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PNO-ISC/SPEC/003

C7 Interconnect Signalling Connection Control Part (SCCP)

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PNO-ISC SPECIFICATION NUMBER 003
C7 INTERCONNECT
SIGNALLING CONNECTION CONTROL PART
(SCCP)

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0.2 Normative Information

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0.4 History

Revision	Date of Issue	Updated By	Description
Issue 2	August 2000	Russell Scott, Marconi Communications	Second version based on ITU-T White Book SCCP 07/96 version.

0.5 Issue Control

SECTION	ISSUE	DATE
All	Issue 2	August 2000

0.6 References

[1]	Q.711 (07/96)	Normative	SSNo.7 - Functional description of the SCCP
[2]	Q.712 (07/96)	Normative	SSNo.7 - Definition and function of SCCP messages
[3]	Q.713 (07/96)	Normative	SSNo.7 - SCCP formats and codes
[4]	Q.714 (07/96)	Normative	SSNo.7 - SCCP procedures
[5]	Q.716 (03/93)	Normative	SSNo.7 - SCCP performance
[6]	Reserved		
[7]	PNO-ISC/INFO/007 (BSI: PD 6627)	Normative	UK Interconnect use of SCCP and MTP
[8]	PNO-ISC/SPEC/005 (BSI: PD 6639)	Normative	C7 Interconnect Message Transfer Part (MTP)
[9]	PNO-ISC/SER/001	Normative	UK Completion of Calls to Busy Subscriber Supplementary Service

0.7 Glossary of terms

0.7.1 Abbreviations

CC	Connection Confirm message
CCBS	Completion of Calls to Busy Subscriber
CR	Connection Request message
DT	DaTa form message
GT	Global Title
GTAI	Global Title Address Information
GTI	Global Title Indicator
IG	Interworking Group
ISC	Interconnect Signalling Committee
ITU	International Telecommunications Union
MTP	Message Transfer Part
NICC	Network Interoperability Consultative Committee
PC	PointCode

PNO	Public Network Operators
SCCP	Signalling Connection Control Part
SCMG	SCCP ManaGement
SIO	Service Information Octet
SSA	SubSystem Allowed message
SSN	SubSystem Number
SSP	SubSystem Prohibited message
SST	Subsystem Status Test message
WP	Working Party

0.7.2 Definitions

Not required	An item (e.g. function, message or facility) which is "Not Required" can be implemented and this does not contravene the interconnect specification. It is not necessary actively to disable "Not Required" items. Implementations/networks shall not rely on "Not Required" items being disabled or enabled across the internetwork interconnect. Refer to 0.9.
Nodal Function:	The aspect referred to in the recommendations is not applicable to an interconnect specification.
Applies:	Identifies a paragraph, or group of sub-paragraphs, that have no exception from the recommendations.
Cannot be used	A parameter that can only be conveyed by a message type that shall not be used.
Reason 1	Currently envisaged internetwork services do not need connection-oriented procedures.
Reason 2	Currently envisaged internetwork services do not need connectionless segmenting and reassembly.
Reason 3	Reserved.
Reason 4	Currently envisaged internetwork services do not need addressing of the form PC +SSN, and hence do not need subsystem status management procedures (except for SSN =1).
Reason 5	Only GTI =4 is specified for the currently envisaged internetwork services.
Reason 6	SCCP management message formats contain only mandatory, fixed parameters.
Reason 7	The underlying MTP is not according to ITU-T Q.2210.
Category 1	An item that has the potential to cause interworking problems with an implementation complying with a previous version of this specification. For further study. Refer to [7].
Category 2	An optional item that will interwork with an implementation complying with a previous version of this specification. In the case of SCCP reaction to MTP congestion, supplemental guidance is given in [7].

0.8 Scope

The purpose of PNO-ISC/SPEC/003 is to specify the requirements of the Signalling Connection Control Part that are standardised for use across a UK national interconnect between Public Networks.

This specification was proposed by the PNO-ISC because a need was identified to support the UK CCBS service, see [9], and associated SCCP signalling within the UK. The UK CCBS service requires a Blue Book, connectionless SCCP capability and this is reflected in this specification. It was the support of this service that defined the terms of reference for the specification.

This specification is based on the ITU-T (07/96) SCCP recommendations. The specification currently satisfies the SCCP requirements of the UK CCBS service, whilst being reasonably general. The specification has been written in a form that allows future development as the need arises and in a secondary phase will move to a more complete SCCP version. This results in a reduced level of functionality, equivalent to a subset of the CCITT Blue Book SCCP recommendations. The subset is, in essence, that of a connectionless network service using Global Title type 4. The term 'Not required' is used against an item if the item is irrelevant to the services defined for the specification to support, see 0.9. Although nodal functions are not strictly relevant to interconnect agreements, they have been included for completeness, with the intention of giving a more useful document.

It must also be noted that this specification might only form part of an agreement and support of further functionality over an interconnect may be as part of a bilateral agreement.

In the case that a set of sub-paragraphs would have the same qualification statement in common, then only the parent paragraph is referenced. The single parent paragraph then carries the common qualification statement.

0.9 Treatment Of Items 'Not Required' or 'Shall Not Be Sent'

The processing of received messages and/or parameters marked either as 'not required' or as 'shall not be sent' shall be according to the capabilities of the receiving node and may either be to discard them or to respond to them in a manner allowed by this specification. For preference these events shall optionally be reported to management.

END OF PNO-ISC/SPEC/003\$0

1 FUNCTIONAL DESCRIPTION OF THE SCCP

Note that connection-oriented protocol classes are not required - Reason 1.

- Q.711/1 Not required, connection-oriented network services or logical signalling connections. Reason 1.
- Q.711/2 Applies.
- Q.711/2.1 Applies.
- Q.711/2.2 Applies.
- Q.711/3 Applies.
- Q.711/3.1 Applies.
- Q.711/3.2 Applies.
- Q.711/4 Applies.
- Q.711/5.1 Applies.
- Q.711/5.2 Applies.
- Q.711/5.3 Not required, Logical signalling connections. Reason 1
- Q.711/5.4 Not required, connection-oriented network service. Reason 1
- Q.711/5.5 Applies
- Q.711/5.6 Applies.
- Q.711/6 Not required, the following protocol classes: Basic connection oriented and Flow control connection oriented. Reason 1.
 - Q.711/6.1 Not required, connection-oriented services. Reason 1.
 - Q.711/6.2 Shall not be used, segmenting. Not required, recombining. Reason 2. Category 1 item.
 - Q.711/6.2.1 Applies.
 - Q.711/6.2.2.1 Applies.
 - Q.711/6.2.2.2.1 Applies.
 - Q.711/6.2.2.2.2 Applies.
 - Q.711/6.2.2.2.3 Applications are recommended to request 'return message on error'. More detail is given in [7].
 - Q.711/6.2.2.2.4 Not required, the following reasons for return: 'error in message transport', 'error in local processing', 'destination cannot perform reassembly',. Reason 2. Category 1 item.
 - Q.711/6.2.2.2.5 Applies.
 - Q.711/6.2.2.3 Note that an implementation is not constrained by this because it specifies only a functional behaviour.
 - Q.711/6.3.1 Not required, SCCP management for connection-oriented services. Except for SSN =1, not required, SCCP subsystem management.
 - Q.711/6.3.2.1 Applies.
 - Q.711/6.3.2.2.1 Applies.
 - Q.711/6.3.2.2.2 Applies.
 - Q.711/6.3.2.2.3 Applies.
 - Q.711/6.3.2.2.4 Not required, decisions based on the Subsystem Multiplicity Indicator. Reason 4.
 - Q.711/6.3.2.2.5 Applies.
 - Q.711/6.3.2.2.6 Applies.

- Q.711/6.3.2.2.7 Applies
- Q.711/6.3.2.3.1 Not required, N-COORD primitive. Reason 4.
- Q.711/6.3.2.3.2 Applies.
- Q.711/6.3.2.3.3 Applies.
- Q.711/7.1 Applies.
- Q.711/7.2 Note that an implementation is not constrained by this because it specifies only a functional behaviour.
- Q.711/7.3 Cannot be used, reason 7. Category 1 item.
- Q.711/8.1 Not required, temporary signalling connections. Reason 1.
- Q.711/8.2 Shall not be used, segmenting. Reason 2. Category 1 item.
- Q.711/8.3 Not required, subsystem congestion management or coordinated state change. Reason 4.
- Q.711/8.4 Not required, SCCP routing for connection-oriented services.

END OF PNO-ISC/SPEC/003§1

2 DEFINITION AND FUNCTION OF SCCP MESSAGES

Note that connection-oriented protocol classes are not required - Reason 1.

- Q.712/1 Applies.
- Q.712/1.1 Not required, connection confirm message.
- Q.712/1.2 Not required, connection request message. Reason 1.
- Q.712/1.3 Not required, connection refused message. Reason 1.
- Q.712/1.4 Not required, data acknowledgement message. Reason 1.
- Q.712/1.5 Not required, data form 1 message. Reason 1.
- Q.712/1.6 Not required, data form 2 message. Reason 1.
- Q.712/1.7 Not required, expedited data message. Reason 1.
- Q.712/1.8 Not required, expedited data acknowledgement message. Reason 1.
- Q.712/1.9 Not required, inactivity test message. Reason 1.
- Q.712/1.10 Not required, protocol data unit error message. Reason 1.
- Q.712/1.11 Not required, released message. Reason 1.
- Q.712/1.12 Not required, release complete message. Reason 1.
- Q.712/1.13 Not required, reset confirm message. Reason 1.
- Q.712/1.14 Not required, reset request message. Reason 1.
- Q.712/1.15 Not required, subsystem allowed message. Subsystem allowed message for SSN =1 might be useful. Reason 4.
- Q.712/1.16 Not required, subsystem out-of-service grant message. Reason 4.
- Q.712/1.17 Not required, subsystem out-of-service request message. Reason 4.
- Q.712/1.18 Not required, subsystem prohibited message. Reason 4.
- Q.712/1.19 Not required, subsystem status test message. Subsystem status test message for SSN =1 might be useful. Reason 4.
- Q.712/1.20 Applies.
- Q.712/1.21 Applies.
- Q.712/1.22 Shall not be sent, extended unitdata message. See 0.9 for treatment of extended unitdata message, if received. Reason 2. Category 1 item.
- Q.712/1.23 Shall not be sent, extended unitdata service message. See 0.9 for treatment of extended unitdata service message, if received. Reason 2. Category 1 item.
- Q.712/1.24 Not required, subsystem congested message. Reason 4. Category 2 item.
- Q.712/1.25 Shall not be sent, long unitdata message. Reasons 2 and 7 Category 1 item.
- Q.712/1.26 Shall not be sent, long unitdata service message. Reasons 2 and 7 Category 1 item.
- Q.712/2.1 Applies.
- Q.712/2.2 Applies.
- Q.712/2.3 Applies.
- Q.712/2.4 Not required, credit parameter. Reason 1.
- Q.712/2.5 Applies.
- Q.712/2.6 Not required, diagnostic parameter. Reason 1.
- Q.712/2.7 Not required, error cause parameter. Reason 1.

- Q.712/2.8 Can not be used, end of optional parameters parameter. See 0.9 for treatment of end of optional parameters parameter, if received. Reason 2. Category 1 item.
- Q.712/2.9 Not required, local reference number parameter. Reason 1.
- Q.712/2.10 Not required, protocol class field for connection-oriented protocol classes. Reason 1.
- Q.712/2.11 Not required, receive sequence number parameter. Reason 1.
- Q.712/2.12 Not required, refusal cause parameter. Reason 1.
- Q.712/2.13 Not required, release cause parameter. Reason 1.
- Q.712/2.14 Not required, reset cause parameter. Reason 1.
- Q.712/2.15 Applies.
- Q.712/2.16 Not required, segmenting/reassembling parameter. Reason 1.
- Q.712/2.17 Not required, sequencing/segmenting parameter. Reason 1.
- Q.712/2.18 Not required, decisions based on the Subsystem Multiplicity Indicator. Reason 4.
- Q.712/2.19 Cannot be used, hop counter parameter, see entry for Q.712/1.22 and 1.23. See 0.9 for treatment of hop counter parameter, if received. Reason 2. Category 1 item.
- Q.712/2.20 Can not be used, segmentation parameter, see entry for Q.712/1.22 and 1.23. See 0.9 for treatment of segmentation parameter, if received. Reason 2. Category 1 item.
- Q.712/2.21 Cannot be used, importance parameter. Category 1 item.
- Q.712/2.22 Not required, congestion level parameter. Category 2 item.
- Q.712/2.23 Cannot be used, long data parameter. Category 1 item.
- Q.712/3 Table 1 Not required, inclusion of fields in message types excluded above. Reasons 1 and 2.
- Q.712/3 Table 2 Not required, inclusion of parameter types in message types excluded above. Reasons 1 and 2.
- Q.712/4 Applies.
- Q.712/4.1 Applies.
- Q.712/4.2 Applies.

END OF PNO-ISC/SPEC/003§2

3 SCCP FORMATS AND CODES

Note that connection-oriented protocol classes are not required - Reason 1.

- Q.713/1 Applies.
Refer to [8] for the SCCP's SIO code.
- Q.713/1.1 Applies.
- Q.713/1.2 Applies.
- Q.713/1.3 Can not be used, end of optional parameters parameter, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of end of optional parameters parameter, if received. Reason 2. Category 1 item.
- Q.713/1.4 Applies.
- Q.713/1.5 Cannot be used, optional parts, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of optional parts, if received. Reason 2. Category 1 item.
- Q.713/1.6 Applies.
- Q.713/1.7 Applies.
- Q.713/1.8 Applies.
- Q.713/1.9 Shall not be used, national message types and codes.
- Q.713/1.10 Applies.
- Q.713/2.1 Not required, message type codes of message types excluded in Q.713/4.2 to 4.17. Reasons 1 and 2. Category 1 item.
- Q.713/2.2 Applies.
- Q.713/2.3 Cannot be used, pointer to optional parts, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of pointer to optional parts, if received. Reason 2. Category 1 item.
- Q.713/3 Not required, parameter name codes of parameter types excluded in Q.713/3.1 to 3.18. Reasons 1 and 2. Category 1 item.
- Q.713/3.1 Can not be used, end of optional parameters parameter, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of optional parameters parameter, if received. Reasons 1 and 2. Category 1 item.
- Q.713/3.2 Not required, destination local reference number parameter. Reason 1.
- Q.713/3.3 Not required, source local reference number parameter. Reason 1.
- Q.713/3.4 Applies.
- Q.713/3.4.1 Required only the following global title indicator value: GT includes translation type, numbering plan, encoding scheme and nature of address indicator (GTI =4). Refer to [7] for specific details. Reason 5. Bit 8 (national use) shall be set to zero.
- Q.713/3.4.2 Applies.
- Q.713/3.4.2.1 Applies.
- Q.713/3.4.2.2 Applies and shall be set according to the service.
- Q.713/3.4.2.3 Applies and shall be set according to the service.
- Q.713/3.4.2.3.1 Shall not be used, GT indicator =0001. Reason 5.
- Q.713/3.4.2.3.2 Shall not be used, GT indicator =0010. Reason 5.
- Q.713/3.4.2.3.3 Shall not be used, GT indicator =0011. Reason 5.
- Q.713/3.4.2.3.4 Required, translation types, numbering plans, encoding schemes and natures of address as documented in [7].
Additional requirement, GTAI length of up to 32 digits.

- Q.713/3.5 Applies, refer to [7].
Additional requirement, GTAI length of up to 32 digits.
- Q.713/3.6 Not required, codes for class 2 and class 3. Reason 1.
- Q.713/3.7 Not required, segmenting/reassembling parameter. Reason 1.
- Q.713/3.8 Not required, receive sequence number parameter. Reason 1.
- Q.713/3.9 Not required, sequencing/segmenting parameter. Reason 1.
- Q.713/3.10 Not required, credit parameter. Reason 1.
- Q.713/3.11 Not required, release cause parameter. Reason 1.
- Q.713/3.12 Not required, the following return causes: error in message transport, error in local processing, destination cannot perform reassembly and hop counter violation.
Reason 2. Category 1 item.
- Q.713/3.13 Not required, reset cause parameter. Reason 1.
- Q.713/3.14 Not required, error cause parameter. Reason 1.
- Q.713/3.15 Not required, refusal cause parameter. Reason 1.
- Q.713/3.16 Applies.
- Q.713/3.17 Cannot be used, segmentation parameter, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of segmentation parameter, if received. Reason 2. Category 1 item.
- Q.713/3.18 Cannot be used, hop counter parameter, see entry for Q.713/4.18 and 4.19. See 0.9 for treatment of hop counter parameter, if received. Reason 2. Category 1 item.
- Q.713/4.1.1 Not required, format and coding of SCCP message types excluded in Q.713/4.2 to 4.19.
Reasons 1 and 2.
- Q.713/4.1.2 Applies.
- Q.713/4.1.3 Not required, inclusion of pointers in message types excluded in Q.713/4.2 to 4.19. Reasons 1 and 2.
- Q.713/4.1.4 Not required, type F parameters and pointers to type V parameters in message types excluded in Q.713/4.2 to 4.19. Reasons 1 and 2.
- Q.713/4.2 Not required, connection request message. Reason 1.
- Q.713/4.3 Not required, connection confirm message. Reason 1.
- Q.713/4.4 Not required, connection refused message. Reason 1.
- Q.713/4.5 Not required, released message. Reason 1.
- Q.713/4.6 Not required, release complete message. Reason 1.
- Q.713/4.7 Not required, data form 1 message. Reason 1.
- Q.713/4.8 Not required, data form 2 message. Reason 1.
- Q.713/4.9 Not required, data acknowledgement message. Reason 1.
- Q.713/4.10 Applies.
- Q.713/4.11 Applies.
- Q.713/4.12 Not required, expedited data message. Reason 1.
- Q.713/4.13 Not required, expedited data acknowledgement message. Reason 1.
- Q.713/4.14 Not required, reset request message. Reason 1.
- Q.713/4.15 Not required, reset confirm message. Reason 1.
- Q.713/4.16 Not required, protocol data unit error message. Reason 1.
- Q.713/4.17 Not required, inactivity test message. Reason 1.

- Q.713/4.18 Shall not be sent, extended unitdata message. See 0.9 for treatment of extended unitdata message, if received. Reason 2. Category 1 item.
- Q.713/4.19 Shall not be sent, extended unitdata service message. See 0.9 for treatment of extended unitdata service message, if received. Reason 2. Category 1 item.
- Q.713/4.20 Shall not be sent, long unitdata message. See 0.9 for treatment of long unitdata message, if received. Reasons 2 and 7. Category 1 item.
- Q.713/4.21 Shall not be sent, long unitdata service message. See 0.9 for treatment of long unitdata service message, if received. Reasons 2 and 7. Category 1 item.
- Q.713/5.1 Applies.
- Q.713/5.1.1 Not required. See 0.9 for treatment of the following, if received: subsystem allowed message for SSN =1, subsystem status message for SSN =1 and subsystem prohibited for any SSN except SSN =1. Reason 4.
- Q.713/5.1.2 Applies
- Q.713/5.2 Not required, SCMG parameter name codes. Reason 4.
- Q.713/5.2.1 Applies.
- Q.713/5.2.2 Applies.
- Q.713/5.2.3 Not required, decisions based on the Subsystem Multiplicity Indicator. Reason 4.
- Q.713/5.2.4 Not required, SCCP congestion level parameter. Category 1 item.
- Q.713/5.3 Not required. Reason 4.
- Q.713/Annex A.1 Not required, mapping for cause parameter values. Reason 1.
- Q.713/Annex A.2 Not required, see Q.713/Annex A.1. Reason 1.
- Q.713/Annex A.3 Not required, see Q.713/Annex A.1. Reason 1.
- Q.713/Annex A.4 Not required, see Q.713/Annex A.1. Reason 1.
- Q.713/Annex B See [7] for the lists of applicable address formats.

END OF PNO-ISC/SPEC/003§3

4 SCCP PROCEDURES

Note that connection-oriented protocol classes are not required - Reason 1.

- Q.714/1.1.1 Not required, connection-oriented services. Reason 1.
- Q.714/1.1.2 Not required, protocol classes 2 and 3. Reason 1. Shall not be used, MTP services according to Q.2210. Reason 7. Category 1 item.
- Q.714/1.1.2.1 Applies.
- Q.714/1.1.2.2 Applies.
- Q.714/1.1.2.3 Not required, protocol class 2. Reason 1.
- Q.714/1.1.2.4 Not required, protocol class 3. Reason 1.
- Q.714/1.1.3 Not required, signalling connections. Reason 1.
- Q.714/1.1.4.1 Not required, recognition of message types excluded in Q.713/4.2 to 4.21. Reasons 1 and 2.
- Q.714/1.1.4.2 Applies.
- Q.714/1.1.4.3 Applies.
- Q.714/1.1.4.4 Applies.
- Q.714/1.1.4.5 Applies.
- Q.714/1.2 Not required, connection oriented procedures. Reason 1.
- Q.714/1.3 Shall not be sent, extended unitdata message type or long unitdata message type. Optionally allowed, appropriate processing of extended unitdata message type or long unitdata message type, if received, see 0.9. Reasons 2 and 7. Category 1 item.
- Q.714/1.4 Not required, SCCP connection-oriented control. Reason 1.
- Q.714/2.1 Applies.
- Q.714/2.2 Nodal function.
- Q.714/2.3 Applies.
- Q.714/2.3.1 Nodal function.
- Q.714/2.3.2 Nodal function.
- Q.714/2.4 Nodal function. See [7] for the lists of applicable GT parameter values.
- Q.714/2.5 Nodal function, cannot be used, message change procedures. Reason 7. Category 1 item.
- Q.714/2.6 Applies.
- Q.714/2.6.1 Nodal function.
- Q.714/2.6.2 Cannot be used, importance parameter. Reasons 2 and 7. Category 1 item indirectly.
- Q.714/2.6.3 Not required, handling of messages to a congested node. Refer to [7] about "SCCP reaction to MTP congestion".
- Q.714/2.7 Nodal function. See [7] for the applicable contents of the Calling Party Address parameter.
- Q.714/2.8 Shall not be used, message types excluded in Q.713/4.2 to 4.21. Reasons 1, 2 and 7. Category 1 item.
- Q.714/2.8.1 Applies.
- Q.714/2.8.2 Applies.
- Q.714/2.8.3 Applies.
- Q.714/2.8.4 Not required, routing failures due to MTP/SCCP/subsystem congestion. Category 2 item.
- Q.714/2.8.5 Applies.
- Q.714/2.8.6 Cannot be used, Reason 2. Category 1 item indirectly.

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- Q.714/3. Not required, see Q.714/1.2. Reason 1.
- Q.714/4 Not required, transfer of user data more than 255 octets. Reasons 2 and 7. Category 1 item.
- Q.714/4.1 Shall not be used, sending of extended unitdata message type or long unitdata message type. See 0.9 for treatment of extended unitdata message type or long unitdata message type, if received. Reasons 2 and 7. Category 1 item.
- Q.714/4.1.1.1.1 Shall not be used, connectionless segmentation. Reason 2. Category 1 item.
- Q.714/4.1.1.1.2 Shall not be used, connectionless segmentation. Reason 2. Category 1 item.
- Q.714/4.1.1.1.3 Not required, connectionless reassembly. Reason 2.
- Q.714/4.1.1.2.1 Shall not be used, connectionless segmentation. Reason 2. Category 1 item.
- Q.714/4.1.1.2.2 Shall not be used, connectionless segmentation. Reason 2. Category 1 item.
- Q.714/4.1.1.2.3 Shall not be used, connectionless segmentation. Reason 2. Category 1 item.
- Q.714/4.2 Additional requirement, Called and Calling Party Addresses of received UDT message swapped for sending the UDTS message.
Shall not be sent, extended unitdata service message type or long unitdata service message type. See 0.9 for treatment of extended unitdata service message type, if received. Reason 2. Category 1 item.
- Q.714/4.3 Applies.
- Q.714/5.1 Not required. Optionally allowed subsystem status management of SCCP as a whole. Reason 4.
- Q.714/5.2.1 Applies.
- Q.714/5.2.2 Applies.
- Q.714/5.2.3 Not required, local broadcast of "remote SCCP accessible" for SSA for SSN =1 . Reason 4.
- Q.714/5.2.4 Not required. Category 2 item. Refer to [7] about "SCCP reaction to MTP congestion".
- Q.714/5.2.5 Applies.
- Q.714/5.2.6 Applies.
- Q.714/5.2.7 Cannot be used, SCCP reports of SCCP and nodal congestion. Category 1 item.
- Q.714/5.2.7.1 Shall not be used, actions in the congested SCCP node. Category 1 item.
- Q.714/5.2.7.2 Not required. Optionally allowed, actions in a relay or originating node. Category 2 item. Refer to [7] about "SCCP reaction to MTP congestion".
- Q.714/5.2.8 Nodal function. Optionally allowed. Refer to [7] about "SCCP reaction to MTP congestion".
- Q.714/5.3 Applies.
- Q.714/5.3.1 Not required. Optionally allowed, subsystem status management of SCCP as a whole. Reason 4.
- Q.714/5.3.2 Applies.
- Q.714/5.3.2.1 Not required. Optionally allowed, sending of SSP messages (response method). Reason 4.
- Q.714/5.3.2.2 Not required. See 0.9 for treatment of SSP messages, if received. Reason 4.
- Q.714/5.3.3 Not required. Reason 4.
- Q.714/5.3.4.1 Not required. Optionally allowed SST procedure to verify the status of a remote SCCP. Reason 4.
- Q.714/5.3.4.2 Not required. Optionally allowed SST procedure to verify the status of a remote SCCP. Reason 4.
- Q.714/5.3.4.3 Not required. See 0.9 for treatment of SST messages for SSN =1, if received. Reason 4.
- Q.714/5.3.5 Not required. Reason 4.
- Q.714/5.3.6 Nodal function.

- Q.714/5.3.7.1 Not required. Reason 4.
- Q.714/5.3.7.2 Not required. Reason 4.
- Q.714/5.3.7.3 Not required. Optionally allowed broadcast of SSA messages for the status of SCCP as a whole. Reason 4.
- Q.714/5.4 Not required, message handling aspects. For the remainder, 'Nodal function' applies. Reason 4.
- Q.714/6 Applies.
- Q.714/6.1 Applies.
- Q.714/6.2 Applies.
- Q.714/A.1 Applies.
- Q.714/A.2 Applies.
- Q.714/A.3 Not required, figures A-3 to A-6. Reason 1.
- Q.714/B.1 Not required, see Q.714/1.2.1. Reason 1.
- Q.714/B.2 Not required, see Q.714/1.2.1. Reason 1.
- Q.714/B.3 Not required, see Q.714/1.2.1. Reason 1.
- Q.714/C.1 Applies.
- Q.714/C.2 Applies.
- Q.714/C.3 Not required, figures C-2 to C-11 and C-13. Reason 1.
- Q.714/C.4 Not required, the following: T_conn_est, T_ias, T_iar, T_rel, T_int and T_guard. Reason 1.
- Q.714/D.1 Applies.
- Q.714/D.2 Applies.
- Q.714/D.3 Not required, figures D-4 to D-13. Reason 4.
- Q.714/D.4 Applies.
- Q.714/E Not applicable to this specification (International network).

END OF PNO-ISC/SPEC/003§4

5 SCCP PERFORMANCE

Note that connection-oriented protocol classes are not required - Reason 1.

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|-------------|---|
| Q.716/1.1 | Applies. |
| Q.716/1.2 | Not required: the following types of node: relay point without coupling and relay point with coupling. Connection-oriented protocol classes are not required. Reason 1. |
| Q.716/2 | Applies. |
| Q.716/3.1 | Applies. |
| Q.716/3.2.1 | Not required, transit time of a CR message at a relay point without coupling. Reason 1. |
| Q.716/3.2.2 | Not required, transit time of a CR message at a relay point with coupling. Reason 1. |
| Q.716/3.2.3 | Not required, transit time of a CC message in a relay point with coupling. Reason 1. |
| Q.716/3.2.4 | Not required, transit time of a DT message in a relay point with coupling. Reason 1. |
| Q.716/3.2.5 | Not required, unavailability of a relay point without coupling. Reason 1. |
| Q.716/3.2.6 | Not required, unavailability of a relay point with coupling. Reason 1. |
| Q.716/4 | Applies. |

END OF PNO-ISC/SPEC/003