRTS Co shall do to support the party appointed to take over the running of the Services, and a handback checklist in accordance with NRTS Co's obligations under Clause 60 of the Project Agreement (Co-operation on Expiry or Termination).
8.8.1.10	The Service Handback Plan shall comply with Clause 61 of the Project Agreement (Handback of a Working System).
8.8.1.11	Where NRTS Co provides the Services by methods which are not handed back to the HA, in a manner whereby the HA does not retain full rights or control over the delivery of the Service, then NRTS Co shall demonstrate that the Services are both sustainable and economic.
8.8.1.12	NRTS Co shall ensure that contracts or agreements entered into by NRTS Co for the provision of the Services shall include rights for these to be assigned to the HA or any party taking on the follow-on contract.
8.8.1.13	Information to support the tendering of any follow-on contract needs to be provided up to several years before the end of the NRTS Contract and maintained/updated up to the point of Handback. The information shall include all Records and also details of: <ul style="list-style-type: none"> <li>• third party assets and interfaces;</li> <li>• third party communications services operating over the Project Road Network and/or other land owned by the HA;</li> <li>• third party arrangements;</li> <li>• leases and wayleaves;</li> <li>• condition survey information;</li> <li>• performance and residual life information;</li> <li>• any major investigations or remedial programmes underway.</li> </ul>

<b>(M) Monitoring</b>	
8.8.1.14	The development and maintenance of the Service Handback Plan will be monitored against the requirements of the <i>Develop Registered Document</i> process (section 4.2). The performance of the handback actions will be monitored in accordance with Clause 60 of the Project Agreement (Co-operation on Expiry or Termination) which defines handback retentions etc.
<b>(I) Frequency</b>	
8.8.1.15	[Not Used]

*Table 8-6 Handback Service Process Template*

### Additional Information

8.8.2	[Not Used]
8.8.3	<b>M</b> NRTS Co shall assist the new incumbent taking over the Services to the greatest reasonable extent, including the provision of training and support for work shadowing, etc.
8.8.4	<b>M</b> NRTS Co shall maintain the reliability, quality and responsiveness of its Services in accordance with Schedule 1 (Statement of Requirements) and other obligations under the NRTS Contract right up to the point of handback.

## Termination

- 8.8.5 **M** The Handback Plan shall comply with the following Clauses which (amongst others in the Project Agreement) specify NRTS Co's rights and obligations in relation to termination:

- Clause 14 (Maintenance and Renewal);
- Clause 15 (Removal of Assets and Equipment);
- Clause 60 (Co-operation on Expiry or Termination);
- Clause 61 (Handback of a Working System);
- Clause 62 (Exit Survey).

The Handback Plan shall contain a programme of works addressing the required activities. A simple example programme is given in Figure 8-3.

- 8.8.6 **M** NRTS Co shall complete the handback of all Services, Assets, Processes, Registered Documents and NRTS Required Systems by the Expiry Date.

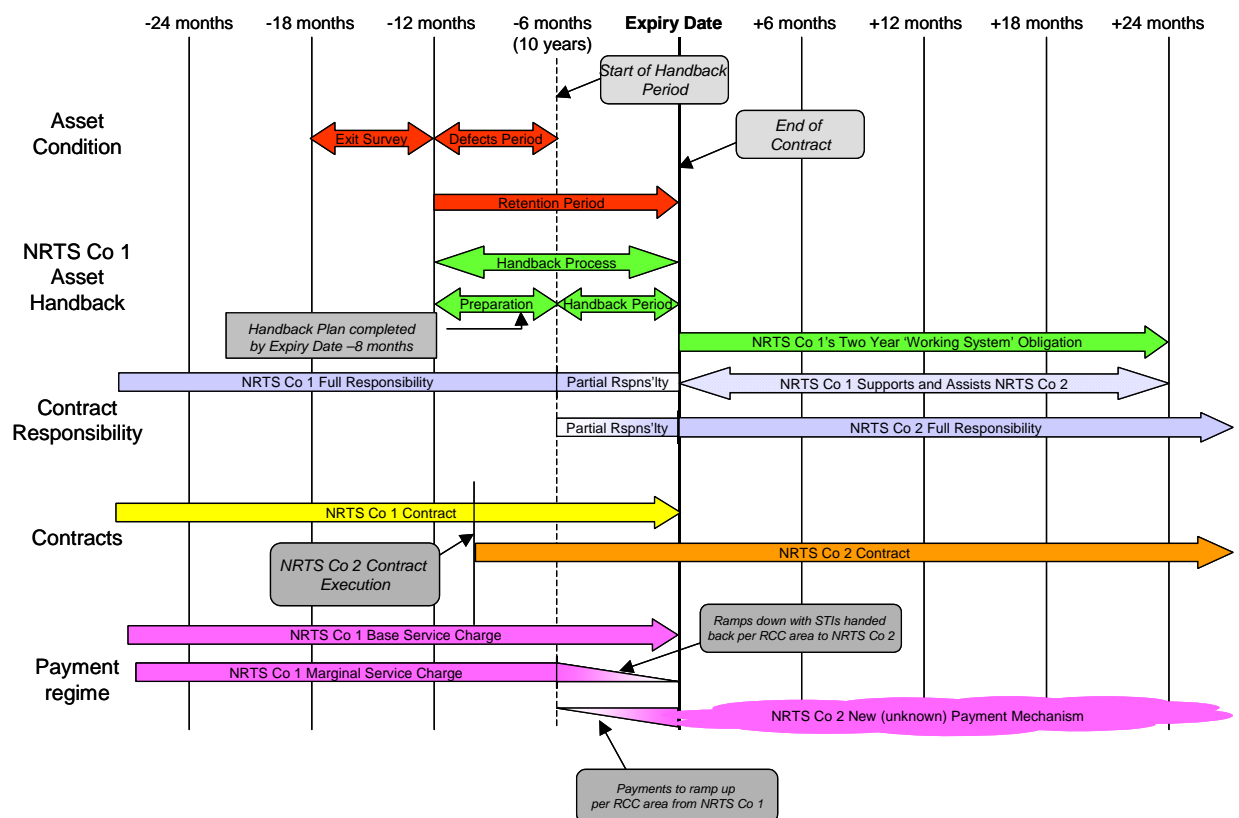


Figure 8-3 Handback and related events

### Handback Preparation

- 8.8.7 [Not Used]
- 8.8.8 **M** No later than 12 months prior to the Expiry Date NRTS Co shall begin to finalise the arrangements for Handback, taking into account the needs of the HA and any new NRTS contractor.
- 8.8.9 **M** The planning of the Handback of Services shall reflect the need to coordinate with HA operations and schemes, on-going NRTS Co tasks, and the plans and activities of any new NRTS contractor such as to ensure that Services are not affected by the handover and that it is carried out in a seamless and efficient manner.
- 8.8.10 **M** NRTS Co shall complete the revision of the Service Handback Plans and all other preparations no later than 8 months prior to the Expiry Date.

### Handback - General

- 8.8.11 [Not Used]

### Handback - Transmission Service

- 8.8.12 [Not Used]
- 8.8.13 [Not Used]
- 8.8.14 [Not Used]
- 8.8.15 [Not Used]
- 8.8.16 **M** NRTS Co shall undertake the handback of the Transmission Service in accordance with its finalised Handback Plan and other preparations completed during the Handback Preparation stage.
- 8.8.17 **M** NRTS Co shall handback STI maintenance, fault-fixing and new provisioning responsibilities for the first RCC area.
- 8.8.18 [Not Used]
- 8.8.19 **M** NRTS Co shall handback STI maintenance, fault-fixing and new provisioning responsibilities for each of the remaining RCC areas, in accordance with the Handback Plan and in coordination with the HA and its contractors.
- 8.8.20 **M** After the handback of maintenance responsibilities for the last RCC area, NRTS Co shall handback responsibility for all central administrative functions relating to the Transmission Service and all responsibilities for the National Transmission Network (other than for those works in progress which it is agreed that NRTS Co shall complete).
- 8.8.21 [Not Used]
- 8.8.22 [Not Used]
- 8.8.23 [Not Used]

Handback – Aerial Site Service

- 8.8.24 [Not Used]
- 8.8.25 [Not Used]
- 8.8.26 [Not Used]
- 8.8.27 [Not Used]
- 8.8.28 **M** In the months prior to Handback, NRTS Co shall manage enquiries and orders from Mobile Network Operators for new commercial services such that it can complete all site works prior to the handover, or in other ways ensure that handover of construction responsibilities and the administration of site enquiries and orders is seamless.
- 8.8.29 **M** NRTS Co shall carry out to completion all site works that are scheduled to be completed before the Expiry Date.

Handback – Consultancy Service

- 8.8.30 **M** NRTS Co shall complete all Consultancy works and handback all Consultancy Material by the Expiry Date or earlier termination date.

Handback – Camera Mast Service

- 8.8.31 [Not Used]
- 8.8.32 **M** NRTS Co shall carry out to completion all site works that are scheduled to be completed before the Expiry Date.
- 8.8.33 [Not Used]
- 8.8.34 **M** During the Handback period, NRTS Co shall hand back responsibility for the operation, maintenance and inspection of Camera Site Instances RCC area by area, coordinated with the HA and its contractors and in accordance with the Handback Plan.
- 8.8.35 [Not Used]

### Handback – Processes and Systems

- 8.8.36 [Not Used]
- 8.8.37 [Not Used]
- 8.8.38 **M** NRTS Co shall include within the Handback Plan a description of the arrangements for the ramping down of the management, operations and maintenance of all its system, processes and related information used to meet its obligations under the NRTS Contract. This shall detail the handback arrangements for each support service, process and the related IT systems and information.
- 8.8.39 **M** The Handback Plan shall include all necessary arrangements for coordinated dual-running of each of the processes, support services and/or systems with the HA or a new NRTS contractor.
- 8.8.40 [Not Used]
- 8.8.41 **M** NRTS Co's support of the HA and/or follow-on contractor in the ramp down and handback of processes and systems shall include:
- Training for users, system maintainers, system developers.
  - Audit of the completeness and accuracy of all information, systems, process etc.
  - Support for transition activities.
  - Handback documentation.
- 8.8.42 **M** NRTS Co shall handback all NRTS Required Systems including all software (as defined in the Handback Plan) and hardware.
- 8.8.43 **M** NRTS Co shall provide the following support for all NRTS Required Systems for 2 years from the Expiry Date subject to the HA or their contractors adhering to the project operating and maintenance manuals:
- Technical support, 24 hours a day, 7 days a week, via the phone or web
  - On-site engineering support and parts;
  - Remote diagnosis of problems and faults;
  - Maintenance, including patches, fixes and upgrades to latest versions;
  - Debugging hardware, where hardware cannot be exchanged on site and software;
  - Repair on-site.

## ANNEX A

[NOT USED]

## **ANNEX B**

### **NRTS REQUIRED SYSTEMS**





## B.1 NRTS REQUIRED SYSTEMS

### B.1.1 Introduction

#### Scope

B.1.1.1 [Not Used]

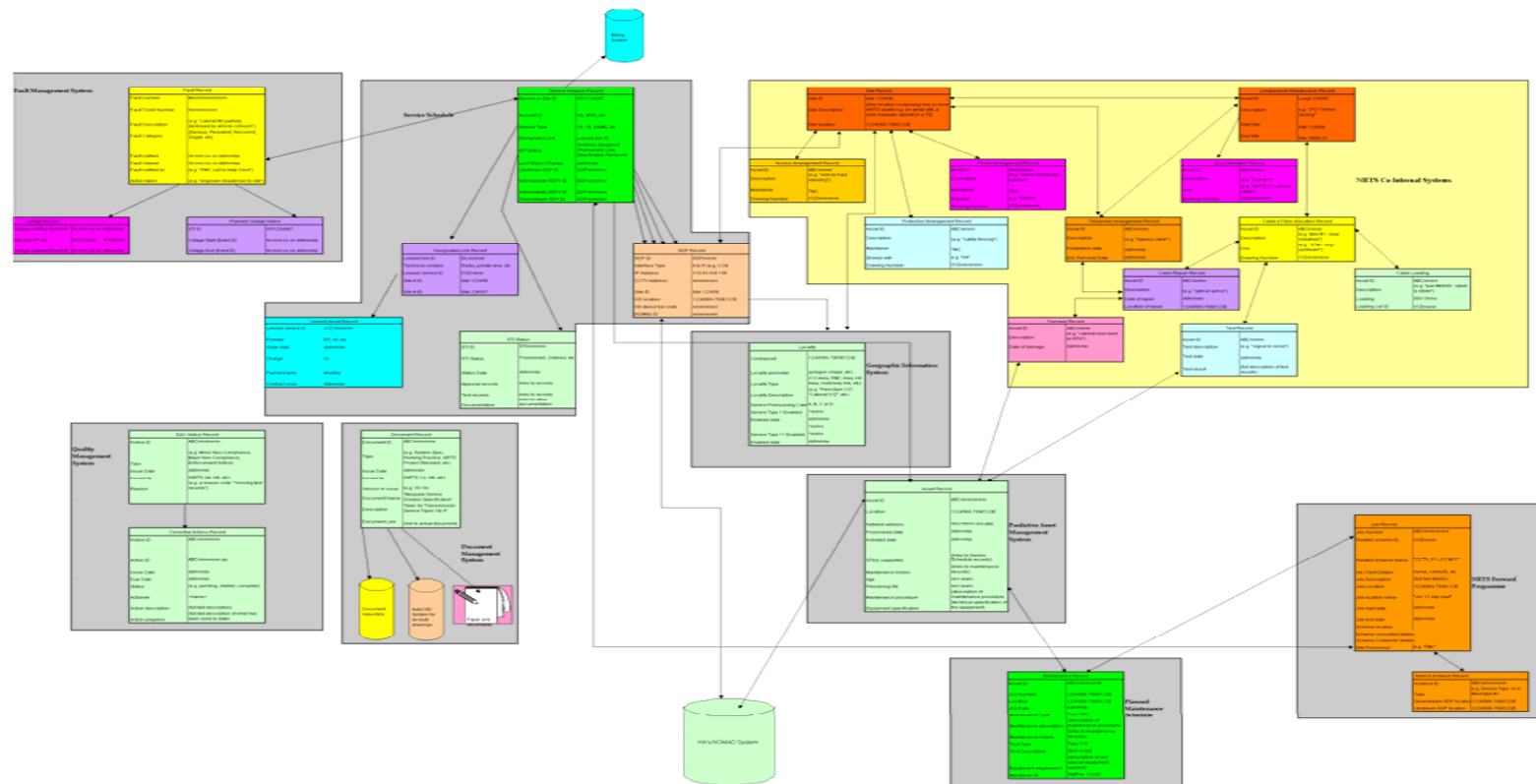
- B.1.1.2 **M** NRTS Co shall have the following systems:
- Service Schedule (see paragraph 5.10.5.4);
  - Predictive Asset Management System (see paragraph 5.9.2.2);
  - Planned Maintenance Schedule (see paragraph 5.9.2.14);
  - Document Management System (see paragraph 4.2.2.2);
  - NRTS Forward Programme (see paragraph 5.13.5.3);
  - Fault Management System this shall include problem management functionality (see paragraph 5.4.2.1);
  - Quality Management System (see paragraph 5.6.4.14);
  - NRTS Web Site (see paragraph 5.9.2.20);
  - Network Management System (see paragraph B1.3.11);
  - Resource Management System (see paragraph B1.3.12);
  - Help Desk System (see paragraph 5.9.2.27);
  - Performance Management System (see paragraph B1.3.14).

Note: The above list defines the functionality required of NRTS Required Systems, the applications used and physical implementation is defined in NRTS Systems Architecture definition.

#### The NRTS Data Model

- B.1.1.3 **M** NRTS Co shall develop and agree in accordance with the *Develop Registered Document* process (section 4.2) a detailed definition of the information and its inter-relationships used and processed by NRTS Co. Figure B.1-1 is a preliminary data model for the systems and data NRTS Co is required to process. It aims to draw together all of the systems and records specified throughout this Processes document (Schedule 1.2) as well as the *Record Keeping* Constraint (Schedule 1.3 section 5). Figure B.1-1 follows no standard entity-relationship modelling standard. It makes no claim to completeness or technical correctness. It does, however, provide a starting point for NRTS Co's own analysis of implementation solutions. Note: interface arrangements and details will be developed and agreed in accordance with the Develop Registered Document including any subsequent changes.

B.1.1.4 [Not Used]



*Figure B.1-1 Indicative Data Model for the NRTS Systems*

## **B.1.2 General System Requirements**

- B.1.2.1 [Not Used]
- B.1.2.2 **M** NRTS Co shall provide back up facilities for all systems such that the maximum loss of data following any incident shall not be more than 24 hours worth of data.
- B.1.2.3 **M** NRTS Co is required to develop a Disaster Recovery Plan (refer to paragraph 5.10.8.1). This shall include plans and facilities for recovering from major system incidents, such as providing off-site storage of backups.
- B.1.2.4 **M** NRTS Co shall develop plans for system development. These plans can include, with the HA's agreement, interim releases of systems which have partial functionality. Full system functionality for all systems is not a pre-requisite for the Take-On of Services, though it is a pre-requisite for the Build Completion Date.
- B.1.2.5 **M** NRTS Co shall develop the systems delivering the various stages of functionality defined in the system development plans agreed with the HA. The delivery by NRTS Co of full system functionality for all NRTS Required Systems is a pre-requisite for achieving the Build Completion Date (as defined in paragraph 8.7.4.2).
- B.1.2.6 [Not Used]
- B.1.2.7 **M** NRTS Co shall develop user interfaces that are easy to use, flexible and intuitive in line with industry best practice. NRTS Co shall provide prototypes of the user interfaces for evaluation by the HA. It shall incorporate the HA's requirements and suggestions for improvement, recognising that the HA will be the principal user of these systems.
- B.1.2.8 **M** NRTS Co shall provide user manuals and training, as necessary, for users of these systems within the HA.
- B.1.2.9 **M** The systems shall provide reports (capable of being viewed and printed), to be defined and agreed between NRTS Co and the HA, and facilities for *ad hoc* enquiries.
- B.1.2.10 **M** NRTS Co shall agree in accordance with the *Develop Registered Document* process (section 4.2) detailed requirements, particularly in respect of the user interface, querying and reporting facilities of the NRTS Required Systems in the Requirements Specifications (see Table B.1-2).
- B.1.2.11 **M** NRTS Co is required to develop and maintain System Specifications for all the systems (both Required Systems and any other systems used by NRTS Co to support its obligations) in accordance with the *Develop Registered Document* process (section 4.2). The required scope of these specifications is outlined in paragraph B.1.2.19 and B.1.2.20 below.
- B.1.2.12 **M** NRTS Co shall take account of, and incorporate into the design of the systems, all the security features necessary to comply with the security requirements (refer to paragraph 5.10.7 onwards) and NRTS Co's own Security Policy (which is a Registered Document).
- B.1.2.13 **M** NRTS Co shall integrate the databases to the extent that it shall be possible for HA users to navigate from one system to another seamlessly using a single asset identifier or Service Instance identifier. The approach and scope of this integration shall be documented and agreed in the NRTS Systems Architecture document.

- B.1.2.14      **M**      All data recorded on a system shall be available on-line via the NRTS Web Site to users for the later of the duration required under Clause 27 of the Project Agreement (Records) and 3 years. Historical data that is subsequently archived (after the periods defined in Clause 27 (Records) and 3 years whichever is the longer) shall be retrievable within 48 hours notice and shall be stored and maintained throughout the Contract Term.
- B.1.2.15      **M**      The expectation is that all data shall be entered in real-time as part of NRTS Co's operational procedures. NRTS Co shall ensure that all data reflects the actual state of the entities they record (Assets, Service Instances, etc) to within a maximum delay of 48 hours.
- B.1.2.16      **M**      All systems shall be available via the NRTS Web Site, using a thin client architecture that requires no more than a standard web browser to be available on the client terminal or device.
- B.1.2.17      **M**      NRTS Co shall support remote access to the systems via the public Internet and via direct Integrated Services Digital Network (ISDN<sup>1</sup>) or similar connections as agreed.
- B.1.2.18      [Not Used]

### Scope of Systems Specifications

B.1.2.19 [Not Used]

B.1.2.20 **M** NRTS Co shall produce and agree with the HA, in accordance with the *Develop Registered Document* process (section 4.2), a NRTS Systems Architecture definition as the initial part of the Systems Specifications. This will define the scope of the overall systems solution to be provided and shall include, as a minimum, the following as detailed in Table B.1-1. The Systems Architecture definition shall include diagrams clearly documenting all aspects.

Area	Scope
Functions	A functional decomposition of the requirements identifying the functional areas to be provided in order to meet the requirements.
Information	Identifies the main types of information NRTS functions and systems will need to manage in order to meet the requirement including: <ul style="list-style-type: none"> <li>describing the general approach to information definition and management to be used by NRTS Co;</li> <li>identifying and defining the types of information;</li> <li>defining the relationship between items of information identified;</li> <li>defining the relationship between information functions and systems.</li> </ul>
Interfaces	Identifies and defines all the external systems and users to be interfaced with. The definition of each interface shall include: <ul style="list-style-type: none"> <li>its purpose and function;</li> <li>the information to be exchanged;</li> <li>the implementation approach.</li> </ul>
Infrastructure	Outline of the overall hardware, communications and operating environment to be used to support the operational systems  Definition of the delivery approach for each system e.g: off-the-shelf packages, existing systems etc.
Non-Functional	Outline of the overall general non-functional aspects of the NRTS systems including: <ul style="list-style-type: none"> <li>Performance.</li> <li>Volumetrics.</li> <li>Availability.</li> <li>Maintainability.</li> <li>Operation and Support (including any outsourcing arrangements).</li> <li>Backup.</li> <li>Renewals and updates.</li> </ul>

*Table B.1-1 Requirements for NRTS Systems Architecture Definition*

- B.1.2.21 M** NRTS Co shall, as a minimum, produce, agree and maintain in accordance with the *Develop Registered Document* process (section 4.2) the following detailed System Specifications as set out in Table B.1-2. The NRTS Systems Architecture document shall further define the documents to be produced.

Document	Purpose	Milestone Events
Requirements Specifications	Captures and defines all requirements for NRTS Co systems and processes	Prior to commencement of any development
Functional Specifications	Detailed definitions of the functionality and information management proposed to meet the requirements.  Separate functional specs to be provided for each area as defined in paragraph B.1.1.2	Prior to commencement of any development of the relevant system
Software and Hardware Specifications	Detailed definitions of the hardware, software and communications proposed to meet the requirements.	Prior to HA Get Consent Test Specification
Interface specifications	A detailed definition of each interface	Prior to commencement of any development of the relevant interface
Test Specification	Definition of the Test Methodology  Detailed test specifications and scripts to demonstrate that the systems meet the requirements and are ready for deployment. This shall include results of previous tests, release notes and configuration details.	Prior to FAT  Prior to FAT
HA Get Consent Test Specifications	Test Specification to demonstrate to the HA that all systems and process have been implemented, meet the agreed requirements and are fit for purpose	Prior to FAT
Test Results	Documentation of the test results.	
Implementation Specification	Details of how each system is to be configured and commissioned including set-up, information loading etc	Prior to FAT
Operating and maintenance Manuals	Details for system support and maintenance staff on how to run the system including renewals and updates	Prior to the Build Completion Date or operational use which ever is the earlier
User Manuals	End user instructions	Prior to the Build Completion Date or operational use which ever is the earlier
Service Levels	Service level agreements	Prior to commencement of any development

Document	Purpose	Milestone Events
Systems Delivery and Transition Plan	<p>Details the approach to and plans for delivery and transition into operation including:</p> <ul style="list-style-type: none"> <li>• Delivery Plan.</li> <li>• Delivery Options.</li> <li>• Project Management Approach.</li> <li>• Implementation Standards.</li> <li>• Transition Plan.</li> <li>• Risks (including their management and mitigation).</li> <li>• Training plans</li> </ul> <p>The Delivery Transition Plan shall document in diagrammatic form when each element of the systems, interfaces and functionality are available.</p>	Prior to commencement of any development

*Table B.1-2 NRTS System Specifications*

- B.1.2.22     **M**     NRTS Co shall develop and agree the documentation detailed in Table B.1-2 in accordance with the *Develop Registered Document* process (section 4.2). Formal milestones events and hold points shall be as defined in Schedule 8. NRTS Co may proceed beyond other stages at its discretion and risk.

### Interfaces

- B.1.2.23     **M**     NRTS Co shall be responsible for all interfaces to external systems that it deems necessary to provide the Services.
- B.1.2.24     **M**     For each external interface NRTS Co shall, as a minimum:
- fully document the interface in a technical interface specification;
  - use appropriate industry standards;
  - agree the interface with all affected external parties;
  - implement, test and maintain the interface;
  - pay for the development, testing, and ongoing operation, support and maintenance of the interface. This shall include external systems costs related to interfacing to NRTS Co systems.

Any changes to the interface requirements to HA systems brought about by HA modifications to those systems shall be considered as an Ad Hoc Project where there is material impact on NRTS Co within the NRTS Project as demonstrated by NRTS Co to the satisfaction of the HA. NRTS Co shall document all changes to the interfaces and agree what constitutes a material change with the HA.



B.1.2.25      **M**      NRTS Co shall design, agree and provide appropriate interfaces, as detailed in Table B.1-3, between the NRTS Required Systems and other systems.

Interface	Purpose
NOMAD (National On-line Motorway Assets Database)	Exchange of Asset Information. Exchange of Fault Information. Exchange of Performance information. Asset Residual Value (updated quarterly).
HALOGEN (Highways Agency Logging Environment) or COBS	To allow the fault detection and performance monitoring of bespoke Service Types.
Environmental Management System	Environmental information to be exchanged.
Structures Management Information Systems (SMIS)	Structures information to be updated and accessed.
Geotechnical Data Management System (GDMS)	Geotechnical information to be updated and accessed.
System for Financial Management (SFM)	Provision of accounting information including: <ul style="list-style-type: none"> <li>Invoices.</li> <li>Budget Forecasts.</li> <li>Forward plans (committal of funds).</li> <li>Asset Residual Value (updated quarterly).</li> </ul>
Network Management	Interface to existing network systems for management fault monitoring.
NRTS Web Site	The Web Site is a key interface to the NRTS Systems, providing users and Interfacing Organisations with the required access and systems.

*Table B.1-3 Interfaces*

### Required Systems Testing

- B.1.2.26 [Not Used]
- B.1.2.27 **M** NRTS Co shall undertake formal testing of NRTS Required Systems and any interfaces to external systems and shall obtain the HA's consent before they can enter live operation. Such testing shall demonstrate that the agreed requirements have been met and that the systems and interfaces are fit for purpose.
- B.1.2.28 **M** NRTS Co shall have the following:
- A permanent test environment for all NRTS Required Systems.
  - NRTS Required Systems shall be fully integrated within the test environment, allowing full system capability testing (i.e. testing involving one, two, some or all of the systems).
  - The test environment shall be connected and co-located (unless otherwise agreed) with the reference test network, to allow system testing with one, some or all of the network elements.
- B.1.2.29 **M** For testing and acceptance of the NRTS Required Systems, NRTS Co shall agree with the HA test and acceptance requirements, as defined in Table B.1-2 (Test Specification, HA Get Consent Test Specification and Test Results). For the avoidance of doubt the testing of NRTS Required Systems shall be in accordance with the *Get Consent to Service Solution process* (section 4.3).

### **B.1.3 Type B Record Requirements**

B.1.3.1 [Not Used]

B.1.3.2 [Not Used]

B.1.3.3 [Not Used]

B.1.3.4 [Not Used]

B.1.3.5 **M** NRTS Co shall use NOMAD to record the location of any Assets which are visible to the public and the HA and which the HA needs to know about to discharge its Health and Safety and other planning responsibilities. This requirement shall include NRTS Co roadside cabinets, cables, Transmission Stations, masts, access steps. Transmission equipment within Transmission Stations and cabinets does **not** need to be recorded in NOMAD (but will be recorded in the PAMS).

B.1.3.6 [Not Used]

#### *Bar coding*

B.1.3.6.1. [Not Used]

B.1.3.6.2. **M** In accordance with the HA procedures specified in MCH1953 NOMAD Asset Bar Code Procedures all Assets that NRTS Co is required to record in NOMAD shall also be bar coded by NRTS Co.

B.1.3.6.3. [Not Used]

#### *Asset condition*

B.1.3.6.4. [Not Used]

B.1.3.6.5. **M** NRTS Co shall record the condition of Assets in NOMAD in accordance with HA procedures defined in MCH1865 NOMAD Asset Condition Surveys.

#### *Energy Procurement Requirements*

B.1.3.7 [Not Used]

#### Performance

B.1.3.8 **M** NRTS Co shall monitor and report on network and NRTS Required Systems performance.

B.1.3.9 **M** NRTS Co shall include in the NRTS Systems Architecture Definition and agree, in accordance with the *Develop Registered Document* process (section 4.2), targets for the following:

- Performance.
- Volumetrics.
- Availability.
- Maintainability

### General

- B.1.3.10     **M**     NRTS Co shall provide a real-time view of the network status and NRTS Required Systems information.
- B.1.3.11     **M**     In the event of a disaster at the Network Operations Centre, NRTS Co shall ensure Network Operations Centre staff are able to access backed up information to undertake Network Operations Centre functions and functionality at a remote location.

### Network Management System

- B.1.3.12     **M**     NRTS Co shall provide a Network Management System providing the following key functionality::
- Monitor performance and availability of all NRTS Transmission services.
  - Record and manage transmission network configuration.
  - Control network configuration to optimise performance and respond to variations in traffic etc.
  - Control network configuration to allow for planned maintenance and the introduction of temporary and new services.
  - Implement security management including identification and validation of users, security of data, un-authorised access prevention and detections of access attempts, security privileges and access management.
  - Control transmission service specific Network Management sub-systems to achieve the above.
  - Identify likely network faults and fault clearances and report to the Fault Management System.
  - Identify performance bottlenecks.
  - Produce historic and predictive network performance statistics.
  - Model network performances to assess impact of faults, new Service Instances, growth in traffic and other factors as defined in Schedule 1.1a.
  - real-time access (NRTS Co) to the network elements.
  - provision of near real-time information and other information from network elements (on as requested basis).

### Resource Management System

- B.1.3.13     **M**     NRTS Co shall provide a Resource Management System providing the following key functionality:
- Plan and manage technical and material resources for all activities.
  - Record all requests, orders and approvals.
  - Prioritise and allocate responsibilities and timescales.
  - Monitor and report on resource conflicts and overload.
  - Identify potential periods of over or under resourcing.
  - Identify forward loading requirements and predictions.

### Performance Management System

B.1.3.14     **M**     NRTS Co shall provide a Performance Management System. This system shall compile information and statistics on NRTS Co's performance in the following areas.

- Service Level Targets (see Schedule 27 Annex A).
- Key performance indicators (as documented in the Process Standards).
- Other information required by the *Manage Contract* process (see paragraph 2.2.1.5).
- The performance of the Transmission Services (see paragraphs 5.10.6.3 to 5.10.6.9, and Schedule 1.1a)

The information shall be updated regularly as appropriate. NRTS Co shall agree in accordance with the *Develop Registered Document* process (section 4.2), the frequency of update for each type of information with the HA. All information, reports and graphical presentation shall be available via the NRTS Web Site. Printed reports shall be provided upon request.

## **ANNEX C**

### **PROCESS STANDARD REQUIREMENTS FOR CAPTURE REQUIREMENTS AND PLAN AND THE TASKING PROCESSES**

## **C.1 CAPTURE REQUIREMENTS AND PLAN**

### **C.1.1 General**

- C.1.1.1 **M** NRTS Co's ability to meet the HA's communication requirements depends on its ability to anticipate and respond to the daily, and long-term, demands of HA road construction, technology and maintenance programmes. NRTS Co must also take account of the HA's obligations to provide roadside communications facilities to other Interfacing Organisations, and the activities of these Interfacing Organisations themselves. Finally, NRTS Co must plan for its own infrastructure works requirements and preventive maintenance activities.
- C.1.1.2 **M** The *Capture Requirements and Plan* process is the process that will enable NRTS Co to gain advance warning of changes affecting the Services. It will enable NRTS Co to identify and assess the impact of HA activities and the activities of Interfacing Organisations. These activities may impact on delivery of the Services in ways including, for example:
- requiring communications bypasses to be installed in accordance with the *Maintain Service Continuity* process (section 5.3);
  - requiring new Services, such as new Transmission Service Type Instances;
  - or disrupting the NRTS Transmission Network.
- C.1.1.3 **M** Effective liaison with all Interfacing Organisations at the appropriate working level will enable NRTS Co to establish and maintain the NRTS Forward Programme, so that it reflects NRTS Co's response to these external requirements and influences. The NRTS Forward Programme serves the following purposes. It:
- enables NRTS Co to establish HA requirements for new, discontinued or changed Service requirements;
  - enables NRTS Co to establish HA activities that may affect NRTS Co's ability to deliver services. NRTS Co will then be able to make contingency plans to ensure these services are not disrupted, refer to the *Maintain Service Continuity* process (section 5.3);
  - provides a mechanism for NRTS Co to advise the HA of NRTS Co's own works;
  - enables NRTS Co, the HA and Interfacing Organisations to co-ordinate works to achieve best efficiency for road space booking etc.

## **C.1.2 Capturing Requirements and Planning in the Context of HA Schemes**

- C.1.2.1 **M** One of the main tasks of the *Capture Requirements and Plan* process will be identifying the Transmission, and Camera Mast, Service requirements generated by HA schemes. A full definition and description of HA schemes is given in section 6.2. The process steps carried out as part of this process are shown in the flow chart of Figure 6-2.
- C.1.2.2 **M** New construction schemes, major roadworks and major maintenance works are likely to have requirements for the Design, Provisioning, Activation, Deactivation and/or Removal of Service Type/Camera Site Instances.
- C.1.2.3 **M** They are works requiring particular co-ordination with other HA activities. In addition NRTS Co's infrastructure could be disrupted as a consequence of the works, affecting its ability to deliver and sustain the Services. NRTS Co will therefore need to plan and co-ordinate activities with all Interfacing Organisations and make alternative arrangements as necessary to ensure continuity of the Services in advance of, and throughout the period of the works, refer to the *Maintain Service Continuity* process (section 5.3).

## **C.1.3 Planned Works and Activities**

- C.1.3.1 **M** These are works and activities to be undertaken by Interfacing Organisations or NRTS Co itself that may impact on NRTS Co's ability to provide or maintain Services, but do not in themselves generate changes to the Services Schedule, i.e. additions or deletions of Service Instances. NRTS Co must identify these activities in the NRTS Forward Programme and respond in a manner that results in a seamless delivery of the Services, refer to *Maintain Service Continuity* process (section 5.3).

## **C.1.4 Other Proposed Works**

- C.1.4.1 **M** These are works not included above but which may occur from time-to-time during the delivery of the Services. They include works by Interfacing Organisations that do not give rise to changes in the Service Schedule such as control room moves by the Police within the same Control Office building etc.
- C.1.4.2 **M** There are some existing well established sources of data that set out the HA's initial high-level requirements for Services including, e.g. the Targeted Programme of Improvements plan and the Regional technology plans. However, the *Capture Requirements and Plan* process must be seen as a continuous process of liaison with Interfacing Organisations appropriate to the impact of the organisation (potential or actual) on NRTS Co activities. As identified works get closer in time and better defined, the frequency and range of liaison with the relevant Interfacing Organisation must increase accordingly. NRTS Co must expect, for example, to be liaising on a daily basis with the scheme consultants and scheme contractors of major current HA schemes.



## C.2 TASKING PROCESSES

### C.2.1 Introduction

- C.2.1.1 **M** While the Transmission Service and Camera Mast Service are based on the concept of ordering and paying for individual Instances of Transmission Service Types or Camera Sites, in practice, the majority of Service requirements arise as a result of road construction, maintenance or improvement and technology schemes.
- C.2.1.2 **M** In consequence, NRTS Co will typically receive orders for, and will have to manage the design and construction of, Service Instances in bundles representing all the various Service and/or Mast Types required by a particular scheme or other standalone works.
- C.2.1.3 **M** The design and construction timetable for these Service Instances will be dictated by the overall timing of the scheme, so NRTS Co is required to coordinate its activities with the scheme contractor or other contractor responsible for the site. The HA uses the concept of "Possession" of the site or road. It is critical to understanding how NRTS Co will have to carry out the *Tasking* Processes.
- C.2.1.4 **M** Normally the maintaining agent has responsibility for the road, but it hands Possession to the scheme contractor for the duration of the works.

#### Possession of the Site or Road

- C.2.1.5 **M** How the *Tasking* Processes fit into the schemes is described further in section 6.2. However, it is very unlikely NRTS Co will have Possession of any Protected Street under any circumstances (under schemes or otherwise) because this would imply that NRTS Co had taken on responsibility for the highway (even if only temporarily) from the Managing Agent/Managing Agent Contractor/Term Maintenance Contractor (MAC/MA/TMC) or main "civils" contractor.
- C.2.1.6 **M** Where there is a Scheme (as defined in paragraph C.2.2.4) for which NRTS Co is required to supply Service Instances, it will be the HA's scheme contractor which has Possession of the site (whether a Protected Street or All-Purpose Trunk Road).
- C.2.1.7 **M** Outside of Schemes, where there are requirements for the Service Instances, possibly as part of minor works, it will be the MAC/MA/TMC that has Possession of the site. NRTS Co operations must fit in with the requirements of working procedures that apply to the general operation of MAC/MA/TMCs.
- C.2.1.8 **M** The Interfacing Organisation in Possession of a site to which NRTS Co requires access is herein termed the site possessor.
- C.2.1.9 [Not Used]

## **C.2.2 General**

- C.2.2.1 M** Instances of provisioning at the roadside will usually be undertaken as part of schemes to move or provide additional roadside devices or during road construction, improvements or major maintenance. Typically, a number of Service Instances will be tasked for Provisioning at the same time (for a scheme) rather than being a series of one-offs entirely independent of one another.
- C.2.2.2 M** Requirements for Service Instances may also arise through the normal maintenance operation of the highway e.g. to provide a new STI or relocate a Service Delivery Point (SDP) as a consequence of works undertaken by the MAC/MA/TMC during their normal operations.
- C.2.2.3 M** The provision of STIs that have roadside SDPs, and CSIs, typically requires the installation of new infrastructure such as cabinets, bases, ducts and cabling. The division and scheduling of responsibilities between the HA and NRTS Co and the undertaking of tasks is critical in such activities.

### The Impact of Schemes on NRTS Co

- C.2.2.4 M** The types of schemes which typically will be encountered by NRTS Co are listed below:
- Programmes of road construction/maintenance/improvement:
    - Targeted Programme of Improvements (TPI) schemes, which are high value projects such as new road construction and motorway widening;
    - Local Network Management Schemes (LNMS), which are relatively low value projects such as junction improvements;
    - Road maintenance;
    - DBFO schemes (new construction and maintenance).
  - Programmes of technology schemes:
    - Triple package (installing cabling, Variable Message Signs (VMS) and MIDAS traffic detection);
    - CCTV schemes;
    - Controlled Motorway and Active Traffic Management schemes;
    - Local improvements such as additional Variable Message Signs on junction approaches.
- C.2.2.5 M** Schemes have a number of common characteristics and milestones over the life cycle of the scheme. The HA schemes process and milestones, as at the Execution Date, are listed in Table C.2-1 and shown in Figure 6-3. Relevant HA documentation includes:
- Highways Agency Procedures documentation (sections on Improving, Maintaining and Operating the Network);
  - Sample Scheme Identification Study Reports, Preliminary Appraisal Reports, Technical Appraisal Reports and Decision Reports.

Item	Stage	Comments
1	Scheme Identification Study (SIS)	This is an initial study to identify scheme requirements. In the case of a communications scheme, this would review what systems and infrastructure exist and consider the appropriate renewals and level of provisioning of roadside systems and equipment such as NMCS2, Triple Package, etc. The report may contain a number of options, their relative merits and costs, together with recommendations.
2	Preliminary Appraisal Report (PAR)	This develops the proposals in the SIS to determine and outline the design to enable scheme costs and financial justification for the scheme proposals to be adopted.
3	Technical Appraisal Report (TAR)	This provides the technical justification to support the option to be adopted.
4	Decision Report	Confirms acceptance of the TAR and PAR.
5	Detailed Design	Develops the outline design into the detailed design of the scheme. The typical duration of the detailed design phase for communications schemes is 6 months to 1 year.
6	Project Order	Initiates the processes to implement the scheme from the detailed design including where appropriate letting works orders/contracts for the scheme.
7	Start of Works (SOW)	Start of Works may include preliminary works.
8	Stage 2 Testing (Level 3)	Tested infrastructure required 8 weeks before opening.
9	Transmission Configuration	Tests currently performed but inadequate (LCC – ST, ST – end of line, Sector Switch – TR). Refer to Schedule 1.1a section 14.4.
10	Roadside devices installed, connected and activated	The HA has a series of framework contracts in place to install, test and commission roadside devices.

*Table C.2-1 Stages in the HA Scheme Process as at Execution Date*

- C.2.2.6 **M** It is these common steps which are captured in the following description. Note that these practices are based on the use of a fully cabled solution for the Longitudinal Network and local circuits. Where alternative technologies are offered (such as wireless fixed access solutions), the same principles shall apply though there will be differences in the details that eventually get reflected and written up in the Process Standard for “*Service Provisioning (Schemes and Works)*” as mandated in paragraph 6.2.4.

#### The Need for NRTS Co to Integrate its Activities into those of the Schemes

- C.2.2.7 **M** Where road and technology schemes have a requirement for communications end devices (telephones, signals, etc.), these need to be made operational to support a defined opening day. There is a need for the opening day to follow soon after completion of the major civil works and NRTS Co must make resources available to support the integration and testing of roadside and control office systems before the opening.
- C.2.2.8 **M** There is limited scope for serial working and it is not practical for NRTS Co to commence its work once the other scheme works are completed. Therefore, NRTS Co has to work on site alongside other contractors and to co-ordinate and dovetail its work into the larger programme of work being managed by a major scheme contractor – the site possessor.
- C.2.2.9 **M** NRTS Co will need to agree, and act in accordance with the requirements of the scheme contractor within these schemes, even though NRTS Co is contracted to provide its services direct to the HA.

#### The Need for Third Parties to Execute Civil Works on NRTS Co's Behalf

- C.2.2.10 **M** The planning and implementation of civil works on large schemes needs to be tightly co-ordinated to ensure, for example, that cable ducts are formed into the base of cabinets as the cabinet bases are installed. The scheme contractor may also wish to reschedule civil works on a day-to-day basis to take advantage of changes in the prevailing weather and site conditions.
- C.2.2.11 **M** This may present problems when a third party such as NRTS Co is also conducting civil works and yet is not directly contracted by the scheme contractor.
- C.2.2.12 **M** These potential difficulties have led the HA to propose an approach that will mean scheme contractors will be required to install NRTS Co civil infrastructure on NRTS Co's behalf. The allocation of responsibilities for design, installation and maintenance for on-site work is described in the Table of Responsibilities (Schedule 1.3 Annex A).
- C.2.2.13 **M** Although this work will be undertaken by the scheme contractor, it will be installed to certified designs produced by NRTS Co in accordance with the *Get Consent to Standard Construction Details* process (section 4.5). NRTS Co will monitor and inspect the work undertaken by others to satisfy itself that the work meets all the requirements of the NRTS Co designs.
- C.2.2.14 **M** Only one contractor can have possession of the road at any one time. In the case of schemes, this will usually be the scheme contractor. Thus NRTS Co will have to comply with the scheme contractor's operating regimes.

### NRTS Co Early Involvement in Schemes

- C.2.2.15     **M**     NRTS Co will typically first become aware of the existence of a scheme through the *Capture Requirements and Plan* process (section 5.13). Major road schemes can take up to 10 to 15 years from inception to completion and initial scheme requirements are likely to be very high level and first identified several years prior to implementation.
- C.2.2.16     **M**     As part of the *Capture Requirements and Plan* process (section 5.13), NRTS Co will from an early stage liaise with those involved in delivering the scheme<sup>5</sup>, to identify the quantity and location of new STIs and/or CSIs, the removal of old STIs and/or CSIs and the possible need for bypass arrangements or other actions to maintain continuity of services on either side of the scheme throughout its construction phase. Early liaison will also enable NRTS Co to identify the extent of NRTS Co infrastructure that could be affected by the scheme and the need for any advance works by NRTS Co and the scheme contractor.
- C.2.2.17     **M**     NRTS Co will also assist the HA in identifying the scope and affordability of the scheme's communications requirements and the outline requirements for a solution to deliver the scheme. The need for any Designated Links to interconnect remote locations into the NRTS network can also be identified at this early stage.
- C.2.2.18     **M**     All the activities described in paragraphs C.2.2.16 and C.2.2.17 are part of the outline design activity (see paragraph 5.13.8) of the *Capture Requirements and Plan* process (section 5.13).

### NRTS Design of Technical Solution

- C.2.2.19     **M**     Depending on the nature of the scheme, several months or even years could elapse between the initial identification of the needs of a scheme and the request from the HA to commence producing a detailed design for the delivery of the identified services. This design activity will take place through the *Design Service Installation* process (section 6.3). This is a separately tasked activity for which there is an associated payment.
- C.2.2.20     **M**     The design of the NRTS roadside solution will be carried out through the application of previously approved NRTS design standards in close liaison with the main scheme designer to ensure that the requirements and working methods of the scheme and NRTS Co are compatible.
- C.2.2.21     **M**     Where the NRTS Co design employs ducting then the design will also accommodate all the ducts for communications power required by the scheme from the Electricity Supply Company (ESC) cabinet in the boundary fence to the Roadside Devices and other communications equipment<sup>6</sup>.

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<sup>5</sup> The HA project sponsor, the scheme consultants and possibly scheme contractors (on design and build schemes).

<sup>6</sup> i.e. this excludes power for street lighting.

- C.2.2.22 **M** The HA anticipates that the design will develop in an iterative manner involving a number of meetings between all affected parties<sup>7</sup>. The completed NRTS Co design will clearly identify those parts of the solution that the scheme contractor is required to install on NRTS Co's behalf, including any advance works. The design will use NRTS Co's standard construction details previously approved by the HA in accordance with the *Get Consent to Standard Construction Details* process (section 4.5).

### Construction of Civil Infrastructure

- C.2.2.23 **M** Following the start of the construction phase of the scheme, the scheme contractor will install, within a defined programme, all civil infrastructure identified in the NRTS Co design.
- C.2.2.24 **M** Where appropriate, the scheme contractor will also undertake to support NRTS Co in any advance works it must carry out. Where necessary this will include new cross carriageway ducts and ducts through structures<sup>8</sup>. NRTS Co will have the right to witness all duct installation work to ensure it complies with NRTS Co Standard Construction Details. This activity is described as part of the *Provision Service* process (section 6.4).
- C.2.2.25 **M** Under the Camera Mast Service, NRTS Co will also be responsible for the construction of any CSIs required as part of the scheme or other works.

### Installation of Power Cable Network

- C.2.2.26 **M** Power arrangements may be shared between the HA and NRTS Co systems in accordance with the *Power Supplies* constraint (Schedule 1.3 section 2.5).
- C.2.2.27 **M** On completion of the ducting network, the scheme contractor will install all the required power cables in the ducts allocated for this purpose by NRTS Co.<sup>9</sup> NRTS Co is responsible for duct space allocation (in accordance with the *Manage Duct Space* process (section 5.8)) and needs to ensure that contractors comply with the allocation.
- C.2.2.28 **M** NRTS Co may have the option to use the scheme contractor to install the power cables that have been identified as exclusively for NRTS Co purposes in the design. In this case, NRTS Co will need to witness the installation and accept such power cables from the scheme contractor.
- C.2.2.29 **M** NRTS Co must ensure through its inspections that the agreed installation practice has been followed which does not subsequently constrain NRTS Co with the installation of its communications cables.

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<sup>7</sup> Iterations of the design may be necessary, for example, to take account of the scheme consultant/contractor identifying blocked ducts or finding different ground conditions to those originally assumed to exist.

<sup>8</sup> There may be some occasions (e.g. when an STI is required that is not part of a scheme so there is no scheme contractor involved) when NRTS Co is the best placed contractor and is requested by the HA to carry out the installation of cross carriageway and other ducts.

<sup>9</sup> The scheme contractor may choose to seek quotations for this work from NRTS Co.

### Installation of NRTS Co Assets

- C.2.2.30 **M** Following installation of the power cables as described above, NRTS Co will install all the communications cables within the ducts to connect to the agreed SDPs.<sup>10</sup> NRTS Co will install any roadside cabinets exclusively required by NRTS Co on bases previously provided by the scheme.
- C.2.2.31 **M** Where cabinets are shared with HA equipment, e.g. Transponders, Telephone Responders, etc., then the cabinets will have been installed by the scheme contractor. NRTS Co will then terminate and test all cables as defined by the Standard Construction Details (refer to the *Get Consent to Standard Construction Details* process (section 4.3)). Where appropriate, all these activities will be co-ordinated in the programme agreed with the scheme contractor for the provision of the Services.
- C.2.2.32 **M** Special considerations apply where NRTS Co will be installing equipment in shared cabinets, e.g. for CCTV. The scheme design, programme and milestone deliverables will identify the inter-related activities and responsibilities.

### Testing the STIs and/or CSIs

- C.2.2.33 **M** When the installation of roadside infrastructure, any Designated Links, etc. has been completed, NRTS Co will install and test the necessary transmission equipment to deliver the required STI performance. The HA's contractor will connect the end devices, Transponders, etc to the STIs and complete an overall system test.
- C.2.2.34 **M** For CSIs, the Camera Electronics contractor will test the operation of the winch, access to the cradle and other arrangements in accordance with the testing specifications set out in the NRTS Process Standard for "*Service Provisioning (Schemes and Works)*".
- C.2.2.35 **M** This activity represents the final stage of the *Provision Service* process (section 6.4). NRTS Co may remove any of the telecommunications bypasses or temporary arrangements that are no longer required.

### Switching "On" the STIs and/or CSIs

- C.2.2.36 **M** The Transmission STIs must be "Live" (switched on) by the defined opening day of the scheme. This will normally be very shortly after completion of all the works. NRTS Co will be separately tasked to Activate the installed and tested STIs to meet the opening date of the scheme – an activity covered by the *Activate Service* process (section 6.5). This results in the STIs becoming Live. They are then part of the overall operational Transmission Service, subject to continuous performance monitoring and service level requirements, refer to the *Support Service Users* process (section 5.9). The HA will be liable to pay monthly Marginal Service Charges for the STIs from this date.
- C.2.2.37 **M** Camera Site Instances are treated similarly. The effect of Activating a CSI is that it then comes under the planned operational maintenance regime and the HA is liable to pay Marginal Service Charges for it.

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<sup>10</sup> The scheme contractor may choose to seek quotations from NRTS Co for the installation of cabling beyond the Service Delivery Point to the end device, e.g. gantry and loop feeder cabling.



### An Overview of the Whole Supply Cycle for STIs

- C.2.2.38 **M** Figure 6-3 is a flow chart that shows the whole HA scheme life-cycle and the associated NRTS Processes by which Transmission STIs are supplied as part of the scheme.
- C.2.2.39 **M** The supply cycle for Camera Site Instances is similar, though it is not explicitly shown on Figure 6-3. Only some of the testing and commissioning steps relating to communications and the temporary arrangements and telecommunications bypasses will (in general) not be required for the supply of CSIs.
- C.2.2.40 **M** The majority of steps shown are covered by the *Provision Service* process (section 6.4). The sidebars in Figure 6-3 indicate which steps in the scheme life cycle are covered by NRTS Processes other than the *Provision Service* process (section 6.4). The numbers are section numbers cross-referencing where in this document the main process description can be found.

### **C.2.3 Design Departures**

- C.2.3.1 **M** There may be features of the installation, innovations in design or construction method or developments in associated standards for example that make it sensible to depart in specific respects from the existing standards (the NRTS Co certified designs, parts of the Manual for Contract Documents for Highways Works (the DMRB, SHW, etc)) and other applicable standards.
- C.2.3.2 **M** The HA has an existing procedure, the Departure Approvals System (DAS) for handling departures which NRTS Co must follow (see paragraph 6.3.3.8). DAS is a database system for the submission (by e-mail) and processing (by a central team) of all departure proposals throughout the HA. It records the occurrence and reasons behind departure submissions and whether approval is given. Analysis of departures is one driver behind eventual revisions and up-issues of standards. NRTS Co must use the DAS procedure for seeking approval for departures from applicable HA standards whenever the need to do so is identified (for example, whether during detailed design or subsequent provisioning activities), must establish equivalent procedures for the identification, recording, tracking and processing of departures from its own standards.



## **ANNEX D**

### **EXTERNAL AND INTERNAL INTERFACE AGREEMENTS**

## D.1 SCOPE

- D.1.1.1 **M** This Annex defines the requirements and obligations placed on NRTS Co for the production of Internal Interface Agreements and External Interface Agreements as Registered Documents.
- D.1.1.2 **M** The definition of Internal Interface Agreements and External Interface Agreements shall be:
- a) External Interface Agreement – a memorandum of understanding between the HA and an external Interfacing Organisation, with subsequent agreement between the HA and NRTS Co of the resulting Interface Agreement as part of the *Develop Registered Document* process (section 4.2); and
  - b) Internal Interface Agreement – a memorandum of understanding between the HA, NRTS Co and another party contracted by the HA over which the Authority exercises direct day-to-day contractual control. (By way of example the HA does not exercise direct contractual control over DBFO contractors).
- D.1.1.3 **M** External Interface Agreements and Internal Interface Agreements are collectively referred to as "Interface Agreements". The key terms of certain (and relatively more complex) Interface Agreements have been drafted by the HA after consultation with the relevant Interfacing Organisation, but no Interface Agreements shall be final or agreed as at Execution Date. Such Interfacing Agreements and Interfacing Organisations are listed in section D.4. The list in section D.4 is not exhaustive. NRTS Co shall identify any other Interfacing Organisations as soon as practicable after the Execution Date and in any event by no later than the completion of the RMC Area Take-On Date for the area that encompasses the interface with the Interfacing Organisation. Following the Execution Date, NRTS Co shall be responsible for the completion of Interface Agreements and all remaining terms of the Interface Agreements shall be agreed between the relevant parties as set out in paragraphs D.1.1.8, D.1.1.9 and D.1.1.10.
- D.1.1.4 **M** The objective of Interface Agreements is to detail responsibilities, physical boundaries, access arrangements, operational regimes, service provision and other relevant information to facilitate efficient operation between NRTS Co and an Interfacing Organisation.
- D.1.1.5 **M** As part of the *Take-On Service Area* process (section 8.6), NRTS Co shall Take-On all the existing Transmission Services delivered via the National Transmission Network to Interfacing Organisations and also take on all existing solutions that deliver these Transmission Services, including all existing agreements and/or arrangements in place between the HA and Interfacing Organisations that facilitate the operation and maintenance of the Transmission Service by the HA. These agreements and arrangements are in many cases informal.
- D.1.1.6 **M** All existing arrangements are to continue until new arrangements have been put in place and NRTS Co shall make and agree with the relevant Interfacing Organisation any new arrangements for the continued provision of Services from NRTS Co's upgraded network. NRTS Co shall seek the HA's prior approval for specific instances where, by comparison with the current arrangements that exist between the HA and the relevant Interfacing Organisation, any new arrangement proposed by NRTS Co or the Interfacing Organisation may involve a transfer of any existing obligations from the HA to an Interfacing Organisation, or from any Interfacing Organisation to the HA.

- D.1.1.7      **M**      NRTS Co's upgraded Transmission Network shall provide to the Interfacing Organisation, transmission services that are compatible with the Interfacing Organisation's transmission network and provides performance levels that are in compliance with the defined Service Category or no less than the performance levels being provided by the HA at the respective RMC Area Take-On Date.
- D.1.1.8      **M**      As soon as practicable after the Execution Date, and in any event by no later than six months after the RMC Area Take-On Date for the area that encompasses the interface, NRTS Co shall produce Interface Agreements (subject to the qualification set out in paragraph D.1.1.9 regarding the agreement of key terms between the HA and the Interfacing Organisation only) in respect of all Interfacing Organisations within that RMC Area. Interface Agreements shall be developed and managed as Registered Documents under the *Capture Requirements and Plan* process (section 5.13).
- D.1.1.9      **M**      These Interface Agreements shall reflect the policy and key provisions for the operation and maintenance of the Services and such provisions shall be agreed between the HA and the relevant Interfacing Organisation after the Execution Date, to the extent that, as referred to in paragraph D.2.1.1 such provisions have not been agreed prior to the Execution Date. In light of such agreed key provisions, NRTS Co shall make more detailed arrangements (which shall include the provisions set out in paragraph D.2.1.1) with Interfacing Organisations for the day-to-day operation and maintenance of the Services.
- D.1.1.10     **M**      If NRTS Co is unable to produce the Interface Agreements in accordance with the procedure and timescale set out in paragraph D.1.1.8 due to any event or circumstance which NRTS Co. considers (acting reasonably) to be beyond its control, then NRTS Co shall notify the HA accordingly and provide reasons for any delay caused to the production of Interface Agreements. The HA, NRTS Co and the Interfacing Organisation shall consider the reason for the delay and a new date for the production and completion of the Interface Agreement shall be agreed between the HA and NRTS Co. If in the HA's reasonable opinion, the relevant event or circumstance was within NRTS Co's control NRTS Co shall be obliged to comply with the six month time period set out in paragraph D.1.1.8 above.
- D.1.1.11     **M**      The Interface Agreements listed in section D.4 represent instances where the interface between NRTS Co and the Interfacing Organisation is more significant in terms of its technical, operational and institutional scope. Where, by review of the items contained within paragraph D.2.1.1 the scope of the Interface Agreement does not include any delivery of Services by NRTS Co to the Interfacing Organisation or the sharing of infrastructure between NRTS Co and the Interfacing organisation then the Interface Agreement may be represented by a simplified Interface Agreement such as an exchange of letters between NRTS Co and the Interfacing Organisation.

## **D.2 PRODUCTION OF EXTERNAL INTERFACE AGREEMENTS AND INTERNAL INTERFACE AGREEMENTS**

- D.2.1.1 M** The Interface Agreements should address details in respect of the following:
- a) The scope and geographic coverage of the Interface Agreement.
  - b) A description of the institutional and operational interfaces including current and future plans.
  - c) Contacts and roles/responsibilities, including fault reporting, handling and escalation.
  - d) Specific access boundaries and access protocols.
  - e) A schedule of services defining the Services delivered.
  - f) A schedule of physical interfaces defining the physical details and responsibilities with respect to Service Delivery Points.
  - g) Details of HA/NRTS Co Assets located on Third Party Land and details of Third Party assets located on the Project Road Network.
  - h) Definition of responsibilities for maintenance, including any shared maintenance responsibilities and the provision of traffic management.
  - i) A schedule of transition arrangements defining the scope, responsibilities and timescales for work during a defined transition period (e.g. the rationalisation of Service Types).
  - j) Interface diagrams, documentation and references to as-built records.
  - k) Details set out in any current agreements between the HA and the Interfacing Organisation or in documentation relevant to any informal arrangements between the HA and the Interfacing Organisation.
  - l) A schedule of special requirements including references to site-specific special requirements such as site health and safety requirements.
- D.2.1.2 M** In the process of finalising Interface Agreements, provisions dealing with contact details, physical details of the interface and services may be subsumed and managed as different parts under NRTS Co's operational systems. NRTS Co shall, however, maintain the data such that NRTS Co can readily compile all relevant interface details and present these details to the HA and the Interfacing Organisation when requested to do so by or on behalf of the HA.

## **D.3 INTERFACE PRINCIPLES AND RULES**

### **D.3.1 Introduction**

- D.3.1.1 **M** This section sets out the principles and rules that shall be applied to the definition of interfaces.

### **D.3.2 Access**

- D.3.2.1 **M** Where the location of the Service Delivery Points (SDPs) is such that NRTS Co controls access to the SDP, NRTS Co shall establish access procedures and protocols and facilitate reasonable access to the Interfacing Organisation.
- D.3.2.2 **M** Where the location of the SDPs is such that the Interfacing Organisation controls access to the SDP, NRTS Co shall establish and follow the access procedures and protocols in accordance with the requirements of that Interfacing Organisation.

### **D.3.3 Services**

- D.3.3.1 **M** NRTS Co shall continue to provide the existing Services to Interfacing Organisations until instructed otherwise either by the HA or by the relevant Interfacing Organisation. The provision, cessation and removal of any of the Services provided to the Interfacing Organisations by NRTS Co shall follow the same procedures as for the Services provided to the HA by NRTS Co, unless NRTS Co is instructed by the HA to modify these as a result of the review of key provisions for the operation and maintenance of the Services referred to in paragraph D.1.1.9.
- D.3.3.2 **M** Wherever possible, interfaces should be provided and presented by NRTS Co in accordance with Schedule 1.1a (Statement of Requirements: Transmission Services). Where this is not possible, consideration shall be given to the re-configuration of the interface in line with Schedule 1.1a under a transition arrangement agreed between the HA and NRTS Co.
- D.3.3.3 **M** Where an existing STI is not in accordance with Schedule 1.1a, and which will not be subject to any planned change to bring the STI into line with Schedule 1.1a, then the interface may remain a non-standard STI arrangement until such time as Schedule 1.1a is amended to reflect a new STI type or an amendment is made to an existing STI type.
- D.3.3.4 **M** During the period when the STI does not match Schedule 1.1a, the treatment of the Service shall be as the nearest equivalent Schedule 1.1a item as agreed between the HA and NRTS Co.

### **D.3.4 Physical Interfaces**

- D.3.4.1 **M** The location of SDPs shall, in the first instance, follow the SDP Rules set out in Annex C Schedule 1.1a (Statement of Requirements: Transmission Service).
- D.3.4.2 **M** SDPs shall normally be placed at geographic boundaries between NRTS Co and the Interfacing Organisation. It is, however, recognised that existing arrangements may not facilitate this. Where mutually agreed by the Interfacing Organisation and NRTS Co, the SDP may be identified at a nearby location. Such location shall be primarily influenced by the ease and practicality of safe access for both NRTS Co and the Interfacing Organisation.

- D.3.4.3      **M**      Where SDPs are not located at geographic boundaries, the interface details set out in the Interfacing Agreements shall clarify the extent of responsibilities for the provision and maintenance of infrastructure, (including requirements for any traffic management) from the SDP to the geographic boundary.

### **D.3.5      Tunnels**

- D.3.5.1      **M**      The operating environment in tunnels (a tunnel being designated and named by the HA as a tunnel structure that meets prescribed criteria based on length and traffic flow) and the access arrangements in respect of tunnels are different to a normal motorway or All-Purpose Trunk Road. The guiding principle is that NRTS Co shall not normally access tunnels within the Project Road Network to provide or maintain STIs. Section D.4 lists the tunnels affected for which Internal Interface Agreements have been produced. The A38 Saltash Tunnel is also a major tunnel but it is not listed in section D.4 because it does not currently contain any longitudinal through circuits designated for NRTS Co's use and this obviates the need for an Interface Agreement.
- D.3.5.2      **M**      All communications circuits associated with the A38 Saltash Tunnel, Tamar Bridge and communications circuits to the Tamar Bridge control office shall be treated as local circuits and shall remain the responsibility of the RMC.
- D.3.5.3      **M**      All tunnel-related SDPs shall be outside tunnel bores or in nearby tunnel equipment and/or control rooms. No NRTS Co equipment or infrastructure shall be allowed in tunnel bores, except for longitudinal cables providing through circuits or cables routed to tunnel control facilities where the route is via the tunnel bore.
- D.3.5.4      **M**      Local cables to devices in tunnels shall remain the HA's responsibility in respect of cable renewal. Renewal of longitudinal cables within tunnels and up to defined interface points outside of tunnels shall be on a Call-Off basis under an Ad-Hoc Project (section 7).
- D.3.5.5      **M**      NRTS Co shall be responsible for the testing, maintenance and repair of the longitudinal cables that are installed in tunnels, including the cables to transmission equipment and SDPs installed within tunnel equipment and/or control rooms. NRTS Co shall also continue to be responsible for maintaining records of longitudinal cables through tunnels. NRTS Co shall be required to establish arrangements with the relevant Interfacing Organisation to gain access to test, maintain and repair longitudinal cables that are installed within tunnels and also for access to any part of the tunnel facilities.

## D.4 INTERFACE DOCUMENTS

- D.4.1.1 **M** Table D.4-1 details the Interface Agreements that have been produced as Registered Documents as at the Execution Date.

External Interface Agreements	Internal Interface Agreements
Document Title	
Transport for London Interfaces	Le Crossing Interfaces
National Assembly for Wales Interfaces	M25 Bell Common Tunnel
Severn River Crossing Interfaces	M25 Holmesdale Tunnel
National Traffic Control Centre Interfaces	A1(M) Hatfield Tunnel
Connect M1-A1 Limited	A20 Roundhill Tunnel
M6 Toll Motorway	A27 Southwick Tunnel

*Table D.4-1 Registered Documents - Interface Agreements*

## ANNEX E

### NRTS PCO VIDEO FEEDS



## E.1 NRTS PCO VIDEO LINKS

RCC	PCOs requiring 10BD services after completion of RCC migrations	No. of remote OIFs requiring ST 8C	No. of Instances of ST 10BD at PCO	Proposed PQL	Point where PCO joins core network	Existing type of transmission path
WEST MIDS	Warwickshire PCO (Leek Wooton)	1	4	PQL1	Longbridge TS	Fibre
	Worcestershire PCO (Hindlip Hall)	1	4	PQL1	Bury Court TS	Fibre
SOUTH EAST	Kent PCO (Maidstone)	1	4	PQL1	Detling TS	Fibre
	Dartford PCO (see note 2)	N/A	14	PQL1	See note 2	Fibre
SOUTH WEST	Avon & Somerset Police HQ, Portishead	2	6	PQL1	Lawrence Weston TS	Fibre
EASTERN	Herefordshire PCO (Welwyn)	1	6	PQL1	South Mimms TS	Fibre
	Thames valley PCO (Kidlington)	1	4	PQL1	Wendlebury TS	Fibre
	Met PCO (Scratchwood)	1	6	PQL1	Scratchwood TS	Fibre
NORTH EAST	West Yorkshire (Wakefield)	2	4	PQL1	Lofthouse TS	Fibre
NORTH WEST	Greater Manchester	4	12	PQL1	Streford TS	Fibre
EAST MIDS	Northamptonshire (Wooton Hall)	2	6	PQL1	Rothershope TS	Fibre
	Leicestershire (Enderby)	2	6	PQL1	Leicester Forest TS	Fibre
	Notts Derby (Ripley)	2	6	PQL1	Felley TS	Fibre

Table E.1-1 NRTS PCO Video Links

## E.1.1 Notes

- Note 1 This Annex provides requirements for remote video feeds from RCC areas to existing Police Control Offices (PCO) where 10BD video presentations are required. This requires PCO and SC10 enablements at each PCO except for Dartford where Note 2 below applies. It should be noted, at the PCOs, no Service Control Interface (SCI) will be required
- Note 2 Dartford PCO will not transfer to an RCC and so CCTV cameras within Dartford will remain under the control of the existing Dartford TVC which is located in the Dartford Transmission Station and co-located with Dartford PCO. On completion of the RCC programme, the HA plan to upgrade the Dartford TVC to provide a SC10 compatible SCI to allow the commencement of the SC4 to SC10 conversion in the Dartford PCO area. The Dartford Transmission station is a minor transmission node containing a video codec shelf, provided as part of the Base Network build, and therefore the HA believe that no PCO or CCTV enablement is required at this location. The commencement of SC4 to SC10 conversion in the Dartford area shall be complete within 6 months of the TVC being upgraded to provide a SC10 compatible SCI.
- Note 3 The HA has yet to finalise all the requirements for video feeds at all PCOs and so some PCOs currently identified as having 10BD video interfaces may change to 10MPEG interfaces. To cater for this, each Enablement and Provisioning associated with the Provision of 10BD services in each PCO shall be separately costed in the Cost Model. This will allow any changes to be easily agreed after the Execution Date.
- Note 4 Some PCOs, not identified in this table, will receive video from RCCs using 10BMPEG/x outputs via the IP network and Designated Links. (The 10BMPEG/x outputs in the RCC are provided under the Base Service Charge) The value of "x" for each 10BMPEG feed shall be selected after the Execution Date, an initial indication of these requirements shall be provided to NRTS Co via updates under the *Capture Requirements and Plan* process (Schedule 1.2 section 5.13).
- Note 5 The provision of each remote OIF requires 64kbps of bandwidth between the PCO and the RCC in which the associated SCI is located. An Instance of Service Type 8C dimensioned to meet this requirement shall be Provisioned at the PCO and included in the Base Service Charge.
- Note 6 Where required, the provision of the new 10BD and 10BMPEG/x services at PCOs and third party locations shall commence following the Transmission Full Service Start Date to a timescale to be agreed with the HA, pursuant to paragraph 8.7.4.6, using MPEG Codecs previously provided in RCCs as part of the SC4 to SC10 conversion. Until these services have been Provisioned the existing arrangements for providing video feeds to PCOs and third parties shall be retained.

## **ANNEX F**

### **MILESTONE EVIDENCING REQUIREMENTS**

## **F.1 INTRODUCTION**

- F.1.1.1 M** This Annex F sets out the various milestone events that NRTS Co shall have achieved by the Base Service Charge Date.
- F.1.1.2 M** A “milestone event” represents a particular point in the *Transition* Process (as set out in section 8 of Schedule 1.2) when NRTS Co shall Take-On certain responsibilities under the NRTS Contract. Upon the achievement of certain milestone events, NRTS Co shall become entitled to be paid by the HA in accordance with the relevant provisions of Schedule 30 (Payment Mechanism). The milestone events are designed to achieve a smooth and safe transition of responsibilities for the Services from the existing HA contractors to NRTS Co.
- F.1.1.3 M** The appendices to this Annex F set out each milestone event together with a high level overview of the evidence required to achieve it and details of the Registered Documents relevant to each such milestone event.
- F.1.1.4 M** This Annex lists the activities that NRTS Co shall have undertaken and completed before it can achieve each milestone event.
- F.1.1.5 M** The achievement of milestone events may depend upon the completion of preceding milestone events, such dependencies are defined in this Annex.
- F.1.1.6 M** For each of the milestone events, NRTS Co shall issue an evidencing document in the form of an annex to the Service Take-On Plans (which is a Registered Document developed by NRTS Co in accordance with section 4.2). This annex will contain a detailed checklist of all specific actions required to be completed by NRTS Co prior to the achievement of the particular milestone event in question. Where, as part of a particular activity listed in such annexes if NRTS Co is required to submit a list or other document to the HA, NRTS Co must obtain the HA's consent to such list or document in accordance with Schedule 8 (Authority Events) before that action is deemed to be completed by NRTS Co.
- F.1.1.7 M** NRTS Co may submit the appropriate evidencing document for the achievement of each milestone event in parallel with the last scheduled deliverables for the milestone event provide the submission has been agreed in the Submission Programme as defined in Part 2 of Schedule 8.

## **F.1.2 Registered Documents**

- F.1.2.1 M** As part of the evidence to confirm the achievement of a particular milestone event, NRTS Co shall revise the relevant Registered Documents and issue revised versions of these Registered Documents. Such revised versions of these Registered Documents must have obtained HA consent in accordance with the provisions of Clauses 17.4 and 17.5 of the Project Agreement and Schedule 8 of the NRTS Contract.
- F.1.2.2 M** For the purposes of evidencing the achievement of milestone events, Registered Document revisions shall take 3 forms, defined as follows:

**Draft**

- F.1.2.3      **M**      The contents and scope of the draft Registered Document shall be agreed between the HA and NRTS Co and shall contain as a minimum:
- merged BAFO and R&C responses and/or drafting agreed prior to the Execution Date;
  - relevant clarification HA queries and NRTS Co responses from both the BAFO and R&C stages;
  - a programmed list of work and amendments to be made to the draft Registered Document to develop the draft for each subsequent issue and for the Full version.

**First and subsequent issues**

- F.1.2.4      **M**      NRTS Co shall issue Registered Document revisions for each milestone event in accordance with Table F.17-1. The revised Registered Documents issued shall contain the detail required to support the evidence required to achieve that milestone event.

**Final issue – Full**

- F.1.2.5      **M**      In Table F.17-1, “Full” indicates that NRTS Co has issued, and the HA has given its consent to a version of the document which incorporates all items identified on the list of work and amendments referred to in paragraph F.1.2.3 above.

**F.2 MILESTONE DATES**

F.2.1.1 **M** The only milestone dates are the Execution Date and the Transmission Full Service Start Date. These dates are set out in Table F.2-1.

F.2.1.2 [Not Used]

Milestone	Date
Execution Date	As defined in the Project Agreement
Transmission Full Service Start Date	Effective Date +24 months

*Table F.2-1 Transition Milestone Dates*

### **F.3 EXECUTION DATE MILESTONE**

**F.3.1.1 M** By the Execution Date, NRTS Co shall have:

- 1 commenced the take over of the operation of NRTS Data Room, and the maintenance of the information contained within it. The take over of the NRTS Data Room and the removal of its contents to NRTS Co premises shall be completed within 20 Business Days from the Execution Date.
- 2 lodged in the Document Management System (interim solution) a copy of each of the Registered Documents listed in Table F.17-1 that is developed to the level required as set out in the column headed "Execution Date" in Table F.17-1.
- 3 agreed and provided an initial Forward Programme (interim solution).
- 4 ongoing monitor and capture of HA requirements in accordance with the *Capture Requirements and Plan* process (section 5.13).

## **F.4 STEP 1A AND STEP 1B MILESTONE EVENTS (“STEP 1A” & “STEP 1B”)**

### **F.4.1 Step 1a Milestone Event (“Step 1a”)**

**F.4.1.1 M** Step 1a provides evidence that NRTS Co is adequately prepared to be allowed access to the roadside on Project Road Network relating to any of the Services.

**F.4.1.2 M** To achieve Step 1a, NRTS Co shall:

- 1 demonstrate to the HA that it has sufficient resources to operate at the roadside safely and competently, and in a manner that will not compromise the operational performance of the communications systems;
- 2 develop the relevant Registered Documents to the levels set out in the column headed “Step 1a & 1b” in Table F.17-1; and
- 3 ensure that the development of the relevant parts of the NRTS Required Systems have reached the levels of operation set out in the column headed “At Execution” in Table F.18-1.

**F.4.1.3 M** The evidence, and the Registered Documents which support the evidence that these preparatory tasks have been completed, shall be as defined in Table F.4-1.

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
1a.1	Developed and agreed initial procedure for identification and marking of assets.	NRTS Co proposals for initial asset identification and labelling procedures and systems.	GC-PS011 PS-DS033
1a.2	Prepared to fulfil requirements of Constraints.	NRTS Co general constraint documents defined in Table F.17-1 have been produced and consented to by the HA.	Table F.17-1
1a.3	Prepared to fulfil all requirements of NRTS Processes.	NRTS Co general process documents to the individual issue status required for Step 1a. Evidence that HA has confirmed that the processes relevant to Step 1a are in place as defined in Table F.17-1.	Table F.17-1
1a.4	Demonstrated that NRTS staff are ready and responsible to perform surveys and non-intrusive testing at roadside.	NRTS Co records of staff awareness and competency, site safety training and availability of equipment (e.g. PPE, site vehicles, test equipment and tablet PCs/PDAs) and procedures.	PS-DS033

*Table F.4-1 Evidence of Milestone Events – Step 1a*

**F.4.1.4** [Not Used]

**F.4.1.5** [Not Used]



## F.4.2 Step 1b Milestone Event (“Step 1b”)

F.4.2.1 **M** Step 1b provides evidence that NRTS Co is adequately prepared to commence civil and construction works.

F.4.2.2 **M** To achieve Step 1b, NRTS Co shall:

- 1 Demonstrate to the HA that it has sufficient resources to operate at the roadside safely and competently, and in a manner that will not compromise the operational performance of the communications systems;
- 2 develop the relevant Registered Documents to the levels set out in the column headed “Step 1a & 1b” in Table F.17-1; and
- 3 demonstrate to the HA that NRTS Co have the necessary consents to commence civil and construction work and are suitably prepared
- 4 ensure that the development of the relevant parts of the NRTS Required Systems have reached the levels of operation set out in the column headed “At Execution” in Table F.18-1.

F.4.2.3 **M** The evidence, and the Registered Documents which support the evidence that these preparatory tasks have been completed, shall be as defined in Table F.4-2.

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
1b.1	Achievement of Step 1a	Step 1a Completion Certificate	Step 1a Completion Certificate
1b.2	Continued preparations to fulfil NRTS Constraints.	NRTS Co General Constraints documents to the individual issue status required for Step 1b as defined in Table F.17-1 have been produced and consented to by the HA.	Table F.17-1
1b.3	Continued preparations to fulfil NRTS Processes.	NRTS Co general process documents to the individual issue status required for Step 1b. HA has confirmed that the processes relevant to Step 1b are in place as defined in Table F.17-1 have been produced and consented to by the HA.	Table F.17-1
1b.4	Continue to populate NRTS Forward Programme with current & planned works.	CraP process is satisfactorily established.	PS-DS033
1b.5	Health and Safety, CDM compliance and QA procedures in place.	NRTS Co written procedures including demonstration of NRTS Co's competence to act as Principal Contractor in accordance with the CDM Regulations.	PS-DS033
1b.6	CDM Principal Contractor capability	NRTS Co documentation demonstrating compliance with the CDM Regulations.	
1b.7	Relevant operational, technical and physical interfaces have been documented.	NRTS Co's documentation relating to the limits of their responsibilities for standard type SDPs and interfacing arrangements with other organisations.	PS-DS002 PS-DS033

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
1b.8	CraP process has been initiated.	NRTS Co submission of PS-DS025. HA has confirmed that NRTS Co. has been carrying out a programme of visits to interfacing organisations, and has compiled an up to date forward programme with the information obtained.	PS-DS025 PS-DS033
1a.9	Demonstrated that NRTS staff are ready and responsible to work roadside.	NRTS Co records of staff awareness and competency, site safety training and availability of equipment (e.g. PPE, site vehicles, test equipment and tablet PCs/PDAs) and procedures.	PS-DS033
1a.10	Developed and agreed procedure for identification and marking of assets.	NRTS Co proposals for initial asset identification and labelling procedures and systems.	GC-PS011 PS-DS033
1b.11	Have obtained all necessary Consents	Obtained the required consents	

*Table F.4-2 Evidence of Milestone Events – Step 1b*

## F.5 STEP 2 MILESTONE EVENT (“STEP 2”)

F.5.1.1 **M** To achieve Step 2, NRTS Co shall:

- 1 provide evidence to the HA that it is capable of, and adequately prepared to take over the duties of the NTMC, and carry out the operation and maintenance of the National Transmission Network;
- 2 develop the relevant Registered Documents to the levels set out in the column headed “Step 2” in Table F.17-1; and
- 3 ensure that the development of the relevant parts of the NRTS Required Systems have reached the levels of operation set out in the column headed “Step 2” in Table F.18-1.

F.5.1.2 **M** The evidence, and the Registered Documents which support the evidence that these preparatory tasks have been completed, shall be as defined in Table F.5-1.

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
2.1	Achievement of Step 1b	Step 1b Completion Certificate	Step 1b Completion Certificate
2.2	NRTS Co has assembled engineering and management team to cover all work disciplines currently performed by NTMC.	NRTS Co organisation chart, Staff CVs and training matrix.	PS-DS033
2.3	Established work-shadowing arrangements with existing NTMC and NTWC operations.	NRTS Co program for work shadowing with NTMC and NTWC, including details of specific work activities.	PS-DS033
2.4	Reasonable endeavours have been used to shadowing the NTMC.	NRTS Co checklist of all attempted NTMC shadowing activities and outcome.	PS-DS033
2.5	NRTS Co shadowing of CQAC after ISSD has taken place.	NRTS Co- to demonstrate that the CQAC databases have been replicated onto their required systems, and the consent of the HA has been obtained.	PS-DS033
2.6	Continued preparations to fulfil NRTS Constraints.	NRTS Co General Constraints documents to the individual issue status required for Step 2 as defined in Table F.17-1 have been produced and consented to by the HA.	See Table F.17-1
2.7	Continued preparations to fulfil NRTS Processes.	NRTS Co general process documents to the individual issue status required for Step 2. HA has confirmed that the processes relevant to Step 2 are in place as defined in Table F.17-1 have been produced and consented to by the HA.	See Table F.17-1
2.8	Continue to populate NRTS Forward Programme with current & planned works.	CraP process is satisfactorily established.	PS-DS033
2.9	Handover process and Take-On plan for RMC area agreed.	NRTS Co processes and methods for the handover of each PCO area and the Take-On of each RMC area are in place.	PS-DS033
2.10	NRTS Co Interim disaster recovery plan is in place	NRTS Co interim disaster recovery plan.	PS-DS022

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
2.11	Interim Fault Management System is established.	NRTS Co interim Fault Management System is established as defined in section F.18.	PS-DS010 to 013 PS-DS033
2.12	All HA assets taken over at Interim Service Start Date have been audited and confirmed.	NRTS Co schedule of HA Assets taken on at Interim Service Start Date.	PS-DS033
2.13	Inventory of NMCS equipment at Yate stores completed & removal of equipment being passed to NRTS Co has taken place.	NRTS Co schedule of NRTS assets to be taken over from Yate stores, as well as the obsolete items to be disposed of. HA content that removal of equipment relevant to NTMC and the National Transmission Network portion of the NTWC from Yate stores is complete.	PS-DS033
2.14	NOMAD checked and populated.	NRTS Co checking and population of NOMAD following due diligence and site surveys.	PS-DS033
2.15	Initial build and population of PAMS completed.	NRTS Co initial deployment of PAMS as required in section F.18.	PS-DS033
2.16	Initial build and population of Planned Maintenance Schedule, including any remedial works required by current assets, completed.	NRTS Co initial development of PMS from PAMS, and deployment of PMS as required in section F.18.	PS-DS033
2.17	All damaged cables and temporary repairs from NTMC & RMC records are recorded in the PAMS.	NRTS Co schedules of damaged or repaired cable information, gathered as a result of meetings with NTMC, RMCs, MACs, or discovered during site survey etc.	PS-DS033
2.18	Not Used	Not Used	Not Used
2.19	Surveys conducted of all buildings and cabinets to identify equipment and power arrangements not covered by NRTS. Arrangements are in place for removal or special access arrangements.	NRTS Co schedules of buildings and equipment that contains equipment or power supplies co-located with, but not covered by, NRTS Co's contract. HA have agreed that arrangements for handling such buildings and equipment are agreed.	PS-DS033
2.20	Finalised format and presentation of monthly network performance/availability report and other management reports for the Interim Service available.	NRTS Co drafts of all monthly reports for the Interim NRTS management systems.	PS-DS033
2.21	Overview programme for Take-On of Services activities is established.	NRTS Co programme for Service Take-On.	PS-DS033
2.22	Audit current telecomms bypasses	NRTS Co schedule of interrupter and bypass cables following NTMC/NTWC shadowing exercises, meetings with RMC/MACs and site surveys.	PS-DS033
2.23	Service Handback Plan for network developed and agreed with HA.	NRTS Co draft Service Handback plan.	PS-DS034
2.24	Not Used	Not Used	Not Used
2.25	Not Used	Not Used	Not Used

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
2.26	Planned Carrier Interruption process	NRTS Co procedure.	PS-DS033
2.27	Site-specific SDP record information has been captured.	NRTS Co desk study records of non-standard SDP interfaces. (National Transmission Network only)	PS-DS033
2.28	Plans for labelling of power supplies and where applicable separating fusing and isolation arrangements of what will become NRTS Co equipment.	Submission of plans for labelling of power supplies and where applicable separating fusing and isolation arrangements of what will become NRTS Co equipment in shared HA cabinets, and other activities relating to power supplies (in accordance with the <i>Power Supplies</i> constraint section 2.5 Schedule 1.3 (Statement of Requirements: General Constraints));	PS-DS033
2.29	Develop, document and agree performance criteria, and test procedures, for all Services to be Taken-On.	NRTS Co schedule of performance criteria, and test procedures, for all Services to be Taken-On.	PS-DS033
2.30	Relevant operational, technical and physical interfaces have been documented.	NRTS Co's documentation relating to the limits of their responsibilities for standard type SDPs and interfacing arrangements with other organisations.	PS-DS002 PS-DS033

Table F.5-1 Evidence of Milestone Events – Step 2

F.5.1.3 [Not Used]

F.5.1.4 [Not Used]

## F.6 STEP 3 MILESTONE EVENT (“STEP 3”)

F.6.1.1 **M** To achieve Step 3, NRTS Co shall:

- 1 provide evidence to the HA that it is capable of, and adequately prepared to, carry out the operation, maintenance, and sustainment of new works relating to the local connections and Service Instances within each RMC Area.
- 2 develop the relevant Registered Documents to the levels set out in the column headed “Step 3” in Table F.17-1; and
- 3 ensure that the development of the relevant parts of the NRTS Required Systems have reached the levels of operation set out in the column headed “Step 3” in Table F.18-1.

F.6.1.2 **M** The evidence, and the Registered Documents which support the evidence that these preparatory tasks have been completed, shall be as defined in Table F.6-1.

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
3.1	Completion of Step 2	Step 2 Completion documentation.	Step 2 Completion Certificate
3.2	NRTS Co has assembled engineering and management team to cover all work disciplines currently performed by /NTWC/RMC/MAC/CQAC etc.	NRTS Co organisation chart, Staff CVs and training matrix.	PS-DS033
3.3	Not Used	Not Used	Not Used
3.4	Populate NRTS Forward Programme with all relevant works	Appropriate agreed access to fully populated forward works programme is available.  NRTS Co CR&P process fully staffed and operational.	PS-DS033 PS-DS025
3.5	Continued preparations to fulfil NRTS Constraints.	NRTS Co General Constraints documents to the individual issue status required for Step 3 as defined in Table F.17-1 have been produced and consented to by the HA.	GC-PS001to 035
3.6	Continued preparations to fulfil NRTS Processes.	NRTS Co general process documents to the individual issue status required for Step 3 as defined in Table F.17-1 have been produced and consented to by the HA.	PS-DS001 to 039
3.7	Completion of Fault Management System and performance monitoring system for local STIs	See section F.18.	PS-DS033 PS-DS010 to 013
3.8	Audit and confirm all HA assets and Services to be taken over on each RMC Area Take-On Date	NRTS Co submitted schedule of all STIs and HA assets taken over in each RMC Area as it is taken on.	PS-DS033
3.9	Building and Populating PAMS including STI/SDP attributes and all associated records.	PAMS data availability and complete Appropriate access (as agreed) to fully populated PAMS available.	PS-DS033

Action	Action Required	Overview of NRTS Co evidence required	Related Registered Documents
3.10	Planned Maintenance Schedule built and populated & including any remedial works required to current assets.	NRTS Co submitted pro-forma maintenance schedule based on PAMS data.	PS-DS033
3.11	Finalised format and presentation of monthly network performance/availability report and other management reports	All management and performance reports defined and documented in relevant Registered Documents, such documents having HA consent and actual reports being made available.	PS-DS033
3.12	Audit current local telecomms bypasses and schemes being supported in the RMC Area.	NRTS Co submitted signed pro-forma schedule of all interrupter or bypass cables in each RMC Area as it is Taken-On.	PS-DS033
3.13	Service Handback Plans finalised.	NRTS Co fully documented process for Service Handback Plans as defined in Table F.17-1 have been produced and consented to by the HA.	PS-DS033 PS-DS034
3.14	STIs and other assets live following Service Take-On have been audited.	NRTS Co final list of STI's and assets Taken-On in the RMC Area.	PS-DS033
3.15	Schedule of all leased services in each RMC Area has been produced.	NRTS Co schedule of leased services	PS-DS033
3.16	Labelling and separation of power supplies of NRTS equipment in shared HA cabinets has taken place.	NRTS Co schedule of shared power supplies, and the labelling required identifying the NRTS supplies. Any applicable separation of power supplies has taken place.	GC-PS004 PS-DS033
3.17	Verification and testing of existing STIs to satisfy NRTS Co requirements	NRTS Co test specification and results for STIs using a non-intrusive test set.	PS-DS033
3.18	list of Service Type Instances to be "Live" following Service Take On,	Populating the Service Schedule.	

*Table F.6-1 Evidence of Milestone Events – Step 3*

F.6.1.3 [Not Used]

F.6.1.4 [Not Used]

**F.7 ACTUAL SERVICE START DATE FOR THE CONSULTANCY SERVICE**

- F.7.1.1 M** NRTS Co shall not be permitted to provide the Consultancy Service until NRTS Co has received the relevant Completion Certificate from the HA pursuant to paragraph 8.6.14 of Schedule 1.2. The Actual Service Start Date for the Consultancy Service shall be the date on which NRTS Co has received the relevant Completion Certificate from the HA.
- F.7.1.2 M** To demonstrate its readiness to provide the Consultancy Service, NRTS Co shall submit a complete and final NRTS Process Standard for "Consultancy Services", Registered Document PS-DS037 in accordance with Table F.17-1 (which shows the latest milestones by which the Registered Documents must be at defined levels of development).
- F.7.1.3 M** NRTS Co shall not be permitted to undertake any Consultancy Service assignment that requires access to the roadside unless it has achieved the Step 1b milestone event.
- F.7.1.4 M** NRTS Co shall not be permitted to undertake any Consultancy Service assignment that involves work on the National Transmission Network unless it has achieved the Step 2 milestone event.
- F.7.1.5 M** NRTS Co shall not be permitted to undertake any Consultancy Service assignment that involves work being carried out on the local circuits by or on behalf of NRTS Co (in accordance with its rights under Clause 11.1 of the Project Agreement (Legacy Assets) of the NRTS Contract) unless NRTS Co has achieved the Step 3 milestone event.



**F.8 ACTUAL SERVICE START DATE FOR THE AERIAL SITE SERVICE**

- F.8.1.1 **M** NRTS Co shall not be permitted to provide the Aerial Site Service until NRTS Co has received the relevant Completion Certificate from the HA pursuant to paragraph 8.6.11 of Schedule 1.2. The Actual Service Start Date for the Aerial Site Service shall be the date on which NRTS Co has received the relevant Completion Certificate from the HA.
- F.8.1.2 **M** To demonstrate its readiness to provide the Aerial Site Service, NRTS Co shall submit a complete and final NRTS Process Standard for "*Aerial Sites Management*", Registered Document PS-DS023 in accordance with Table F.17-1 Registered Document Transition Status (which shows the latest milestones by which the Registered Documents must be at defined levels of development).
- F.8.1.3 **M** NRTS Co shall not be permitted to access the roadside in order to construct Aerial Sites unless it has achieved the Step 1b milestone event.
- F.8.1.4 **M** In accordance with paragraph 8.6.11 of Schedule 1.2. NRTS Co shall not be permitted to provide network backhaul services to Mobile Network Operators (MNOs) over the National Transmission Network unless it has achieved the Step 2 milestone event.

## **F.9 INTERIM SERVICE START DATE**

- F.9.1.1 **M** The Interim Service Start Date shall be as defined in Clause 1.1 (Definitions) of the Project Agreement.
- F.9.1.2 **M** In order to Take-On the Interim Service NRTS Co shall have achieved Step 2 and have received the HA's consent to proceed in accordance with paragraph 8.5.19.

## **F.10 PARTIAL AREA TAKE-ON DATE**

- F.10.1.1 M** To demonstrate a successful trial period, i.e. a period of time agreed in writing between the HA and NRTS Co. NRTS Co shall satisfy the HA that during each trial period:
- NRTS Co's processes operated satisfactorily and in accordance with the General Constraints;
  - NRTS Co's systems operated satisfactorily and delivered the required interim functionality;
  - NRTS Co carried out its work substantially in accordance with its Registered Documents;
  - the Availability of the Service Type Instances within the (trial) PCO Area or other Trial Area (as agreed between the HA and NRTS Co in writing) was not less than the Availability of the previous 12 months (averaged) as shown in the RMC reports for that area; and
  - any material interface issues between NRTS Co and relevant Interfacing Organisations (particularly the RMC) have been resolved.

## **F.11 RMC AREA TAKE-ON DATE**

**F.11.1.1 M** NRTS Co shall complete the Take-On of each entire RMC Area before commencing the Take-On of the next RMC Area in accordance with paragraphs 8.5.20.9 to 8.5.20.13 of Schedule 1.2.

**F.11.1.2 M** In order to achieve an RMC Area Take-On Date NRTS Co shall satisfy the HA:

- 1 NRTS Co has achieved Partial Area Take-On in the Trial Areas (or Trial Areas) in that RMC Area.
- 2 NRTS Co has Taken-On all of the STIs in the RMC Area.
- 3 HA has reviewed and consented to the Waived Non-Compliance List.

**F.12      ACTUAL SERVICE START DATE FOR THE TRANSMISSION SERVICE**

- F.12.1.1      **M**      The Actual Service Start Date for the Transmission Service shall be the date on which:
- 1      NRTS Co has Taken-On the last RMC Area in accordance with paragraph 8.5.20.13 of Schedule 1.2; and
  - 2      NRTS Co has completed the Take-On of the local services and assumed all its responsibilities under the Transmission Service.

F.12.1.2      [Not Used]

**F.13      GENERIC SERVICE START DATE**

- F.13.1.1      **M**      NRTS Co may at its discretion declare a Generic Service Start Date for a particular RMC Area after it has achieved the RMC Area Take-On Date for that RMC Area.
- F.13.1.2      **M**      As defined in paragraph 8.7.4.1 of Schedule 1.2, a Generic Service Start Date shall be the date on which Generic Service Capability applies, i.e. the HA may Task NRTS Co to Provision Generic Service Type Instances in that RMC Area.
- F.13.1.3      **M**      A Generic Service Start Date for each RMC Area shall be deemed to apply in the RMC Areas from the Transmission Full Service Start Date (as defined in section F.2).

**F.14 AREA BUILD COMPLETION DATE**

- F.14.1.1 M** During the Transition Period, NRTS Co will be delivering the build programme and achieving Full Service Capability across the NRTS Transmission Network. The HA will issue Area Completion Certificates, as defined in section 8 of Schedule 1.2, for each RMC Area as the build is completed in that area and the requirements set out in paragraph 8.7.1.6 of Schedule 1.2 have been met. In carrying out the build programme in an area NRTS Co shall comply with paragraphs 4.3.7 to 4.3.10 of Schedule 1.2.
- F.14.1.2 M** To achieve this milestone event in each RMC Area, NRTS Co shall present sufficient evidence to the HA that the following aspects of the build have been met:
- 1 the Longitudinal Infrastructure has been completed in accordance with the SPC 'A' coverage detailed in the Link Table in Annex A of Schedule 12;
  - 2 Transmission Station buildings have been constructed or reconstructed in accordance with the Build Programme; and
  - 3 The requirements of the Build Completion Date defined in paragraph 8.7.4.2 of Schedule 1.2 have been met for the area.

## **F.15 BUILD COMPLETION DATE**

**F.15.1.1 M** The Build Completion Date shall be the date on which NRTS Co completes, in accordance with paragraph 8.7.4.2 of Schedule 1.2, the build phase of the NRTS Project.

**F.15.1.2 M** In order to achieve the Build Completion Date NRTS Co shall:

- 1 have Area Completion Certificates for each RMC Area as referred to in paragraph F.14.1.1;
- 2 provide to the HA:
  - as-built drawings and test certificates for the new Longitudinal Infrastructure applicable to the M3, M4 and M62 works;
  - all TS to TS acceptance test certificates;
  - installation and testing record for all Assets required by the HA to evidence that the Build Phase has been satisfactorily completed.

(Note: all as-built drawings for other works shall be submitted and reviewed in accordance with the *Develop Registered Document* process (section 4.2 of Schedule 1.2) and the associated Service Levels Targets (Annex A of Schedule 27);

- 1 provide to the HA evidence to the HA's satisfaction that the requirements of paragraph 8.7.4.2 of Schedule 1.2 have been met;
- 2 provide to the HA evidence that the relevant Registered Documents have been developed to the levels set out in the column headed "Build Completion Date" in Table F.17-1; and
- 3 provide to the HA evidence that the development of the relevant parts of the NRTS Required Systems have reached the levels of operation set out in Table F.18-1.
- 4 have satisfied the requirements given in Schedule 1.1a section 17.6 for the Build Phase Acceptance Tests;

**F.15.1.3 M** If the Build Completion Date is achieved prior to the Transmission Full Service Start Date (as defined in section F.2), then, in accordance with Clause 9 (Provision of the Services) of the Project Agreement, Generic Service Capability (as defined in section F.12) shall be deemed to apply in all RMC Areas.



## **F.16 BASE SERVICE CHARGE DATE**

- F.16.1.1 **M** The Base Service Charge Date shall be the date:
- 1 as defined in Clause 1.1 (Definitions) of the Project Agreement; and
  - 2 on which the Base Service Charge becomes payable in accordance with Schedule 30 (Payment Mechanism).
- F.16.1.2 [Not Used]

**F.17 TABLE: REGISTERED DOCUMENT TRANSITION STATUS**

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
<b>Technical Specifications (Transmission Service)</b>										
AS-001	Overall Solution Description	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-002	General Approach to Bespoke Service Types	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-003	Service Category 1	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-004	Service Category 2	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-005	Service Category 3	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-006	Service Category 4	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
AS-007	Service Categories 1 to 4: Performance, Testing and Fault Detection	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-008	Service Category 5	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-009	Service Category 6	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-010	Service Category 7	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-011	Service Category 8	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-012	Service Category 9	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-013	Service Category 10	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
AS-014	Service Category 11	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-015	General Requirements	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
AS-016	Service Level Requirements	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
SD-01	Service Solution Specification <sup>11</sup>	DRAFT							FULL	
SD-02	Materials to Support Users and Application Developers <sup>12</sup>	DRAFT							FULL	

<sup>11</sup> For the Execution Date, the Draft version of the SSS will be the Highways Agency's Indicative Document Relationship for the SSS. This document was produced by the Highways Agency to provide an indication of the relationship and hierarchy of the documentation that will form the SSS. The document is not exhaustive and is indicative of the type of documentation required for the SSS. The programme for development of the SSS will be confirmed by Step 1b.

<sup>12</sup> For the Execution Date, the Draft version of the Materials to Support Users and Application Developers will be the Highways Agency's Indicative Document Relationship for the SSS, which also shows the relationship of the Service Solution Specification to the materials required to support users and application developers. The document is not exhaustive and is indicative of how the Service Solution Specification relates to the Material to Support Users and Application Developers. The programme for development of the Materials to Support Users and Application Developers will be confirmed by Step 1b.

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
SD-03	Service Provisioning Capability Rules	FULL	FULL	Full Issue at Execution Date	FULL	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL	Full Issue at Execution Date
	ISB Volume 5, Part 3, version 0.94	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
	Clarification Received on Solution for Active and Passive	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
<b>Process Standards (Processes)</b>										
PS-DS001	Organisation Plan	DRAFT	FULL (Step 1b)		FULL	Full Issue Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
PS-DS002	Interfacing with the various Interfacing Organisations	DRAFT	Issue for Step 1a Updated Issue for Step 1b		Issue for Step 2		FULL		FULL	Full Issue Step 3
PS-DS003	Contract Management	DRAFT	Issue for Step 1a Issue Step 1b		Issue for Step 2		Issue for Step 3		FULL	
PS-DS004	Registered Document Development	DRAFT	FULL (Step 1a)	DMS Solution based on interim solution	FULL	Full Issue Step 1a	FULL	Full Issue Step 1a	FULL	Updated for final full DMS solution
PS-DS005	Get Consent to Service Solution	DRAFT	Issue for Step 1b	To address the overall process including civil and active elements	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS006	Get Structural Approval	DRAFT	FULL (Step 1b)		FULL	Full Issue Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
PS-DS007	Get Consent to Standard Construction Details	DRAFT	FULL (Step 1b)	MCX drawings	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
PS-DS008	Damage Notification	DRAFT	Issue for Step 1a Issue for Step 1b		FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS009	Maintain Service Continuity	DRAFT	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS010	Fault Management	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim FMS	Issue for Step 3	Interim FMS	FULL	Final FMS, include migration from interim system
PS-DS011	Fault Notification Procedure	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim FMS	Issue for Step 3	Interim FMS	FULL	Final FMS, include migration from interim system
PS-DS012	Fault Allocation Procedure	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim FMS	Issue for Step 3	Interim FMS	FULL	Final FMS, include migration from interim system

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
PS-DS013	Serious Fault Handling Procedure	DRAFT	Issue for Step 1b	To address incident handling only	Issue for Step 2	Interim FMS	Issue for Step 3	Interim FMS	FULL	Final FMS, include migration from interim system
PS-DS014	Damage Repair & Re-instatement	DRAFT	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS015	Auditing and Inspection	DRAFT	Issue for Step 1a Issue for Step 1b		FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS016	Location and Marking of Buried Assets	DRAFT	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS017	Duct Space Management	DRAFT	Issue for Step 1b		FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS018	User Services	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim Process	Issue for Step 3	Interim Process	FULL	Include migration from interim process
PS-DS019	Network Management	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim System	Issue for Step 3	Interim System	FULL	Include migration from interim system
PS-DS020	Security Policy	DRAFT	Issue Step 1b		Issue for Step 2		Issue for Step 3		FULL	



		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
PS-DS021	Site Access Procedure	DRAFT	DRAFT	As at Execution Date	FULL	Full Issue Step 2	FULL	Full Issue Step2	FULL	Full Issue Step 2
PS-DS022	Disaster Recovery Plan	DRAFT	DRAFT	As at Execution Date	Issue for Step 2		As at Step 2		FULL	
PS-DS023	Aerial Sites Management	DRAFT	DRAFT	As at Execution Date	FULL	Full Issue Step 2	FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS024	Remedial Works	DRAFT	DRAFT	As at Execution Date	FULL	Full Issue Step 2	FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS025	Requirements Capture and Planning	DRAFT	FULL (Step 1b)		FULL	Full Issue Step 1b	FULL	Full Issue Step 1b	FULL	Updated with NRTS Required systems information
PS-DS026	Installation Design	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3
PS-DS027	Service Provisioning (Schemes and Works)	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3
PS-DS028	Service Activation	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3
PS-DS029	Service Deactivation	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3
PS-DS030	Service Removal	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
PS-DS031	Service Conversion	DRAFT	DRAFT	As at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 3
PS-DS032	Preparation of Project Proposals	DRAFT	FULL (Step 1b)		FULL	Full Issue Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
PS-DS033	Service Take-On Plan	DRAFT	Issue for Step 1a Updated Issue for Step1b	Updated Execution Date draft.	Issue for Step 2	For national transmission	FULL		FULL	Full Issue Step 3
PS-DS034	Handback Plan and IPR Table	DRAFT	DRAFT	As at Execution Date	Issue for Step 2		Issue for Step 3		FULL	
PS-DS035	Test procedures for Bespoke and Generic Transmission Service Types	Not Required	Not Required		Not Required		Not Required		Not Required	
PS-DS036	NRTS Systems Architecture (and other documents identified in Schedule 1.2 Annex B)	DRAFT	N/A		N/A		N/A		FULL	System related documents to be updated as per plan defined in Execution state PS-DS036

		Execution Date	STEP 1a & 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments
PS-DS037	Consultancy	DRAFT	DRAFT	As at Execution Date	FULL	Full Issue Step 2	FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS038	Camera Mast Management	DRAFT	DRAFT	As at Execution Date	FULL	Full Issue Step 2	FULL	Full Issue Step 2	FULL	Full Issue Step 2
PS-DS039	Network Management System (NMS) Specification	DRAFT	DRAFT	As at Execution Date	Issue for Step 2	Interim NMS	Issue for Step 3	Interim NMS	FULL	Final FMS, include migration from interim system

		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
<b>Project Standards (General Constraints)</b>												
GC-PS001	Appearance and Impact on Surroundings	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS002	Permanent Access	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If TS or cabinet sites to be installed	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS003	Site Protection	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If TS or cabinet sites to be installed	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS004	Power Supplies (General)	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If work on power supplies to be carried out	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS005	Power Supplies (Vacating and Decommissioning)	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If work on power supplies to be carried out	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2

		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
GC-PS006	Earthing and Lightning Protection	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If TS or cabinet sites to be installed	Issue for Step 2		FULL	Full Issue Step 3	FULL	Full Issue Step 3
GC-PS007	Electromagnetic Compatibility	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	Issue for Step 2		FULL	Full Issue Step 3	FULL	Full Issue Step 3
GC-PS008	Non-ionising Electromagnetic Radiation	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	Issue for Step 2		FULL	Full Issue Step 3	FULL	Full Issue Step 3
GC-PS009	Planning Approvals	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If planning approval required	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS010	Compliance with Environmental Requirements	DRAFT	FULL	Full Issue Step 1a	FULL	Full Issue Step 1a	FULL	Full Issue Step 1a	FULL	Full Issue Step 1a	FULL	Full Issue Step 1a
GC-PS011	Identification and Labelling	DRAFT	Issue for Step 1a		Issue for Step 1b		FULL		FULL	Full Issue in Step 2	FULL	Full Issue Step 2
GC-PS012	External Communications and Power Interfaces	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If power or communications interfaces installed	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2

		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
GC-PS013	Cables and Cable Ducts	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	For construction related elements	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS014	Cable Pair and Fibre Allocation	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS015	Cable Repair / Replacement	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS016	Location of Equipment and Infrastructure	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If TS or cabinet sites to be installed	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS017	Sustainability of Equipment and Infrastructure	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b	If TS or cabinet sites to be installed	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS018	Traffic Management Provision	DRAFT	Issue for Step 1a		FULL		FULL	Full Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
GC-PS019	Roadspace Booking	DRAFT	Issue for Step 1a		FULL		FULL	Full Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
GC-PS020	Frequency of Access	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2

		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
GC-PS021	Lane Closures	DRAFT	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
GC-PS022	Once Only Hard Shoulder Closures to Install NRTS Longitudinal Infrastructure	DRAFT	DRAFT	Minimum as at Execution Date	FULL		FULL	Full Step 1b	FULL	Full Issue Step 1b	FULL	Full Issue Step 1b
GC-PS023	Access Procedures and Controls	DRAFT	DRAFT	Minimum as at Execution Date	Issue for Step 1b		FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS024	Control and Management of Access to Personnel to NRTS Co Sites	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS025	Support for Existing Highways Agency Systems and Trials	DRAFT	DRAFT	Minimum as at Execution Date	DRAFT	As at Execution Date	FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2
GC-PS026	Record Keeping	DRAFT	Issue for Step 1a	For all work related to Step 1a	Issue for Step 1b	For all work related to Step 1b	Issue for Step 2	For all work related to Step 2	Issue for Step 3	For all work related to Step 3	FULL	
GC-PS027	Description of Infrastructure - Communications Infrastructure	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date

		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
GC-PS028	Roadside Network Solution - SPC'A' Roadside Infrastructure Design	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS029	Roadside Network Solution - SPC'A' Roadside Infrastructure Installation	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS030	Roadside Network Solution - Design of Roadside Cabinet Sites	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS031	Equipment Solution - Ducted network	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS032	Equipment Solution - Cable network	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS033	Equipment Solution - Cabinets–	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date



		Execution Date	STEP 1a		STEP 1b		STEP 2		STEP 3		Build Completion Date (BCD)	
Reference No.	Title	Status	Status	Comments	Status	Comments	Status	Comments	Status	Comments	Status	Comments
GC-PS034	Equipment Solution - Transmission Stations	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS035	Equipment Solution - RCCs and PCOs	FULL (reference document)	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date	FULL (reference document)	Full Issue at Execution Date
GC-PS036	HA Branding	DRAFT	DRAFT	Minimum as at Execution Date	Issue Step 1b		FULL		FULL	Full Issue Step 2	FULL	Full Issue Step 2

*Table F.17-1 Registered Document Transition Status*

Note: Documents marked as Reference Documents in Table F.17-1 shall be permanently marked as Excluded Documents.

## F.18 NRTS REQUIRED SYSTEMS MILESTONE EVENT DELIVERABLES

F.18.1.1 **M** The following steps shall be deemed to be complete when:

- 1 The solution has been specified as per Annex B of Schedule 1.2.
- 2 The documentation has obtained HA consent in accordance with the *Develop Registered Document* process (section 4.2 of Schedule 1.2).
- 3 The system is tested and implemented and has obtained HA consent in accordance with the *Get Consent to Service Solution* process (section 4.3 of Schedule 1.2).

System	At Execution Date	Step 2	Step 3	Effective Date +15 Months	Build Completion Date
Document Management	Interim solution required at Execution with initial version populated with initial set of reference documents. Available to select HA users via the Internet.	Interim solution as at Execution Date.  Final solution available to populated with existing documentation	As Step 2	Final solution with full functionality, integrated with website only	Full Functionality and completed integration with other Required Systems.
Forward Programme	At Execution, initial functionality (planning tool) and available via appropriate methods as agreed.  Initial Forward Plan information available. Populated with all information obtained via the CraP process.	Populated with all information obtained via the CraP process including current and planned future national transmission works.  Initial NRTS Forward Programme database available and populated	As Step 2		Full Functionality and completed integration with other Required Systems.
Service Schedule	N/A	Interim Database solution plus use of NOMAD	As Step 2 but data updated as required		Full Functionality and completed integration with other Required Systems.

System	At Execution Date	Step 2	Step 3	Effective Date +15 Months	Build Completion Date
Predictive Asset Management	N/A	Interim Database solution plus use of NOMAD	As Step 2 but data updated as required		Full Functionality and completed integration with other Required Systems.
Planned Maintenance Schedule	N/A	Interim Database solution plus use of NOMAD	As Step 2 but data updated as required		Full Functionality and completed integration with other Required Systems.
Geographical Information (Part of PAMS)	N/A	N/A	N/A		Full Functionality
Fault Management	N/A	Interim System	As Step 2 but capability to handle local STI faults		Full Functionality and completed integration with other Required Systems.
Quality management	N/A	N/A	N/A		Full Functionality and completed integration with other Required Systems.
Performance Management	N/A	Finalisation of format and presentation of relevant reports	Finalisation of format and presentation of relevant reports		Full Functionality and completed integration with other Required Systems.
Workflow Management	N/A	N/A	N/A		Full Functionality and completed integration with other Required Systems.

System	At Execution Date	Step 2	Step 3	Effective Date +15 Months	Build Completion Date
Website	N/A			Partial functionality to include: <ul style="list-style-type: none"> <li>• Profile Access;</li> <li>• DMS Access;</li> <li>• Forward Programme Access;</li> <li>• ;</li> <li>• OSS development progress report;</li> <li>• Manage contract reporting;</li> <li>• CraP progress reports;</li> <li>• Performance and Quality Management reports</li> </ul>	Full Functionality and completed integration with other Required Systems.
Help Desk	N/A	Interim Solutions (not automated)	As Step 2		Full Functionality

*Table F.18-1 Milestone Event Deliverables of NRTS Required Systems*

## **ANNEX G**

### **RMC AND CQAC RESPONSIBILITIES**

## G.1 RMC RESPONSIBILITIES

- G.1.1.1 **M** On the RMC Area Take-On Date NRTS Co will take on those responsibilities of the RMC that relate to the local transmission network, in accordance with its obligations under the NRTS Contract. The local transmission network is that which provides connections from the Roadside Device to the nearest Transmission Station.
- G.1.1.2 **M** The RMC duties that shall be subsumed by NRTS Co and performed in accordance with the NRTS Contract are outlined in Table G.1-1.

RMC Duties Relating to the Local Transmission Network	NRTS Co's Responsibility During the Trial Period
1 <sup>st</sup> line maintenance of mini carrier	The 1 <sup>st</sup> line maintenance for the mini carrier
Local circuit design, provision, set up and maintenance.	Maintenance of local circuits only
Locating buried infrastructure	n/a
Fault receipt.	Investigation and fix, in conjunction with the RMC, of all alarms and calls resulting from the operation or use of the local transmission network.
Testing and Acceptance of modifications to the local transmission network by others.	n/a
Production of Records.	As appropriate
Liaison with others.	To the extent in accordance with <i>Capture Requirements and Plan</i> process transition requirements

Table G.1-1 RMC Duties to be provided by NRTS Co

**G.2 CABLE QUALITY ASSURANCE CONSULTANT**

- G.2.1.1 **M** NRTS Co shall be responsible for its own supply, configuration and testing of transmission cables. For reference, the scope of the duties carried out by the CQAC (that will be superseded by NRTS Co) are shown in Table G.2-1.

Duties
Cable production QA
Cable loading set-up
Witness cable tests stage 2, 3
Investigation of cabling problems
Assisting with new cable installation and testing practices.
Production of Records.
Liaison with others.

*Table G.2-1 CQAC Duties*

## ANNEX H

### DBFO ARRANGEMENTS



## H.1 COMMUNICATIONS ARRANGEMENTS ON DBFO ROADS

DBFO Contract	Relevant Party	Communications infrastructure currently retained by HA and to be transferred to NRTS Co	Longitudinal / local cabling	Roadside equipment / end devices	Power cabling	Ducts	Communications infrastructure maintained and operated by DBFO Co	Electrical supplies	Facilities in DBFO cables reserved for HA and to be transferred to NRTS Co
M40 122km Motorway	UK Highways Ltd	Longitudinal and local communications cables.  Communications power cables.  Transmissions Stations and communications equipment	NRTS Co	HA	HA	HA	Civil works, ducts and chambers	DBFO Co procure metered supplies	Longitudinal and local cables
A1M1 Link 29km 2 to 5 Lane Dual Carriageway	Yorkshire Link	Transmission Stations	N/A	N/A	N/A	N/A	All communications and power cables.  ET, AS, FD CCTV, MS, EMS, VMS	DBFO Co procure metered supplies	6 fibres and 8 copper pairs in DBFO Co cable

DBFO Contract	Relevant Party	Communications infrastructure currently retained by HA and to be transferred to NRTS Co	Longitudinal / local cabling	Roadside equipment / end devices	Power cabling	Ducts	Communications infrastructure maintained and operated by DBFO Co	Electrical supplies	Facilities in DBFO cables reserved for HA and to be transferred to NRTS Co
A1M1 Link 29km M1 J42 to J48  A1(M) J44 to J45  M62 J28 to J29	Yorkshire Link	Transmission Stations	N/A	N/A	N/A	N/A	All communications and power cables.  ET, AS, FD CCTV, MS, EMS, VMS	DBFO Co procure metered supplies	6 fibres and 8 copper pairs in DBFO Co cable
A1M J14 to J17  21km Motorway	Road Management Services (Peterborough) Ltd	Transmission Stations	N/A	N/A	N/A	N/A	All communications and power cables.  ET, AS, FD CCTV, MS, EMS, VMS	DBFO Co procure metered supplies	6 fibres and 8 copper pairs in DBFO Co cable
A1 Darrington to Dishforth  53km 2 and 3 Lane Dual Carriageway	Road Management Services	Longitudinal and local communications cables.  Communications power cables.  Transmissions Stations and communications equipment	NRTS Co	HA	HA	HA	Communications power cables.  ET,AS, CCTV,MS, EMS, VMS, FD, WM	DBFO Co procure metered supplies	Longitudinal and local cables

DBFO Contract	Relevant Party	Communications infrastructure currently retained by HA and to be transferred to NRTS Co	Longitudinal / local cabling	Roadside equipment / end devices	Power cabling	Ducts	Communications infrastructure maintained and operated by DBFO Co	Electrical supplies	Facilities in DBFO cables reserved for HA and to be transferred to NRTS Co
A69 84km Single/Dual Carriageway	Roadlink (A69) Ltd	None	N/A	N/A	N/A	N/A	TBA	DBFO Co procure metered supplies	None
A30/A35 Exeter to Bere Regis  105km Single, 2 and 3 Lane Carriageway	Connect A30/A35 Ltd	None	N/A	N/A	N/A	N/A	All communications and power cables.  ET, VMS	DBFO Co procure metered supplies	None
A50  56km 2 and 3 Lane Dual Carriageway	Connect A50 Ltd	None	N/A	N/A	N/A	N/A	ET	DBFO Co procure metered supplies	None
A419  51km Single/Dual Carriageway	Road Management Services (Gloucester) Ltd	None	N/A	N/A	N/A	N/A	ET	DBFO Co procure metered supplies	None
ET = Emergency Telephones, AS = Auto Systems, MS = Matrix Signals, EMS = Enhanced Message Sign, VMS = Variable Message Signs, MSU = Motorway Signal Unit, FD = Fog Detector, WM = Wind Monitor, IS = Ice Station, PMS = Post Mounted Signal, OHD = Over Height Detector, N/A = Not Applicable.									

## **ANNEX I**

### **VEHICLES**

## **I.1 GENERAL REQUIREMENTS**

- I.1.1.1 M** NRTS Co shall provide three vehicles for the exclusive use of the Overseeing Organisation for any purpose in connection with the works for the period of the NRTS Contract.
- I.1.1.2 M** Each vehicle shall be a Landrover Discovery or equivalent. The base colour of the vehicle shall be white, silver or yellow. Vehicle equipment shall include fire extinguisher, link mats front and rear, rubber pads for clutch and brake pedals, hands-free fitting for mobile telephone and a roof mounted amber flashing light bar comprising at least two light sources permanently connected to the vehicle's electrical system, operated by a switch on the dashboard and fitted in accordance with paragraph 2.3.7.4 of Chapter 8 of the Traffic Signs Manual and The Road Vehicles Lighting Regulations.
- I.1.1.3 M** Vehicles shall be provided with the following additional equipment:
- Surveyors ladder – 1 no.
  - Traffic cones – 6 no.
  - 610 arrow sign – 1 no.
  - Chamber lid lifting tool – 2 no.
  - Basic tool kit – 1 no.
  - First aid kit – 1 no.
- I.1.1.4 M** The vehicle shall be marked in accordance with the HA branding requirements (Schedule 1.3 section 3.9 refers) and shall incorporate retroreflective red and fluorescent yellow chevrons on the rear of the vehicle and sign boards reading 'Motorway Maintenance' in accordance with Diagram 7404 of Schedule 12, Part V of the Traffic Signs Regulations and General Directions 2002 on the rear of the vehicle.
- I.1.1.5 M** The vehicles shall be delivered and maintained in good roadworthy condition. They shall have a current MOT Certificate where necessary, be licensed and insured for use on the public highway and shall have comprehensive insurance cover for any qualified driver authorised by the Highways Agency together with any authorised passengers and the carriage of goods or samples. The vehicles shall not be more than five years old.
- I.1.1.6 M** NRTS Co shall provide maintenance in conformity with the vehicle manufacturer's recommendations and shall clean the vehicles inside and out every month.
- I.1.1.7 M** NRTS Co shall provide a suitable replacement for any vehicle out of service for more than 8 working hours. This temporary replacement vehicles shall be suitable for the general purposes of the Overseeing Organisation but is not required to meet the requirement in paragraphs I.1.1.2 and I.1.1.4.
- I.1.1.8 M** When the vehicles are not in use, NRTS Co shall store the vehicles at its central and regional depots.
- I.1.1.9 M** The cost of fulfilling this requirement is to be included in the Base Service Charge.