

# Next Generation Interconnection Interoperability (NGIIF) Reference Document

## Part X, Interconnection Between LECS Operations Handbook – Local Interconnection Service Arrangement

Version 1.1

Alliance for Telecommunications Industry Solutions

Approved November 2019

### Abstract

The purpose of this document is to outline the procedures for installation, testing, maintenance and arrangement of local interconnecting service trunks. Included within the document are: Responsibilities for Local Service Customers (LSC) and Local Service Providers; Telecommunication Service Priority (TSP) guidelines; NXX Code Opening Guidelines; Trunk trouble reporting, trunk make busy, clearance, restoration guidelines. Where applicable, this document may address NGN aspects.

## Foreword

---

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Next Generation Interconnection Interoperability Forum (NGIIF) addresses next-generation network interconnection and interoperability issues associated with emerging technologies. Specifically, it develops operational procedures which involve the network aspects of architecture, disaster preparedness, installation, maintenance, management, reliability, routing, security, and testing between network operators. In addition, the NGIIF addresses issues which impact the interconnection of existing and next generation networks and facilitate the transition to emerging technologies.

The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word *may* denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, NGIIF, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, NGIIF, which was responsible for its development, had the following leadership:

Karen Riepenkroger, Sprint

Randee Ryan, Comcast

## Trademark Acknowledgements

---

iconectiv®, Telcordia®, and Common Language® are registered trademarks and CLG, CLG™, LERG™ Routing Guide and TPM™ Data Source are trademarks and the Intellectual Property of Telcordia Technologies, Inc. dba as iconectiv.

Table of Contents

**1 SCOPE, PURPOSE, & APPLICATION ..... 1**

**2 INFORMATIVE REFERENCES ..... 1**

**3 DEFINITIONS, ACRONYMS, & ABBREVIATIONS ..... 2**

3.1 ACRONYMS & ABBREVIATIONS ..... 2

**4 GENERAL ..... 3**

**5 RESPONSIBILITIES ..... 3**

5.1 LOCAL SERVICE CUSTOMER (LSC) ..... 3

5.2 LOCAL SERVICE PROVIDER (LSP) ..... 4

**6 TELECOMMUNICATIONS SERVICE PRIORITY (TSP) GUIDELINES ..... 5**

6.1 DOMESTIC NS/EP SERVICES ..... 5

6.2 CONTROL SERVICES AND ORDERWIRES ..... 5

6.3 OTHER SERVICES ..... 5

6.3.1 TSP Code Identification ..... 5

6.4 TSP INSTALLATION ..... 6

6.5 TSP MAINTENANCE ..... 6

6.5.1 Example 1 ..... 7

6.5.2 Example 2 ..... 7

6.6 COMPETITION FOR RESOURCES BETWEEN PROVISIONING AND RESTORATION PRIORITIES ..... 7

6.7 TSP INSTALLATION PREEMPTION ..... 7

6.8 TSP MAINTENANCE PREEMPTION ..... 7

6.8.1 To Restore Interrupted NS/EP Services ..... 8

6.8.2 NS/EP Services ..... 8

**7 NXX CODE OPENINGS ..... 8**

7.1 NXX OF NXX-X CO CODE ACTIVATION PLANNING ..... 9

7.2 PRE-NXX OR NXX-X ACTIVATION ..... 9

7.2.1 BIRRDS ..... 9

7.2.2 iconectiv® LERG™ Routing Guide ..... 9

7.2.3 Facilities ..... 9

7.2.4 Points of Interconnection ..... 9

7.3 TRANSLATION VALIDATION/CALL THROUGH TESTING ..... 10

7.4 INTERMEDIATE OFFICE(S) (TANDEM(S)/ACCESS TANDEMS) ..... 10

7.5 LEC TERMINATING OFFICE (SERVING OFFICE) ..... 10

7.6 ORIGINATING OFFICE ..... 11

7.7 MECHANIZED TESTING ..... 11

7.8 VERIFICATION OF NXX OR NXX-X CODE OPENINGS, SWITCH CHANGE/REHOME, OR SWITCH TANDEM REHOME PROCESS ..... 11

7.9 NXX OR NXX-X CODE OPENING, SWITCH CHANGE/REHOME, OR SWITCH TANDEM REHOME PROCESS IN JEOPARDY SITUATIONS ..... 12

**8 TRUNK INSTALLATION ..... 12**

8.1 PRE-SERVICE TESTING ..... 12

8.2 ACCEPTANCE TESTING ..... 13

8.3 ADDITIONAL COOPERATIVE ACCEPTANCE TESTING ..... 14

8.4 TRAFFIC ROUTING AND BILLING ACCEPTANCE TESTING ..... 14

8.5 COMPLETION ..... 14

8.6 EXPEDITES ..... 15

8.7 TRUNK DISCONNECTS ..... 15

8.8 TRUNK REARRANGEMENTS ..... 15

8.9 COORDINATED CONVERSION ..... 15

<b>9</b>	<b>TRUNK MAINTENANCE .....</b>	<b>16</b>
9.1	TRUBLE DETECTION RESPONSIBILITIES .....	16
9.2	SECTIONALIZATION .....	16
9.3	TRUBLE REPORTING .....	17
9.4	REPAIR VERIFICATION .....	17
9.5	NON-TRUNK SPECIFIC TROUBLES.....	17
9.6	TRUBLE REPORT CLEARING INFORMATION .....	18
9.7	PRIORITY OF RESTORATION .....	18
9.8	MAKE-BUSY PROCEDURES .....	18
9.9	RESTORATION.....	18
9.10	HOLD AND TRACE TROUBLE ISOLATION.....	19
9.11	CALL TRACES .....	19
9.12	NETWORK MODIFICATION .....	19
9.12.1	Network Modification Suspension Periods .....	20
9.13	LEC-LEC NON-TRUNK OPERATIONAL AGREEMENTS.....	20
9.13.1	Line Identification/Verification.....	20
<b>10</b>	<b>EXCEPTIONS .....</b>	<b>21</b>
10.1	LINE IDENTIFICATION/VERIFICATION .....	21
10.2	CALLING PARTY NUMBER (CPN), CALLING PARTY NAME (CNAM) .....	21
10.2.1	Calling Party Number (CPN) .....	21
10.2.2	Linking CPN & CNAM .....	21
<b>11</b>	<b>ESCALATIONS.....</b>	<b>21</b>
<b>12</b>	<b>TEST LINES .....</b>	<b>22</b>
<b>13</b>	<b>ADDITIONAL BILLING .....</b>	<b>22</b>
13.1	BILLABLE OVERTIME INSTALLATION AND REPAIR .....	22
13.2	ADDITIONAL COOPERATIVE ACCEPTANCE TESTING (ACAT).....	22
13.3	NON-SCHEDULED TESTING.....	22
13.4	MAINTENANCE - SERVICE CHARGE .....	22
13.5	STAND-BY TIME .....	23
13.6	OTHER LABOR .....	23
<b>14</b>	<b>LOCAL RECORDED ANNOUNCEMENTS .....</b>	<b>23</b>
14.1	MANDATORY 10 DIGIT LOCAL DIALING .....	23
14.2	INTERCEPT NUMBER ANNOUNCEMENT - REPORTED NUMBERS .....	23
<b>15</b>	<b>LOCAL NUMBER PORTABILITY .....</b>	<b>23</b>
15.1	LOCAL NUMBER PORTABILITY .....	23
15.2	DEFAULT ROUTING TRANSITIONS .....	23
15.2.1	Background.....	24
15.3	HANDOFF OF TERMINATING .....	24
<b>16</b>	<b>COMMON CHANNEL SIGNALING SYSTEM 7 (CCS7) .....</b>	<b>24</b>
<b>17</b>	<b>INSTALLATION, TESTING &amp; MAINTENANCE OF TRANSPORT FACILITIES .....</b>	<b>24</b>
<b>18</b>	<b>NETWORK MANAGEMENT GUIDELINES .....</b>	<b>24</b>
<b>19</b>	<b>SPECIAL SERVICES .....</b>	<b>24</b>
<b>20</b>	<b>SECURITY.....</b>	<b>25</b>

**Table of Figures**

FIGURE 1: TSP AUTHORIZATION CODE .....	6
--	---

**Table of Tables**

---

TABLE 6.1- TSP CODES REFERENCE TABLE .....6  
TABLE 9.1- NETWORK MODIFICATION SUSPENSION PERIODS .....20

Currently in preview, click buy full version

ATIS Standard on –

# Next Generation Interconnection Interoperability (NGIIF) Reference Document

## Part X, Interconnection Between LECS Operations Handbook – Local Interconnection Service Arrangement

### 1 Scope, Purpose, & Application

The purpose of this document is to outline the procedures for installation, testing, maintenance and arrangement of local interconnecting service trunks. Included within the document are: Responsibilities for Local Service Customers (LSC) and Local Service Providers; Telecommunication Service Priority (TSP) guidelines; NXX Code Opening Guidelines; Trunk trouble reporting, trunk make busy, clearance, restoration guidelines. Where applicable, this document may address NGN aspects.

### 2 Informative References

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ATIS-0300009, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part I, Installation and Maintenance Responsibilities Special Access Services, WATS Access Lines and Switched Access Services Feature Group A.*<sup>1</sup>

ATIS-0300010, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part II, Installation and Maintenance Responsibilities Switched Access Services Feature Group B, C, and D.*<sup>1</sup>

ATIS-0300011, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part III, Installation and Maintenance Responsibilities for SS7 Links and Trunks.*<sup>1</sup>

ATIS-0300013, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part III, Installation, Testing and Maintenance Responsibilities for SS7 Links and Trunks Attachment B ISUP Compatibility Tests.*<sup>1</sup>

ATIS-0300024, *Next Generation Interconnection Interoperability (NGIIF) Reference Document Part V, Test Line Guidelines.*<sup>1</sup>

ATIS-0300026, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part VI, Network Management Guidelines.*<sup>1</sup>

ATIS-0300030, *Next Generation Interconnection Interoperability (NGIIF) Reference Document: Part IX, Installation, Testing and Maintenance Responsibilities of Facilities.*<sup>1</sup>

ATIS-0300033, *Part X, Interconnection Between LECS Operations Handbook – Local Interconnection Service Arrangement, Attachment A, Security Guidelines.*<sup>1</sup>

ATIS-0300046, *Recommended Notification Procedures to Industry for Changes in Access Network Architecture.*<sup>1</sup>

<sup>1</sup> This document is available from the Alliance for Telecommunications Industry Solutions (ATIS) at: <  
<https://www.atis.org/docstore/>>.