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Technical Specification

3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN UTRAN Iub Interface NBAP Signalling

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group <TSG name>.

The contents of this TS may be subject to continuing work within the 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.t.e

where:

- m indicates [major version number]
- x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- y the third digit is incremented when editorial only changes have been incorporated into the specification.

1 Scope

The present document specifies the standards for NBAP specification to be used over Iub Interface.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] TS25.401, UTRAN Overall Description

[2] TS25.426 UTRAN I_{ur} and I_{ub} Interface Data Transport & Transport Signalling for DCH Data Streams

[3] CCITT Recommendation X.731 Information Technology – Open Systems Interconnection – Systems Management: State Management function (01/92)

[4] TS25.215 Physical layer – Measurements (FDD)

[5] TS25.225 Physical layer – Measurements (TDD)

[6] TS25.430 UTRAN Iub General Aspect and Principle

[7] TS25.211 Physical channels and mapping of transport channels onto physical channels (FDD)

[8] TS25.212 Multiplexing and channel coding (FDD)

[9] TS25.213 Spreading and modulation (FDD)

[10] TS25.214 Physical layer procedures (FDD)

[11] X.691 (12/94) Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)

[12] X.680 (12/94) Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation

[13] X.681 (12/94) Information technology - Abstract Syntax Notation One (ASN.1): Information object specification

3 Definitions, symbols and abbreviations

[Editor's note: This chapter is almost stable]

3.1 Definitions

NBAP (Node B Application Part) is defined as Radio Network Layer Protocol applied the interface between Controlling RNC and NodeB, namely Iub Interface

.**Elementary Procedure**: The NBAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between the CRNC and the Node B.

An EP consists of an initiating message and possibly a response message.

Two kinds of EPs are used:

- **Class 1**: Elementary Procedures with response (success or failure).
- **Class 2**: Elementary Procedures without response.

For **Class 1** EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.
- On time supervision expiry (i.e. absence of expected response). Whether or not any Class 1 procedure will have a timer on NBAP is FFS. To de sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

3.2 Symbols

3.3 Abbreviations

AAL2	ATM Adaptation Layer type 2
ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
BCCH	Broadcast Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CRNC	Controlling Radio Network Controller
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DRNC	Drift Radio Network Controller
FDD	Frequency Division Duplex
FP	Frame Protocol
L1	Layer 1
L2	Layer 2
NBAP	Node B Application Part
O&M	Operation and Management
QoS	Quality of Service
RL	Radio Link
RNC	Radio Network Controller

RRC	Radio Resource Control
SRNC	Serving Radio Network Controller
TDD	Time Division Duplex
TFC	Transport Format Combination
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
UE	User Equipment
UL	Uplink
UTRAN	UMTS Terrestrial Radio Access Network

4 General

4.1 Procedure Specification Principles

Node B Application Part, NBAP, includes common procedures and dedicated procedures. It covers procedures for paging distribution, broadcast system information, request / complete / release of dedicated resources and management of logical resources (logical O&M [1]).

The principle for specifying the procedure logic is to specify the functional behaviour of the Node B exactly and completely. The CRNC functional behaviour is left unspecified.

4.2 Forwards and Backwards Compatibility

The forwards and backwards compatibility of the protocol is assured by a mechanism where all current and future the messages, and IEs or groups of related IEs, include Id and criticality fields that are coded in a standard format that will not be changed in the future. These parts can always be decoded regardless of the standard version.

5 NBAP Services

The NBAP offers the following services:

5.1 Parallel Transactions

Unless explicitly indicated in the procedure description, at any instance in time one protocol peer shall have initiated maximum one ongoing dedicated NBAP procedure related to a certain NodeB communication context.

6 Services expected from signalling transport

[Editor's note: Contents are missing]

7 Functions of NBAP

The NBAP protocol has the following functions:

Cell Configuration Management. This function gives the CRNC the possibility to manage

the cell configuration information in a Node B.

Common Transport Channel Management. This function gives the CRNC the possibility to manage the configuration of Common Transport Channels in a Node B.

System Information Management. This function gives the CRNC the ability to manage the scheduling of System Information to be broadcast in a cell.

Resource Event Management. This function gives the Node B the ability to inform the CRNC about the status of Node B resources.

Configuration Alignment. This function gives the CRNC and the Node B the possibility to verify that both nodes has the same information on the configuration of the radio resources.

Measurements on Common Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.

Synchronisation Management.(TDD) This function allows the CRNC to manage the synchronisation of a TDD cell in a Node B.

Radio Link Management. This function allows the CRNC to manage radio links using dedicated resources in a NodeB.

Radio Link Supervision. This function allows the CRNC to report failures and restorations of a Radio Link.

Measurements on Dedicated Resources. This function allows the CRNC to initiate measurements in the NodeB. The function also allows the NodeB to report the result of the measurements.

DL Power Drifting Correction (FDD). This function allows the CRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.

Reporting general error situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

These functions are implemented by one or several NBAP elementary procedures described in the following section.

8 NBAP procedures

8.1 Elementary Procedures

NBAP procedures are divided into common procedures and dedicated procedures.

- NBAP common procedures are procedures that request initiation of a UE context for a specific UE in Node B or are not related to a specific UE. NBAP common procedures also incorporate logical O&M [1] procedures.
- NBAP dedicated procedures are procedures that are related to a specific UE context in Node B. This UE context is identified by a UE context identity.

The two types of procedures may be carried on separate signalling links.

In the following tables, all EPs are divided into Class 1 and Class 2 EPs:

Class 1

Elementary Procedure	Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Cell Setup	CELL SETUP REQUEST	CELL SETUP RESPONSE	CELL SETUP FAILURE	
Cell Reconfiguration	CELL RECONFIGURATION REQUEST	CELL RECONFIGURATION RESPONSE	CELL RECONFIGURATION FAILURE	
Cell Delete	CELL DELETE REQUEST	CELL DELETE RESPONSE		
Common Transport Channel Setup	COMMON TRANSPORT CHANNEL SETUP REQUEST	COMMON TRANSPORT CHANNEL SETUP RESPONSE	COMMON TRANSPORT CHANNEL SETUP FAILURE	
Common Transport Channel Reconfigure	COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST	COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE	COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE	
Common Transport Channel Delete	COMMON TRANSPORT CHANNEL DELETION REQUEST	COMMON TRANSPORT CHANNEL DELETION RESPONSE		
Audit	AUDIT REQUEST	AUDIT RESPONSE		
Block Resource	BLOCK RESOURCE REQUEST	BLOCK RESOURCE RESPONSE	BLOCK RESOURCE FAILURE	
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
System Information Update	SYSTEM INFORMATION UPDATE REQUEST	SYSTEM INFORMATION UPDATE RESPONSE	SYSTEM INFORMATION UPDATE FAILURE	
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST	COMMON MEASUREMENT INITIATION RESPONSE	COMMON MEASUREMENT INITIATION FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Dedicated Measurement Initiation Synchronised Compressed Mode Control Preparation	DEDICATED MEASUREMENT INITIATION REQUEST COMPRESSED MODE PREPARE	DEDICATED MEASUREMENT INITIATION RESPONSE COMPRESSED MODE READY	DEDICATED MEASUREMENT INITIATION FAILURE COMPRESSED MODE FAILURE	

The need for Timers will be defined on a per procedure basis. The content of this column is thus

FFS.

Class 2

Elementary Procedure	**Message**
Resource Status Indication	RESOURCE STATUS INDICATION
Audit Required	AUDIT REQUIRED INDICATION
Common Measurement Report	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCELLATION
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Dedicated Measurement Report	DEDICATED MEASUREMENT REPORT
Dedicated Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Dedicated Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Control Commit	COMPRESSED MODE COMMIT
Compressed Mode Control Cancellation	COMPRESSED MODE CANCEL
Unblock Resource	UNBLOCK RESOURCE INDICATION
Error Indication	ERROR INDICATION

8.2 NBAP Common Procedures

8.2.1 Common Transport Channel Setup

8.2.1.1 General

This procedure is used for establishing the necessary resources in Node B, regarding Secondary CCPCH, PICH, PRACH, AICH(FDD), , FACH, PCH, and RACH.

8.2.1.2 Successful Operation

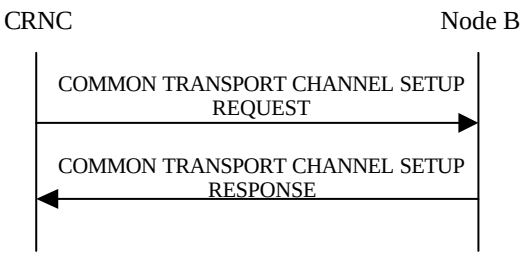

Figure 1Common Transport Channel Setup procedure, successful case

The procedure is initiated with a COMMON TRANSPORT CHANNEL SETUP REQUEST message sent from the CRNC to the Node B.
One message can configure only one of the following combinations:

[FDD-one Secondary CCPCH, and FACHes, PCH and PICH related to that Secondary CCPCH,] or
[TDD- Secondary CCPCHes and FACHes, PCHes with the corresponding PICH related to that group of Secondary CCPCHes], or
one PRACH, and one RACH and one AICH(FDD) related to that PRACH

at the time.

[FDD - Secondary CCPCH:
When the COMMON TRANSPORT CHANNEL SETUP REQUEST message contains a Secondary CCPCH, Node B shall configure and activate it according to the COMMON TRANSPORT CHANNEL SETUP REQUEST message. [FDD- The handling of the optional *STTD* IE is FFS.]

[TDD - Secondary CCPCHes:
When the COMMON TRANSPORT CHANNEL SETUP REQUEST message contains a Secondary CCPCHes, Node B shall configure and activate it according to the COMMON TRANSPORT CHANNEL SETUP REQUEST message.]

[TDD- FACHs and PCHs may be mapped onto a CCTrCH which may consist of several Secondary CCPCHes]

If the COMMON TRANSPORT CHANNEL SETUP REQUEST message contains one or several FACHes, Node B shall configure and activate them according to the COMMON TRANSPORT CHANNEL SETUP REQUEST message.

If the COMMON TRANSPORT CHANNEL SETUP REQUEST message contains a PCH and a PICH, Node B shall configure and activate them according to the COMMON TRANSPORT CHANNEL SETUP REQUEST message. [FDD- The handling of the optional *STTD* IE for PICH is FFS.]

PRACH:
When the COMMON TRANSPORT CHANNEL SETUP REQUEST message contains a PRACH, Node B shall configure and activate it according to the COMMON TRANSPORT CHANNEL SETUP REQUEST message.
[FDD- The handling of the optional *STTD* IE for AICH (FDD) is FFS.]

After a successful procedure, the defined common transport channels and the common physical channels have adopted the operational state Enabled in Node B and the common transport channels exist on the Uu interface. Node B shall store the new value of *Configuration Generation ID* IE and it shall respond with the COMMON TRANSPORT CHANNEL SETUP RESPONSE message with the transport layer information for the configured common transport channels.

8.2.1.3 Unsuccessful Operation

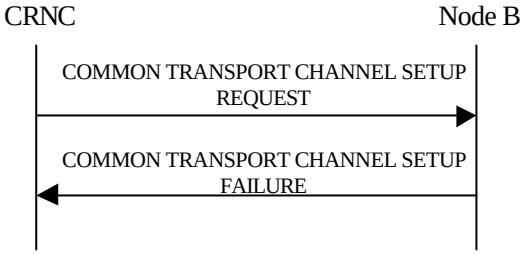

Figure 2Common Transport Channel Setup procedure, unsuccessful case

If the Node B is not able to support all part of the configuration, it shall reject the configuration of all the channels in the COMMON TRANSPORT CHANNEL SETUP REQUEST message. The *Cause Value* IE shall be set to an appropriate value. The new value of *Configuration Generation ID* IE from the COMMON TRANSPORT CHANNEL SETUP REQUEST message shall not be stored.
If the configuration was unsuccessful, the Node B shall respond with a COMMON TRANSPORT CHANNEL SETUP FAILURE message.

Typical cause values are as follows:

Radio Network Layer Cause
- Cell not available
- Power level not supported
- NodeB Resources unavailable

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.2.1.4 Abnormal Conditions

If the C-ID in the COMMON TRANSPORT CHANNEL SETUP REQUEST message is not existing in the Node B, , it shall respond with the COMMON TRANSPORT CHANNEL SETUP FAILURE message with the Cause IE = 'unknown C-ID '.

8.2.2 Common Transport Channel Reconfigure

8.2.2.1 General

This procedure is used for reconfiguring common transport channels and/or common physical channels, while they still might be in operation.

8.2.2.2 Successful Operation

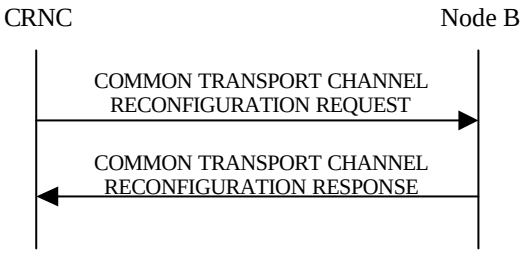

Figure 3Common Transport Channel Reconfiguration, successful case

The procedure is initiated with a COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message sent from the CRNC to the Node B.

[TDD S-CCPCH:
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *S-CCPCH Power* IE, the Node B shall reconfigure the power that the indicated S-CCPCH shall use].

FACH: When one or several FACHes are present Node B reconfigures the indicated FACHes.
[FDD] If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *Max FACH Power* IE, the Node B shall reconfigure the maximum power that the FACH may use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *ToAWS* IE, the Node B shall reconfigure the time of arrival window startpoint that the FACH shall use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *ToAWE* IE, the Node B shall reconfigure the time of arrival window endpoint that the FACH shall use.

PCH:
When one PCH [TDD or several PCHs] is present Node B reconfigures the indicated PCH[TDD PCHs].
[FDD If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *PCH Power* IE, the Node B shall reconfigure the power that the PCH shall use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *ToAWS* IE, the Node B shall reconfigure the time of arrival window startpoint that the PCH shall use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *ToAWE* IE, the Node B shall reconfigure the time of arrival window endpoint that the PCH shall use.

PICH:
When a PICH is present Node B reconfigures the indicated PICH.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *PICH Power* IE, the Node B shall reconfigure the power that the PICH shall use.

[FDD- PRACH:
When a PRACH is present Node B reconfigures the indicated PRACH.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the Allowed Preamble Signatures Information, the Node B shall reconfigure the preamble signatures that the PRACH shall use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the Allowed Slot Format Information, the Node B shall reconfigure the slot formats that the PRACH shall use.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the

Allowed Sub Channel Information, the Node B shall reconfigure the sub channel numbers that the PRACH shall use.]

[FDD- AICH:
When a AICH is present Node B reconfigures the indicated AICH.
If the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message includes the *AICH Power* IE, the Node B shall reconfigure the power that the AICH shall use.]

After a successful procedure, the channels have adopted the new configuration in Node B. Node B shall store the new value of *Configuration Generation ID* IE, and the Node B shall respond with the COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE message

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8.2.2.3 Unsuccessful Operation

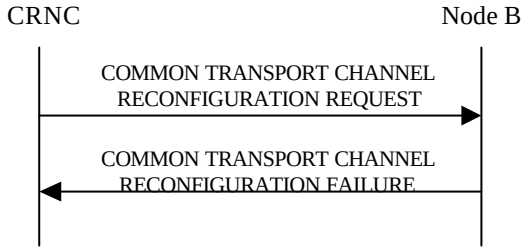

Figure 4Common Transport Channel Reconfiguration procedure, unsuccessful case

If the Node B is not able to support all parts of the configuration, it shall reject the configuration of all the channels in the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message. The *Cause Value* IE shall be set to an appropriate value. The new value of *Configuration Generation ID* IE from the COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST message shall not be stored.
If the configuration was unsuccessful, the Node B shall respond with the COMMON TRANSPORT CHANNEL SETUP FAILURE message, the Node B shall respond with the COMMON TRANSPORT CHANNEL RECONGURATION FAILURE message.
Typical cause values are as follows:

Radio Network Layer Cause
- Cell not available
- Power level not supported
- NodeB Resources unavailable

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.2.2.4 Abnormal Conditions
If the C-ID in the COMMON TRANSPORT CHANNEL RECONGURATION REQUEST message is not existing in the Node B, it shall respond with the COMMON TRANSPORT CHANNEL RECONGURATION FAILURE message with the *Cause* IE = ‘unknown C-ID’.

8.2.3 Common Transport Channel Delete

8.2.3.1 General

This procedure is used for deleting common physical channels and common transport channels setup by the Common Transport Channel Setup procedure in a cell.

8.2.3.2 Successful Operation

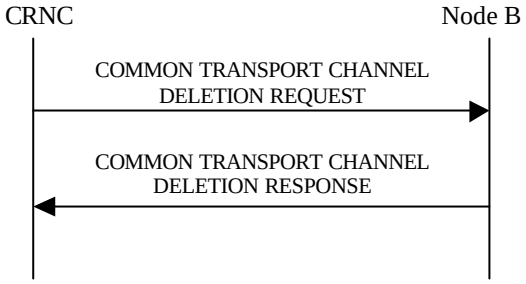

Figure 5 Common Transport Channel Deletion procedure, successful case

The procedure is initiated with a COMMON TRANSPORT CHANNEL DELETION REQUEST message sent from the CRNC to the Node B.

Secondary CCPCH:
When the COMMON TRANSPORT CHANNEL DELETION REQUEST message contains a Secondary CCPCH, Node B shall delete the indicated channel and the FACHes and PCH supported by that Secondary CCPCH. If there is a PCH that is deleted, the PICH associated with that PCH shall also be deleted.

PRACH:
When the COMMON TRANSPORT CHANNEL DELETION REQUEST message contains a PRACH, Node B shall delete the indicated channel and the RACH supported by the PRACH. [FDD- The AICH associated with the PCH shall also be deleted.]

[TDD- If the requested common physical channel is a part of a CCTrCH, all common transport channels and all common physical channels associated with this CCTrCH shall be deleted.]

After a successful procedure, the channels are deleted in Node B. Node B shall store the new value of the *Configuration Generation ID* IE, and respond with the COMMON TRANSPORT CHANNEL DELETION RESPONSE message.

8.2.3.3 Unsuccessful Operation

8.2.3.4 Abnormal Conditions

If the C-ID in the COMMON TRANSPORT CHANNEL DELETION REQUEST message is not existing in the Node B, the Node B shall respond with the COMMON TRANSPORT CHANNEL DELETION RESPONSE message.

8.2.4 Block Resource

8.2.4.1 General

The Node B initiates this procedure to request the CRNC to prohibit the usage of the specified logical resources.

8.2.4.2 Successful Operation

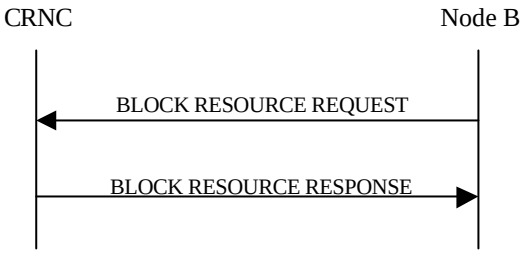

Figure 6 Block Resource procedure, Successful case

The procedure is initiated with a BLOCK RESOURCE REQUEST message sent from the Node B to the CRNC.

Upon reception of the BLOCK RESOURCE REQUEST message, the CRNC shall prohibit the use of the indicated logical resources according to the *Blocking Priority Indicator* IE.

If the *Blocking Priority Indicator* IE in the BLOCK RESOURCE REQUEST message indicates 'High Priority', the CRNC shall prohibit the use of the logical resources immediately.

The BLOCK RESOURCE REQUEST message shall include the *Shutdown Timer* IE when the *Blocking Priority Indicator* IE indicates 'Normal Priority'. The CRNC shall prohibit the use of the logical resources if the resources are idle or immediately upon expiry of the shutdown timer specified in the message. New traffic shall not be allowed to use the logical resources while the CRNC waits for the resources to become idle and once the resources are blocked.

If the *Blocking Priority Indicator* IE in the BLOCK RESOURCE REQUEST message indicates 'Low Priority', the CRNC shall prohibit the use of the logical resources when the resources become idle. New traffic shall not be allowed to use the logical resources while the CRNC waits for the resources to become idle and once the resources are blocked.

When the logical resource indicated is a cell, all associated physical channels and transport channels are blocked.

If the resources are successfully blocked, the CRNC shall respond with a BLOCK RESOURCE RESPONSE message. Upon reception of the BLOCK RESOURCE RESPONSE message, the Node B shall consider the logical resources blocked.

Interactions with the Unblock Resource procedure:

If the UNBLOCK RESOURCE INDICATION message is received by the CRNC while a Block Resource procedure on the same logical resources is in progress, the CRNC shall cancel the Block Resource procedure and proceed with the Unblock Resource procedure.

If the BLOCK RESOURCE RESPONSE message or the BLOCK RESOURCE FAILURE message is received by the Node B after the Node B has initiated an Unblock Resource procedure on the same logical resources as the ongoing Block Resource procedure, the Node B shall ignore the response to the Block Resource procedure.

8.2.4.3 Unsuccessful Operation

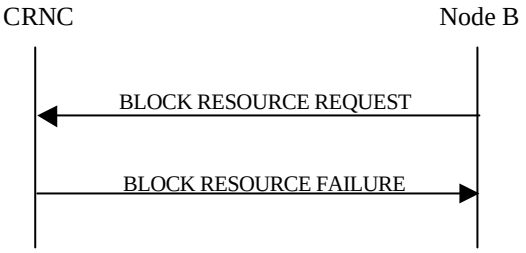

Figure 7 Block Resource procedure, Unsuccessful case

The CRNC may reject the request to block the logical resources, in which case the logical resources will remain unaffected and the CRNC shall respond to the Node B with the BLOCK RESOURCE FAILURE message. Upon reception of the BLOCK RESOURCE FAILURE message, the Node B shall leave the logical resources in the state that they were in prior to the start of the Block Resource procedure.

Typical cause values are as follows:

Protocol Cause

- Semantic error

Miscellaneous Cause

- O&M Intervention
- Control processing overload
- HW failure

8.2.4.4 Abnormal Conditions

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8.2.5 Unblock Resource

8.2.5.1 General

The Node B initiates this procedure to indicate to the CRNC that logical resources are now unblocked.

8.2.5.2 Successful Operation

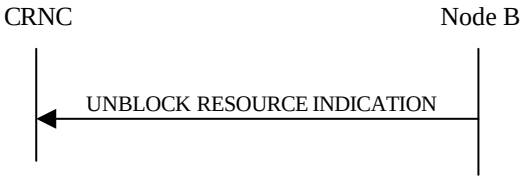

Figure 8 Unblock Resource procedure, Successful case

The procedure is initiated with an UNBLOCK RESOURCE INDICATION message sent from the Node B to the CRNC. Upon reception of the UNBLOCK RESOURCE INDICATION message, the CRNC may permit the use of the logical resources.

When the logical resource indicated is a cell, all associated physical channels and transport channels are unblocked.

8.2.5.3 Abnormal Conditions

8.2.6 Audit Required

8.2.6.1 General

The Node B initiates this procedure to request the CRNC to perform an audit of the logical resources at the Node B. This procedure is used to indicate a possible misalignment of state or configuration information

8.2.6.2 Successful Operation

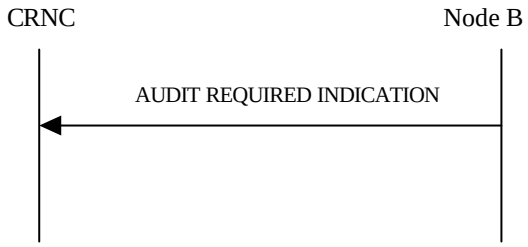

Figure 9 Audit Required procedure, Successful case

The procedure is initiated with an AUDIT REQUIRED INDICATION message sent from the Node B to the CRNC.
If the Node B cannot ensure alignment of the state or configuration information, it should initiate the Audit required indication procedure.
Upon receipt of the AUDIT REQUIRED INDICATION message, the CRNC should initiate the Audit procedure.

8.2.6.3 Abnormal Conditions

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8.2.7 Audit

8.2.7.1 General

This procedure is executed by the CRNC to perform an audit of the configuration and status of the logical resources in the Node B. Additionally, the audit may cause the CRNC and Node B to re-sync to the logical resources known by the CRNC and to the status information from the Node B.

8.2.7.2 Successful Operation

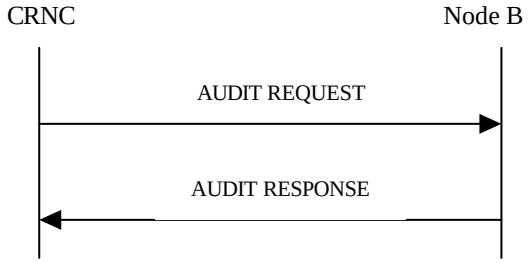

Figure 10 Audit procedure, Successful case

The procedure is initiated with an AUDIT REQUEST message sent from the CRNC to the Node B. The configuration returned by the NodeB in the AUDIT RESPONSE shall be the configuration existing upon reception of the AUDIT REQUEST. Upon reception by the Node B, with each pair of

C-ID IE *Configuration Generation ID* IE that is present in the message, the Node B compares the stored Configuration Generation ID for the corresponding cell.
For each cell where the *Configuration Generation ID* IE value does not match the stored Configuration Generation ID value, the Node B shall not take any action.
For each cell where the *Configuration Generation ID* IE value matches the stored Configuration Generation ID value, the Node B shall include the *Cell Information* IE group for that cell in the AUDIT RESPONSE message.
The following condition applies to the Primary SCH *Information* IE group, Secondary SCH *Information* IE group, Primary CCPCH *Information* IE group, Secondary CCPCH *Information* IE group, Primary CPICH *Information* IE group, Secondary CPICH *Information* IE group, *BCH Information* IE group, *PCH Information* IE group, *PICH Information* IE group, *FACH Information* IE group, *RACH Information* IE group, *and AICH Information* IE group. The Node B shall include the IE group within the *Cell Information* IE group, if that resource is present in the Node B for that cell.
The Node B shall include in the AUDIT RESPONSE message a *Communication Control Port Information* IE group for each communication control port present in the Node B
The Node B shall include in the AUDIT RESPONSE message a *Local Cell Information* IE group for each local cell present in the Node B. The Node B shall include the *Number Of Channel Elements* IE if the value is known by the Node B. The Node B shall include the *Maximum DL Power Capability* IE if the value is known by the Node B.
For each cell existing in the Node B but not indicated in the AUDIT REQUEST message, the associated cell configuration information shall be removed from the Node B including any related common physical channels and common transport channels. For each cell not existing in the Node B but indicated in the AUDIT REQUEST message, the Node B shall not take any action.
Upon reception by the CRNC of the AUDIT RESPONSE message, the CRNC compares the received list of C-ID with the expected list of C-IDs.
For each missing cell, a configuration error has occurred and recovery actions should be taken by the CRNC.

8.2.7.3 Unsuccessful Operation

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8.2.7.4 Abnormal Conditions

8.2.8 Common Measurement Initiation

8.2.8.1 General

This procedure is used by a CRNC to request the initiation of common measurements in a Node B.

8.2.8.2 Successful Operation

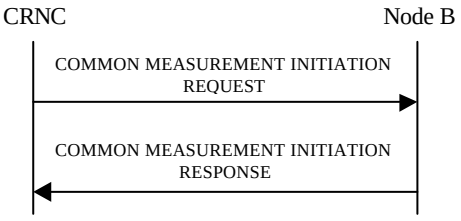

Figure 11 Measurement Request procedure: Successful Operation

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the CRNC to the Node B using the Node B control port.
Upon reception, the Node B shall initiate the requested measurement according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other

specifications.
[TDD- If the Time Slot Information is provided in the *Common Measurement Object* Type *IE* , the measurement request shall apply to the requested time slot individually.]
The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed.
If the *Report Characteristics* IE indicates 'On-Demand', the Node B shall report the result of the requested measurement immediately.
If the *Report Characteristics* IE indicates 'Periodic', the Node B shall periodically initiate a Measurement Reporting procedure for this measurement, with the requested report frequency.
If the *Report Characteristics* IE indicates 'Event A', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.
If the *Report Characteristics* IE indicates 'Event B', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.
If the *Report Characteristics* IE indicates 'Event C', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.
If the *Report Characteristics* IE indicates 'Event D', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.
If the *Report Characteristics* IE indicates 'Event E', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.
If the *Report Characteristics* IE indicates 'Event F', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.
If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the Node B shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as in normal operation.
If the Node B was able to initiate the measurement requested by the CRNC it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent over the Node B control port. The message shall include the same Measurement Id that was used in the measurement request. Only in the case the *Report Characteristics* IE indicated "On-Demand", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result.

8.2.8.3 Unsuccessful Operation

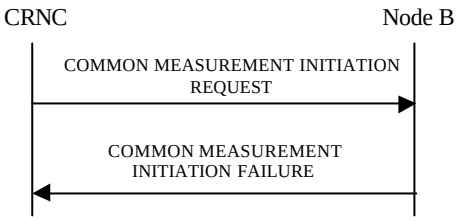

Figure 12 Measurement Request procedure: Unsuccessful Operation

If the requested measurement cannot be initiated, the Node B shall send a COMMON MEASUREMENT INITIATION FAILURE message sent over the Node B control port. The message shall include the same Measurement Id that was used in the measurement request and the *Cause* IE set to an appropriate value.
Typical cause values are as follows:

Radio Network Layer Cause

- Measurement not supported for the object

8.2.8.4 Abnormal Conditions

8.2.9 Common Measurement Report

8.2.9.1 General

This procedure is used by a Node B to report the result of measurements requested by the CRNC with the Measurement Initiation procedure.

8.2.9.2 Successful Operation

Figure 13 Measurement Report procedure: Successful Operation

If the requested measurement reporting criteria are met, the Node B shall initiate a Measurement Reporting procedure. The COMMON MEASUREMENT REPORT message shall use the Node B control port. Unless specified below, the meaning of the parameters are given in other specifications.
The *Common Measurement Id* IE shall be set to the Common Measurement Id provided by the CRNC when initiating the measurement with the Measurement Initiation procedure.

8.2.9.3 Abnormal Conditions

8.2.10 Common Measurement Termination

8.2.10.1 General

This procedure is used by the CRNC to terminate a measurement previously requested by the

Measurement Initiation procedure.

8.2.10.2 Successful Operation

Figure 14 Measurement Termination procedure: Successful Operation

This procedure is initiated with a COMMON MEASUREMENT TERMINATION REQUEST message, sent from the CRNC to the Node B using the Node B control port.
Upon reception, the Node B shall terminate reporting of measurements corresponding to the Common Measurement Id.

8.2.10.3 Abnormal Conditions

8.2.11 Common Measurement Failure

8.2.11.1 General

This procedure is used by the Node B to notify the CRNC that a measurement previously requested by the Measurement Initiation procedure can no longer be reported.

8.2.11.2 Successful Operation

Figure 15 Measurement Failure procedure: Successful Operation

This procedure is initiated with a COMMON MEASUREMENT FAILURE INDICATION message, sent from the Node B to the CRNC using the Node B control port, to inform the CRNC that a previously requested measurement no longer can be reported.

8.2.11.3 Abnormal Conditions

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8.2.12 Cell Setup

8.2.12.1 General

This procedure is used to set up a cell in Node B. The CRNC takes the cell, identified via the *C-ID* IE, into service and uses the resources in Node B identified via the *Local Cell ID* IE.

8.2.12.2 Successful operation

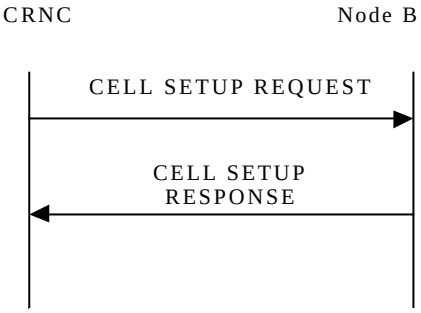

Figure 16 Cell Setup Successful case

The procedure is initiated with a CELL SETUP REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reserve the necessary resources and configure the new cell according to the parameters given in the message.

[FDD If the CELL SETUP REQUEST message includes the *Secondary CPICH Information* IE group the Node B shall configure and activate the Secondary CPICH in the cell according to received configuration data.

The *Maximum transmission power* IE value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

When the cell is successfully configured the Node B shall store the *Configuration Generation ID* IE value and send a CELL SETUP RESPONSE message as a response.

[FDD- When the cell is successfully configured CPICH(s), Primary SCH, Secondary SCH, Primary CCPCH and BCH exist.][TDD- When the cell is successfully configured PSCH, SCH, Primary CCPCH and BCH exist and the switching-points for the TDD frame structure are defined.]

8.2.12.3 Unsuccessful operation

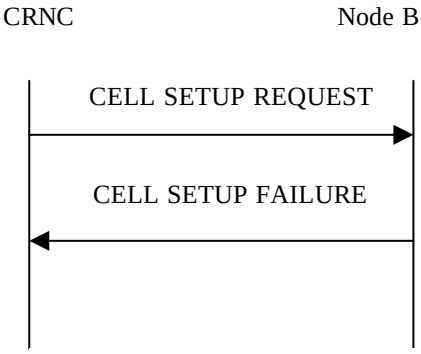

Figure 17 Cell Setup Unsuccessful case

If the Node B cannot set up the cell according to the information given in CELL SETUP REQUEST message the CELL SETUP FAILURE message shall be sent to CRNC.
In this case the cell is Non Existing in Node B. The Configuration Generation ID shall not be changed in Node B.

The *Cause* IE shall be set to an appropriate value.

8.2.12.4 Abnormal Conditions

If the CELL SETUP REQUEST message includes a Local Cell ID IE that is Non Existing in Node B the Node B shall send the CELL SETUP FAILURE message as response.

8.2.13 Cell Reconfiguration

8.2.13.1 General

This procedure is used to reconfigure a cell in Node B.

8.2.13.2 Successful operation

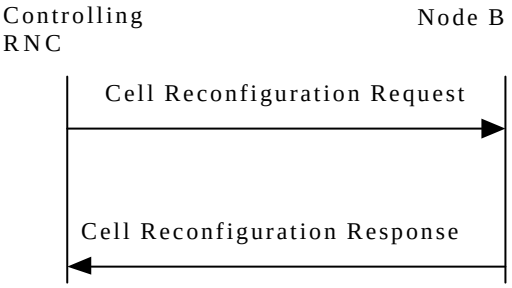

Figure 18 Cell Reconfiguration Successful case

The procedure is initiated with a CELL RECONFIGURATION REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reconfigure the cell according to the parameters given in the message.
[FDD If the CELL RECONFIGURATION REQUEST message includes the *Primary SCH Information* IE group the Node B shall reconfigure Primary SCH power in the cell according to *Primary SCH Power* IE value.

[FDD If the CELL RECONFIGURATION REQUEST message includes the *Secondary SCH Information* IE group the Node B shall reconfigure Secondary SCH power in the cell according to the *Secondary SCH Power* IE value.

[FDD If the CELL RECONFIGURATION REQUEST message includes the *Primary CPICH Information* IE group the Node B shall reconfigure Primary CPICH power in the cell according to the *Primary CPICH Power* IE value. NodeB shall adjust all the transmitted power levels relative to the Primary CPICH power according to the new value]

[FDD If the CELL RECONFIGURATION REQUEST message includes the *Secondary CPICH Information* IE group the Node B shall reconfigure Secondary CPICH power in the cell according to the *Secondary CPICH Power* IE value.

[TDD If the CELL RECONFIGURATION REQUEST message includes the *PSCH Information* IE group the Node B shall reconfigure PSCH power in the cell according to the *PSCH Power* IE value

[FDD If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE group the Node B shall reconfigure BCH power in the cell according to the *BCH Power* IE value.
[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE group the Node B shall reconfigure P-CCPCH power in the cell according to the *P-CCPCH Power* IE value. NodeB shall adjust all the transmitted power levels relative to the Primary CPPCH power according to the new value.]

If the CELL RECONFIGURATION REQUEST message includes the *Maximum Transmission Power* IE the value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Timeslot Information* IE group the Node B shall reconfigure switching-point structure in the cell according to the *Timeslot* IE value.]

When the cell is successfully reconfigured the Node B shall store the new *Configuration Generation ID* IE value and send a CELL RECONFIGURATION RESPONSE message as a response.

8.2.13.3 Unsuccessful operation

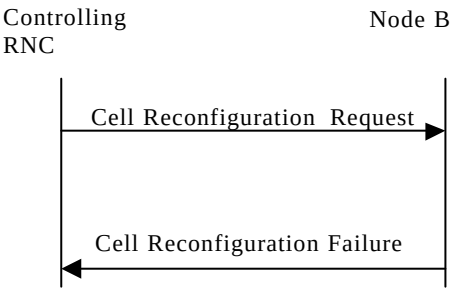

Figure 19 Cell Reconfiguration Unsuccessful case

If the Node B cannot reconfigure the cell according to the information given in CELL RECONFIGURATION REQUEST message the CELL RECONFIGURATION FAILURE message shall be sent to CRNC.
In this case, the Node B shall keep the old configuration of the cell and the Configuration Generation ID shall not be changed in Node B.
The *Cause* IE shall be set to an appropriate value.

(Note.: Remark received that at WG3#7, in tdoc D63 (secretary minutes), it was stated that the failure message should be added with a list of cause values, with one cause value per failed reconfiguration item. It is not clear what functional impact this have and how it should be coded in the CELL RECONFIGURATION FAILURE message.)

8.2.13.4 Abnormal Conditions

If the CELL RECONFIGURATION REQUEST message includes a *Local Cell ID* IE that is Non Existing in Node B the Node B shall send the CELL RECONFIGURATION FAILURE message as response.
The *Cause* IE shall be set to an appropriate value.

8.2.14 Cell Deletion

8.2.14.1 General
This procedure is used to delete a cell in Node B.

8.2.14.2 Successful operation

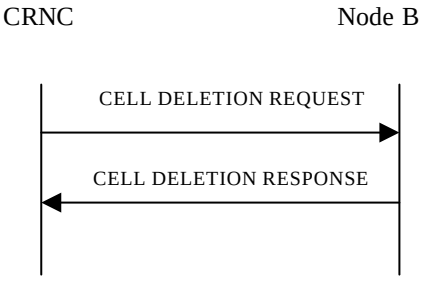

Figure 20 Cell Deletion Successful case

The procedure is initiated with a CELL DELETION REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall remove the cell and any channel within the cell created by the Cell Setup procedure or Common Transport Channel Setup procedure.

When the cell is deleted, the Node B shall send a CELL DELETION RESPONSE message as a response.

8.2.14.3 Unsuccessful operation
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8.2.14.4 Abnormal Conditions

If the CELL DELETION REQUEST message includes a *C-ID* IE value that is not existing in Node B the Node B shall respond with the CELL DELETION RESPONSE message.

8.2.15 Resource Status Indication

8.2.15.1 General
This procedure is used in six different cases:

1. When a Local Cell becomes Existing at the Node B, it shall be made available to the RNC
2. When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Local Cell shall be withdrawn from the CRNC
3. When the capabilities of the Local Cell changes at the Node B
4. When a cell has changed its capability and/or its resource operational state at the Node B
5. When common physical channels and/or common transport channels have

changed their capabilities at a Node B

6. When a communication control port changed its resource operational state at the Node B

Each of the above cases shall trigger a Resource Indication procedure and the RESOURCE STATUS INDICATION message shall contain the logical resources affected for that case and the cause value when applicable.

8.2.15.2 Successful Operation

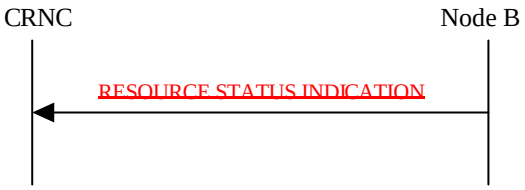

Figure 21 Resource Status Indication

The procedure is initiated with a RESOURCE STATUS INDICATION message sent from the Node B to CRNC.

When a Local Cell becomes Existing at the Node B, the Node B shall make it available to the CRNC by sending a RESOURCE STATUS INDICATION message with the *Local Cell Id* IE and the *Add/Delete Indicator* IE set equal to 'Add'.

When a Local Cell is to be deleted in Node B, i.e. become Not Existing, the Node B shall withdraw the Local Cell from the CRNC by sending a RESOURCE STATUS INDICATION message with the *Local Cell Id* IE and the *Add/Delete Indicator* IE set equal to 'Delete'. The Node B shall not withdraw a previously configured cell at the Node B that the CRNC had configured using the Cell Setup procedure, until the CRNC has deleted that cell at the Node B using the Cell Delete procedure.

When the capabilities of a Local Cell changes at the Node B, the Node B shall report the new capability by sending a RESOURCE STATUS INDICATION message with the Local Cell Id. The *Add/Delete Indicator* IE shall not be included in the message. The *Cause* IE in the RESOURCE STATUS INDICATION message shall be set to the appropriate value.

When the capabilities and/or resource operational state of a cell changes at the Node B, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the *C-ID* IE. The *Cause* IE in the RESOURCE STATUS INDICAION message shall be set to the appropriate value.

When the capabilities and/or resource operational state of common physical channels and/or common transport channels have changed, the Node B shall report the new capability and/or resource operational state by sending a RESOURCE STATUS INDICATION message with the logical resource. The *Cause* IE in the RESOURCE STATUS INDICAION message shall be set to the appropriate value.

When the resource operational state of a communication control port has changed, the Node B shall report the new resource operational state by sending a RESOURCE STATUS INDICATION message with the *Communication Control Port ID* IE. The *Cause* IE in the RESOURCE STATUS INDICAION message shall be set to the appropriate value.

8.2.15.3 Abnormal Conditions

8.2.16 System Information Update

8.2.16.1 General

The System Information Update procedure performs the scheduling and provision of system information segments broadcast on the BCCH, to the Node B.

8.2.16.2 Successful Operation

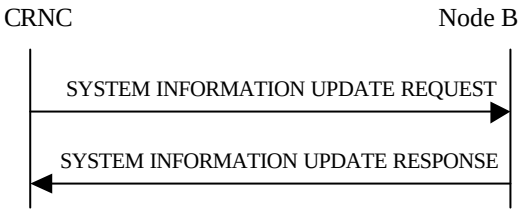

Figure 22 System Information Update: Successful Case

The procedure is initiated with a SYSTEM INFORMATION UPDATE REQUEST message sent from the CRNC to the Node B.
If the SYSTEM INFORMATION UPDATE message includes the *BCCH Modification Time* IE , the new segments provided in the SYSTEM INFORMATION UPDATE REQUEST message shall be applied by Node B at the first time instance starting from the SFN value set by *the BCCH Modification Time* IE. If no *BCCH Modification Time* IE is included, the new segments shall be applied as soon as possible.

The Node B shall determine the correct cell system frame number(s) (SFN) for transmission of the segments of system information, from the scheduling parameters provided in the SYSTEM INFORMATION UPDATE REQUEST message. The SFN for transmitting the segments shall be determined by the *SIB SG REP* IE and *SIB SG POS* IE such that:

SFN mod IB_SG_REP = IB_SG_POS

If the SYSTEM INFORMATION UPDATE REQUEST message contains Master Information Block (MIB) segments in addition to SIB segments, the MIB segments shall be updated last in the physical channel scheduling cycle by the Node B.
The *Segment Type* IE shall be used by the Node B to concatenate several segments into one BCH transport block. The allowed combinations of concatenation are specified in TS 25.331.
If the *SIB Deletion Indicator* IE value is set to 'Deletion' the Node B shall delete the SIB of the type indicated by the *SIB Type* IE from the transmission schedule on BCCH.
If the *SIB Originator* IE value is set to 'NodeB ' the Node B shall create the SIB segment of the SIB type given by the *IB Type* IE and autonomously update the SIB segment and apply the scheduling and repetition as given by the *IB SG REP* IE and *IB SG POS* IE.
SIBs originating from the Node B can only be SIBs containing information that the NodeB can obtain on its own and use the expiration timer feature.
If the Node B successfully completes the updating of the physical channel scheduling cycle according to the parameters given in the SYSTEM INFORMATION UPDATE REQUEST message, it shall respond to the CRNC with a SYSTEM INFORMATION UPDATE RESPONSE message.

8.2.16.3 Unsuccessful Operation

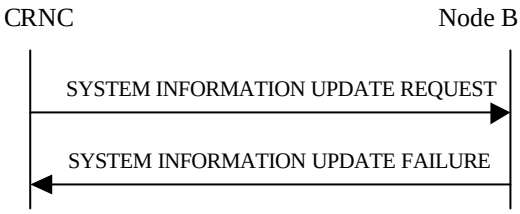

Figure 23 System Information Update: Unsuccessful Case

If the Node B is unable to update the physical channel scheduling cycle according to all the parameters given in the SYSTEM INFORMATION UPDATE REQUEST message, it shall respond with a SYSTEM INFORMATION UPDATE FAILURE message with an appropriate cause value. Possible cause values are:

Insufficient physical channel resources
Hardware failure
Processor overload
C-ID not defined
O&M Intervention
Unspecified failure
SIB origination in Node B not supported

In this case, the Node B shall not incorporate any of the requested changes into the physical channel scheduling cycle, and the previous system information configuration shall remain intact.

8.2.16.4 Abnormal Conditions

8.2.17 Radio Link Setup

8.2.17.1 General

This procedure is used for establishing the necessary resources for a new Node B Communication Context in the Node B. .

8.2.17.2 Successful operation

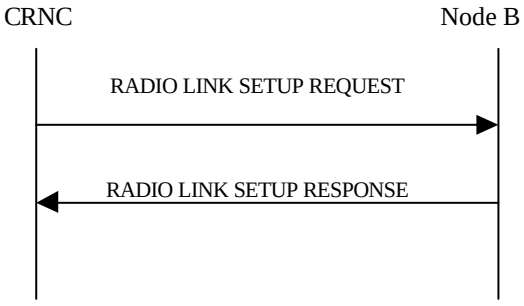

Figure 24 RL Setup procedure: Successful case

The procedure is initiated with a RADIO LINK SETUP REQUEST message sent from the CRNC to Node B.

Upon reception of RADIO LINK SETUP REQUEST message, the Node B shall reserve necessary resources and configure the new Radio Link(s) according to the parameters given in the message.

[FDD – The RL Setup procedure can be used to setup one or more radio links. The procedure shall include the establishment of one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs on one radio link.]

[TDD – The RL Setup procedure is used for setup of one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs. The Radio Link Setup Request message shall include the required TFS and TFCS for the DCH, DSCH and USCH channels.]

[FDD] The *Diversity Control Field* IE indicates for each RL (except the first RL in the message) whether the Node B shall combine the concerned RL or not. If the *Diversity Control Field* IE indicates, "may be combined with already existing RLs", then Node B shall decide for either of the alternatives. Diversity combining is applied to Dedicated Transport Channels (DCH), i.e. it is not applied to the DSCHs. When a new RL is to be combined, the NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

Treat all DCHs with the same value of this IE as a set of co-ordinated DCHs and

Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

The received *Frame Handling Priority* IE specified for each Transport Channel should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.

[FDD] If the *Propagation Delay* IE is present, the Node B may use this information to speed up the detection of L1 synchronization.

The included *RLC Mode* IE may be used by the NodeB to optimise the power control.

[FDD] In FDD mode, the *UL Eb/No* IE included in the message shall be used by the Node B as initial UL Eb/No target for the UL power control.
The Node B shall start the DL transmission using the initial DL power specified in the message. The DL power can then vary accordingly to the fast power control, but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.

If the RLs are successfully setup, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.
[FDD] The Node B shall indicate with the *Diversity Indication* IE whether the RL is combined or not. In case of combining, only the *Reference RL ID* IE shall be included to indicate one of the existing RLs that the concerned RL is combined with. In case of not combining the Node B shall include in the RL SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.

[TDD – The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DSCH of this RL.

[TDD – The NodeB shall include in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each USCH of this RL.]

In case of coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be specify for only one of the coordinated DCHs.

8.2.17.3 Unsuccessful Operation

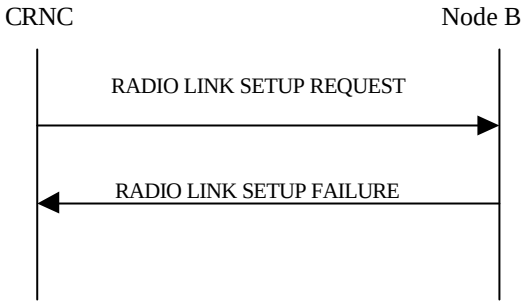

Figure 25 RL Setup procedure: Unsuccessful case

If the establishment of at least one radio link is unsuccessful, the Node B shall respond with a RADIO LINK SETUP FAILURE message. The message contains the failure cause in the *Cause* IE.

If some radio links were established successfully, the Node B shall indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.

Typical cause values are as follows:

Radio Network Layer Cause
- RL Already Activated/allocated

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.2.17.4 Abnormal Conditions

8.3 NBAP Dedicated Procedures

8.3.1 Radio Link Addition

8.3.1.1 General

This procedure is used for establishing the necessary resources in the Node B for one or more additional RLs towards a UE when there is already a Node B communication context for this UE in the Node B.

8.3.1.2 Successful operation

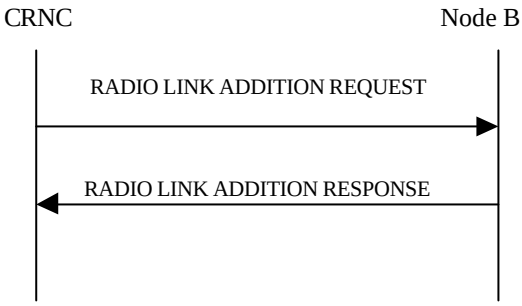

Figure 26 RL Addition procedure: Successful case

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the CRNC to the Node B.

Upon reception, the Node B shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

[FDD The *Diversity Control Field* IE indicates for each RL whether the Node B shall combine the new RL with existing RL(s) or not.].[TDD - The *Diversity Control Field* IE indicates whether the Node B shall reuse the Iub interface Transport Bearers of the old RL for the new RL.] If the *Diversity Control Field* IE indicates, “may be combined with already existing RLs”, then Node B shall decide for any of the alternatives. When a new RL is to be combined, the NodeB shall choose which RL(s) to combine it with.

If the RADIO LINK ADDITION REQUEST message includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DL Channelisation Code of the RL when starting transmission. If no *Initial DL Transmission power* IE is included, the Node B shall use any transmission power level currently used on already existing RL's for this UE.

If the RADIO LINK ADDITION REQUEST message includes the *Maximum DL power* IE, the Node B shall store this value and never transmit with a higher power on any DL Channelisation Code of the RL. If no *Maximum DL power* IE is included, any Maximum DL power stored for already existing RLs for this UE shall be applied.

If the RADIO LINK ADDITION REQUEST message includes the *Minimum DL power* IE, the Node B shall store this value and never transmit with a lower power on any DL Channelisation Code of the RL. If no *Minimum DL power* IE is included, any Minimum DL power stored for already existing RLs for this UE shall be applied.

[FDD] If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE the Node B may activate SSDT for the concerned new RL , with the indicated cell identity used for that RL.

If all requested RLs are successfully added, the Node B shall respond with a RADIO LINK ADDITION RESPONSE message.

[FDD] In the case of combining an RL with existing RL(s) the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that the RL is combined. In this case the Reference RL ID shall be included to indicate one of the existing RLs that the new RL is combined with.

[FDD] In the case of not combining an RL with existing RL(s), the Node B shall indicate in the

RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the Node B shall include both the Transport Layer Address and the binding ID for the transport bearer to be established for each DCH of the RL in the RADIO LINK ADDITION RESPONSE message.
[TDD - In the case of not reusing the transport bearers of the old RL for the new RL, the Node B shall indicate in the RADIO LINK ADDITION RESPONSE message with the “Diversity Indication” that no transport bearer reuse is done. In this case the Node B shall include both the Transport Layer Address and the Binding ID for the transport bearer to be established for each DCH, DSCH and USCH of the RL in the RADIO LINK ADDITION RESPONSE message.]

In case of coordinated DCH, the binding ID and the transport address shall be included for only one of the co-ordinated DCHs.

[FDD] Irrespective of SSDT activation, the Node B shall include in the RADIO LINK ADDITION RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK ADDITION REQUEST message requested SSDT activation and the RADIO LINK ADDITION RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the Node B.

[FDD] After sending of the RADIO LINK ADDITION RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The Node B shall start transmission on the new RL after synchronisation is achieved in the Iub user plane as specified in 25.427.

8.3.1.3 Unsuccessful operation

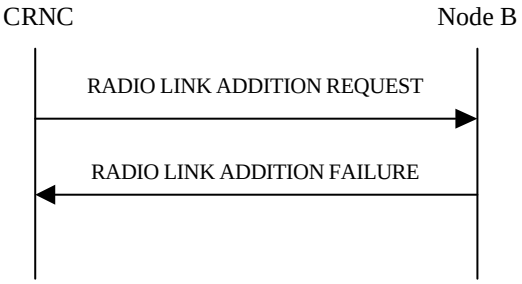

Figure 27 RL Addition procedure: Unsuccessful case

If the establishment of at least one RL is unsuccessful, the Node B shall send a RADIO LINK ADDITION FAILURE as response indicating the failure cause.

If some RL(s) were established successfully, the Node B shall indicate this in the RADIO LINK ADDITION FAILURE message in the same way as in the RADIO LINK ADDITION RESPONSE message.

Typical cause values are as follows:

Radio Network Layer Cause
- RL Already Activated/allocated

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure

- Control processing overload
- HW failure

8.3.1.4 Abnormal conditions

-

8.3.2 Synchronised Radio Link Reconfiguration Preparation

8.3.2.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of all Radio Links related to one UE-UTRAN connection within a Node B.

8.3.2.2 Successful Operation

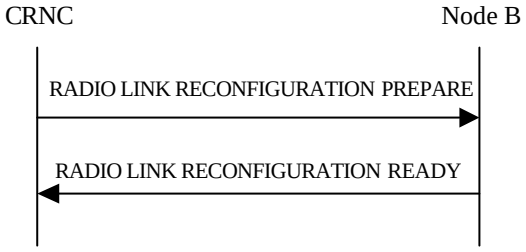

Figure 28 Synchronised Radio Link Reconfiguration procedure, Successful Case

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION PREPARE to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.
Upon reception, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

DCH Modification:
If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, the Node B should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:
If the RADIO LINK RECONFIGURATION PREPARE message includes any DCH to be added to the Radio Link(s), the Node B shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the *DCH Combination Indicator* IE for a DCH to be added, the Node B shall

treat all DCHs with the same value of this IE as a set of coordinated DCHs and

include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

The Node B should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.
The Node B may use the included *RLC Mode* IE to optimise the power control.
The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.
The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.
The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:
If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.
If of all the DCHs belonging to a set of coordinated DCHs are requested to be deleted, the Node B shall not include this set of coordinated DCHs in the new configuration

Physical Channel Modification:
[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]
[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Uplink Channelisation Code* IEs, the Node B shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Downlink Channelisation Code* IEs, the Node B shall apply the new Downlink Channelisation Code(s) in the new configuration.]
[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *UL DPCH Information* IE groups, the Node B shall apply the new UL physical channel(s) setting in the new configuration.]
[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *DL DPCH Information* IE groups, the Node B shall apply the new physical channel(s) setting in the new configuration.]
The Node B shall use the *TFCS (UL)* IE when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.
The Node B shall use the *TFCS (DL)* IE when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.
[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCH Structure* IE, group the Node B shall set the new Uplink DPCCH Structure to the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.
If the RADIO LINK RECONFIGURATION PREPARE includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

SSDT Activation/Deactivation:
[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE in the new configuration.
If the RADIO LINK RECONFIGURATION PREPARE message includes the SSDT Indication IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

DSCH Addition/Modification/Deletion:
[FDD] It is FFS how the Node B shall treat any included DSCH Information.
[TDD – The RADIO LINK RECONFIGURATION PREPARE message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

If the requested modifications are allowed by the Node B and the Node B has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the CRNC with the RADIO LINK RECONFIGURATION READY message.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub DCH-to-be-added group or DCH-to-be-modified group shall be included only for one of the DCH in the set of coordinated DCHs.
In case of a Radio Link being combined with another Radio Link within the Node B, the RL Information Response IE group shall be included only for one of the combined RLs.

8.3.2.3 Unsuccessful Operation

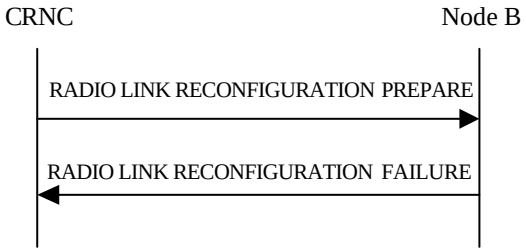

Figure 29 Synchronised Radio Link Reconfiguration procedure, Unsuccessful Case

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of coordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.
If the requested Synchronised Radio Link Reconfiguration procedure fails for one or more RLs the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC, indicating the reason for failure.
Typical cause values are as follows:

Radio Network Layer Cause
- RL Already Activated/allocated

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of coordinated DCHs is requested to be deleted, the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC with.

8.3.3 Synchronised Radio Link Reconfiguration Commit

8.3.3.1 General

This procedure is used to order the Node B to switch to the new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure.
The message shall use the Communication Control Port assigned for this Node B Communication Context.

8.3.5.2 Successful Operation

Figure 30 Synchronised Radio Link Reconfiguration Commit procedure, Successful Operation

The Node B shall switch to the new configuration previously prepared by the Synchronised RL Reconfiguration procedure at the CFN requested by the CRNC when receiving the RADIO LINK RECONFIGURATION COMMIT message from the CRNC.

8.3.5.3 Abnormal Conditions

If the Node B receives the RADIO LINK RECONFIGURATION COMMIT message from the CRNC when there is no new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure, the message shall be ignored.

8.3.4 Synchronised Radio Link Reconfiguration Cancellation

8.3.4.1 General

This procedure is used to order the Node B to release the new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure.
The message shall use the Communication Control Port assigned for this Node B Communication Context.

8.3.4.2 Successful Operation

Figure 31 Synchronised Radio Link Reconfiguration Cancellation Procedure, Successful Case

The NodeB shall release the new configuration previously prepared by the Synchronised RL Reconfiguration Preparation procedure and continue using the old configuration when receiving the RADIO LINK RECONFIGURATION CANCEL message from the CRNC.

8.3.4.3 Abnormal Conditions

If the NodeB receives the RADIO LINK RECONFIGURATION CANCEL message from the CRNC when there is no new configuration for the Radio Link(s) within the Node B, previously prepared by the Synchronised Radio Link Preparation procedure, the message shall be ignored.

8.3.5 Unsynchronised Radio Link Reconfiguration

8.3.5.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a Node B

The Unsynchronised RL Reconfiguration procedure is used when there is no need to synchronise the time of the switching from the old to the new configuration in one Node B used for a UE-UTRAN connection with any other Node B also used for the UE –UTRAN connection.

8.3.5.2 Successful Operation

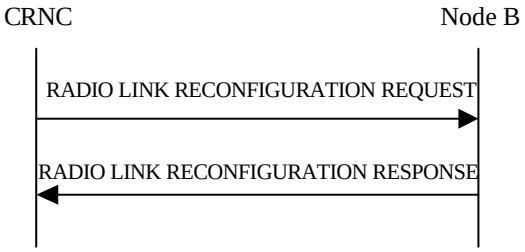

Figure 32 Unsynchronised Radio Link Reconfiguration Procedure, Successful Case

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the CRNC by sending the message RADIO LINK RECONFIGURATION REQUEST to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the DRNS shall modify the configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, the Node B should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new configuration has been activated.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (UL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *UL DCH FP Mode* IE for a DCH to be modified, the Node B shall apply the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWS* IE for a DCH to be modified, the Node B shall apply the new ToAWS in the user plane for this DCH in the new configuration.
If the RADIO LINK RECONFIGURATION REQUEST message includes the *ToAWE* IE for a DCH to be modified, the Node B shall apply the new ToAWE in the user plane for this DCH in the new configuration.

DCH Addition:
If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be added to the Radio Link(s), the Node B shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.
If the RADIO LINK RECONFIGURATION REQUEST message includes the *DCH Combination Indicator* IE for a DCH to be added, the DRNS shall

Treat all DCHs with the same value of this IE as a set of coordinated DCHs and

Include this DCH in the new configuration only if it can include all DCHs with the same value of the *DCH Combination Indicator* IE in the new configuration

The Node B should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.
If the RADIO LINK RECONFIGURATION REQUEST message includes the *RLC Mode* IE, the Node B may use this information to optimise the power control.
The Node B shall use the included *UL DCH FP Mode* IE for a DCH to be added as the new DCH FP Mode in the Uplink of the user plane for this DCH in the new configuration.
The Node B shall use the included *ToAWS* IE for a DCH to be added as the new Time of Arrival Window Start Point in the user plane for this DCH in the new configuration.
The Node B shall use the included *ToAWE* IE for a DCH to be added as the new Time of Arrival Window End Point in the user plane for this DCH in the new configuration.

DCH Deletion:
If the RADIO LINK RECONFIGURATION REQUEST message includes any DCH to be deleted from the Radio Link(s), the Node B shall not include this DCH in the new configuration.
If of all the DCHs belonging to a set of coordinated DCHs are requested to be deleted, the Node B shall not include this set of coordinated DCHs in the new configuration

Physical Channel Modification:
If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (UL)* IE, the Node B shall apply the new TFCS in the Uplink of [TDD – the CCTrCH of] the new configuration.
If the RADIO LINK RECONFIGURATION REQUEST message includes on the *TFCS (DL)* IE, the Node B shall apply the new TFCS in the Downlink of [TDD – the CCTrCH of] the new configuration.
If the RADIO LINK RECONFIGURATION REQUEST includes the *Maximum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a higher power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.
If the RADIO LINK RECONFIGURATION REQUEST includes the *Minimum DL Power* IE, the Node B shall apply this value to the new configuration and never transmit with a lower power on any Downlink Channelisation Code of the Radio Link once the new configuration is being used.

DSCH Addition/Modification/Deletion:

[FDD] It is FFS how the Node B shall treat any included DSCH Information.
[TDD – The RADIO LINK RECONFIGURATION REQUEST message shall include DSCH information and USCH information for the DSCHs and USCHs to be added/modified/deleted. The NodeB shall use this information to add/modify/delete the indicated DSCH and USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs. – It shall include in the RADIO LINK RECONFIGURATION RESPONSE message the Transport Layer Address and the Binding ID of the DCHs/DSCHs/USCHs being added or modified.]

If the requested modifications are allowed by the Node B, the Node B has successfully allocated the required resources, and changed to the new configuration it shall respond to the CRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the DCH-to-be-added group or DCH-to-be-modified group shall be included for one of the DCH in the set of coordinated DCHs.
In case of a Radio Link being combined with another Radio Link within the Node B, RL Information Response IE group shall be included only for one of the combined Radio Links.

8.3.5.1 Unsuccessful Operation

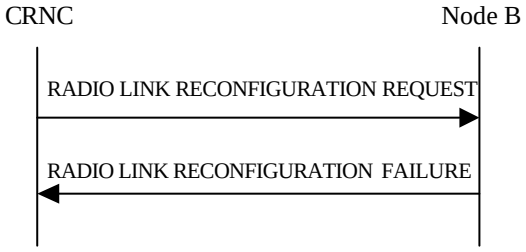

Figure 33 Unsynchronised Radio Link Reconfiguration procedure, Successful Case

If the DRNS cannot allocate the necessary resources for all the new DCHs of one set of coordinated, DCHs requested to be set-up it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.
If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s) the Node B shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC, indicating the reason for failure.
Typical cause values are as follows:

Radio Network Layer Cause
- RL Already Activated/allocated

Transport Layer Cause
- Transport Resources Unavailable

Protocol Cause
- Semantic error

Miscellaneous Cause
- O&M Intervention
- Unspecified Failure
- Control processing overload
- HW failure

8.3.5.2 Abnormal Conditions
If only a subset of all the DCHs belonging to a set of coordinated DCHs is requested to be deleted, the Node B shall regard the Synchronised Radio Link Reconfiguration procedure as having failed

and shall send the RADIO LINK RECONFIGURATION FAILURE message to the CRNC.

8.3.6 Radio Link Deletion

8.3.6.1 General

The Radio Link Deletion procedure is used to release the resources in a Node B for one or more established radio links towards a UE.

8.3.6.2 Successful Operation

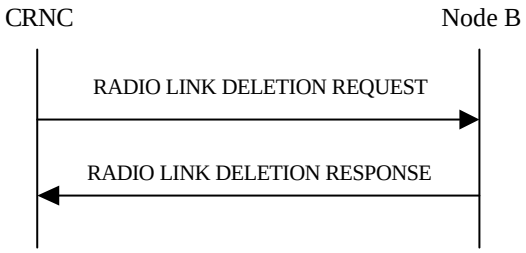

Figure 34 Radio Link Deletion: Successful Case

The procedure is initiated with a RADIO LINK DELETION REQUEST message sent from the CRNC to the Node B.

Upon receipt of this message, the Node B shall delete the radio link(s) identified in the message and release all associated resources and respond to the CRNC with a RADIO LINK DELETION RESPONSE message.

8.3.6.3 Unsuccessful Operation

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8.3.6.4 Abnormal Conditions

8.3.7 DL Power Control (for FDD only)

8.3.7.1 General

The purpose of this procedure is to balance the DL transmission powers of one or more Radio Links used for the related RRC connection within the NodeB. The DL POWER CONTROL procedure may be initiated by the CRNC at any time when the NodeB communication context exists, irrespective of other ongoing CRNC initiated dedicated NBAP procedures towards this NodeB communication context. The only exception occurs when the CRNC has requested the deletion of the last RL via this NodeB, in which case the DL POWER CONTROL procedure shall no longer be initiated.

8.3.7.2 Successful Operation

Figure 35 DL Power Control Procedure

The procedure is initiated by the CRNC sending a DL POWER CONTROL REQUEST message to the Node B.

On reception, if the message contains the *DL Reference Power* IE, the Node B shall perform the power balancing (see below) for all radio links associated with the context identified by the *Node B Communication Context Id* IE.

Alternatively, if the message contains the *DL Reference Power Information* IE group, the Node B shall perform the power balancing (see below) for all radio links addressed in the message.

The Node B performs the power balancing by using the received power.

Editor's Note: FFS (currently we only have "using the received desired DL reference power as a reference for adjusting the applied DL power"), which I don't think is sufficiently precise!

8.3.7.3 Abnormal Conditions

8.3.8 Dedicated Measurement Initiation

8.3.8.1 General

This procedure is used by a CRNC to request the initiation of dedicated measurements in a Node B.

8.3.8.2 Successful Operation

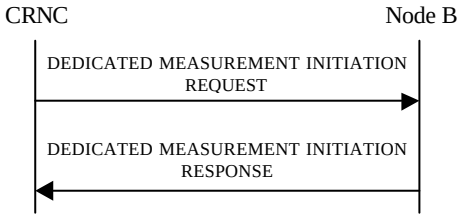

Figure 36 Measurement Request procedure: Successful Operation

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the CRNC to the Node B using the communication control port assigned to the Node B communication context.
Upon reception, the Node B shall initiate the requested measurement according to the parameters given in the request. Unless specified below the meaning of the parameters are given in other specifications.
If the Node B Communication Context Id IE equals the reserved value 'All NBCC', this measurement request shall apply for all current and future Node B Communication Contexts that can be contacted via the current communication control port. Otherwise, this measurement request shall apply for the requested Node B Communication Context Id only.
If no RL Information is provided in the *Dedicated Measurement Object* IE, the measurement reports shall give the aggregated result for all radio links within the requested Node B Communication Context. If RL Information is provided in the request, the measurement request shall apply for the requested radio links individually.
[TDD - If DPCH Id is provided within the RL Information the measurement request shall apply for the requested physical channel individually.]

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed.
If the *Report Characteristics* IE indicates 'On-Demand', the Node B shall return the result of the measurement immediately.
If the *Report Characteristics* IE indicates 'Periodic', the Node B shall periodically initiate a Measurement Report procedure for this measurement, with the requested report frequency.
If the *Report Characteristics* IE indicates 'Event A', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.
If the *Report Characteristics* IE indicates 'Event B', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.
If the *Report Characteristics* IE indicates 'Event C', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.
If the *Report Characteristics* IE indicates 'Event D', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.
If the *Report Characteristics* IE indicates 'Event E', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall send shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.
If the *Report Characteristics* IE indicates 'Event F', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Frequency* IE is provided, the Node B shall send shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.
If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the Node B shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as in normal operation.
If the NodeB was able to initiate the measurement requested by the DRNC it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message using the communication control port assigned to the Node B communication context. The message shall include the same Measurement Id that was used in the measurement request.
Only in the case the *Report Characteristics* IE indicated "On-Demand", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. In this case also the *Dedicated Measurement Object* IE shall be included if it was included in the request message.

8.3.8.3 Unsuccessful Operation

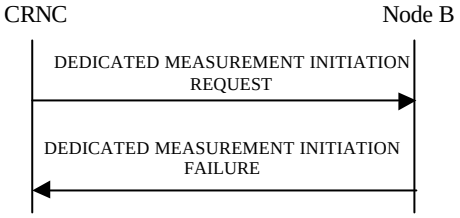

Figure 37 Measurement Request procedure: Unsuccessful Operation

If the requested measurement cannot be initiated, the Node B shall send a DEDICATED MEASUREMENT INITIATION FAILURE message using the communication control port assigned to the Node B communication context. The message shall include the same Measurement Id that was used in the measurement initiation request and the *Cause* IE set to an appropriate value.
Typical cause values are as follows:

Radio Network Layer cause

- Measurement not supported for the object

Miscellaneous Cause

- O&M Intervention
- Control processing overload
- HW failure

8.3.8.4 Abnormal Conditions

-

8.3.9 Dedicated Measurement Reporting

8.3.9.1 General

This procedure is used by the Node B to report the result of measurements requested by the CRNC with the Measurement Initiation procedure. The NodeB is allowed to initiate the DEDICATED MEASUREMENT REPORTING message at any time after having sent the RADIO LINK SETUP RESPONSE message, as long as the NodeB communication context exists.

8.3.9.2 Successful Operation

Figure 38 Measurement Report procedure: Successful Operation

If the requested measurement reporting criteria are met, the Node B shall initiate a Measurement Reporting procedure. The DEDICATED MEASUREMENT REPORT message shall use the communication control port assigned to the Node B communication context. Unless specified below, the meaning of the parameters are given in other specifications.
The *Dedicated Measurement Id* IE shall be set to the Dedicated Measurement Id provided by the CRNC when initiating the measurement with the Measurement Initiation procedure.

8.3.9.3 Abnormal Conditions

-

8.3.10 Dedicated Measurement Termination

8.3.10.1 General

This procedure is used by the CRNC to terminate a measurement previously requested by the Measurement Initiation procedure.

8.3.10.2 Successful Operation

Figure 39 Measurement Termination procedure: Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT TERMINATION REQUEST message, sent from the CRNC to the Node B using the communication control port assigned to the Node B communication context.
Upon reception, the Node B shall terminate reporting of measurements corresponding to the Dedicated Measurement Id.

8.3.10.3 Abnormal Conditions

-

8.3.11 Dedicated Measurement Failure

8.3.11.1 General

This procedure is used by the Node B to notify the CRNC that a measurement previously requested by the Measurement Initiation procedure can no longer be reported. The NodeB is allowed to initiate the DEDICATED MEASUREMENT FAILURE INDICATION message at any time after having sent the RADIO LINK SETUP RESPONSE message, as long as the NodeB communication context exists.

8.3.11.2 Successful Operation

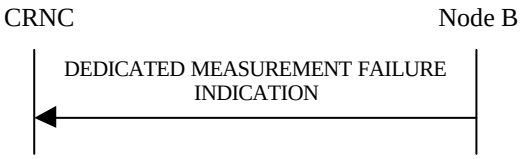

Figure 40 Measurement Failure procedure: Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT FAILURE INDICATION message, sent from the Node B to the CRNC using the communication control port assigned to the Node B communication context, to inform the CRNC that a previously requested measurement no longer can be reported.

8.3.11.3 Abnormal Conditions

-

8.3.12 Radio Link Failure

8.3.12.1 General

This procedure is used by Node B to indicate a failure in one or more radio links.

8.3.12.2 Successful Operation

When Node B detects that one or more radio link is no longer available, it sends the RADIO LINK FAILURE INDICATION message to CRNC indicating the failed radio links with the most appropriate cause values in the *Cause* IE. Possible cause values may be:

When the Radio Link Failure procedure is used to notify the non-achievement or loss of UL synchronisation, the message is sent when the UL synchronisation of the radio link is not achieved at the RL setup, or RL Addition, or it is lost during the active connection.

Figure 41 Radio Link Failure

8.3.13 Radio Link Restoration

8.3.13.1 General

This procedure is used by the Node B to notify the re-achievement of uplink synchronisation.

8.3.13.2 Successful Operation

The Node B may initiate this procedure only if it has previously used the RL Failure procedure to notify the loss of uplink synchronisation. If the uplink synchronisation is re-established, the Node B shall send the RL RESTORE INDICATION message to the CRNC.

The Node B shall not send RADIO LINK RESTORE INDICATION message if Radio Link Deletion procedure has already been activated in the Node B after the RADIO LINK FAILURE INDICATION sent by the Node B.

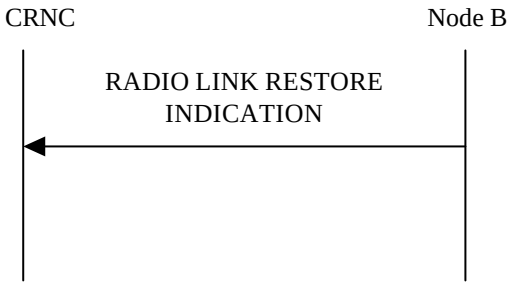

Figure 42 Radio Link Restoration

8.3.14 Compressed Mode Preparation (for FDD only)

8.3.14.1 General

The Compressed Mode Preparation procedure is used to prepare the compressed mode in the NodeB for one UE-UTRAN connection.

8.3.14.2 Successful Operation

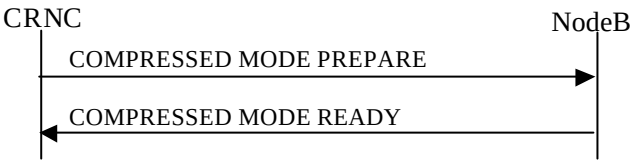

Figure 43 Compressed Mode Preparation procedure, Successful Operation

The Compressed Mode Preparation procedure is initiated by the CRNC by sending the COMPRESSED MODE PREPARE message to the NodeB.
If the proposed modifications are allowed by the NodeB and the NodeB has successfully initialised the required resources, the NodeB shall respond to the CRNC with COMPRESSED MODE READY message.
If the *Compressed Mode Method* IE is set to 'None', the NodeB shall terminate the compressed mode even if the COMPRESSED MODE PREPARE message was received before the end of the compressed mode period.

8.3.14.3 Unsuccessful Operation

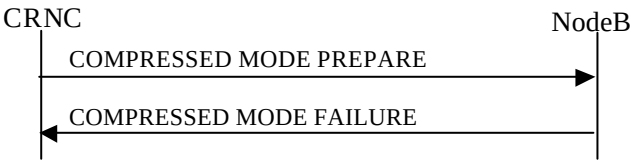

Figure 44 Compressed Mode Preparation procedure, unsuccessful case

If the requested reconfiguration fails for one or more RLs the NodeB shall abort the procedure and send the COMPRESSED MODE FAILURE message to the CRNC, indicating the reason for failure.
Typical cause values are:

Radio Network Layer Causes:

- Requested Configuration not Supported

Miscellaneous Causes:

- Not enough User Plane Processing Resources

8.3.14.4 Abnormal Conditions

-

8.3.15 Compressed Mode Commit (for FDD only)

8.3.15.1 General

The Compressed Mode Commit procedure is used to activate the compressed mode in the NodeB for one UE-UTRAN connection.

8.3.15.2 Successful Operation

Figure 45 Compressed Mode Commit procedure, Successful Operation

The NodeB shall initiate the compressed mode in accordance with the settings prepared by the Compressed Mode Preparation procedure at the CFN requested by the CRNC when receiving the COMPRESSED MODE COMMIT message from the CRNC.

8.3.15.3 Abnormal Conditions

-

8.3.16 Compressed Mode Cancellation (for FDD only)

8.3.16.1 General

The Compressed Mode Cancellation procedure is used to cancel the compressed mode in the NodeB for one UE-UTRAN connection.

8.3.16.2 Successful Operation

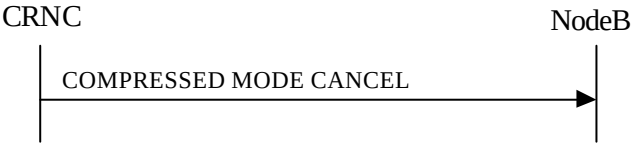

Figure 46 Compressed Mode Cancellation procedure, Successful Operation

The NodeB shall abort the compressed mode if it receives the COMPRESSED MODE CANCEL message.

8.3.16.3 Abnormal Conditions

-

8.4 Error Handling Procedures

8.4.1 Error Indication

This procedure is used by both NodeB and its CRNC to report detected errors or any other problems in one incoming message if they cannot be reported by any other procedure.
When NodeB or CRNC detect an erroneous message (or a message, which for some other reasons cannot be processed), it sends an ERROR INDICATION message with the most appropriate cause value.
The message contains as a transparent L3 information the erroneous message (coded), CRNC communication context ID (in UL), and NodeB communication context ID (in DL), if the NodeB is able to deduce it from the erroneous message.
Possible error cause can be:

- Unknown message ID: the message contains a message ID that is not known to the receiver
- Unknown Information element: the message contains an information element that is not known or cannot be interpreted by the receiver
- Procedural errors: the message is not compatible with the status of the receiver.
- Unknown failure reason: requested procedure failed to process by unknown reason

The message is sent using the Dedicated NBAP signalling connection of the incoming message, or using the Common NBAP if the incoming message was sent via Common NBAP.

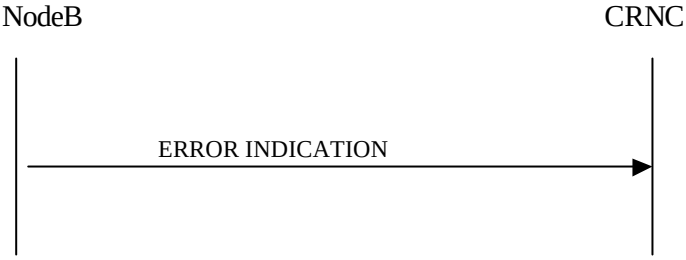

Figure 47 Error Indication

9 Elements for NBAP communication

9.1 Message functional definition and content

9.1.1 Message Contents

An information element can be of the following *types*:

M	The information element is mandatory, i.e. always present in the message
O	The information element is optional, i.e. may or may not be present in the message independently on the presence or value of other information elements in the same message
C	The presence of the information element is conditional to the presence or to the value of another information element, as reported in the correspondent footnote

In case of an information element group, the group is preceded by a name for the info group (in bold). It is also indicated whether the group is mandatory, optional or conditional. Each group may be also repeated within one message. The presence field of the information elements inside one group defines if the information element is mandatory, optional or conditional if the group is present.

9.1.2 COMMON TRANSPORT CHANNEL SETUP REQUEST

9.1.2.1 FDD Message

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Configuration Generation ID	M			
CHOICE *common physical channel to be configured*				
Secondary CCPCH				
Secondary CCPCH		*1*		
Common Physical Channel ID	M			
FDD S-CCPCH Offset	M			Corresponds to 25.211: S-CCPCH,k
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
TFCS	M			For the DL.
Secondary CCPCH Slot Format	M			
Pilot Bits Used Indicator	M			
Multiplexing Position	M			
STTD Indicator	M			
FACH Parameters	C-choiceCh	*0..<maxnoofFACHs>*		
Common transport channel ID	M			
Transport Format Set	M			For the DL.
ToAWS	M			
ToAWE	M			
Max FACH Power	M		DL Power	Maximum allowed power on the FACH.
PCH Parameters	C-choiceCh	*0..1*		
Common Transport Channel ID	M			
Transport Format Set	M			For the DL.
ToAWS	M			
ToAWE	M			
PCH Power	M		DL Power	
PICH Parameters		*1*		
Common Physical Channel ID	M			
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
PICH Power	M		DL Power	Power to be used on the PICH.
PICH Mode	M			Number of PI per frame
STTD Indicator	M			
PRACH				
PRACH		*1*		
Common Physical	M			

Channel ID				
Scrambling Code Word Number	M			
TFCS	M			For the UL.
Preamble Signatures	M			
Allowed Slot Format Information		*1..<maxSF>*		
RACH Slot Format	M			
RACH Sub Channel Numbers	M			
Puncture Limit	M			For the UL
RACH Parameters		*1*		
Common Transport Channel ID	M			
Transport Format Set	M			For the UL.
AICH Parameters		*1*		
Common Physical Channel ID	M			
DL Scrambling Code	M			
AICH Transmission Timing	M			
FDD DL Channelisation Code Number	M			
AICH Power	M		DL Power	
STTD Indicator	M			

Condition	Explanation
ChoiceCh	One of the channels FACH or PCH or both must be present.

Range bound	Explanation
MaxnoofFACHs	Maximum number of FACHs that can be defined on a Secondary CCPCH.
MaxSF	Maximum number of SF for a PRACH

9.1.2.2 TDD Message

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Configuration Generation ID	M			
CHOICE *common physical channels to be configured*				
Secondary CCPCHs				
CCTrCH ID	M			For DL CCTrCH supporting one or several Secondary CCPCHs
TFCS	M			For DL CCTrCH supporting one or

				several Secondary CCPCHs
Secondary CCPCH		*1..<maxnoofS-CCPCHs>*		
Common physical channel ID	M			
TDD Channelisation Code	M			
Time Slot	M			
Burst Type	M			Long or short midamble
Midamble shift	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
S-CCPCH Power	M		DL Power	
STTD Indicator	M			
PRACH				
PRACH	M			
Common physical channel ID	M			
Time Slot	M			
TDD Channelisation Code	M			
Max PRACH Midamble Shifts	O			
PRACH Midamble	M			
CHOICE *common transport channels to be configured*				
FACH				
FACH	C ChoiceCh	*1..<maxnoofFACHs>*		
Common transport channel ID	M			
Transport Format Set	M			For the DL.
ToAWS	M			
ToAWE	M			
PCH				
PCH	C ChoiceCh	*1..<maxnoofPCHs>*		
Common transport channel ID	M			
Transport Format Set	M			For the DL.
ToAWS	M			
ToAWE	M			
PICH Parameters		*1*		
Common Physical Channel ID	M			
TDD Channelisation Code	M			
Time Slot	M			
Burst type	O			
Midamble shift	M			
TDD Physical Channel Offset	M			
Repetition period	M			
Repetition length	M			
Paging Indicator Length	M			

PICH Power	M			
RACH		*1*		
RACH				
Common transport channel ID	M			

Condition	Explanation
ChoiceCh	One of the channels FACH or PCH or both must be present.

Range bound	Explanation
MaxnoofS-CCPCHs	Maximum number of Secondary CCPCHs per CCTrCH.
MaxnoofCCTrCHs	Maximum number of CCTrCHs that can be defined in a cell.
MaxnoofFACHs	Maximum number of FACHs that can be defined on a Secondary CCPCH.
MaxnoofPCHs	Maximum number of PCHs that can be defined on a Secondary CCPCH.

9.1.3 COMMON TRANSPORT CHANNEL SETUP RESPONSE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
CHOICE *common transport channel configured*				
FACH				
FACH Parameters	C-choiceCh	*0..<maxnoofFACHs>*		
Common Transport Channel ID	M			
Binding ID	M			
Transport layer address	M			
PCH				
PCH Parameters	C-choiceCh	*0..1*		
Common transport channel ID	M			
Binding ID	M			
Transport layer address	M			
RACH				
RACH parameters		*1*		
Common transport channel ID	M			
Binding ID	M			
Transport layer address	M			
Criticality Diagnostics	O			

Condition	Explanation
ChoiceCh	One of the channels FACH or PCH or both must be present.

Range bound	Explanation
MaxnoofFACHs	Maximum number of FACHs that can be defined on a Secondary CCPCH[FDD] / a group of Secondary CCPCHs [TDD].

9.1.4 COMMON TRANSPORT CHANNEL SETUP FAILURE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.5 COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST

9.1.5.1 FDD Message

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Configuration Generation ID	M			
FACH parameters		*0..<maxFACHCell>*		
Common Transport Channel ID	M			
Max FACH Power	O		DL Power	Maximum allowed power on the FACH.
ToAWS	O			
ToAWE	O			
PCH Parameters		*0..1*		
Common Transport Channel ID	M			
PCH Power	O		DL Power	Power to be used on the PCH.
ToAWS	O			
ToAWE	O			
PICH Parameters		*0..1*		
Common Physical Channel ID	M			
PICH Power	M		DL Power	Power to be used on the PICH.
PRACH Parameters		*0..<maxnoofPRACHs>*		
Common Physical Channel ID	M			
Preamble Signatures	M			
Allowed Slot Format Information		*0..<maxSF>*		
Slot Format	M			
RACH Sub Channel Numbers	O			
AICH Parameters		*0..<maxnoofPRACHs>*		
Common Physical Channel ID	M			
AICH Power	M		DL Power	Power to be used on the AICH.

Range bound	Explanation
MaxFACHCell	Maximum number of FACHs that can be defined in a Cell
maxnoofPRACHs	Maximum number of PRACHs and AICHe that can be defined in a Cell
maxSF	Maximum number of SF for a PRACH

9.1.5.2 TDD Message

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			

Message Type	M			
Transaction ID	M			
C-ID	M			
Configuration Generation ID	M			
CHOICE common physical channels to be reconfigured				
Secondary CCPCHs				
CCTrCH ID	M			For DL CCTrCH supporting one or several Secondary CCPCHs
Secondary CCPCH		O.. <Maxnoof SCCPCH s>		
Common physical channel ID	M			
S-CCPCH Power	M			DL power
PICH				
PICH Parameters		0 .. 1		
Common physical channel ID	M			
PICH Power	M			
CHOICE common transport channels to be reconfigured				
FACH				
FACH parameters		*0..<Maxn oofFACH s>I*		
Common Transport Channel ID	M			
ToAWS	O			
ToAWE	O			
PCH				
PCH parameters		0 .. <Maxnoof PCHs>		
Common Transport Channel ID	M			
ToAWS	O			
ToAWE	O			

Range bound	Explanation
MaxFACHCell	Maximum number of FACHs that can be repeated in a Cell
MaxnoofPCHs	Maximum number of PCHs that can be defined in a cell.

9.1.6 COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.7 COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.8 COMMON TRANSPORT CHANNEL DELETION REQUEST

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Common Physical Channel ID	M			Indicates the Common Physical Channel for which the Common Transport Channels (together with the Common Physical Channel) shall be deleted.
Configuration Generation ID	M			

9.1.9 COMMON TRANSPORT CHANNEL DELETION RESPONSE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.10 BLOCK RESOURCE REQUEST

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Blocking Priority Indicator	M			
Shutdown Timer	C-*BlockNormal*			

Condition	**Explanation**
BlockNormal	The information element is present when the *Blocking Priority Indicator* IE indicates 'Normal Priority'.

9.1.11 BLOCK RESOURCE RESPONSE

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.12 BLOCK RESOURCE FAILURE

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.13 UNBLOCK RESOURCE INDICATION

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			

9.1.14 AUDIT REQUIRED INDICATION

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Transaction ID	M			

9.1.15 AUDIT REQUEST

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cell parameters		*0.. <maxCellinNodeB>*		
C-ID	M			
Configuration Generation Id	M			

Range bound	**Explanation**
MaxCellinNodeB	Maximum number of cell that can be configured in

	Node B

9.1.16 AUDIT RESPONSE

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cell Information		*0.. <maxUCIDinNodeB>*		
C-ID	M			
Resource Operational State	M			
Availability Status	M			
Maximum DL Power Capability	FFS			
Minimum Spreading Factor	FFS			
Primary SCH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Secondary SCH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Primary CPICH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Secondary CPICH Information		*0..<maxSCPICHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Primary CCPCH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
BCH Information		*0..1*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			

Secondary CCPCH Information		*0..<maxSCCPCHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PCH Information		*0..<maxPCHCell >*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PICH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
FACH Information		*0..<maxFACHCell>*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PRACH Information		*0..<maxPRACHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
RACH Information		*0..<maxRACHCell>*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
AICH Information		*0..<maxRACHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
SCH Information		0..1		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PSCH Information		0..1		
Common Physical Channel ID	M			

Resource Operational State	M			
Availability Status	M			
Communication Control Port Information		*0.. <maxCCPinNodeB>*		
Communication Control Port ID	M			
Resource Operational State	M			
Availability Status	M			
Local Cell Information		*0.. <maxLocalCellinNodeB>*		
Local Cell ID	M			
Number of Channel Elements	O			
Maximum DL Power Capability	O			
Criticality diagnostics	O			

Range bound	**Explanation**
maxCellinNodeB	Maximum number of Cell that can be configured in Node B
maxCCPinNodeB	Maximum number of communication control ports that can exist in the Node B
maxLocalCellinNodeB	Maximum number of Local Cells that can exist in the Node B
maxSCPICHCell	Maximum number of Secondary CPICH that can be defined in a Cell.
maxSCCPCHCell	Maximum number of Secondary CCPCH that can be defined in a Cell.
maxFACHCell	Maximum number of FACHes that can be defined in a Cell
maxRACHCell	Maximum number of RACHes that can be defined in a Cell
maxPCHCell	Maximum number of PCHes that can be defined in a Cell
maxPICHCell	Maximum number of PICHes that can be defined in a Cell

9.1.17 COMMON MEASUREMENT INITIATION REQUEST

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Common Measurement Object Type	M			
CHOICE Common *Measurement Object Type*				
"Cell"				
C-ID	M			
Time Slot	O			TDD only
"RACH"				
C-ID	M			
Common transport channel ID	M			
Common Measurement Type	M			
Measurement Characteristics	M			
Report Characteristics	M			

9.1.18 COMMON MEASUREMENT INITIATION RESPONSE

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			
CHOICE Common *Measurement Object Type*				
"Cell"				
Common Measurement value	M			
"RACH"				
Common Measurement Value	M			
SFN	O			Common Measurement Time Reference
Criticality Diagnostics	O			

9.1.19 COMMON MEASUREMENT INITIATION FAILURE

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			
Criticality diagnostics	O			

9.1.20 COMMON MEASUREMENT REPORT

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			
CHOICE Common *Measurement Object Type*				
"Cell"				
Common Measurement value	M			
"RACH"				
Common Measurement Value	M			
SFN	O			Common Measurement Time Reference

9.1.21 COMMON MEASUREMENT TERMINATION REQUEST

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			

9.1.22 COMMON MEASUREMENT FAILURE INDICATION

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			

9.1.23 CELL SETUP REQUEST

9.1.23.1 FDD Message

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Local Cell Id	M			
C-Id	M			
Configuration Generation Id	M			
T Cell	M			
UARFCN	M			Indicates UL/DL Frequency
Maximum transmission power	M			
Primary scrambling code	M			
Primary SCH Information		1		
Common Physical Channel	M			

ID				
Primary SCH Power	M		DL Power	
TSTD Indicator	M			
Secondary SCH Information		1		
Common Physical Channel ID	M			
Secondary SCH power	M		DL Power	
TSTD Indicator	M			
Primary CPICH Information		1		
Common Physical Channel ID	M			
P-CPICH power	M			
Transmit Diversity Indicator	M			
Secondary CPICH Information		0..1		
Common Physical Channel ID	M			
DL Scrambling code	M			
FDD DL Channelisation Code Number	M			
S-CPICH Power	M		DL Power	
Transmit Diversity Indicator	M			
Primary CCPCH Information		1		
Common Physical Channel ID	M			
BCH Information		1		
Common Transport Channel ID	M			
BCH Power	M		DL Power	
STTD Indicator	M			

9.1.23.2 TDD Message

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Local Cell Id	M			
C-Id	M			
Configuration Generation Id	M			
UARFCN	M			
Cell Parameter ID	M			
Maximum Transmission Power	O			
Transmission Diversity Applied	M			On DCHs
Sync Case	M			
PSCH Information		1		
Common physical channel ID	M			
CHOICE *Sync Case*				
Case 1				The same TS is used for PCCPCH
Time Slot	M			
Case 2 and Case 3				In Case 2 the same TS is used for PCCPCH
PSCH Time Slot	M			
PSCH Power	M			DL Power
TSTD Indicator	M			
PCCPCH Information		1		

Common physical channel ID	M			
CHOICE *Sync Case*				
Case 3				
Time Slot	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
PCCPCH Power	M			
STTD Indicator	M			
Time Slot Configuration		1 .. 15		
Time Slot	M			
Time Slot Status	M			
Time Slot Direction	M			

Condition	**Explanation**
Case 3	This IE is only present if the PSCH&PCCPCH Allocation is equal to 3

9.1.24 CELL SETUP RESPONSE

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.25 CELL SETUP FAILURE

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.26 CELL RECONFIGURATION REQUEST

9.1.26.1 FDD Message

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
Configuration Generation Id	M			
Maximum transmission power	O			
Primary SCH Information		0,1		
Common Physical Channel ID	M			
Primary SCH power	M		DL Power	
Secondary SCH Information		0,1		
Common Physical Channel ID	M			
Secondary SCH power	M		DL Power	
Primary CPICH Information		0,1		

Common Physical Channel ID	M			
Primary CPICH power	M			
Secondary CPICH Information		0,1		
Common Physical Channel ID	M			
Secondary CPICH Power	M		DL Power	
Primary CCPCH Information		0,1		
BCH Information		1		
Common Transport Channel ID	M			
BCH Power	M		DL Power	

9.1.26.2 TDD Message

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
C-Id	M			
Configuration Generation ID	M			
PSCH Information		0,1		
Common Physical Channel ID	M			
PSCH Power	M			
PCCPCH Information		0,1		
Common Physical Channel ID	M			
PCCPCH Power	M			
Maximum Transmission Power	O			
Time Slot Configuration		0..15		
Time Slot	M			
Time Slot Status	M			
Time Slot Direction	M			

9.1.27 CELL RECONFIGURATION RESPONSE

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.28 CELL RECONFIGURATION FAILURE

.

Information Element	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.29 CELL DELETION REQUEST

.

Information Element	Presence	Range	IE type and reference	Semantics description
Message discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			

9.1.30 CELL DELETION RESPONSE

.

Information Element	Presence	Range	IE type and reference	Semantics description
Message discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.31 RESOURCE STATUS INDICATION

Information Element	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Indication Type	M			
CHOICE Indication Type				
"No Failure"				
Local Cell Information		*1.. <maxLocalCellinNodeB >*		
Local Cell ID	M			
Add/Delete Indicator	M			
Number of Channel Elements	M			
Maximum DL Power Capability	M			
"Service Impacting"				
Local Cell Information		*0.. <maxLocalCellinNodeB>*		
Local Cell ID	M			
Number of Channel Elements	O			
Maximum DL Power Capability	O			
Communication Control Port Information		*0.. <maxCCPinNodeB>*		
Communication Control Port ID	M			
Resource Operational State	M			
Availability Status	M			
Cell Information		*0.. <maxCellinNodeB>*		
C-ID	M			
Resource Operational State	M			
Availability Status	M			
Maximum DL Power Capability	FFS			
Minimum Spreading Factor	FFS			
Primary SCH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Secondary SCH Information		*0..1*		
Common Physical	M			

Channel ID				
Resource Operational State	M			
Availability Status	M			
Primary CPICH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Secondary CPICH Information		*0..<maxSCPICHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Primary CCPCH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
BCH Information		*0.. 1*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Secondary CCPCH Information		*0..<maxSCCPCHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PCH Information		*0..<maxPCHCell>*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PICH Information		*0..1*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
FACH Information		*0.. <maxFACHCell>*		
Common Transport Channel ID	M			
Resource Operational	M			

State				
Availability Status	M			
PRACH Information		*0..<maxPRACHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
RACH Information		*0.. <maxPRACHCell>*		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
AICH Information		*0.. <maxPRACHCell>*		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
SCH Information		0..1		
Common Transport Channel ID	M			
Resource Operational State	M			
Availability Status	M			
PSCH Information		0..1		
Common Physical Channel ID	M			
Resource Operational State	M			
Availability Status	M			
Cause	O			

Range bound	Explanation
maxLocalCellinNodeB	Maximum number of Local Cells that can exist in the Node B
maxCellinNodeB	Maximum number of C ID that can be configured in Node B
maxSCPICHCell	Maximum number of Secondary CPICH that can be defined in a Cell.
maxSCCPCHCell	Maximum number of Secondary CCPCH that can be defined in a Cell.
maxFACHCell	Maximum number of FACHes that can be defined in a Cell
maxPCHCell	Maximum number of PCHes that can be defined in a Cell
maxPRACHCell	Maximum number of PRACHes and AICHes that can be defined in a Cell
maxCCPinNodeB	Maximum number of communication control ports that can exist in the Node B

9.1.32 SYSTEM INFORMATION UPDATE REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
C-ID	M			
BCCH Modification Time	O			
MIB/SIBInformation		*1.. maxIB*		
IB Type	M			
SIB Deletion Indicator	C-NotMIB			
CHOICE *DeletionIndicator*				
NoDeletion				
SIB Originator	C-NotMIB			
Segment Information		*1.. maxIBSEG*		
Segment Type	M			
IB SG REP	M			
IB SG POS	M			
IB SG	C – CRNCOrigination			

Range bound	Explanation
1..maxIB	Maximum number of information Blocks supported in a physical channel scheduling cycle
1..maxIBSEG	Maximum number of segments for one Information Block

Condition	Explanation
CRNCOrigination	The IE shall be present if *the SIB Originator* IE is set to 'CRNC'
NotMIB	This IE shall be present if the IB Type is not equal to "MIB"

9.1.33 SYSTEM INFORMATION UPDATE RESPONSE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.34 SYSTEM INFORMATION UPDATE FAILURE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.35 RADIO LINK SETUP REQUEST

9.1.35.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		1		
UL Scrambling Code	M			
Min UL Channelisation Code length	M			
Max Number of UL DPDCHs	C – CodeLen			
puncture limit	M			For UL
Transport Format Combination Set	M			for UL
UL DPCCH Slot Format	M			
UL Eb/No Target	M		Uplink Eb/No	
Diversity mode	M			
D Field Length	C – FB			
SSDT cell ID Length	O			
S Field Length	O			
DL DPCH Information				
Transport Format Combination Set	M			For DL
DL DPCH Slot Format	M			
TFCI signalling mode	M			
TFCI presence	C-SlotFormat			
Multiplexing Position	M			
Power Offset Information		1		
PO1	M		Power Offset	Power offset for the TFCI bits
PO2	M		Power Offset	Power offset for the TPC bits
PO3	M		Power Offset	Power offset for the pilot bits
Delta TPC	M			
DCH Information		1 to <maxnoofDCHs>		
DCH ID	M			
DCH Combination Ind	O			
RLC mode	M			
Transport Format Set	M			For UL
Transport Format Set	M			For DL
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
RL ID	O			RL Supporting the DSCH
DSCH TFCS	O			
DSCH Information		0 to <maxnoofDSCHs>		

DSCH ID	M			
Transport Format Set	M			For DSCH
Frame handling Priority	M			
ToAWS	M			
ToAWE	M			
RL Information		1 to <maxnoofRLs>		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
DL Code Information		1 to <maxnoof-DLCodes		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Initial DL transmission Power	M		DL Power	
Maximum DL power	M		DL Power	
Minimum DL power	M		DL Power	
SSDT Cell Identity	O			

Condition	Explanation
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4
FB	This IE is present only if Feed Back mode diversity is activated.
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

Range bound	Explanation
MaxnoofDSCHs	Maximum no. of DSCHs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDLCodes	Maximum no. of DL code information.

9.1.35.2 TDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
UL CCTrCH Information		0 to <maxno CCTrCH>		
CCTrCH ID	M			
Transport Format Combination Set	M			
TFCI Coding	M			
Puncture Limit	M			
UL DPCH Information		0 to <maxnoOfDPCH>		
DPCH ID	M			
TDD Channelisation Code	M			
Burst Type	M			
Midamble Shift	M			
Time Slot	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
TFCI Presence	M			
DL CCTrCH Information		0 to <maxno CCTrCH>		
CCTrCH ID	M			
Transport Format Combination Set	M			
TFCI Coding	M			
Puncture Limit	M			
DL DPCH information		0 to <maxnoOfDPCH>		
DPCH ID	M			
TDD Channelisation Code	M			
Burst Type	M			
Midamble Shift	M			
Time Slot	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
TFCI Presence	M			
DCH Information		1 to <maxnoofDCHs>		
DCH ID	M			
RLC mode	M			
CCTrCH ID	M			UL CCTrCH in which the DCH is mapped
CCTrCH ID	M			DL CCTrCH in which the DCH is mapped
DCH Combination Ind	O			

Transport Format Set	M			For UL
Transport Format Set	M			For DL
Frame Handling Priority	O			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
DSCH Information		0 to <MaxnoofDSCHs>		
DSCH ID	M			
CCTrCH ID	M			DL CCTrCH in which the DSCH is mapped
Transport Format Set	M			For DSCH
Frame handling Priority	M			
ToAWS	M			
ToAWE	M			
USCH Information		0 to <MaxnoofUSCHs>		
USCH ID	M			
CCTrCH ID	M			UL CCTrCH in which the USCH is mapped
Transport Format Set	M			For USCH
RL Information		1		
RL ID	M			
C-ID	M			
Frame TDD Physical Channel Offset	M			
Initial DL transmission Power	M		DL Power	
Maximum DL power	M		DL Power	
Minimum DL power	M		DL Power	

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCHs for one UE.
maxnoOfDPCH	Maximum number of DPCH in one CCTrCH
maxnoCCTrCH	no. of CCTrCH for one UE.
MaxnoofDSCHs	Maximum number of DSCH for one UE
MaxnoofUSCHs	Maximum number of USCH for one UE

9.1.36 RADIO LINK SETUP RESPONSE

9.1.36.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Node B Communication Context ID	M			
Communication Control Port ID	M			
RL Information Response		1 to <maxnoofRLs>		
RL ID	M			
UL interference level	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				
DCH Information Response		0 to <maxnoofDCHs>		Only one DCH per set of coordinated DCH shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 to <Numof DSCH>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Criticality diagnostics	O			

Condition	Explanation
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCH per UE.
MaxnoofDSCHs	Maximum no. of DSCHs for one UE.

9.1.36.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Node B Communication Context ID	M			
Communication Control Port ID	M			
RL Information Response		1		
RL ID	M			
UL interference level	M			
DCH Information Response		1 to <maxnoofDCH>		Only one DCH per set of coordinated DCH shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH Information Response		0 .. <Maxnoof USCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCH per UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUSCHs	Maximum number of USCHs for one UE

9.1.37 RADIO LINK SETUP FAILURE

9.1.37.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Node B Communication Context ID	M			
Communication Control Port ID	O			
Unsuccessful RL Information Response		1 to <maxnoofRLs>		
RL ID	M			
Cause	M			
Successful RL Information Response		0 to <maxnoofRLs–1>		
RL ID	M			
UL interference level	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				
DCH Information Response		0 to <maxnoofDCHs>		Only one DCH per set of coordinated DCH shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 to <Numof DSCH>		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Criticality diagnostics	O			

Condition	Explanation
Success	This IE is present if at least one of the radio links has been successfully set up.
NotFirstRL	This IE is present only if the RL is not the first one in the RL Information.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of set DCH per UE.
MaxnoofDSCHs	Maximum number of DSCH for one UE

9.1.37.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Unsuccessful RL Information Response		1		
RL ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.38 RADIO LINK ADDITION REQUEST

9.1.38.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
RL Information		*1..<maxnoofRL-1>*		
RL ID	M			
C-Id	M			
Frame Offset	M			
Chip Offset	M			
Diversity Control Field	M			
DL Code Information		1..*maxnoofDLCodes*		
DL Scrambling code	M			
FDD DL channelisation code number	M			
Initial DL transmission power	O		DL Power	
Maximum DL power	O		DL Power	
Minimum DL power	O		DL Power	
SSDT Cell Identity	O			

Range bound	Explanation
MaxnoofRL	Maximum number of RLs for one UE
MaxnoofDLCodes	Maximum number of DL code information

9.1.38.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL CCTrCH Information		0 to <maxno CCTrCH>		
CCTrCH ID	M			
UL DPCH Information		0 to <maxnoOfDPCH>		
DPCH ID	M			
TDD Channelisation Code	M			
Burst Type	M			
Midamble Shift	M			
Time Slot	M			
TDD Physilca Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
TFCI Presence	M			
DL CCTrCH Information		0 to <maxno CCTrCH>		
CCTrCH ID	M			
DL DPCH information		0 to <maxnoOfDPCH>		
DPCH ID	M			
TDD Channelisation Code	M			
Burst Type	M			
Midamble Shift	M			
Time Slot	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
TFCI Presence	M			
RL Information		1		
RL ID	M			
C-Id	M			
Frame Offset	M			
Diversity Control Field	M			
Initial DL Power	O		DL Power	
Maximum DL power	O		DL Power	
Minimum DL power	O		DL Power	

Range bound	Explanation
MaxnoOfDPCH	Maximum number of DPCH in one CCTrCH
MaxnoCCTrCH	no. of CCTrCH for one UE.

9.1.39 RADIO LINK ADDITION RESPONSE

9.1.39.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			

CRNC Communication Context ID	M			
Transaction ID	M			
RL Information Response		1..*<maxnoofRL-1>*		
RL ID	M			
UL interference level	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL
Non combining				
DCH Information Response		1..*<maxnoofDCHs>*		
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT support indicator	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs per UE
MaxnoofRL	Maximum number of RLs for one UE

9.1.39.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
RL Information response		1		
RL ID	M			
UL interference level	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				In TDD it indicates whether the old Transport Bearer shall be reused or not
RL ID	M			Reference RL
Non combining				
DCH Information Response		0..*<maxnoofDCHs>*		
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH Information Response		0 .. <MaxnoofDSCHs		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH Information Response		0 .. <MaxnoofUSCHs		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs per UE
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUDCHs	Maximum number of USCHs for one UE

9.1.40 RADIO LINK ADDITION FAILURE

9.1.40.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Unsuccessful RL Information Response		1..*<maxnoofRL-1>*		
RL ID	M			
Cause	M			
Succcessful RL Information Response		1..*<maxnoofRL-2>*		
RL ID	M			
UL interference level	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL
Non combining				
DCH Information Response		1..*<maxnoofDCHs>*		
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT support indicator	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs per UE
MaxnoofRL	Maximum number of RLs for one UE

9.1.40.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Unsuccessful RL Information Response		1		
RL ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.41 RADIO LINK RECONFIGURATION PREPARE

9.1.41.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		*0..1*		
UL Scrambling code	O			
Min UL Channelistion Code Length	O			
Max Number of UL DPDCHs	C – CodeLen			
Puncture Limit	O			For UL
TFCS	O			
UL DPCCH Slot Format	O			
SSDT Cell Identity Length	O			
S-Field Length	O			
DL DPCH Information		*0..1*		
TFCS	O			
DL DPCH Slot Format	O			
TFCI Signalling Mode	O			
TFCI presence	C-Slot Format			
DTX Insertion Point	O			
DCHs to Modify		*0..<maxnoof DCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoof DCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoof DCHs>*		
DCH ID	M			
DSCH to modify		*0..1*		
Transport Format Set	O			For the DL.
RL ID	O			
Frame Handling Priority	O			

ToAWS	O			
ToAWE	O			
DSCH to add		*0..1*		
Transport Format Set	M			For the DL.
RL ID	M			
Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		*0..1*		
RL ID	M			
RL Information		*0..<maxnoof RLs>*		
RL ID	M			
DL Code Information		*0..<maxnoof DLCodes<*		
DL Scrambling Code	O			
FDD DL Channelisation Code Number	O			
Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	
SSDT Indication	O			
SSDT Cell Identity	C - SSDTIndON			

Condition	Explanation
SSDTIndON	The IE may be present if the SSDT Indication is set to 'SSDT Active in the UE'.
CodeLen	This IE is present only if "Min UL Channelisation Code length" equals to 4.
SlotFormat	This IE is only present if the DL DPCH slot format is equal to any of the value 12 to 16.

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofDLCodes	Maximum number of Downlink Channelisation Codes.

9.1.41.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL CCTrCH Information		*0..* <maxnoof CCTrCHs>		
CCTrCH ID	M			
TFCS	O			
TFCI Coding	O			
Puncture Limit	O			
UL DPCH Information		*0..* <maxnoof DPCHs>		
DPCH ID	M			
TDD Channelisation Code	O			
Burst Type	O			
Midamble Shift	O			
Time Slot	O			
TDD Physilca channel Offset	O			
Repetition Period	O			
Repetition Length	O			
TFCI Presence	O			
DL CCTrCH Information		*0..* <maxnoof CCTrCHs		
CCTrCH ID	M			
TFCS	O			
TFCI Coding	O			
PunctureLimit				
DL DPCH Information		*0..* <maxnoof DPCHs>		
DPCH ID	M			
TDD Channelisation Code	O			
Burst Type	O			
Midamble Shift	O			
Time Slot	O			
TDD Physical Channel Offset	O			
Repetition Period	O			
Repetition Length	O			
TFCI Presence	O			
DCHs to Modify		*0..<maxnoof DCHs>*		
DCH ID	M			
CCTrCH ID	O			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	O			DL CCTrCH in which the DCH is mapped
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			

DCHs to Add		*0..<maxnoof DCHs>*		
DCH ID	M			
RLC Mode	M			
CCTrCH ID	M			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	M			DL CCTrCH in which the DCH is mapped
DCH Combination Ind	O			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoof DCHs>*		
DCH ID	M			
DSCH Information to modify		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
CCTrCH ID	O			DL CCTrCH in which the DSCH is mapped
Transport Format Set	O			
Frame handling Priority	O			
ToAWS	O			
ToAWE	O			
DSCH Information to add		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
CCTrCH ID	M			DL CCTrCH in which the DSCH is mapped
Transport Format Set	M			
Frame handling Priority	O			
ToAWS	M			
ToAWE	M			
DSCH Information to delete		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
USCH Information to modify		0 .. <Maxnoof USCHs>		
USCH ID	M			
Transport Format Set	O			
CCTrCH ID	O			UL CCTrCH in which the USCH is mapped
USCH Information to add		0 .. <Maxnoof USCHs>		
USCH ID	M			
CCTrCH ID	M			UL CCTrCH in which the USCH is mapped

Transport Format Set	M			
USCH Information to delete		0 .. <Maxnoof USCHs>		
USCH ID	M			
RL Information		*0..1*		
RL ID	M			
Maximum Downlink Power	O		DL Power	
Minimum Downlink Power	O		DL Power	

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
Maxnoof DPCHs	Maximum number of DPCHs in one CCTrCH.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUSCHs	Maximum number of USCHs for one UE

9.1.42 RADIO LINK RECONFIGURATION READY

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
RL Information Response		*0..<maxnoof RLs>*		Only one RL information response group for one group of combined RLs shall be present
RL ID	M			
DCH to be Added		*0..<maxnoof DCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoof DCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH to be Setup		*0..<Maxnoof DSCHs>*		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH to be Modified		*0..<Maxnoof DSCHs.*		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH to be setup		0 .. <Maxnoof USCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH to be modified		0 .. <Maxnoof USCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUSCHs	Maximum number of USCHs for one UE

9.1.43 RADIO LINK RECONFIGURATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Cause	M			
RLs Causing Reconfiguration Failure		*0..<maxnoof RLs>*		
RL ID	M			
Cause	M			
Criticality diagnostics	O			

Range Bound	Explanation
MaxnoofRLs	Maximum number of RLs for a UE.

9.1.44 RADIO LINK RECONFIGURATION COMMIT

IE/Group Name	**Presence**	**Range**	**IE Type and Reference**	**Semantic Description**
Message Discriminator	M			
Message type	M			
Node B Communication Context ID	M			
Transaction ID	M			
CFN	M			

9.1.45 RADIO LINK RECONFIGURATION CANCEL

IE/Group Name	**Presence**	**Range**	**IE Type and Reference**	**Semantic Description**
Message Discriminator	M			
Message type	M			
Node B Communication Context ID	M			
Transaction ID	M			

9.1.46 RADIO LINK RECONFIGURATION REQUEST

9.1.46.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL DPCH Information		*0..1*		
TFCS	O			For the UL.
DL DPCH Information		*0..1*		
TFCS	O			For the DL.
TFCI Signalling Mode	O			
DCHs to Modify		*0..<maxnoof DCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoof DCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoof DCHs>*		
DCH ID	M			
DSCH to Modify		*0..1*		
Transport Format Set	O			For the DL.
RL ID	O			
Frame Handling Priority	O			
ToAWS	O			
ToAWE	O			
DSCH to Add		*0..1*		
Transport Format Set	M			For the DL.
RL ID	M			
Frame Handling Priority	M			
ToAWS	M			
ToAWE	M			
DSCH to Delete		*0..1*		
RL ID	M			
Radio Link Information		*0..<maxnoof RLs>*		
RL ID	M			

Maximum DL Power	O		DL Power	
Minimum DL Power	O		DL Power	

Range Bound	**Explanation**
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.

9.1.46.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
UL CCTrCH Information		*0..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	O			
Puncture Limit	O			
DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	O			
Puncture Limit	O			
DCHs to Modify		*0..<maxnoof DCHs>*		
DCH ID	M			
CCTrCH ID	O			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	O			DL CCTrCH in which the DCH is mapped
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoof DCHs>*		
DCH ID	M			
RLC Mode	M			
CCTrCH ID	M			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	M			DL CCTrCH in which the DCH is mapped
DCH Combination Ind	O			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoof DCHs>*		
DCH ID	M			
DSCH Information to modify		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
CCTrCH ID	O			DL CCTrCH in which the

				DSCH is mapped
Transport Format Set	O			
Frame handling Priority	O			
ToAWS	O			
ToAWE	O			
D**SCH Information to add**		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
CCTrCH ID	M			DL CCTrCH in which the DSCH is mapped
Transport Format Set	M			
Frame handling Priority	O			
ToAWS	M			
ToAWE	M			
DSCH Information to delete		0 .. <Maxnoof DSCHs>		
DSCH ID	M			
USCH Information to modify		0 .. <Maxnoof USCHs>		
USCH ID	M			
CCTrCH ID	O			UL CCTrCH in which the USCH is mapped
Transport Format Set	O			
USCH Information to add		0 .. <Maxnoof USCHs>		
USCH ID	M			
CCTrCH ID	M			UL CCTrCH in which the USCH is mapped
Transport Format Set	M			
USCH Information to delete		0 .. <Maxnoof USCHs>		
USCH ID	M			
RL Information		*0..1*		
RL ID	M			
Maximum Downlink Power	O		DL Power	
Minimum Downlink Power	O		DL Power	

Range bound	**Explanation**
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoofUSCHs	Maximum number of USCHs for one UE

9.1.47 RADIO LINK RECONFIGURATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantic Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
RL Information Response		*0..<maxnoofRLs>*		Only one RL information response group for one group of combined RLs shall be present
RL ID	M			
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH to be Setup		*0..<MaxnoofDSCHs>*		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DSCH to be Modified		*0..<MaxnoofDSCHs>*		
DSCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH to be setup		0 .. <MaxnoofUSCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
USCH to be modified		0 .. <MaxnoofUSCHs>		
USCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofDSCHs	Maximum number of DSCHs for one UE
MaxnoodUSCHs	Maximum number of USCHs for one UE

9.1.48 RADIO LINK DELETION REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
RL Information		*1..<maxnoofRLs>*		
RL ID	M			

Range bound	Explanation
MaxnoofRLs	Maximum number of radio links for one UE

9.1.49 RADIO LINK DELETION RESPONSE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context ID	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.50 DL POWER CONTROL REQUEST (FDD only)

IE/Group Name	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
Node B Communication Context ID	M			
Transaction ID	M			
CHOICE *procedure scope*				
"ALL RL's"				
DL Reference Power	M		DL power	
"Individual RL's				
DL Reference Power Information		1..<maxnoofRLs>		
RL ID	M			
DL Reference Power	M		DL power	

Range Bound	**Explanation**
MaxnoofRLs	Maximum number of Radio Links for a UE

9.1.51 DEDICATED MEASUREMENT INITIATION REQUEST

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			
Dedicated Measurement Object Type	M			
CHOICE *Dedicated Measurement Object Type*				
"RL"				
RL Information		1..<maxnoofRLs>		
RL-id	M			
DPCH ID	O			
Dedicated Measurement Type	M			
Measurement Characteristics	M			
Report Characteristics	M			

Range	Explanation
MaxnoofRLs	Maximum number of individual RL's a measurement can be started on.

9.1.52 DEDICATED MEASUREMENT INITIATION RESPONSE

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			
CHOICE *Dedicated Measurement Object Type*				Dedicated Measurement Object Type the measurement was initiated with
"RL"				
RL Information		1..<maxnoofRLs>		
RL-id	M			
DPCH ID	O			
Dedicated Measurement Value	M			
"ALLRL"				
Dedicated Measurement Value	M			
CFN	O			Dedicated Measurement Time Reference
Criticality diagnostics	O			

Range	Explanation
MaxnoofRLs	Maximum number of individual RL's the measurement can be started on.

9.1.53 DEDICATED MEASUREMENT INITIATION FAILURE

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			
Criticality diagnostics	O			

9.1.54 DEDICATED MEASUREMENT REPORT

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			
CHOICE *Dedicated Measurement Object Type*				Dedicated Measurement Object Type the measurement was initiated with
"RL"				
RL Information		1..<maxnoofRLs>		
RL-id	M			
DPCH ID	O			
Dedicated Measurement Value	M			
"ALLRL"				
Dedicated Measurement Value	M			
CFN	O			Dedicated Measurement Time Reference

Range	Explanation
MaxnoofRLs	Maximum number of individual RL's the measurement can be started on.

9.1.55 DEDICATED MEASUREMENT TERMINATION REQUEST

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
Node B Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			

9.1.56 DEDICATED MEASUREMENT FAILURE INDICATION

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Discriminator	M			
Message Type	M			
CRNC Communication Context Id	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			

9.1.57 RADIO LINK FAILURE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
CRNC Communication Context ID	M			
Radio Link Information		1 to *<MaxnoofRLs>*		
RL ID	M			
Cause	M			

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.

9.1.58 RADIO LINK RESTORE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
Transaction ID	M			
CRNC Communication Context ID	M			
Radio Link Information		*1 to <MaxnoofRLs>*		
RL ID	M			

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.

9.1.59 COMPRESSED MODE PREPARE (FDD only)

IE/Group Name	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Message Discriminator	M			
Message Type	M			
NodeB communication context ID	M			
Transaction ID	M			
TGP1	M		Gap Period	Refer to 25.215
TGP2	O		Gap Period	Refer to 25.215
TGL	M			
TGD	M			
PD	M			
UL/DL compressed mode selection	M			
Compressed mode method	M			
Gap Position Mode	M			
SN	C-Flex		TimeSlot	
Downlink Frame Type	M			
Scrambling Code Change	C-SF/2			
Power Control Mode	M			
Power Resume Mode	M			
UL delta Eb/No	M			

UL delta Eb/No after	M			

Condition	Explanation
Flex	This IE is present only if "Gap position Mode" equals to 'flexible'.
SF/2	This IE is present only if Compressed Mode Method equals toSF/2

9.1.60 COMPRESSED MODE READY (FDD only)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC communication context ID	M			
Transaction ID	M			
Criticality diagnostics	O			

9.1.61 COMPRESSED MODE COMMIT (FDD only)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
NodeB communication context ID	M			
Transaction ID	M			
CFN	M			

9.1.62 COMPRESSED MODE FAILURE (FDD only)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
CRNC communication context ID	M			
Transaction ID	M			
Cause	M			
Criticality diagnostics	O			

9.1.63 COMPRESSED MODE CANCEL (FDD only)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator	M			
Message Type	M			
NodeB communication context ID	M			
Transaction ID	M			

9.1.64 ERROR INDICATION

Information Element	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Message Discriminator	M			
Transaction Id	M			
Cause	C_ifalone			
CRNC Communication Context Id	C_ifUL			
Node B Communication Context Id	C_ifDL			
Criticality diagnostics	C_ifalone			

Condition	**Explanation**
C_ifDL	This IE is only present when message is transmitted by RNC
C_ifUL	This IE is onlypresent when message is transmitted by node B
C_ifalone	At least either of Cause IE or Criticality Diagnostics IE shall be present.

9.2 Information Element Functional Definition and Contents

9.2.1 Common parameters

9.2.1.1 Add/Delete Indicator

The add/delete indicator shall notify the RNC whether the associated resource has been added to or removed from the Node B.

Information Element/Group Name	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Add/Delete Indicator			ENUMERATED(Add, Delete)	

9.2.1.2 Availability Status

The availability status is used to indicate more detailed information of the availability of the resource. In accordance with [6], following values are defined. If the value of this attribute is an empty set, this implies that none of the status conditions described in [6] are present.

Information Element/Group Name	**Presence**	**Range**	**IE type and reference**	**Semantics description**
Availability Status			ENUMERATED (empty, in test, failed, power off, off line, off duty, dependency, degraded, not installed, log full, …)	

9.2.1.3 BCCH Modification Time

Indicates the time after which the new system information shall be applied on BCCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
BCCH Modification Time			Integer (0, 2, 4, …,4095)	All even SFN values are allowed The tabular description is a direct copy from TS 25.331 CR 078

9.2.1.4 Binding ID

The Binding ID is the identifier of a user data stream. It is allocated at Node B and it is unique for each transport bearer under establishment to/from the Node B. The length of this parameter is variable.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Binding ID			Octetstring (1..4,…)	

9.2.1.5 Blocking Priority Indicator

The Blocking priority indicator shall indicate the immediacy with which a resource should be blocked from use. The following priority classes shall be supported in the Blocking priority indicator.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Blocking Priority Indicator			ENUMERATED(High, Normal, Low)	High priority: Block resource immediately. Normal priority: Block resource when idle or upon timer expiry. Low priority: Block resource when idle.

9.2.1.6 Cause

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Cause group	M		Enumerated (Radio Network Layer, Transport Layer, Protocol, Misc)	
CHOICE *Cause group*				
Radio Network Layer				
Radio Network Layer Cause	M		Enumerated (unknown C-ID, Cell not available, Power level not supported, UL scrambling code already in use, DL radio resources not available, UL radio resources not available, RL Already Activated/allocated Node B Resources Unavailable Insufficient physical channel resources Measurement not supported for the object, Macrodiversity combining not possible, Reconfiguration not allowed, Requested configuration not supported Synchronization failure, Unspecified)	
Transport Layer				
Transport Layer Cause	M		Enumerated (Transport link failure, Transmission port not available, Transport resource unavailable Unspecified)	
Protocol				
Protocol Cause			Enumerated (Transaction not allowed, Transfer syntax error, Abstract syntax error (reject), Abstract syntax error (ignore and notify), Message not compatible with receiver state Semantic error Unspecified)	
Misc				
Miscellaneous Cause	M		Enumerated (Control processing overload Hardware failure, O&M intervention, Not enough user plane processing resources,	

			Unspecified)	

9.2.1.7 CFN

Connection Frame Number for the radio connection, see ref. [25.402].

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
CFN			Integer (0..255)	

9.2.1.8 C-ID

The C-ID (Cell identifier) is the identifier of a cell in one RNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
C-ID			INTEGER (0…65535)	

9.2.1.9 Common Measurement Object Type

The Common Measurement Object type indicates the type of object that the measurement is to be performed on.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Object Type			ENUMERATED (CELL, RACH,…)	

9.2.1.10 Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Measurement Type			ENUMERATED (RSSI, Transmitted Carrier Power, Acknowledged RA tries, Timeslot ISCP,…)	

9.2.1.11 Common Measurement Value

The Common Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transmitted Carrier Power Value	O		Enumerated (-35 .. 15), step 0.1 dB	
RSSI Value	O		Enumerated (-30..-100) step 0.1	
Acknowledged RA tries Value	O		TBD	The number of L1 acknowledged random access tries per transmission time interval on the PCCPCH.
Timeslot ISCP (TDD only)	O		TBD	

<Editors Note: Some adjustment of the ranges for these measurements might be needed as they await a decision on range for this measurement in TSG RAN WG1>

9.2.1.12 Common Physical Channel Id

Common Physical Channel Id is the unique identifier for one common physical channel within a cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Common Physical Channel ID			Integer(0..255)	

9.2.1.13 Common Transport Channel Id

Common Transport Channel Id is the unique identifier for one common transport channel within a cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Common Transport Channel ID			Integer(0..255)	

9.2.1.14 Communication Control Port ID

A Communication Control Port corresponds to one signalling bearer between the RNC and Node B for the control of Node B Communication Contexts. Node B may have multiple Communication Control Ports (one per Traffic Termination Point). The Communication Control Port is selected at creation of the Node B Communication Context. The Communication Control Port ID is the identifier of the Communication Control Port.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Communication Control Port ID			INTEGER (0..65535)	

9.2.1.15 Configuration Generation ID

The Configuration Generation ID describes the generation of the configuration of logical resources in a cell

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Configuration Generation ID			Integer(0.. 255)	Value '0' means "No configuration". At possible wraparound of the ID counter in CRNC the value '0' shall not be used.

9.2.1.16 Criticality diagnostics

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Criticality Diagnostics				
Procedure Code	O		INTEGER (0..255)	Procedure code is to be used if Criticality diagnostics is part of Error Indication procedure, and not within the response message of the same operation that caused the error
Triggering Message	O		ENUMERATED(initiating message, successful outcome, unsuccessful outcome, outcome)	The Triggering Message is used only if the Criticality diagnostics is part of Error Indication except when the procedure code is not understood.
Criticality Response	O		ENUMERATED(reject, ignore, notify)	This Criticality response IE is used for reporting the Criticality of the Triggering message
Transaction Id	O		INTEGER (0..255)	
Information Element Criticality Diagnostics		1 to <maxnoof errors>		
Criticality Response	M		ENUMERATED(reject, ignore, notify)	The Criticality response IE is used for reporting the criticality of the triggering IE. The value 'ignore' shall never be used.
IE Id	M		INTEGER (0..65535)	The IE Id of the not understood IE

Range bound	Explanation
maxnooferrors	Maximum no. of IE errors allowed to be reported with a single message. The value for maxnooferrors is 256.

9.2.1.17 CRNC Communication Context ID

The CRNC Communication Context ID is the identifier of the Communication Context in the CRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CRNC Communication Context ID			INTEGER (0..2^20 –1)	

9.2.1.18 DCH Combination Indicator

The DCH Combination Indicator is used to indicate the multiplexing of more than one DCH on transport bearer. The value should be unique for each group of coordinated DCH's per request message.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DCH Combination Ind			INTEGER (0..255)	

9.2.1.19 DCH ID

The DCH ID is the identifier of an active dedicated transport channel. It is unique for each active DCH among the active DCHs simultaneously allocated for the same UE.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DCH ID			INTEGER (0..255)	

9.2.1.20 DL Power

The DL Power IE indicates a power level relative to the [FDD-primary CPICH power] [TDD-primary CCPCH power] configured in a cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
DL Power			Enumerated (-35..+15dB)	Step 0.1dB

9.2.1.21 Dedicated Measurement Object Type

The Dedicated Measurement Object type indicates the type of object that the measurement is to be performed on.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Object Type			ENUMERATED (RL,ALLRL, …)	

9.2.1.22 Dedicated Measurement Type

The Dedicated Measurement Type identifies the type of measurement that shall be performed.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Type			ENUMERATED (SIR, SIR Error, Transmitted Code Power, RSCP,…)	RSCP is used by TDD only.

Note. For definitions of the measurement types refer to 25.215 and 25.225.

9.2.1.23 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated measurement Value				
SIR value	O		Enumerated (-10 .. 20), step 0.1 dB	
SIR error Value	O		Enumerated (-10 .. 10), step 0.1 dB	If SIRerror<=-10, SIR error Value shall be set to –10 If SIRerror=>10, SIR error Value shall be set to 10
Transmitted Code Power Value	O		Enumerated (-35 .. 15), step 0.1 dB	Relative to CPICH
RSCP	O		TBD	TDD only.

<Editors Note: Some adjustment of the ranges for these measurements might be needed as they await a decision on range for this measurement in TSG RAN WG1>

9.2.1.24 DSCH ID

The DSCH ID uniquely identifies a DSCH within a Node B Communication Context.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
DSCH ID			INTEGER (0..255)	

9.2.1.25 DSCH Transport Format Set

This parameter defines the transport format set for DSCH.

Note: the parameter need to be defined. It may correspond to the DL TFS defined for DCH

9.2.1.26 DSCH Transport Format Combination Set

This parameter defines the transport format combination set for DSCH.

Note: to be defined. Each DSCH TFCI also indicates the code to be used

Note: the parameter need to be defined. It may correspond to the DL TFS defined for DCH

9.2.1.27 Frame Handling Priority

This parameter indicates the priority level to be used during the lifetime of the DCH/DSCH for temporary restriction of the allocated resources due overload reason

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Frame Handling Priority			INTEGER (0..15)	0=lower priority, 15=higher priority

9.2.1.28 Frame Offset

Frame Offset is the required offset between the dedicated channel downlink transmission frames (CFN, Connection Frame Number) and the broadcast channel frame offset (Cell Frame Number). The Frame_offset is used in the translation between Connection Frame Number (CFN) on Iub/Iur and least significant 8 bits of SFN (System Frame Number) on Uu. The Frame Offset is UE and cell specific.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Frame Offset			INTEGER (0..255)	Frames

9.2.1.29 IB_SG

Segment which is part of an Information Block.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
IB SG			Bit String	Contents defined in ref:25.331.

9.2.1.30 IB_SG_POS

First position of an Information Block segment in the SFN cycle (IB_SG_POS < IB_SG_REP)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
IB SG POS			INTEGER ($0..2^{12}$-1)	

9.2.1.31 IB_SG_REP

Repetition distance for an Information Block segment. The segment shall be transmitted when SFN mod IB_SG_REP = IB_SG_POS.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
IB SG REP			INTEGER (16, 32, 64, 128, 256, 512, 1024,2048)	Repetition period for the IB segment in frames

9.2.1.32 IB Type

The IB type identifies a specific system information block.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
IB Type			Enumerated (MIB, SIB1, SIB2, … SIB12, …)	Complete R99 SIB range still TBD.

9.2.1.33 Indication Type

The indication type shall indicate the category of a failure with respect to its impact on the logical resources supported at Node B.

Information Element / Group Name	Presence	Range	IE type and reference	Semantics description
Indication Type			ENUMERATED (No Failure, Service Impacting, Cell Control,…)	Service Impacting – The failure has impacted on the logical resources supported at Node B. Cell Control – The failure has impacted on the ability for the cell parameters to be administered or O&M functions performed.

9.2.1.34 Local Cell ID

The local cell ID represents resources in Node B that can be used for the configuration of a cell.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Local Cell ID			INTEGER(0 …268435455)	

9.2.1.35 Maximum DL Power Capability

This parameter indicates the maximum DL power capability for a local cell within Node B.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Maximum DL Power Capability			ENUMERATED(0…50)	dBm, granularity 1 dBm

9.2.1.36 Max Transmission Power

Max Transmission Power is maximum power for all downlink channels added together, that is allowed to be used simultaneously in a cell.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum transmission Power			ENUMERATED(0, 1,2 ..50)	Unit dBm Granularity 1 dB

9.2.1.37 Measurement ID

The Measurement Id uniquely identifies any measurement per (Node B- or communication) control port.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement ID			Integer(0 .. 2^20-1)	

9.2.1.38 Measurement Characteristics

The Measurement Characteristics indicates how the measurement shall be performed.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Characteristics				
Measurement Frequency	M		TBD	
Averaging Duration	M		TBD	

Editors Note: The exact definition and structure is this information element awaits decisions in TSG RAN WG2.

9.2.1.39 Report Characteristics

The report characteristics, defines how the reporting shall be performed.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Report characteristics				
Report characteritics type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F)	
Periodic Report Information	C – Periodic			
Report Periodicity	M		ENUMERATED (10ms…1min) step 10ms, (1min…1hr) step 1min	The frequency with which the Node B shall send measurement reports. First working assumption!
Event A	C – Event A			
Measurement Threshold	M		TBD	The threshold for which the Node B shall trigger a measurement report.
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	
Event B	C – Event B			
Measurement Threshold	M		TBD	The threshold for which the Node B shall trigger a measurement report.
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	
Event C	C – Event C			
Measurement Increase Threshold	M		TBD	
Measurement Change Time	M		ENUMERATED (10ms…1min) step 10ms,…	The time the measurement entity shall rise on (in ms), in order to trigger a measurement report.
Event D	C – Event D			
Measurement Decrease Threshold	M		TBD	
Measurement Change Time	M		ENUMERATED (10ms…1min) step 10ms,…	The time the measurement entity shall fall (in ms), in order to trigger a measurement report.
Event E	C – Event			

	E			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	The hysteresis time in ms
Report Periodicity	O		ENUMERATED (10ms…1min) step 10ms, (1min…1hr) step 1min	The frequency with which the Node B shall send measurement reports.
Event F	C – Event F			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	The hysteresis time in ms
Report Periodicity	O		ENUMERATED (10ms…1min) step 10ms, (1min…1hr) step 1min	The frequency with which the Node B shall send measurement reports.

Editors note: Encoding of threshold TBD.

Condition	**Explanation**
C-Periodic	Valid if *Report Characteristics Type* IE indicates “periodic”
C-Event A	Valid if *Report Characteristics Type* IE indicates “Event A”
C-Event B	Valid if *Report Characteristics Type* IE indicates “Event B”
C-Event C	Valid if *Report Characteristics Type* IE indicates “Event C”
C-Event D	Valid if *Report Characteristics Type* IE indicates “Event D”
C-Event E	Valid if *Report Characteristics Type* IE indicates “Event E”
C-Event F	Valid if *Report Characteristics Type* IE indicates “Event F”

9.2.1.40 Message discriminator

This field is used to discriminate between Dedicated NBAP and Common NBAP messages.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Discriminator			ENUMERATED(Common,Dedicated)	

9.2.1.41 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type			ENUMERATED (COMMON TRANSPORT CHANNEL SETUP REQUEST, COMMON TRANSPORT CHANNEL SETUP RESPONSE, COMMON TRANSPORT CHANNEL SETUP FAILURE, COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST, COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE, COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE, COMMON TRANSPORT CAHNNEL DELETION REQUEST, COMMON TRASNPORT CHANNEL DELETION RESPONSE, BLOCK RESOURCE REQUEST, BLOCK RESOURCE RESPONSE, BLOCK RESOURCE FAILURE, UNBLOCK RESOURCE INDICATION, AUDIT REQUIRED INDICATOIN AUDIT REQUEST AUDIT RESPONSE COMMON MEASUREMENT INITIATION REQUEST, COMMON MEASUREMENT INITIATION RESPONSE, COMMON MEASUREMENT INITIATION FAILURE, COMMON MEASUREMENT REPORT, COMMON MEASUREMENT TERMINATION REQUEST, COMMON MEASUREMENT TERMINAITON FAILURE INDICATION, CELL SETUP REQUEST, CELL SETUP RESPONSE, CELL SETUP FAILURE, CELL RECONFIGURATION REQUEST, CELL RECONFIGURATION RESPONSE, CELL RECONFIGURATION FAILURE, CELL DELETION REQUEST, CELL DELETION RESPONSE, RESOURCE STATUS INDICATION, SYSTEM INFORMATION UPDATE REQUEST, SYSTEM INFORMATION UPDATE RESPONSE, SYSTEM INFORMATION UPDATE FAILURE, RL SETUP REQUEST, RL SETUP RESPONSE, RL SETUP FAILURE, RL ADDITION REQUEST, RL ADDITION RESPONSE, RL ADDITION FAILURE, RL RECONFIGURATION PREPARE, RL RECONFIGURATION READY, RL RECONFIGURATION FAILURE, RL RECONFIGURATION COMMIT, RL RECONFIGURATION CANCEL, RL RECONFIGURATION REQUEST, RL RECONFIGURATION RESPONSE, RL DELETION REQUEST, RL DELETION RESPONSE, DL POWER CONTROL REQUEST, DEDICATED MEASUREMENT INITIATION REQUEST, DEDICATED MEASUREMENT INITIATION RESPONSE, DEDICATED MEASUREMENT INITIATION FAILURE, DEDICATED MEASUREMENT REPORT, DEDICATED MEASUREMENT TERMINATION REQUEST,	Future extensions shall be possible

			DEDICATED MEASUREMENT TERMINAITON FAILURE INDICATION, RL FAILURE INDICATION, RL RESTORE INDICATION, COMPRESSED MODE PREPARE, COMPRESSED MODE READY, COMPRESSED MODE COMMIT, COMPRESSED MODE FAILURE, COMPRESSED MODE CANCEL ERROR INDICATION, …)	

9.2.1.42 Minimum Spreading Factor

This parameter indicates the minimum spreading factor supported at a cell within the Node B.

Information Element / Group Name	Presence	Range	IE type and reference	Semantics description
Minimum Spreading Factor			Enumerated (4, 16, 32, 64, 128, 256, 512)	

9.2.1.43 Node B Communication Context ID

The Node B Communication Context ID is the identifier of the Communication Context in the Node B, it corresponds to the dedicated resources which are necessary for an UE using one or more dedicated channels in a given Node B.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Node B Communication Context ID			INTEGER (0..2^20-1)	2^20-1 is reserved value to indicate all the existing and future Node B communication contexts that can be reached by the communication control port.

9.2.1.44 Payload CRC presence

This parameter indicates whether FP payload 16 bit CRC is used or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Payload CRC Presence Indicator			ENUMERATED (CRC Included, CRC not included)	

9.2.1.45 Puncture limit

The Puncture limit limits the amount of puncturing that can be applied in order to minimise the number of dedicated physical channels.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL puncture limit			INTEGER (0..100)	%

9.2.1.46 Resource Operational State

The resource operational state is used to indicate the current operational state of the associated resource following a Node B failure.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Resource Operational State			ENUMERATED(Enabled, Disabled)	When a resource is marked as disabled, then its child resources are implicitly disabled. Cell Resource hierarchy can be referred to [6].

9.2.1.47 RLC Mode

This parameter defines the RLC mode of the logical channels multiplexed on the transport channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RLC mode			ENUMERATED(Acknowledged Mode, Unacknowledged Mode, Transparent Mode)	

9.2.1.48 RL ID

The RL ID is the unique identifier for one RL associated with a UE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RL ID			INTEGER (0..31)	

9.2.1.49 Segment Type

Indicates the type of segment of the SIB.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Segment Type			Enumerated (First, Subsequent, Last, Complete)	

9.2.1.50 SIB Deletion Indicator

Indicates if the SIB shall be deleted or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SIB Deletion Indicator			Enumerated (NoDeletion, Deletion)	

9.2.1.51 SIB Originator

Indicates if the Node B shall fill in the SIB information or not..

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SIB Originator			Enumerated (NodeB, CRNC)	

9.2.1.52 Shutdown Timer

The shutdown timer shall indicate the length of time available to the CRNC to perform the block of a resource when a Normal priority block is requested.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Shutdown Timer			*INTEGER(1..3600)*	Value in seconds

9.2.1.53 TFCI Presence

The TFCI Presence parameter indicates whether the TFCI shall be included.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI presence			ENUMERATED (Present, not present)	

9.2.1.54 TFCS (Transport Format Combination Set)

The Transport Format Combination Set is defined as a set of Transport Format Combinations on a Coded Composite Transport Channel. It is the allowed Transport Format Combinations of the corresponding Transport Channels. The DL Transport Format Combination Set is applicable for DL Transport Channels.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCS		1 to <maxnoofTFCs>		The first instance of the parameter corresponds to TFC zero, the second to 1 and so on.
CTFC	M		INTEGER(0..MaxCTFC-1)	Integer number calculated according to TS 25.331

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations (1024).
MaxCTFC	Maximum number of the CTFC value is calculated according to the following: $\sum_{i=1}^{I}(L_i - 1)P_i$ with the notation according to TS 25.331

9.2.1.55 TFS (Transport Format Set)

The Transport Format Set is defined as the set of Transport Formats associated to a Transport Channel, e.g. DCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DL Transport Format Set				
Dynamic Transport Format Information		1 to <maxTFcount>		
Number of Transport blocks	M		INTEGER (0..4095)	
Transport Block Size	C – Blocks		INTEGER (1..5000)	Bits
CHOICE mode				
TDD				
Transmission time interval	C-TTIdynamic	1 to <maxTTIcount>	Enumerated(10, 20, 40, 80)	
Semi-static Transport Format Information				
Transmission time interval	C-TTIsemistatic		ENUMERATED (10, 20, 40, 80)	msec
Type of channel coding	M		ENUMERATED (No coding, Convolutional, Turbo)	
Coding Rate	C – Coding		ENUMERATED (1/2, 1/3)	
Rate matching attribute	M		INTEGER (1..maxRM)	
CRC size	M		ENUMERATED (0, 8, 12, 16, 24)	
CHOICE mode				
TDD				
2nd interleaving mode	M		Enumerated(Frame related, Timeslot related)	

Condition	Explanation
Blocks	This IE is only present if “Number of Transport Blocks” is greater than 0.
Coding	This IE is only present if IE “Type of channel coding” is “Convolutional” or “Turbo”
TTIdynamic	This IE is mandatory if not defined as semistatic parameter. Otherwise it is absent.
TTIsemistatic	This IE is mandatory if not defined as dynamic parameter. Otherwise it is absent.

Range bound	Explanation
MaxTFcount	Maximum number of different transport formats that can be included in the Transport format set for one transport channel is 32.
MaxRM	Maximum number that could be set as rate matching attribute for a transport channel.
maxTTIcount	The amount of different TTI that are possible for that transport format is 4.

9.2.1.56 ToAWE

TOAWE is the window endpoint. DL data frames are expected to be received before this window endpoint. TOAWE is defined with a positive value relative Latest Time of Arrival (LTOA). A data frame arriving after TOAWS gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ToAWE			INTEGER (0..2559)	msec.

9.2.1.57 ToAWS

TOAWS is the window startpoint. DL data frames are expected to be received after this window startpoint. TOAWS is defined with a positive value relative Time of Arrival Window Endpoint (TOAWE). A data frame arriving before TOAWS gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ToAWS			INTEGER (0..1279)	msec.

9.2.1.58 Transaction ID

The Transaction ID is used to associate all the messages belonging to the same pending procedure of the same NBAP procedure type (e.g. Radio Link Addition), i.e. the Request-, Response-, Confirm-type of messages have the same Transaction ID. The messages belonging to different pending procedures have different Transaction IDs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transaction ID			INTEGER (0..255)	Since the scope is not clear, the range of this parameter is to be considered a working assumption

9.2.1.59 Transport Layer Address

Transport Layer Address defines the transport address of the NodeB. For details on the Transport Address used see [2].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transport Layer Address			Bit string(1… 160, …)	

9.2.1.60 UARFCN

Designate the central frequency of the channel number

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
UARFCN			INTEGER(0.. 698,…)	corresponds to 1885.2MHz..2024.8MHz (25.101, section 5.4 and 25.105)

[Editor's Note: in RRC they have additional attributes such as the "raster" included in the IE]

9.2.1.61 UL FP mode

This parameter defines if normal or silent mode of the Frame Protocol shall be used for the UL.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL FP mode			ENUMERATED(Normal, Silent)	

9.2.1.62 UL interference level

The UL interference level indicates the UL interference at a certain cell under CRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL interference level			ENUMERATED(-128.0dBm..-60.0dBm)	Resolution is 0.1 dBm.

9.2.2 FDD specific parameters

9.2.2.1 AICH Transmission Timing

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
AICH Transmission Timing			ENUMERATED (0, 1)	According to 25.331 chapter 10.2.6.17.

9.2.2.2 Chip Offset

The Chip Offset is defined as the radio timing offset inside a radio frame. The Chip offset is used as offset for the DL DPCH relative to the Primary CPICH timing.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Chip Offset			INTEGER (0..38399)	Chips

9.2.2.3 Compressed mode method

Defines the method for generating the downlink compressed mode gap, as described in 25.212.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Compressed Mode Method			ENUMERATED (None, Puncturing, SF/2, gating)	None = restore the normal mode

9.2.2.4 D-Field Length

Defines the D Field size of the UL DPCCH slot.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
D Field Length			ENUMERATED (1, 2)	

9.2.2.5 Diversity Control Field

The Diversity Control Field indicates if the current RL may, must or must not be combined with the already existing RLs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Control Field			ENUMERATED(May, Must, Must not)	

9.2.2.6 Diversity Indication

The Diversity Indication indicates if the RL has been or has not been combined with another RL.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Indication			ENUMERATED (Combined, not combined)	

9.2.2.7 Diversity mode

Define the diversity mode to be applied.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Mode			ENUMERATED(None, STTD, Closed loop mode 1, Closed loop mode2)	

9.2.2.8 DL DPCH Slot Format

Indicates the slot format used in DPCH in DL, accordingly to 25.211

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DL DPCH slot format			INTEGER (0..16)	

9.2.2.9 DL frame type

This parameter defines if frame structure type 'A' or 'B' shall be used in downlink compressed mode. This is defined in TS 25.212

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Downlink Frame Type			ENUMERATED (TypeA, TypeB)	

9.2.2.10 DL Scrambling Code

DL scrambling code to be used by the RL. One cell may have multiple DL scrambling codes available.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DL Scrambling Code			INTEGER (0..15)	0= Primary scrambling code of the cell 1…15= Secondary scrambling code

9.2.2.11 Multiplexing Position

Multiplexing Position specifies whether fixed or flexible positions of transport channels shall be used in the physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Multiplexing Position			ENUMERATED(Fixed, Flexible)	

9.2.2.12 FDD DL Channelisation Code Number

The DL Channelisation Code Number indicates the DL Channelisation Code number for a specific DL physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FDD DL ChannalisationCode Number			INTEGER(0.. 255)	The maximum value is equal to the DL spreading factor –1

9.2.2.13 FDD S-CCPCH Offset

The Secondary CCPCH offset is defined as the time offset towards the Primary CCPCH in the cell. The offset is a multiple of 256 chips.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
FDD S-CCPCH Offset			INTEGER(0.. 149)	0: 0 chip 1: 256 chip 2: 512 chip .. 149: 38144 chip [TS 25.211]

9.2.2.14 Gap Period

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Period			INTEGER(0.. 255)	Frames

9.2.2.15 Gap Position Mode

The gap position can be fixed or adjustable, as defined in TS 25.212

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Position Mode			ENUMERATED (Fixed, Flexible)	

9.2.2.16 Maximum Number of UL DPDCHs

This parameter is an UE Radio Access Capability parameter which is needed in rate matching

algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Max Number of UL DPDCHs			INTEGER (1..6)	

9.2.2.17 Minimum UL Channelisation Code Length

Minimum UL channelisation code length (spreading factor) of a DPDCH which is supported by UE. Needed by rate matching algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Min UL Channelisation Code length			ENUMERATED(4,8,16, 32,64,128, 256)	

9.2.2.18 Pattern Duration (PD)

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PD			INTEGER(0.. 2047, ...)	Frames

9.2.2.19 PICH Mode

The number of paging indicators (PIs) in a PICH frame.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
PICH Mode			Enumerated (18, 36, 72, 144)	Number of PI per frame

9.2.2.20 Pilot Bits Used Indicator

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Pilot Bits Used Indicator			ENUMERATED(Pilot Bits Used, Pilot Bits not Used)	

9.2.2.21 Power Control Mode

Power Control Mode specifies the uplink power mode applied during recovery period after each transmission gap in compressed mode. PCM can take 2 values (0 or 1). The different power control modes are described in TS 25.214

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Control Mode			ENUMERATED (0, 1,..)	

9.2.2.22 Power Offset

This IE defines a power offset respect the Downlink transmission power of a DPCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Offset			INTEGER (0…24)	Step 0.25 dB, range 0-6 dB

9.2.2.23 Power Resume Mode

Power Resume Mode selects the uplink power control method to calculate the initial transmit power after the gap. PRM can take two values (0 or 1) and is described in TS 25.214

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Resume Mode			ENUMERATED (0, 1,..)	Described in TS 25.214

9.2.2.24 Preamble Signature

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Preamble Signatures			BIT STRING (16)	Bit 0=P0 Bit 1=P1 .. Bit 15=P15 [25.213]

9.2.2.25 Primary Scrambling code

The Primary scrambling code to be used in the cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Primary Scrambling Code			Integer (0 .. 511)	

9.2.2.26 Primary CPICH Power

Primary CPICH power is the power that shall be used for transmitting the P-CPICH in a cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Primary CPICH power			Enumerated (-15, .., 40)	Unit dBm Granularity 0.1 dB

9.2.2.27 Propagation Delay

Propagation delay is the one-way propagation delay of the radio signal from the MS to the Node B.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Propagation Delay			INTEGER (0..255)	Chips. Step size is 3 chips. 0=0 chips, 1=3 chips, …

9.2.2.28 RACH Slot Format

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
RACH Slot Format			ENUMERATED(0..3)	See 25.211.

9.2.2.29 RACH sub Channel numbers

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
RACH Sub Channel Numbers			BIT STRING (15)	Bit 0=Sub Channel Number 0 Bit 1=Sub Channel Number 1 … Bit 14=Sub Channel Number 14

9.2.2.30 Scrambling code change

This parameter indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Scrambling Code Change			ENUMERATED (Change, No change)	

9.2.2.31 Scrambling Code Word Number

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Scrambling Code Word Number			INTEGER (0..255)	

9.2.2.32 Secondary CCPCH Slot Format

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Secondary CCPCH Slot Format			INTEGER(0..8)	

9.2.2.33 S-Field Length

The UE uses the S Field of the UL DPCCH slot to send the SSDT Cell ID to the network.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
S Field Length			ENUMERATED (1, 2)	

9.2.2.34 SSDT Cell Identity

The SSDT Cell ID is a temporary ID for SSDT assigned to a cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Cell Identity			ENUMERATED (a, b.., h)	

9.2.2.35 SSDT Cell ID Length

The SSDT Cell ID Length parameter shows the length of the SSDT Cell ID.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Cell ID Length			ENUMERATED(Short, Medium, Long)	

9.2.2.36 SSDT Support Indicator

The SSDT Support Indicator indicates whether a RL supports SSDT or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Support Indicator			ENUMERATED (SSDT Supported, SSDT not supported).	

9.2.2.37 SSDT Indication

The SSDT Indication indicates whether SSDT is in use by the UE or not.

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
SSDT Indication			ENUMERATED(SSDT Active in the UE, SSDT not Active in the UE)	

9.2.2.38 STTD Indicator

Indicates if STTD shall be active or not.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
STTD Indicator			ENUMERATED(active, inactive)	

9.2.2.39 T_Cell

Timing delay used for defining start of SCH, CPICH and the DL scrambling code(s) in a cell relative BFN. Resolution 256 chips.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
T Cell			Enumerated (0 , 1, ..,9)	0: 0 chip 1: 256 chip .. 9: 2304 chip [TS 25.402]

9.2.2.40 TFCI signalling mode

This parameter indicates if the normal or split mode is used for the TFCI.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI signalling mode			ENUMERATED (Normal, Split)	

9.2.2.41 TGD

Transmission Gap Distance is the duration of transmission between two consecutive transmission

gaps within a transmission gap period, expressed in number of frames. In case there is only one transmission gap in the transmission gap period, this parameter shall be set to zero.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TGD			INTEGER(0..255)	Frames

9.2.2.42 TGL

Transmission Gap Length is the duration of no transmission, expressed in number of slots

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TGL			INTEGER (3,4,7,10,14)	Slot

9.2.2.43 TPC DL step size

This parameter indicates step size for the DL power adjustment.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TPC Downlink step size			ENUMERATED (0.5, 1)	

9.2.2.44 Transmit Diversity Indicator

Indicates if transmit diversity shall be active or not for primary and secondary CPICH.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Transmit Diversity Indicator			ENUMERATED(active, inactive)	

9.2.2.45 TSTD Indicator

Indicates if TSTD shall be active or not.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
TSTD Indicator			ENUMERATED(active, inactive)	

9.2.2.46 UL/DL compressed mode selection:

This parameter specifies whether compressed mode is used in UL only, DL only or both UL and DL

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL/DL compressed mode selection			ENUMERATED (in UL only, DL only or both UL and DL)	

9.2.2.47 UL delta Eb/No

The delta in uplink Eb/No that shall be added to the Eb/No target used during compressed mode

frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta Eb/No			Enumerated (-6..+10dB)	Step 0.1 dB.

9.2.2.48 UL delta Eb/No after

The delta in uplink Eb/No target that shall be added to the Eb/No target used one frame after the compressed mode frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta Eb/No after			Enumerated (-6..+10dB)	Step 0.1 dB.

9.2.2.49 UL DPCCH Slot Format

Indicates the slot format used in DPCCH in UL, accordingly to 25.211

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL DPCCH slot format			INTEGER (0..5)	

9.2.2.50 UL Eb/No

The UL Eb/No indicates a received UL Eb/No.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL Eb/No			INTEGER (0..255)	Resolution is 0.1 dB, range 0-25.5 dB.

9.2.2.51 UL Scrambling Code

The UL Scrambling Code is the scrambling code used by UE. Every UE has its specific UL Scrambling Code.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL scrambling code				
UL scrambling code number	M		INTEGER (0.. 2^{24}-1)	
UL scrambling code length	M		ENUMERATED(Short, Long)	

9.2.3 TDD specific Parameters

9.2.3.1 Burst Type

The Burst Type as described in TS25.221.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Burst Type			ENUMERATED (Type1, Type2)	

9.2.3.2 CCTrCH ID

The CCTrCH ID identifies unambiguously a CCTrCH inside a Radio Link.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CCTrCH ID			INTEGER (0..15)	

9.2.3.3 Cell Parameter ID

The Cell Parameter ID identifies unambiguously the Code Groups, Scrambling Codes, Midambles and Toffset (see table 9 of TS25.223)

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Cell Parameter ID			INTEGER (0..127)	

9.2.3.4 DPCH ID

The DPCH ID identifies unambiguously a DPCH inside a Radio Link.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DPCH ID	M		INTEGER (0..239)	

9.2.3.5 Max PRACH Midamble shift

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Max PRACH Midamble Shifts			ENUMERATED (4, 8)	

9.2.3.6 Midamble shift

Different bursts transmitted simultaneously, using the same midamble code shall use different Midamble Shifts.

The 256 chip midamble supports 3 different time shifts, the 512 chips midamble may support 8 or even 16 time shifts.

The range of this parameter is 0 .. 15 for long midamble and 0 .. 2 for short midamble.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Midamble Shift			INTEGER (0..15)	

9.2.3.7 Paging Indicator Length

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Paging Indicator Length			INTEGER (2|4|8)	number of symbols in the page indicator / see TS25.221

9.2.3.8 PCCPCH Power

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
PCCPCH Power			INTEGER(-15..+40dBm)	Unit 0.1dBm

9.2.3.9 PRACH Midamble

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
PRACH Midamble			ENUMERATED (Inverted, Direct)	

9.2.3.10 PSCH Time Slot

The PSCH Time Slot is only applicable if the value of Sync Case IE is Case 2 or 3.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PSCH Time Slot			INTEGER(0..6)	

9.2.3.11 PSCH Power

PSCH power is the power that should be used for transmitting the Physical Synch Channel in a cell. Primary sequence (Primary SCH) and secondary sequences (Secondary SCH) are superimposed for transmission.

Relation of TX power between Primary and Secondary is fixed, thus only one value is to be configured.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
PSCH Power			Integer (0..511)	

9.2.3.12 Repetition Length

The Repetition Length represents the number of consecutive Radio Frames inside a Repetition Period in which the same Time Slot is assigned to the same Physical Channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Repetition Length			INTEGER(1..63)	

9.2.3.13 Repetition Period

The Repetition Period represents the number of consecutive Radio Frames after which the same assignment scheme of Time Slots to a Physical Channel is repeated. This means that if the Time Slot *K* is assigned to a physical channel in the Radio Frame *J*, it is assigned to the same physical channel also in all the Radio Frames *J+n*Repetition Period* (where *n* is an integer).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Repetition Period			ENUMERATED(1,2,4,8,16,32,64)	

9.2.3.14 Sync case

The PSCH and PCCPCH are mapped on one or two downlink slots per frame. There are three cases of PSCH and PCCPCH allocation as follows:

Case 1) PSCH and PCCPCH allocated in a single TS#k

Case 2) PSCH in two TS and PCCPCH in the same two TS: TS#k and TS#k+8

Case 3) PSCH in two TS, TS#k and TS#k+8, and the PCCPCH in TS#i, pointed by PSCH.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Sync Case			Integer (1..3)	

9.2.3.15 Synchronisation method

This parameter indicates which synchronisation method shall be applied.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Synchronisation Method			ENUMERATED (ExternalReference, LockedToMasterCell, One Time Synchronisation)	

9.2.3.16 TDD Channelisation Code

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code, that can have a spreading factor of 1, 2, 4, 8 or 16.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Channelisation Code			ENUMERATED ((1/1), (2/1), (2/2), (4/1),…(4/4), (8/1), (8/8), (16/1)… (16/16))	

9.2.3.17 TDD Chip Offset

The Chip Offset Adjustment represent the timing adjustment to be applied to achieve frame synchronisation.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Chip Offset			IINTEGER (-19200.. +19199)	Chip

9.2.3.18 TDD Physical Channel Offset

The Offset represents the phase information for the allocation of a physical channel. (SFN mod Repetition Period = Offset).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Physical Channel Offset			INTEGER (0..63)	

9.2.3.19 TDD S-CCPCH Offset

The Secondary CCPCH offset is defined as the time offset towards the Primary CCPCH in the cell.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
TDD S-CCPCH Offset			INTEGER(0.. 63)	

9.2.3.20 TFCI Coding

The TFCI Coding describes the way how the TFCI bits are coded. By default 1 TFCI bit is coded with 4 bits, 2 TFCI bits are coded with 8 bits, 3-5 TFCI bits are coded with 16 bits and 6-10 TFCI bits are coded with 32 bits.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI Coding			Enumerated (4, 8, 16, 32)	

9.2.3.21 Time Slot

The Time Slot represents the minimum time interval inside a Radio Frame that can be assigned to a Physical Channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Time Slot			INTEGER (0..14)	

9.2.3.22 Time Slot Direction

This parameter indicates whether the TS in the cell is used in Uplink or Downlink direction..

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Time Slot Direction			Enumerated (UL, DL)	

9.2.3.23 Time Slot Status

This parameter indicates whether the TS in the cell is active or not.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Time Slot Status			Enumerated (active, notActive)	

9.2.3.24 Transmission Diversity Applied

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Transmission Diversity Applied			Boolean	

9.2.3.25 USCH ID

The USCH ID uniquely identifies a USCH within a Node B Communication Context.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
USCH ID			INTEGER (0..255)	

9.3 Message and Information element abstract syntax (with ASN.1)

This chapter is for the time being only **INFORMATIVE**.
In case of misalignment with the tabular format of the messages in chapter 9.1 the ASN.1 needs to be aligned with the tabular format.
The setting of the criticality field and the level on which criticality is set for the IEs and sequences of IEs is still to be decided upon.

9.3.1 Usage of protocol extension mechanism for non-standard use

The protocol extension mechanism for non-standard use may be used

- *For special operator- (and/or vendor) specific features considered not to be part of the basic functionality, i.e. the functionality required for a complete and high-quality specification in order to guarantee multi-vendor inter-operability.*
- *By vendors for research purposes, e.g. to implement and evaluate new algorithms/features before such features are proposed for standardisation*

The extension mechanism shall not be used for basic functionality. Such functionality shall be standardised

.

9.3.2 PDU Description for NBAP

```
-- **************************************************************
--
-- Elementary Procedure definitions
--
-- **************************************************************

NBAP-ELEMENTARY-PROCEDUREiptions -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    Criticality,
    ProcedureID,
    MessageDiscriminator,
    TransactionID
FROM NBAP-CommonDataTypes

    CommonTransportChannelSetupRequestFDD,
```

CommonTransportChannelSetupRequestTDD,
CommonTransportChannelSetupResponse,
CommonTransportChannelSetupFailure,
CommonTransportChannelReconfigurationRequestFDD,
CommonTransportChannelReconfigurationRequestTDD,
CommonTransportChannelReconfigurationResponse,
CommonTransportChannelReconfigurationFailure,
CommonTransportChannelDeletionRequest,
CommonTransportChannelDeletionResponse,
BlockResourceRequest,
BlockResourceResponse,
BlockResourceFailure,
UnblockResourceIndication,
AuditRequiredIndication,
AuditRequest,
AuditResponse,
CommonMeasurementInitiationRequest,
CommonMeasurementInitiationResponse,
CommonMeasurementInitiationFailure,
CommonMeasurementTerminationRequest,
CommonMeasurementFailureIndication,
CommonMeasurementReport,
CellSetupRequestFDD,
CellSetupRequestTDD,
CellSetupResponse,
CellSetupFailure,
CellReconfigurationRequestFDD,
CellReconfigurationRequestTDD,
CellReconfigurationResponse,
CellReconfigurationFailure,
CellDeletionRequest,
CellDeletionResponse,
ResourceStatusIndication,
SystemInformationUpdateRequest,
SystemInformationUpdateResponse,
SystemInformationUpdateFailure,
RadioLinkSetupRequestFDD,
RadioLinkSetupResponseFDD,
RadioLinkSetupFailureFDD,
RadioLinkSetupRequestTDD,
RadioLinkSetupResponseTDD,
RadioLinkSetupFailureTDD,
NeighbourCellMeasurementRequestTDD,
NeighbourCellMeasurementResponseTDD,
NeighbourCellMeasurementFailureTDD,
SynchronisationAdjustmentRequestTDD,
SynchronisationAdjustmentResponseTDD,
SynchronisationAdjustmentFailureTDD,
NodeBOutOfSyncIndicationTDD,
SynchronisationRestartRequestTDD,
RadioLinkAdditionRequestFDD,
RadioLinkAdditionResponseFDD,
RadioLinkAdditionFailureFDD,
RadioLinkAdditionRequestTDD,
RadioLinkAdditionResponseTDD,
RadioLinkAdditionFailureTDD,

```
    RadioLinkReconfigurationPrepareFDD,
    RadioLinkReconfigurationPrepareTDD,
    RadioLinkReconfigurationReady,
    RadioLinkReconfigurationCommit,
    RadioLinkReconfigurationFailure,
    RadioLinkReconfigurationCancel,
    RadioLinkReconfigurationRequestFDD,
    RadioLinkReconfigurationRequestTDD,
    RadioLinkReconfigurationResponse,
    RadioLinkDeletionRequest,
    RadioLinkDeletionResponse,
    DLPowerControlRequestFDD,
    DedicatedMeasurementInitiationRequest,
    DedicatedMeasurementInitiationResponse,
    DedicatedMeasurementInitiationFailure,
    DedicatedMeasurementTerminationRequest,
    DedicatedMeasurementFailureIndication,
    DedicatedMeasurementReport,
    RadioLinkFailureIndication,
    RadioLinkRestoreIndication,
    CompressedModePrepareFDD,
    CompressedModeReadyFDD,
    CompressedModeCommitFDD,
    CompressedModeFailureFDD,
    CompressedModeCancelFDD,
    ErrorIndication
FROM NBAP-PDU-Contents

    id-audit,
    id-auditRequired,
    id-blockResource,
    id-cellDeletion,
    id-cellReconfiguration,
    id-cellSetup,
    id-commonMeasurementFailure,
    id-commonMeasurementInitiation,
    id-commonMeasurementReport,
    id-commonMeasurementTermination,
    id-commonTransportChannelDeletion,
    id-commonTransportChannelReconfiguration,
    id-commonTransportChannelSetup,
    id-compressedModeControlCancellation,
    id-compressedModeControlCommit,
    id-compressedModeControlPreparation,
    id-dedicatedMeasurementFailure,
    id-dedicatedMeasurementInitiation,
    id-dedicatedMeasurementReport,
    id-dedicatedMeasurementTermination,
    id-dlPowerControl,
    id-neighbourCellMeasurement,
    id-radioLinkAddition,
    id-radioLinkDeletion,
    id-radioLinkFailure,
    id-radioLinkReconfigurationCommit,
    id-radioLinkReconfirurationCancel,
    id-radioLinkRestoration,
```

```
    id-radioLinkSetup,
    id-resourceStatusIndication,
    id-synchronisationAdjustment,
    id-synchronisationFailure,
    id-synchronisationRestart,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-systemInformationUpdate,
    id-unblockResource,
    id-unsynchronisedRadioLinkReconfiguration

FROM NBAP-Constants;

-- **************************************************************
--
-- Interface Elementary Procedure Class
--
-- **************************************************************

NBAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage              ,
    &SuccessfulOutcome              OPTIONAL,
    &UnsuccessfulOutcome            OPTIONAL,
    &Outcome                OPTIONAL,
    &messageDiscriminator       MessageDiscriminator,
    &procedureID        ProcedureID   UNIQUE,
    &criticality        Criticality   DEFAULT ignore
}
WITH SYNTAX {
    INITIATING MESSAGE      &InitiatingMessage
    [SUCCESSFUL OUTCOME     &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME       &UnsuccessfulOutcome]
    [OUTCOME            &Outcome]
    MESSAGE DISCRIMINATOR       &messageDiscriminator
    PROCEDURE ID            &procedureID
    [CRITICALITY            &criticality]
}

-- **************************************************************
--
-- Interface PDU Definition
--
-- **************************************************************

NBAP-PDU ::= CHOICE {
    initiatingMessage       InitiatingMessage,
    succesfulOutcome        SuccessfulOutcome,
    unsuccesfulOutcome          UnsuccessfulOutcome,
    outcome             Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID       NBAP-ELEMENTARY-PROCEDURE.&procedureID({NBAP-ELEMENTARY-
PROCEDURES}),
    criticality       NBAP-ELEMENTARY-PROCEDURE.&criticality ({NBAP-ELEMENTARY-
PROCEDURES}{@procedureID}),
```

```
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID         TransactionID,
    value         NBAP-ELEMENTARY-PROCEDURE.&InitiatingMessage
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID       NBAP-ELEMENTARY-PROCEDURE.&procedureID({NBAP-ELEMENTARY-
PROCEDURES}),
    criticality       NBAP-ELEMENTARY-PROCEDURE.&criticality ({NBAP-ELEMENTARY-
PROCEDURES}{@procedureID}),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID         TransactionID,
    value         NBAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID       NBAP-ELEMENTARY-PROCEDURE.&procedureID({NBAP-ELEMENTARY-
PROCEDURES}),
    criticality       NBAP-ELEMENTARY-PROCEDURE.&criticality ({NBAP-ELEMENTARY-
PROCEDURES}{@procedureID}),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID         TransactionID,
    value         NBAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

Outcome ::= SEQUENCE {
    procedureID       NBAP-ELEMENTARY-PROCEDURE.&procedureID({NBAP-ELEMENTARY-
PROCEDURES}),
    criticality       NBAP-ELEMENTARY-PROCEDURE.&criticality ({NBAP-ELEMENTARY-
PROCEDURES}{@procedureID}),
    messageDiscriminator  NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator
                          ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID         TransactionID,
    value         NBAP-ELEMENTARY-PROCEDURE.&Outcome ({NBAP-ELEMENTARY-
PROCEDURES}{@procedureID})
}

-- **************************************************************
--
-- Interface Elementary Procedure List
--
-- **************************************************************

NBAP-ELEMENTARY-PROCEDURES NBAP-ELEMENTARY-PROCEDURE ::= {
    NBAP-ELEMENTARY-PROCEDURES-CLASS-1       |
    NBAP-ELEMENTARY-PROCEDURES-CLASS-2       ,
    ...
}
```

```
NBAP-ELEMENTARY-PROCEDURES-CLASS-1 NBAP-ELEMENTARY-PROCEDURE ::= {
    commonTransportChannelSetupFDD          |
    commonTransportChannelSetupTDD          |
    commonTransportChannelReconfigurationFDD      |
    commonTransportChannelReconfigurationTDD      |
    commonTransportChannelDeletion            |
    blockResource                 |
    audit                   |
    commonMeasurementInitiation           |
    cellSetupFDD                  |
    cellSetupTDD                  |
    cellReconfigurationFDD              |
    cellReconfigurationTDD              |
    cellDeletion                  |
    systemInformationUpdate             |
    radioLinkSetupFDD               |
    radioLinkSetupTDD               |
    neighbourCellMeasurementTDD           |
    synchronisationAdjustmentTDD            |
    radioLinkAdditionFDD              |
    radioLinkAdditionTDD              |
    radioLinkReconfigurationCommit          |
    radioLinkReconfigurationCancellation          |
    radioLinkDeletion               |
    dedicatedMeasurementInitiation          |
    compressedModeControlPreparationFDD       ,
    ...
}

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
    unblockResource                 |
    auditRequired                 |
    commonMeasurementTermination          |
    commonMeasurementFailure            |
    commonMeasurementReport             |
    resourceStatusIndication          |
    synchronisationFailureTDD           |
    synchronisationRestartTDD           |
    synchronisedRadioLinkReconfigurationPreparationFDD    |
    synchronisedRadioLinkReconfigurationPreparationTDD    |
    unsynchronisedRadioLinkReconfigurationFDD       |
    unsynchronisedRadioLinkReconfigurationTDD       |
    dlPowerControlFDD             |
    dedicatedMeasurementTermination           |
    dedicatedMeasurementFailure           |
    dedicatedMeasurementReport            |
    radioLinkFailure              |
    radioLinkRestoration              |
    compressedModeControlCommitFDD          |
    compressedModeControlCancellationFDD          |
    errorIndication                 ,
    ...
}

-- **************************************************************
--
```

```
-- Interface Elementary Procedures
--
-- **********************************************************

-- Class 1

-- *** CommonTransportChannelSetup (FDD) ***
commonTransportChannelSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CommonTransportChannelSetupRequestFDD
   SUCCESSFUL OUTCOME   CommonTransportChannelSetupResponse
   UNSUCCESSFUL OUTCOME  CommonTransportChannelSetupFailure
   MESSAGE DISCRIMINATOR  common
   PROCEDURE ID       { procedureCode id-commonTransportChannelSetup, ddMode fdd }
   CRITICALITY       ignore
}

-- *** CommonTransportChannelSetup (TDD) ***
commonTransportChannelSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CommonTransportChannelSetupRequestTDD
   SUCCESSFUL OUTCOME   CommonTransportChannelSetupResponse
   UNSUCCESSFUL OUTCOME  CommonTransportChannelSetupFailure
   MESSAGE DISCRIMINATOR  common
   PROCEDURE ID       { procedureCode id-commonTransportChannelSetup, ddMode tdd }
   CRITICALITY       ignore
}

-- *** CommonTransportChannelReconfiguration (FDD) ***
commonTransportChannelReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CommonTransportChannelReconfigurationRequestFDD
   SUCCESSFUL OUTCOME   CommonTransportChannelReconfigurationResponse
   UNSUCCESSFUL OUTCOME  CommonTransportChannelReconfigurationFailure
   MESSAGE DISCRIMINATOR  common
   PROCEDURE ID       { procedureCode id-commonTransportChannelReconfiguration, ddMode
fdd }
   CRITICALITY       ignore
}

-- *** CommonTransportChannelReconfiguration (TDD) ***
commonTransportChannelReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CommonTransportChannelReconfigurationRequestTDD
   SUCCESSFUL OUTCOME   CommonTransportChannelReconfigurationResponse
   UNSUCCESSFUL OUTCOME  CommonTransportChannelReconfigurationFailure
   MESSAGE DISCRIMINATOR  common
   PROCEDURE ID       { procedureCode id-commonTransportChannelReconfiguration, ddMode
tdd }
   CRITICALITY       ignore
}

-- *** CommonTransportChannelDeletionRequest ***
commonTransportChannelDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CommonTransportChannelDeletionRequest
   SUCCESSFUL OUTCOME   CommonTransportChannelDeletionResponse
   MESSAGE DISCRIMINATOR  common
   PROCEDURE ID       { procedureCode id-commonTransportChannelDeletion, ddMode common
}
   CRITICALITY       ignore
```

```
}

-- **************************************************************
-- *** BlockResourceRequest ***
blockResource NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  BlockResourceRequest
    SUCCESSFUL OUTCOME   BlockResourceResponse
    UNSUCCESSFUL OUTCOME  BlockResourceFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-blockResource, ddMode common }
    CRITICALITY       ignore
}

-- *** UnblockResourceIndication ***
unblockResource NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UnblockResourceIndication
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-unblockResource, ddMode common }
    CRITICALITY       ignore
}

-- **************************************************************
-- *** AuditRequired ***
auditRequired NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  AuditRequiredIndication
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-auditRequired, ddMode common }
    CRITICALITY       ignore
}

-- *** Audit ***
audit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  AuditRequest
    SUCCESSFUL OUTCOME   AuditResponse
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-audit, ddMode common }
    CRITICALITY       ignore
}

-- **************************************************************
-- *** CommonMeasurementInitiation ***
commonMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementInitiationRequest
    SUCCESSFUL OUTCOME   CommonMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME  CommonMeasurementInitiationFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-commonMeasurementInitiation,  ddMode common }
    CRITICALITY       ignore
}

-- *** CommonMeasurementTermination ***
commonMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementTerminationRequest
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID       { procedureCode id-commonMeasurementTermination, ddMode common
}
```

```
    CRITICALITY         ignore
}

-- *** CommonMeasurementFailure ***
commonMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementFailureIndication
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-commonMeasurementFailure, ddMode common }
    CRITICALITY         ignore
}

-- *** CommonMeasurementReport ***
commonMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementReport
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-commonMeasurementReport, ddMode common }
    CRITICALITY         ignore
}

-- **************************************************************************
-- *** CellSetup (FDD) ***
cellSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CellSetupRequestFDD
    SUCCESSFUL OUTCOME   CellSetupResponse
    UNSUCCESSFUL OUTCOME  CellSetupFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-cellSetup, ddMode fdd }
    CRITICALITY         ignore
}

-- *** CellSetup (TDD) ***
cellSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CellSetupRequestTDD
    SUCCESSFUL OUTCOME   CellSetupResponse
    UNSUCCESSFUL OUTCOME  CellSetupFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-cellSetup, ddMode tdd }
    CRITICALITY         ignore
}

-- *** CellReconfiguration(FDD) ***
cellReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CellReconfigurationRequestFDD
    SUCCESSFUL OUTCOME   CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME  CellReconfigurationFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-cellReconfiguration, ddMode fdd }
    CRITICALITY         ignore
}

-- *** CellReconfiguration(TDD) ***
cellReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CellReconfigurationRequestTDD
    SUCCESSFUL OUTCOME   CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME  CellReconfigurationFailure
    MESSAGE DISCRIMINATOR  common
```

```
    PROCEDURE ID        { procedureCode id-cellReconfiguration,   ddMode tdd }
    CRITICALITY         ignore
}

-- *** CellDeletion ***
cellDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CellDeletionRequest
    SUCCESSFUL OUTCOME  CellDeletionResponse
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-cellDeletion, ddMode common }
    CRITICALITY         ignore
}

-- **************************************************************************
-- *** ResourceStatusIndication ***
resourceStatusIndication NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  ResourceStatusIndication
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-resourceStatusIndication, ddMode common }
    CRITICALITY         ignore
}

-- **************************************************************************
-- *** SystemInformationUpdate ***
systemInformationUpdate NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  SystemInformationUpdateRequest
    SUCCESSFUL OUTCOME  SystemInformationUpdateResponse
    UNSUCCESSFUL OUTCOME  SystemInformationUpdateFailure
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-systemInformationUpdate, ddMode common }
    CRITICALITY         ignore
}

-- **************************************************************************
-- *** RadioLinkSetup (FDD) ***
radioLinkSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME  RadioLinkSetupFailureFDD
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY         ignore
}
-- *** RadioLinkSetup (TDD) ***
radioLinkSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME  RadioLinkSetupFailureTDD
    MESSAGE DISCRIMINATOR  common
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY         ignore
}

-- **************************************************************************
-- *** NeighbourCellMeasurement (TDD only) ***
neighbourCellMeasurementTDD NBAP-ELEMENTARY-PROCEDURE ::= {
```

```
    INITIATING MESSAGE   NeighbourCellMeasurementRequestTDD
    SUCCESSFUL OUTCOME   NeighbourCellMeasurementResponseTDD
    UNSUCCESSFUL OUTCOME   NeighbourCellMeasurementFailureTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID        { procedureCode id-neighbourCellMeasurement, ddMode tdd }
    CRITICALITY         ignore
}
-- **************************************************************
-- *** SynchronisationAdjustment (TDD only) ***
synchronisationAdjustmentTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   SynchronisationAdjustmentRequestTDD
    SUCCESSFUL OUTCOME   SynchronisationAdjustmentResponseTDD
    UNSUCCESSFUL OUTCOME   SynchronisationAdjustmentFailureTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID        { procedureCode id-synchronisationAdjustment, ddMode tdd }
    CRITICALITY         ignore
}

-- *** NodeBOutOfSyncIndication (TDD only) ***
synchronisationFailureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   NodeBOutOfSyncIndicationTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID        { procedureCode id-synchronisationFailure, ddMode tdd }
    CRITICALITY         ignore
}

-- *** SynchronisationRestart (TDD only) ***
synchronisationRestartTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   SynchronisationRestartRequestTDD
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID        { procedureCode id-synchronisationRestart, ddMode tdd }
    CRITICALITY         ignore
}


-- **************************************************************
-- *** RadioLinkAddition (FDD) ***
radioLinkAdditionFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME   RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME   RadioLinkAdditionFailureFDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID        { procedureCode id-radioLinkAddition, ddMode fdd }
    CRITICALITY         ignore
}

-- *** RadioLinkAddition (TDD) ***
radioLinkAdditionTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME   RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME   RadioLinkAdditionFailureTDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID        { procedureCode id-radioLinkAddition, ddMode tdd }
    CRITICALITY         ignore
}
```

```
-- *** RadioReconfiruration Prepare (FDD) ***
synchronisedRadioLinkReconfigurationPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID       { procedureCode id-synchronisedRadioLinkReconfigurationPreparation,
ddMode fdd }
    CRITICALITY       ignore
}

-- *** RadioReconfiruration Prepare (TDD) ***
synchronisedRadioLinkReconfigurationPreparationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID       { procedureCode id-synchronisedRadioLinkReconfigurationPreparation,
ddMode tdd }
    CRITICALITY       ignore
}

-- *** (FDD) ***
unsynchronisedRadioLinkReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID       { procedureCode id-unsynchronisedRadioLinkReconfiguration, ddMode
fdd }
    CRITICALITY       ignore
}
-- *** (TDD) ***
unsynchronisedRadioLinkReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponse
    UNSUCCESSFUL OUTCOME  RadioLinkReconfigurationFailure
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID       { procedureCode id-unsynchronisedRadioLinkReconfiguration, ddMode
tdd }
    CRITICALITY       ignore
}

-- *** RadioLinkReconfiruration Commit ***
radioLinkReconfigurationCommit NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCommit
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID       { procedureCode id-radioLinkReconfigurationCommit, ddMode common }
    CRITICALITY       ignore
}


-- *** RadioReconfigurationCancellation ***
radioLinkReconfigurationCancellation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCancel
    MESSAGE DISCRIMINATOR  dedicated
```

```
    PROCEDURE ID        { procedureCode id-radioLinkReconfirurationCancel, ddMode common }
    CRITICALITY         ignore
}

-- *** RadioLinkDeletion  ***
radioLinkDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkDeletionRequest
    SUCCESSFUL OUTCOME   RadioLinkDeletionResponse
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-radioLinkDeletion, ddMode common }
    CRITICALITY         ignore
}

-- ************************************************************************
-- *** DLPowerControl (FDD only) ***
dlPowerControlFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DLPowerControlRequestFDD
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-dlPowerControl, ddMode fdd }
    CRITICALITY         ignore
}

-- ************************************************************************
-- *** DedicatedMeasurementInitiation  ***
dedicatedMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME   DedicatedMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME  DedicatedMeasurementInitiationFailure
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
    CRITICALITY         ignore
}

-- *** DedicatedMeasurementTermination  ***
dedicatedMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementTerminationRequest
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementTermination, ddMode common
}
    CRITICALITY         ignore
}

-- *** DedicatedMeasurementFailure ***
dedicatedMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementFailureIndication
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementFailure, ddMode common }
    CRITICALITY         ignore
}

-- *** DedicatedMeasurementReport ***
dedicatedMeasurementReport NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementReport
    MESSAGE DISCRIMINATOR  dedicated
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementReport, ddMode common }
    CRITICALITY         ignore
```

```
}

-- **************************************************************
-- *** RadioLinkFailureIndication ***
radioLinkFailure NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  RadioLinkFailureIndication
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       { procedureCode id-radioLinkFailure, ddMode common }
   CRITICALITY       ignore
}

-- *** RadioLinkRestoreIndication ***
radioLinkRestoration NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  RadioLinkRestoreIndication
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       { procedureCode id-radioLinkRestoration, ddMode common }
   CRITICALITY       ignore
}

-- **************************************************************
-- *** CompressedModePrepare (FDD only) ***
compressedModeControlPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CompressedModePrepareFDD
   SUCCESSFUL OUTCOME   CompressedModeReadyFDD
   UNSUCCESSFUL OUTCOME  CompressedModeFailureFDD
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       { procedureCode id-compressedModeControlPreparation, ddMode fdd }
   CRITICALITY       ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCommitFDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CompressedModeCommitFDD
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       { procedureCode id-compressedModeControlCommit, ddMode fdd }
   CRITICALITY       ignore
}

-- *** CompressedModeCommit (FDD only) ***
compressedModeControlCancellationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  CompressedModeCancelFDD
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       { procedureCode id-compressedModeControlCancellation, ddMode fdd }
   CRITICALITY       ignore
}

-- *** ErrorIndication ***
errorIndication NBAP-ELEMENTARY-PROCEDURE ::= {
   INITIATING MESSAGE  errorIndication
   MESSAGE DISCRIMINATOR  dedicated
   PROCEDURE ID       {  procedureCode              id- errorIndication Cancellation, ddMode
common }
   CRITICALITY       ignore
}
```

```
END
```

9.3.3 NBAP PDU Content Definitions

```
-- **************************************************************
--
-- PDU definitions for NBAP.
--
-- **************************************************************

NBAP-PDU-Contents -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    AICH-InformationList,
    AICH-Parameters,
    AICH-Power,
    AICH-TransmissionTiming,
    AddOrDeleteIndicator,
    AvailabilityStatus,
    BindingID,
    BlockingPriorityIndicator,
    BurstType,
    CCTrCH-ID,
    CFN,
    CN-CSDomainIdentifier,
    CN-PSDomainIdentifier,
    CRNC-CommunicationContextID,
    Cause,
    CellParameter,
    Cell-Parameter,
    ChipOffset,
    CommonMeasurementType,
    CommonPhysicalChannelID,
    CommonPhysicalChannelType,
    CommonTransportChannelID,
    CommonTransportChannelType,
    CommunicationControlPortID,
    CommunicationControlPortInformationList,
    CompressesModeMethod,
    ConfigurationGenerationID,
    DCH-CombinationIndication,
    DCH-Delete-RL-ReconfReqTDDItem,
    DCH-ID,
    DCH-InformationResponse-RL-setupResFDD,
```

DCH-Modify-RL-ReconfPrepTDDItem,
DL-CCTrCH-ID,
DL-CodeInformation,
DL-DPCH-InformationItem-RL-ReconfReqFDD,
DL-DPCH-SlotFormat,
DL-FrameType,
DL-Power,
DL-ReferencePower,
DL-ReferencePowerInformationItem,
DL-ScramblingCode,
DPCH-ID,
DPCH-Offset,
DSCH-ID,
DSCH-InformationResponse-RL-setupResFDD,
DSCH-ModifyList-RL-ReconfResp,
DSCH-SetupList-RL-ReconfResp,
DSCH-TransportFormatSet,
DTX-InsertionPoint,
DTX-InsertionPosition,
D-FieldLength,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DeltaTPC,
DiversityControlField,
DiversityMode,
FACH-Power,
FDD-DL-ChannelisationCodeNumber,
FDD-SCCPCH-Offset,
FrameHandlingPriority,
FrameOffset,
GapStartingSlotNumber,
LocalCellID,
LocalCellInformationList,
LocalCell-ID,
Local-CellID,
MIB-SG-POS,
MIB-SG-REP,
MaxFACH-Power,
MaxNrOfUL-DPDCHs,
MaxNumberOfUL-DPDCHs,
MaximumDLPowerCapability,
MaximumDL-PowerCapability,
MaximumTransmissionPower,
MaximumUL-EbN0,
Maximum-DL-PowerCapability,
MeasuredCellInfo,
MeasurementCharacteristics,
MeasurementID,
MeasurementType,
MessagePartScramblingCode,
MidambleShift,
Midambleshift,
MinUL-ChannelisationCodeLength,
MinimumSpreadingFactor,
MinimumUL-EbN0,
NodeB-CommunicationContextID,

NumberOfChannelElements,
Offset,
PCCPCH-Power,
PCCPCH-TimeSloti,
PCH-Power,
PICH-Information,
PICH-Power,
PSCH-Power,
PSCHandPCCPCH-Allocation,
PSCHandPCCPCH-TimeSlotK,
PUSCH,
PagingIndicatorLength,
PatternDuration,
PayloadCRC-PresenceIndicator,
PilotBitsUsedIndicator,
PowerControlMode,
PowerOffset,
PowerResumeMode,
PreambleScramblingCode,
PreambleSignatures,
PrimaryCPICH-Power,
PrimarySCH-Power,
PrimaryScramblingCode,
Primary-ScramblingCode,
PropagationDelay,
PunctureLimit,
RACH-SlotFormat,
RACH-SubChannelNumbers,
RLC-Mode,
RL-ID,
RL-Information,
RL-InformationItem,
RL-InformationItem-RL-SetupReqTDD,
RL-InformationList-DMeasureRequest,
RL-ReconfigurationFailure-RL-ReconfFailItem,
RadioLinkInformation-RL-ReconfReqTDD,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
ResourceOperationState,
ResourceOperationalState,
SAI,
SFN,
SIB-SG-POS,
SIB-SG-REP,
SSDT-CellIdentity,
SSDT-CellIdentityLength,
SSDT-Cell-IDLength,
SSDT-Indication,
SSDT-SupportIndicator,
STTD-Indicator,
S-CCPCH-Offset,
S-CCPCH-Power,
S-FieldLength,
ScramblingCode,
ScramblingCodeChange,

```
    SecondaryCCPCH-SlotFormat,
    SecondaryCPICH-Power,
    SecondarySCH-Power,
    ShutdownTimer,
    SynchronisationMethod,
    TDDChipOffset,
    TDD-ChannelisationCode,
    TFCI-Presence,
    TFCI-SignallingMode,
    TFCS,
    TSTD-Indicator,
    T-Cell,
    TimeSlot,
    TimeSlotDirection,
    TimeSlotStatus,
    ToAWE,
    ToAWS,
    TransmissionGapDistance,
    TransmissionGapPeriod,
    TransmitGapLength,
    TransmitGapPositionMode,
    TransportFormatCombinationSet,
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    C-ID,
    UL-CCTrCHInformation,
    UL-CCTrCH-ID,
    UL-DPCCH-SlotFormat,
    UL-FP-Mode,
    UL-InterferenceLevel,
    UL-PunctureLimit,
    UL-ScramblingCode,
    UplinkEbNo
FROM NBAP-IEs

    ProtocolExtensionContainer{},
    PrivateExtensionContainer{},
    ProtocolIE-Container{},
    ProtocolIE-ContainerList{},
    NBAP-PROTOCOL-IES,
    NBAP-PROTOCOL-EXTENSION,
    NBAP-PRIVATE-EXTENSION
FROM NBAP-Containers

    id-AICH-Information-ResourceStatIndItem,
    id-AICH-ParametersList,
    id-AICH-ParametersListItem,
    id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD,
    id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD,
    id-BlockingPriorityIndicator,
    id-CCTrCH-ParametersList,
    id-CCTrCH-ParametersListItem,
    id-CFN,
    id-CRNC-CommunicationContextID,
    id-CRNCommunicationContextID,
```

id-Cause,
id-Cell-Information-ResourceStatIndItem,
id-Cell-InformationItem,
id-Cell-InformationList,
id-Cell-Parameter,
id-Cell-ParametersItem,
id-Cell-ParametersList,
id-CellParameter,
id-CommonMeasurementObjectType,
id-CommonMeasurementType,
id-CommonPhysicalChannelID,
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD,
id-CommonPhysicalChannelType-CTCHsetup-Response,
id-CommunicationControlPort-InformationItem,
id-CommunicationControlPortID,
id-CommunicationControlPortInformation-ResourceStatIndItem,
id-CommunicationControlPortInformationList,
id-CompressesModeMethod,
id-ConfigurationGenerationID,
id-DCH-Add-RL-ReconfPrepFDDItem,
id-DCH-Add-RL-ReconfPrepTDDItem,
id-DCH-Add-RL-ReconfReadyItem,
id-DCH-Add-RL-ReconfReqFDDItem,
id-DCH-Add-RL-ReconfReqTDDItem,
id-DCH-AddItem-RL-ReconfResp,
id-DCH-AddList-RL-ReconfPrepFDD,
id-DCH-AddList-RL-ReconfPrepTDD,
id-DCH-AddList-RL-ReconfReqFDD,
id-DCH-AddList-RL-ReconfReqTDD,
id-DCH-Delete-RL-ReconfPrepFDDItem,
id-DCH-Delete-RL-ReconfPrepTDDItem,
id-DCH-Delete-RL-ReconfReqFDDItem,
id-DCH-Delete-RL-ReconfReqTDDItem,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfReqFDD,
id-DCH-DeleteList-RL-ReconfReqTDD,
id-DCH-Information-RL-SetupReqFDDItem,
id-DCH-Information-RL-SetupReqTDDItem,
id-DCH-InformationList-RL-SetupReqFDD,
id-DCH-InformationList-RL-SetupReqTDD,
id-DCH-InformationResponse-RL-SetupFailFDDItem,
id-DCH-InformationResponse-RL-setupResTDDItem,
id-DCH-InformationResponseItem,
id-DCH-Modify-RL-ReconfPrepFDDItem,
id-DCH-Modify-RL-ReconfPrepTDDItem,
id-DCH-Modify-RL-ReconfReadyItem,
id-DCH-Modify-RL-ReconfReqFDDItem,
id-DCH-Modify-RL-ReconfReqTDDItem,
id-DCH-ModifyItem-RL-ReconfResp,
id-DCH-ModifyList-RL-ReconfPrepFDD,
id-DCH-ModifyList-RL-ReconfPrepTDD,
id-DCH-ModifyList-RL-ReconfReqFDD,
id-DCH-ModifyList-RL-ReconfReqTDD,
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem,
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem,

id-DL-CCTrCH-Information-RL-SetupReqTDDItem,
id-DL-CCTrCH-InformationItem,
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD,
id-DL-CCTrCH-InformationList-RL-SetupReqTDD,
id-DL-CCTrCHInformationItem,
id-DL-CCTrCHInformationList,
id-DL-CodeInformation,
id-DL-CodeInformation-RL-ReconfPrepFDDItem,
id-DL-CodeInformation-RL-SetupReqFDDItem,
id-DL-DPCH-Information-RL-ReconfPrepFDD,
id-DL-DPCH-Information-RL-ReconfPrepTDDItem,
id-DL-DPCH-Information-RL-SetupReqTDDItem,
id-DL-DPCH-InformationItem,
id-DL-DPCH-InformationItem-RL-ReconfReqFDD,
id-DL-DPCH-InformationItem-RL-SetupReqFDD,
id-DL-FrameType,
id-DL-ReferencePowerInformationItem,
id-DSCH-AddItem-RL-ReconfPrepFDD,
id-DSCH-AddItem-RL-ReconfReqFDD,
id-DSCH-DeleteItem-RL-ReconfPrepFDD,
id-DSCH-DeleteItem-RL-ReconfReqFDD,
id-DSCH-ID,
id-DSCH-Information-RL-SetupReqFDDItem,
id-DSCH-InformationList-RL-SetupReqFDD,
id-DSCH-InformationResponse-RL-SetupFailFDDItem,
id-DSCH-InformationResponse-RL-setupResFDDItem,
id-DSCH-ModifyItem-RL-ReconfPrepFDD,
id-DSCH-ModifyItem-RL-ReconfReqFDD,
id-DedicatedMeasurementObjectType,
id-DedicatedMeasurementType,
id-FACH-Information-ResourceStatIndItem,
id-FACH-InformationItem,
id-FACH-ListItem,
id-FACH-ParametersList-CTCHreconf-Req-FDD,
id-FACH-ParametersList-CTCHreconf-Req-TTD,
id-FACH-ParametersListItem-CTCHreconf-Req-FDD,
id-FACH-ParametersListItem-CTCHreconf-Req-TTD,
id-FACH-ParametersListItem-CTCHsetup-Req-FDD,
id-FACH-ParametersListItem-CTCHsetup-Response,
id-GapStartingSlotNumber,
id-IndicationType,
id-Local-Cell-Information-ResourceStatIndItem,
id-Local-CellInformation-ResourceStatIndItem,
id-LocalCell-ID,
id-LocalCell-InformationItem,
id-LocalCellInformationList,
id-MIB-SegmentInformationItem,
id-MIB-SegmentInformationList,
id-MaximumTransmissionPower,
id-MeasuredCellInfo,
id-MeasurementCharacteristics,
id-MeasurementID,
id-MeasurementType,
id-NeighbouringFDD-Cell-InformationItem,
id-NeighbouringTDD-Cell-InformationItem,

id-NodeB-CommunicationContextID,
id-PCCPCH-Information,
id-PCH-Information-ResourceStatIndItem,
id-PCH-InformationItem,
id-PCH-ListItem,
id-PCH-Parameters-CTCHreconf-Req-FDD,
id-PCH-ParametersList,
id-PCH-ParametersListItem,
id-PICH-Parameters-CTCHreconf-Req-FDD,
id-PRACH-ParametersList,
id-PRACH-ParametersListItem,
id-PSCH-Information,
id-PSCHandPCCPCH-Information,
id-PUSCH-ListItem,
id-PatternDuration,
id-PowerControlMode,
id-PowerResumeMode,
id-PrimaryCCPCH-Information,
id-PrimaryCPICH-Information,
id-PrimarySCH-Information,
id-PrimaryScramblingCode,
id-ProcedureScopeType,
id-RACH-Information-ResourceStatIndItem,
id-RACH-InformationItem,
id-RL-ID,
id-RL-Information,
id-RL-Information-DMeasureReportItem,
id-RL-Information-DMeasureRequestItem,
id-RL-Information-DMeasureResponseItem,
id-RL-Information-RL-ReconfPrepFDDItem,
id-RL-Information-RL-SetupReqFDDItem,
id-RL-InformationItem,
id-RL-InformationItem-RL-SetupReqTDD,
id-RL-InformationList,
id-RL-InformationList-RL-ReconfReqFDD,
id-RL-InformationList-RL-SetupReqFDD,
id-RL-InformationResponse-RL-setupResFDDItem,
id-RL-InformationResponseItem-RL-ReconfResp,
id-RL-InformationResponseList-RL-ReconfReady,
id-RL-InformationResponseList-RL-ReconfReadyItem,
id-RL-InformationResponseList-RL-ReconfResp,
id-RL-InformationResponseList-RL-setupResFDD,
id-RL-InformationResponseList-RL-setupResTDD,
id-RL-ReconfigurationFailure-RL-ReconfFailItem,
id-RL-ReconfigurationFailureList-RL-ReconfFail,
id-RL-ResponseInformation,
id-RL-ResponseInformationItem,
id-RL-ResponseInformationList,
id-RL-informationItem,
id-RL-informationList,
id-RadioLinkInformation-RL-ReconfPrepFDDItem,
id-RadioLinkInformation-RL-ReconfPrepTDD,
id-RadioLinkInformation-RL-ReconfReqTDD,
id-RadioLinkInformationList-RL-ReconfPrepFDD,
id-ReportCharacteristics,
id-SFN,

id-SIB-SegmentInformationItem,
id-SIB-SegmentInformationList,
id-ScramblingCodeChange,
id-Secondary-CCPCHListItem,
id-SecondaryCPICH-Information,
id-SecondarySCH-Information,
id-ShutdownTimer,
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem,
id-Successful-RL-InformationResponseItem,
id-Successful-RL-InformationResponseList,
id-Successful-RL-InformationResponseList-RL-SetupFailFDD,
id-SynchronisationMethod,
id-T-Cell,
id-TDDChipOffset,
id-TimeSlotConfigurationItem,
id-TimeSlotConfigurationList,
id-TransmissionGapDistance,
id-TransmissionGapPeriod,
id-TransmitGapLength,
id-TransmitGapPositionMode,
id-UARFCN,
id-C-ID,
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem,
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem,
id-UL-CCTrCH-Information-RL-SetupReqTDDItem,
id-UL-CCTrCH-InformationItemIE,
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD,
id-UL-CCTrCH-InformationList-RL-SetupReqTDD,
id-UL-CCTrCHInformation,
id-UL-CCTrCHInformationList,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfPrepTDDItem,
id-UL-DPCH-Information-RL-SetupReqTDDItem,
id-UL-DPCH-InformationItem-RL-ReconfReqFDD,
id-UL-DPCH-InformationItem-RL-SetupReqFDD,
id-UL-DPCH-InformationItemIE,
id-USCH-Information-ResourceStatIndItem,
id-USCH-InformationItem,
id-USCH-ListItem-CTCHsetup-Req-TDD,
id-Unsuccessful-RL-InformationResponse,
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem,
id-Unsuccessful-RL-InformationResponseItem,
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD,
id-Unsuccessful-RL-InformationResponseList,
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD,

maxAICHCell,
maxCCPinNodeB,
maxCellinNodeB,
maxFACHCell,
maxLocalCellinNodeB,
maxMIBSEG,
maxPCHCell,
maxPCHinNodeB,
maxRACHCell,

```
    maxSF,
    maxSIBSEG,
    maxUCIDinNodeB,
    maxUSCHCell,
    maxnoCCTrCHs,
    maxnoofCCTrCHs,
    maxnoofDCHs,
    maxnoofDLCodes,
    maxnoofDPCHs,
    maxnoofDSCHs,
    maxnoofFACHCell,
    maxnoofFACHs,
    maxnoofFDDNeighbours,
    maxnoofPCHs,
    maxnoofPRACHs,
    maxnoofPUSHs,
    maxnoofRL-1,
    maxnoofRL-2,
    maxnoofRLs,
    maxnoofSCCPCHs,
    maxnoofTDDNeighbours,
    maxnoofUSCHs
FROM NBAP-Constants;

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST FDD
--
-- **************************************************************

CommonTransportChannelSetupRequestFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container
{{CommonTransportChannelSetupRequestFDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer
{{CommonTransportChannelSetupRequestFDD-Extensions}}            OPTIONAL,
    ...
}

CommonTransportChannelSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID         PRESENCE mandatory    }|
    { ID id-CommonPhysicalChannelType-CTCHsetup-Req-FDD  CRITICALITY ignore   TYPE
CommonPhysicalChannelType-CTCHsetup-Req-FDD     PRESENCE mandatory
},
    ...
}

CommonTransportChannelSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


CommonPhysicalChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
    secondary-CCPCH-parameters-CTCHsetup-Req-FDD                    Secondary-CCPCH-
```

```
parameters-CTCHsetup-Req-FDD,
pRACH-parameters-CTCHsetup-Req-FDD                PRACH-parameters-CTCHsetup-
Req-FDD
}

Secondary-CCPCH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
   commonPhysicalChannelID        CommonPhysicalChannelID,
   fdd-SCCPCH-Offset        FDD-SCCPCH-Offset,
   dl-ScramblingCode        DL-ScramblingCode,
   fdd-DL-ChannelisationCodeNumber      FDD-DL-ChannelisationCodeNumber,
   tFCS             TFCS,
   secondaryCCPCH-SlotFormat      SecondaryCCPCH-SlotFormat,
   pilotBitsUsedIndicator         PilotBitsUsedIndicator,
   multiPlexingPosition           MultiPlexngPosition,
   sTTD-Indicator             STTD-Indicator,
commonTransportChannelType                CommonTransportChannelType-
CTCHsetup-Req-FDD

}

CommonTransportChannelType-CTCHsetup-Req-FDD ::= ENUMERATED {
   fACH-ParametersList      FACH-ParametersList-CTCHsetup-Req-FDD,
   pCH-Parameters       PCH-Parameters-CTCHsetup-Req-FDD,
   bothCH-Parameters    BothCH-Parameters-CTCHsetup-Req-FDD
}

BothCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
   fACH-ParametersList      FACH-ParametersList-CTCHsetup-Req-FDD,
   pCH-Parameters       PCH-Parameters-CTCHsetup-Req-FDD
}

FACH-ParametersList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
   ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHsetup-Req-FDD }}

FACH-ParametersListItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
   { ID id-FACH-ParametersListItem-CTCHsetup-Req-FDD  CRITICALITY ignore  TYPE  FACH-
ParametersListItem-CTCHsetup-Req-FDD  PRESENCE mandatory },
   ...
}

FACH-ParametersListItem-CTCHsetup-Req-FDD ::= SEQUENCE {
   commonTransportChannelID   CommonTransportChannelID,
   transportFormatSet     TransportFormatSet,
   toAWS            ToAWS,
   toAWE            ToAWE,
   maxFACH-Power            DL-Power
}

PCH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
   commonTransportChannelID   CommonTransportChannelID,
   transportFormatSet     TransportFormatSet,
   toAWS            ToAWS,
   toAWE            ToAWE,
pCH-Power           DL-Power,
   pICH-Parameters          PICH-Parameters-CTCHsetup-Req-FDD
}
```

```
PICH-Parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
    cmmonPhysicalChannelID          CommonPhysicalChannelID,
    dl-ScramblingCode           DL-ScramblingCode,
    fdd-dl-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    pICH-Power              DL-Power,
    pICH-Mode               PICH-Mode,
    sTTD-Indicator              STTD-Indicator
}

PRACH-parameters-CTCHsetup-Req-FDD ::= SEQUENCE {
    commonPhysicalChannelID         CommonPhysicalChannelID,
    tFCS                TFCS,
    preambleSignatures          PreambleSignatures,
    scramblingCodeWord          ScramblingCodeWord
allowedSlotFormatInformationList                    AllowedSlotFormatInformationList-
CTCHsetup-Req-FDD,
    rACH-SubChannelNumbers          RACH-SubChannelNumbers,
    ul-punctureLimit        PunctureLimit,
    rACH-Parameters                                 RACH-Parameters-CTCHsetup-Req-
FDD,
    aICH-Parameters                                 AICH-Parameters-CTCHsetup-Req-
FDD
}

AllowedSlotFormatInformationList-CTCHsetup-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF
    ProtocolIE-Container {{AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD}}

AllowedSlotFormatInformationItemIE-CTCHsetup-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD
    CRITICALITY ignore                  TYPE    AllowedSlotFormatInformationItem-
CTCHsetup-Req-FDD      PRESENCE    mandatory },
    ...
}

AllowedSlotFormatInformationItem-CTCHsetup-Req-FDD ::= SEQUENCE {
    rACHSlotFormat              RACH-SlotFormat
}

RACH-Parameters ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    transportFormatSet          TransportFormatSet
 }

AICH-Parameters ::= SEQUENCE {
    commonPhysicalChannelID         CommonPhysicalChannelID,
    dl-ScramblingCode           DL-ScramblingCode,
    aICH-TransmissionTiming             AICH-TransmissionTiming,
    fDD-DL-ChannelisationCodeNumber     FDD-DL-ChannelisationCodeNumber,
    aICH-Power              DL-Power,
    sTTD-Indicator              STTD-Indicator
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL SETUP REQUEST TDD
```

```
--
-- **************************************************************

CommonTransportChannelSetupRequestTDD ::= SEQUENCE {
    protocolIEs                                                    ProtocolIE-Container
{{CommonTransportChannelSetupRequestTDD-IEs}},
    protocolExtensions                                             ProtocolExtensionContainer
{{CommonTransportChannelSetupRequestTDD-Extensions}}               OPTIONAL,

    ...
}

CommonTransportChannelSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore      TYPE C-ID           PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore      TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-CommonPhysicalChannelType-CTCHsetupReqTDD   CRITICALITY      ignore
    TYPE    CommonPhysicalChannelType-CTCHsetupReqTDD    PRESENCE    mandatory
}|
{ ID id-CommontranportChannelType-CTCHsetupReqTDD   CRITICALITY      ignore
    TYPE    CommontransportChannelType-CTCHsetupReqTDD      PRESENCE    mandatory
},
    ...
}

CommonTransportChannelSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonPhysicalChannelType-CTCHsetupReqTDD ::= ENUMERATED {
    secondary-CCPCH-parameters-CTCHsetupReqTDD                     Secondary-CCPCH-
parameters-CTCHsetupReqTDD,
pRACH-parameters-CTCHsetupReqTDD                                   PRACH-parameters-
CTCHsetupReqTDD
}

Secondary-CCPCH-parameters-CTCHsetupReqTDD ::= SEQUENCE {
    cCTrCH-ID           CCtrCH-ID,
    tFCS            TFCS,
    secondaryCCPCH          SecondaryCCPCHList-CTCHsetupReqTDD,
}

SecondaryCCPCHList-CTCHsetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofSCCPCHs)) OF
    ProtocolIE-Container {{ SecondaryCCPCHList-CTCHsetupReqTDDItemIE }}

SecondaryCCPCHList-CTCHsetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-SecondaryCCPCHList-CTCHsetupReqTDDItem CRITICALITY ignore   TYPE
SecondaryCCPCHList-CTCHsetupReqTDDItem   PRESENCE    mandatory
},
    ...
}

SecondaryCCPCHList-CTCHsetupReqTDDItem ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
```

```
    timeslot        TimeSlot,
    burstType       BurstType,
    midambleShift       MidambleShift,
    tdd-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
repetitionPeriod    RepetitionPeriod,
    repetitionLength    RepetitionLength,
    s-CCPCH-Power       DL-Power,
    tSTD-Indicator      TSTD-Indicator
}

PRACH-parameters-CTCHsetupReqTDD ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    timeslot        TimeSlot,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
    burstType       BurstType,
    maxPRACH-MidambleShift      MaxPRACH-MidambleShift  OPTIONAL,
    pRACH-Midamble      PRACH-Midamble,
    commonTransportChannelType                  CommonTransportChannelType-
CTCHsetupReqTDD,
    rACH            RACH-CTCHsetupReqTDD
}

CommonTransportChannelType-CTCHsetupReqTDD ::= ENUMERATED {
    fACH-ParametersList     FACH-ParametersList-CTCHsetupReqTDD,
    pCH-Parameters      PCH-Parameters-CTCHsetupReqTDD,
    bothCH-Parameters   BothCH-Parameters-CTCHsetupReqTDD
}

BothCH-Parameters-CTCHsetupReqTDD ::= SEQUENCE {
    fACH-ParametersList     FACH-ParametersList-CTCHsetupReqFDD,
    pCH-Parameters      PCH-Parameters-CTCHsetupReqFDD
}

FACH-ParametersList-CTCHsetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
    ProtocolIE-Container {{FACH-ParametersLit-CTCHsetupReqFDD ItemIE }}

FACH-ParametersList-CTCHsetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-ParametersList-CTCHsetupReqFDDItem CRITICALITY ignore  TYPE     FACH-
ParametersList-CTCHsetupReqFDDItem    PRESENCE mandatory   },
    ...
}

FACH-ParametersList-CTCHsetupReqFDDItem ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    dl-TransportFormatSet   DL-TransportFormatSet,
    toAWS           ToAWS,
    toAWE           ToAWE
}

PCH-ParametersList-CTCHsetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofPCHs)) OF
    ProtocolIE-Container {{PCH-ParametersLit-CTCHsetupReqFDD ItemIE }}

PCH-ParametersList-CTCHsetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-ParametersList-CTCHsetupReqFDDItem  CRITICALITY ignore  TYPE     PCH-
ParametersList-CTCHsetupReqFDDItem    PRESENCE mandatory   },
    ...
```

```
}

PCH-ParametersList-CTCHsetupReqFDDItem ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    dl-TransportFormatSet    DL-TransportFormatSet,
    toAWS            ToAWS,
    toAWE            ToAWE,
    pICH-Parameters          PICH-Parameters-CTCHsetupReqTDD
}

PICH-Parameters-CTCHsetup-Req-TDD ::= SEQUENCE {
    CommonPhysicalChannelID    CommonPhysicalChannelID,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
    timeSlot            TimeSlot,
    pICH-Power          PICH-Power,
    burstType          BurstType     OPTIONAL,
    midambleshift       Midambleshift,
    tdd-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
    repetitionPeriod      RepetitionPeriod,
    repetitionLength      RepetitionLength,
    pagingIndicatorLength       PagingIndicatorLength,
    pICH-Power          DL-Power
    ...
}

RACH-CTCHsetupReqTDD ::= SEQUENCE {
    commontransportChannelID CommontransportChannelID
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL SETUP RESPONSE
--
-- **************************************************************

CommonTransportChannelSetupResponse ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonTransportChannelSetupResponse-
IEs}},
    protocolExtensions                                          ProtocolExtensionContainer
{{CommonTransportChannelSetupResponse-Extensions}}              OPTIONAL,
    ...
}

CommonTransportChannelSetupResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CommonPhysicalChannelType-CTCHsetup-Resp    CRITICALITY        ignore
    TYPE        CommonPhysicalChannelType-CTCHsetup-Resp  PRESENCE    mandatory
}|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore       TYPE CriticalityDiagnostic
    PRESENCE optional    },
    -- At least either or Cause IE or Criticality Diagnostic IE shall be present--

    ...
}

CommonTransportChannelSetupResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


CommonTransportChannelType-CTCHsetup-Resp ::= ENUMERATED {
    fACH-ParametersList      FACH-ParametersList-CTCHsetup-Resp,
    pCH-Parameters           PCH-Parameters-CTCHsetup-Resp,
    bothCH-Parameters        BothCH-Parameters-CTCHsetup-Resp
}

BothCH-Parameters-CTCHsetup-resp ::= SEQUENCE {
    fACH-ParametersList      FACH-ParametersList-CTCHsetup-Resp,
    pCH-Parameters           PCH-Parameters-CTCHsetupResp
}

FACH-ParametersList-CTCHsetup-Resp ::= SEQUENCE (SIZE (1..maxnoofFACHs)) OF
    ProtocolIE-Container {{FACH-ParametersList-CTCHsetup-RespItemIE}}

FACH-ParametersList-CTCHsetup-RespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-ParametersList-CTCHsetup-RespItem  CRITICALITY ignore  TYPE         FACH-
ParametersList-CTCHsetup-RespItem PRESENCE mandatory     },
    ...
}

FACH-ParametersList-CTCHsetup-RespItem ::= SEQUENCE {
    commonTransportChannelID       CommonTransportChannelID,
    transportLayerAddress          TransportLayerAddress,
bindingID              BindingID
}

PCH-Parameters-CTCHsetup-Resp ::= SEQUENCE {
    commonTransportChannelID       CommonTransportChannelID,
    transportLayerAddress          TransportLayerAddress,
bindingID              BindingID
}

PRACH-Parameters-CTCHsetup-Resp ::= SEQUENCE {
    commonTransportChannelID       CommonTransportChannelID,
    transportLayerAddress          TransportLayerAddress,
bindingID              BindingID
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL SETUP FAILURE
--
-- **************************************************************

CommonTransportChannelSetupFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container       {{CommonTransportChannelSetupFailure-
IEs}},
    protocolExtensions                                     ProtocolExtensionContainer
{{CommonTransportChannelSetupFailure-Extensions}}          OPTIONAL,
    ...
}

CommonTransportChannelSetupFailure-IEs NBAP-PROTOCOL-IES ::= {
```

```
    { ID id-Cause                   CRITICALITY ignore   TYPE Cause                   PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore   TYPE CriticalityDiagnostic
    PRESENCE optional
    }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore   TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CommonTransportChannelSetupFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST FDD
--
-- **************************************************************

CommonTransportChannelReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                                                 ProtocolIE-Container
{{CommonTransportChannelReconfigurationRequestFDD-IEs}},
    protocolExtensions                                          ProtocolExtensionContainer
{{CommonTransportChannelReconfigurationRequestFDD-Extensions}}      OPTIONAL,
    ...
}

CommonTransportChannelReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-FACH-ParametersList-CTCHreconf-Req-FDD    CRITICALITY ignore   TYPE     FACH-
ParametersList-CTCHreconf-Req-FDD    PRESENCE optional    }|
    { ID id-PCH-Parameters-CTCHreconf-Req-FDD    CRITICALITY ignore   TYPE          PCH-
Parameters-CTCHreconf-Req-FDD     PRESENCE optional    }|
    { ID id-PICH-Parameters-CTCHreconf-Req-FDD  CRITICALITY ignore   TYPE          PICH-
Parameters-CTCHreconf-Req-FDD     PRESENCE optional    }|
    { ID id-PRACH-ParametersList-CTCHreconf-Req-FDD       CRITICALITY ignore   TYPE
PRACH-ParametersList-CTCHreconf-Req-FDD    PRESENCE optional
}|
{ ID id-AllowedSlotFormatInformationList-CTCHreconf-Req-FDD
CRITICALITY ignor                   TYPE    AllowedSlotFormatInformationList-CTCHreconf-
Req-FDD       PRESENCE    optional
}|
    { ID id-AICH-ParametersList-CTCHreconf-Req-FDD CRITICALITY    ignore   TYPE    AICH-
ParametersList-CTCHreconf-Req-FDD    PRESENCE optional    },
    ...
}

CommonTransportChannelReconfigurationRequestFDD-Extensions          NBAP-PROTOCOL-
EXTENSION ::= {
    ...
}
```

```
FACH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
    ProtocolIE-Container {{FACH-ParametersListItemIE-CTCHreconf-Req-FDD}}

FACH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-ParametersListItem-CTCHreconf-Req-FDD        CRITICALITY    ignore
                TYPE    FACH-ParametersListItem-CTCHreconf-Req-FDD          PRESENCE
    mandatory },
    ...
}

FACH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    maxFACH-Power           DL-Power      OPTIONAL,
    toAWS               ToAWS         OPTIONAL,
    toAWE               ToAWE         OPTIONAL
}

PCH-Parameters-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    pCH-Power           DL-Power      OPTIONAL,
    toAWS               ToAWS         OPTIONAL,
    toAWE               ToAWE         OPTIONAL
}

PICH-Parameters-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    pICH-Power          DL-Power
}

PRACH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofPRACHs)) OF
    ProtocolIE-Container {{PRACH-ParametersListItemIE-CTCHreconf-Req-FDD}}

PRACH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-ParametersListItem-CTCHreconf-Req-FDD       CRITICALITY    ignore
                TYPE    PRACH-ParametersListItem-CTCHreconf-Req-FDD          PRESENCE
    optional },
    ...
}

PRACH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    preambleSignatures    PreambleSignatures,
}

AllowedSlotFormatInformationList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxSF)) OF
    ProtocolIE-Container {{ AllowedSlotFormatInformationListItemIE-CTCHreconf-Req-FDD }}

AllowedSlotFormatInformationListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD
    CRITICALITY    ignore                TYPE    AllowedSlotFormatInformationListItem-
CTCHreconf-Req-FDD    PRESENCE    mandatory },
    ...
}

AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
```

```
    slotFormat          SlotFormat
    rACH-SubChannelNumbers      RACH-SubChannelNumbers      OPTIONAL
}

AICH-ParametersList-CTCHreconf-Req-FDD ::= SEQUENCE (SIZE (1..maxnoofPRACHs)) OF
    ProtocolIE-Container {{ AICH-ParametersListItemIE-CTCHreconf-Req-FDD }}

AICH-ParametersListItemIE-CTCHreconf-Req-FDD NBAP-PROTOCOL-IES ::= {
    { ID id-AICH-ParametersListItem-CTCHreconf-Req-FDD          CRITICALITY     ignore
                TYPE    AICH-ParametersListItem-CTCHreconf-Req-FDD          PRESENCE
    mandatory },
    ...
}

AICH-ParametersListItem-CTCHreconf-Req-FDD ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    aICH-Power          DL-Power
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST TDD
--
-- **************************************************************

CommonTransportChannelReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs                                                     ProtocolIE-Container
{{CommonTransportChannelReconfigurationRequestTDD-IEs}},
    protocolExtensions                                              ProtocolExtensionContainer
{{CommonTransportChannelReconfigurationRequestTDD-Extensions}}          OPTIONAL,
    ...
}

CommonTransportChannelReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-CommonPhysicalChannelType-CTCHreconfReqTDD  CRITICALITY      ignore
    TYPE    CommonPhysicalChannelType-CTCHreconfReqTDD      PRESENCE    mandatory
}|
    { ID id-FACH-ParametersList-CTCHreconfReqTTD  CRITICALITY ignore   TYPE      FACH-
ParametersList-CTCHreconfReqTTD  PRESENCE optional    }|
    { ID id-PCH-ParametersList-CTCHreconfReqTTD CRITICALITY ignore   TYPE    PCH-
ParametersList-CTCHreconfReqTTD  PRESENCE optional    },
    ...
}

CommonTransportChannelReconfigurationRequestTDD-Extensions          NBAP-PROTOCOL-
EXTENSION ::= {
    ...
}


CommonPhysicalChannelType-CTCHreconfReqTDD ::= ENUMERATED {
    secondaryCCPCH          SecondaryCCPCH—CTCHreconfReqTDD
```

```
}

SecondaryCCPCH—CTCHreconfReqTDD::= SEQUENCE {
   cCTrCH-ID          CCTrCH-ID,
   secondaryCCPCHList      SecondaryCCPCHList—CTCHreconfReqTDD
}

SecondaryCCPCHList—CTCHreconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofSCCPCHs)) OF
   ProtocolIE-Container {{ SecondaryCCPCHList—CTCHreconfReqTDDItemIE}}

SecondaryCCPCHList—CTCHreconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-SecondaryCCPCHList—CTCHreconfReqTDDItem  CRITICALITY ignore   TYPE
SecondaryCCPCHList—CTCHreconfReqTDDItem     PRESENCE mandatory    },
   ...
}

SecondaryCCPCHList—CTCHreconfReqTDDItem ::= SEQUENCE {
   commonPhysicalChannelID          CommonPhysicalChannelID,
   pICH-Power             PICH-Power
}

FACH-ParametersList-CTCHreconfReqTTD ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
   ProtocolIE-Container {{ FACH-ParametersListItemIE-CTCHreconfReqTTD }}

FACH-ParametersListItemIE-CTCHreconfReqTTD NBAP-PROTOCOL-IES ::= {
   { ID id-FACH-ParametersListItem-CTCHreconfReqTTD  CRITICALITY ignore TYPE      FACH-
ParametersListItem-CTCHreconfReqTTD PRESENCE mandatory    },
   ...
}

FACH-ParametersListItem-CTCHreconf-Req-TTD ::= SEQUENCE {
   commonTransportChannelID    CommonTransportChannelID,
   toAWS            ToAWS        OPTIONAL,
   toAWE            ToAWE        OPTIONAL
}

PCH-ParametersList-CTCHreconfReqTTD ::= SEQUENCE (SIZE (1..maxnoofPCHs)) OF
   ProtocolIE-Container {{ PCH-ParametersListItemIE-CTCHreconfReqTTD }}

PCH-ParametersListItemIE-CTCHreconfReqTTD NBAP-PROTOCOL-IES ::= {
   { ID id-PCH-ParametersListItem-CTCHreconfReqTTD  CRITICALITY ignore   TYPE       PCH-
ParametersListItem-CTCHreconfReqTTD    PRESENCE optional    },
   ...
}

PCH-ParametersListItem-CTCHreconfReqTTD ::= SEQUENCE {
   commonTransportChannelID    CommonTransportChannelID,
   toAWS            ToAWS        OPTIONAL,
   toAWE            ToAWE        OPTIONAL
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE
--
-- **************************************************************
```

```
CommonTransportChannelReconfigurationResponse ::= SEQUENCE {
    protocolIEs                                                    ProtocolIE-Container
{{CommonTransportChannelReconfigurationResponse-IEs}},
    protocolExtensions                                             ProtocolExtensionContainer
{{CommonTransportChannelReconfigurationResponse-Extensions}}       OPTIONAL,
    ...
}

CommonTransportChannelReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
},
    ...
}

CommonTransportChannelReconfigurationResponse-Extensions  NBAP-PROTOCOL-EXTENSION
::= {
    ...
}


-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE
--
-- **************************************************************

CommonTransportChannelReconfigurationFailure ::= SEQUENCE {
    protocolIEs                                                    ProtocolIE-Container
{{CommonTransportChannelReconfigurationFailure-IEs}},
    protocolExtensions                                             ProtocolExtensionContainer
{{CommonTransportChannelReconfigurationFailure-Extensions}}        OPTIONAL,
    ...
}

CommonTransportChannelReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause               CRITICALITY ignore   TYPE Cause               PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CommonTransportChannelReconfigurationFailure-Extensions    NBAP-PROTOCOL-EXTENSION
::= {
    ...
}


-- **************************************************************
--
```

```
-- COMMON TRANSPORT CHANNEL DELETION REQUEST
--
-- **************************************************************

CommonTransportChannelDeletionRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CommonTransportChannelDeletionRequest-
IEs}},
    protocolExtensions                                   ProtocolExtensionContainer
{{CommonTransportChannelDeletionRequest-Extensions}}          OPTIONAL,

CommonTransportChannelDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
    { ID id-CommonPhysicalChannelID         CRITICALITY ignore   TYPE
CommonPhysicalChannelID         PRESENCE mandatory    }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID         PRESENCE mandatory    },
    ...
}

CommonTransportChannelDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL DELETION RESPONSE
--
-- **************************************************************

CommonTransportChannelDeletionResponse ::= SEQUENCE {
    protocolIEs                                          ProtocolIE-Container
{{CommonTransportChannelDeletionResponse-IEs}},
    protocolExtensions                                   ProtocolExtensionContainer
{{CommonTransportChannelDeletionResponse-Extensions}}          OPTIONAL,
    ...
}

CommonTransportChannelDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic         CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
},
    ...
}

CommonTransportChannelDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- BLOCK RESOURCE REQUEST
--
-- **************************************************************
```

```
BlockResourceRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{BlockResourceRequest-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{BlockResourceRequest-Extensions}}
OPTIONAL,
    ...
}

BlockResourceRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
    { ID id-BlockingPriorityIndicator       CRITICALITY ignore   TYPE BlockingPriorityIndicator
       PRESENCE mandatory    }|
    { ID id-ShutdownTimer           CRITICALITY ignore   TYPE ShutdownTimer
    PRESENCE conditional
    },
    -- The information element is present when the Blocking Priority Indicator      IE      indicates
'Normal Priority'--
    ...
}

BlockResourceRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- BLOCK RESOURCE RESPONSE
--
-- **************************************************************

BlockResourceResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{BlockResourceResponse-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{BlockResourceResponse-Extensions}}
OPTIONAL,
    ...
}

BlockResourceResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

BlockResourceResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- BLOCK RESOURCE FAILURE
--
-- **************************************************************
```

```
BlockResourceFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{BlockResourceFailure-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{BlockResourceFailure-Extensions}}
OPTIONAL,
    ...
}

BlockResourceFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause           CRITICALITY ignore      TYPE Cause              PRESENCE
mandatory     }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

BlockResourceFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- UNBLOCK RESOURCE INDICATION
--
-- **************************************************************

UnblockResourceIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{UnblockResourceIndication-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{UnblockResourceIndication-
Extensions}}            OPTIONAL,
    ...
}

UnblockResourceIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory },
    ...
}

UnblockResourceIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- AUDIT REQUIRED INDICATION
--
-- **************************************************************

AuditRequiredIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{AuditRequiredIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{AuditRequiredIndication-Extensions}}
OPTIONAL,
```

```
    ...
}

AuditRequiredIndication-IEs NBAP-PROTOCOL-IES ::= {
    ...
}

AuditRequiredIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- AUDIT REQUEST
--
-- **************************************************************

AuditRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{AuditRequest-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{AuditRequest-Extensions}}
OPTIONAL,
    ...
}

AuditRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-ParametersList-Audit-Req    CRITICALITY    ignore      TYPE                Cell-
ParametersList-Audit-Req PRESENCE    optional },
    ...
}

AuditRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


Cell-ParametersList-Audit-Req ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF
    ProtocolIE-Container {{Cell-ParametersItemIE-Audit-Req}}


Cell-ParametersItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-ParametersItem-Audit-Req       CRITICALITY ignore   TYPE   Cell-ParametersItem-
Audit-Req   PRESENCE    mandatory     },
    ...
}

Cell-ParametersItem-Audit-Req ::= SEQUENCE {
    c-ID            C-ID,
    configurationGenerationID   ConfigurationGenerationID
}

-- **************************************************************
--
-- AUDIT RESPONSE
--
```

```
-- **************************************************************

AuditResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{AuditResponse-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{AuditResponse-Extensions}}
OPTIONAL,
    ...
}

AuditResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationList-Audit-Res       CRITICALITY ignore   TYPE   Cell-InformationList-
Audit-Res      PRESENCE optional   }|
    { ID id-CommunicationControlPort-InformationList-Audit-Res          CRITICALITY    ignore
                    TYPE CommunicationControlPort-InformationList-Audit-Res
    PRESENCE    optional
}|
    { ID id-Cell-InformationList-Audit-Res    CRITICALITY ignore   TYPE      Cell-InformationList-
Audit-Res   PRESENCE optional   }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },

    ...
}

AuditResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


Cell-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxUCIDinNodeB)) OF
    ProtocolIE-Container {{Cell-InformationItemIE-Audit-Res }}

Cell-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationItem-Audit-Res      CRITICALITY ignore   TYPE Cell-InformationItem-
Audit-Res      PRESENCE    optional    },
    ...
}

Cell-InformationItem-Audit-Res ::= SEQUENCE {
    c-ID            C-ID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus      AvailabilityStatus,
    maximumDLPowerCapability    MaximumDLPowerCapability,
    -- to do
    minimumSpreadingFactor      MinimumSpreadingFactor,
    -- to do
    primary-SCH-Information      P-SCH-Information-Audit-Res   OPTIONAL,
    secondary-SCH-Information S-SCH-Information-Audit-Res   OPTIONAL,
    primary-CPICH-Information P-CPICH-Information-Audit-Res   OPTIONAL,
    secondary-CPICH-Information  S-CPICH-Information-Audit-Res   OPTIONAL,
    primary-CCPCH-Information    P-CCPCH-Information-Audit-Res  OPTIONAL,
    bCH-Information          BCH-Information-Audit-Res OPTIONAL,
    secondary-CCPCH-Information S-CCPCH-Information-Audit-Res  OPTIONAL,
    pCH-InformationList      PCH-InformationList-Audit-Res OPTIONAL,
    pICH-Information      PICH-Information-Audit-Res    OPTIONAL,
```

```
    fACH-InformationList        FACH-InformationList-Audit-Res   OPTIONAL,
    pRACH-InformationList       PRACH-InformationList-Audit-Res  OPTIONAL,
    rACH-InformationList        RACH-InformationList-Audit-Res   OPTIONAL,
    aICH-InformationList        AICH-InformationList-Audit-Res   OPTIONAL,
    sCH-InformationList         SCH-InformationList-Audit-Res    OPTIONAL,
    pSCH-InformationList        PSCH-InformationList-Audit-Res   OPTIONAL,
    communicationControlPortInformation   CommunicationControlPortInformation-Audit-Res
    OPTIONAL,
    local-CellInformation       Local-CellInformation-Audit-Res  OPTIONAL
}

P-SCH-Information-Audit-Res ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-SCH-Information-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CPICH-Information-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-CPICH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF
    ProtocolIE-Container {{S-CPICH-InformationItemIE-Audit-Res }}

S-CPICH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE        S-CPICH-
InformationItem-Audit-Res  PRESENCE   mandatory
},
    ...
}

S-CPICH-InformationItem-Audit-Res ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CCPCH-Information-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

BCH-Information-Audit-Res ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}
```

```
S-CCPCH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF
    ProtocolIE-Container {{S-CCPCH-InformationItemIE-Audit-Res }}

S-CCPCH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-S-CCPCH-InformationItem-Audit-Res    CRITICALITY ignore   TYPE    S-CCPCH-InformationItem-Audit-Res   PRESENCE   mandatory
},
    ...
}

S-CCPCH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

PCH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxPCHCell)) OF
    ProtocolIE-Container {{PCH-InformationItemIE-Audit-Res }}

PCH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-InformationItem-Audit-Res    CRITICALITY ignore   TYPE    PCH-InformationItem-Audit-Res   PRESENCE   mandatory
},
    ...
}

PCH-InformationItem-Audit-Res ::= SEQUENCE {
    commonTransportChannelID     CommonTransportChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

FACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
    ProtocolIE-Container {{FACH-InformationItemIE-Audit-Res}}

FACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-InformationItem-Audit-Res    CRITICALITY ignore   TYPE    FACH-InformationItem-Audit-Res   PRESENCE   mandatory    },
    ...
}

FACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

PRACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF
    ProtocolIE-Container {{PRACH-InformationItemIE-Audit-Res}}

PRACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-InformationItem-Audit-Res    CRITICALITY ignore   TYPE    PRACH-InformationItem-Audit-Res   PRESENCE   mandatory    },
    ...
}
```

```
PRACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus           AvailabilityStatus
}

RACH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-InformationItemIE-Audit-Res}}

RACH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE                RACH-
InformationItem-Audit-Res  PRESENCE  mandatory    },
    ...
}

RACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

AICH-InformationList-Audit-Res ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-InformationItemIE-Audit-Res}}

AICH-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-InformationItem-Audit-Res      CRITICALITY ignore  TYPE                RACH-
InformationItem-Audit-Res  PRESENCE  mandatory    },
    ...
}

AICH-InformationItem-Audit-Res ::= SEQUENCE {
    CommonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

SCH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

RACH-InformationItem-Audit-Res ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

CommunicationControlPort-InformationList-Audit-Res      ::=SEQUENCE      (SIZE
(1..maxCCPinNodeB)) OF
    ProtocolIE-Container {{CommunicationControlPort-InformationItemIE }}

CommunicationControlPort-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    {ID id-CommunicationControlPort-InformationItem-Audit-Res  CRITICALITY  ignore
                TYPE  CommunicationControlPort-InformationItem-Audit-Res  PRESENCE
```

```
    mandatory
    },
}

CommunicationControlPort-InformationItem-Audit-Res ::= SEQUENCE {
    communicationControlPortID    CommunicationControlPortID,
    resourceOperationalState ResourceOperationalState,
    availabilityStatus        AvailabilityStatus
}

LocalCell-InformationList-Audit-Res ::=SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF
    ProtocolIE-Container {{LocalCell-InformationItemIE-Audit-Res}}

LocalCell-InformationItemIE-Audit-Res NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-InformationItem-Audit-Res    CRITICALITY ignore   TYPE            LocalCell-
InformationItem-Audit-Res   PRESENCE mandatory    },
    ...
}

LocalCell-InformationItem-Audit-Res ::= SEQUENCE {
    localCellID           LocalCellID,
    numberOfChannelElements        NumberOfChannelElements    OPTIONAL,
    maximumDLPowerCapability       MaximumDLPowerCapability   OPTIONAL
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION REQUEST
--
-- **************************************************************

CommonMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container       {{CommonMeasurementInitiationRequest-
IEs}},
    protocolExtensions                                    ProtocolExtensionContainer
{{CommonMeasurementInitiationRequest-Extensions}}              OPTIONAL,
    ...
}

CommonMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID              CRITICALITY ignore   TYPE MeasurementID
    PRESENCE mandatory    }|
    { ID id-CommonMeasurementObjectType-CMeasureInitReq   CRITICALITY       ignore
    TYPE    CommonMeasurementObjectType-CMeasureInitReq    PRESENCE    mandatory
}|
    { ID id-CommonMeasurementType       CRITICALITY ignore      TYPE
CommonMeasurementType          PRESENCE mandatory    }|
    { ID id-MeasurementCharacteristics      CRITICALITY ignore   TYPE
MeasurementCharacteristics         PRESENCE mandatory    }|
    { ID id-ReportCharacteristics       CRITICALITY ignore   TYPE ReportCharacteristics
    PRESENCE mandatory    },
    ...
}

CommonMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


CommonMeasurementObjectType-CMeasureInitReq ::= ENUMERATED {
    cell            Cell-CMeasureInitReq,
    rACH            RACH-CMeasureInitReq
}

Cell-CMeasureInitReq ::= SEQUENCE {
    c-ID            C-ID,
    timeSlot        TimeSlot
}

RACH-CMeasureInitReq ::= SEQUENCE {
    c-ID            C-ID,
    commonTransportChannelID    CommonTransportChannelID
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION RESPONSE
--
-- **************************************************************

CommonMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container        {{CommonMeasurementInitiationResponse-
IEs}},
    protocolExtensions                                      ProtocolExtensionContainer
{{CommonMeasurementInitiationResponse-Extensions}}          OPTIONAL,

    ...
}

CommonMeasurementInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID           CRITICALITY ignore  TYPE MeasurementID
    PRESENCE mandatory    }|
    { ID id-CommonMeasurementObjectType-Res     CRITICALITY ignore  TYPE
CommonMeasurementObjectType-Res     PRESENCE mandatory    }|
    { ID id-SFN                 CRITICALITY ignore  TYPE SFN            PRESENCE optional
    }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CommonMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


 CommonMeasurementObjectType-Res ::= CHOICE {
    cell                Cell-CommonMeasurement-Res,
    rACH                RACH-CommonMeasurement-Res
 }
```

```
Cels-CommonMeasurement-Req ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue
}

RACH-CommonMeasurement-Req ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

CommonMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container        {{CommonMeasurementInitiationFailure-
IEs}},
    protocolExtensions                                      ProtocolExtensionContainer
{{CommonMeasurementInitiationFailure-Extensions}}           OPTIONAL,

    ...
}

CommonMeasurementInitiationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore   TYPE MeasurementID
    PRESENCE mandatory    }|
    { ID id-Cause               CRITICALITY ignore   TYPE Cause                 PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore       TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CommonMeasurementInitiationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMMON MEASUREMENT REPORT
--
-- **************************************************************

CommonMeasurementReport ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container      {{CommonMeasurementReport-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{CommonMeasurementReport-
Extensions}}            OPTIONAL,
    ...
}

CommonMeasurementReport-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore   TYPE MeasurementID
    PRESENCE mandatory    }|
    { ID id-CommonMeasurementObjectType-Rep      CRITICALITY ignore   TYPE
```

```
CommonMeasurementObjectType-Rep        PRESENCE mandatory    }|
    { ID id-SFN                  CRITICALITY ignore   TYPE SFN                PRESENCE optional
    },
    ...
}

CommonMeasurementReport-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


CommonMeasurementObjectType-Rep ::= ENUMERATED {
    cell                Cell-CommonMeasurement-Rep,
    rACH                RACH-CommonMeasurement-Rep
 }

Cell-CommonMeasurement-Rep ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue
 }

RACH-CommonMeasurement-Rep ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue
 }

-- **************************************************************
--
-- COMMON MEASUREMENT TERMINATION REQUEST
--
-- **************************************************************

CommonMeasurementTerminationRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonMeasurementTerminationRequest-
IEs}},
    protocolExtensions                                          ProtocolExtensionContainer
{{CommonMeasurementTerminationRequest-Extensions}}              OPTIONAL,
    ...
}

CommonMeasurementTerminationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore   TYPE MeasurementID
    PRESENCE mandatory    },
    ...
}

CommonMeasurementTerminationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMMON MEASUREMENT FAILURE INDICATION
--
-- **************************************************************

CommonMeasurementFailureIndication ::= SEQUENCE {
```

```
    protocolIEs                 ProtocolIE-Container        {{CommonMeasurementFailureIndication-
IEs}},
    protocolExtensions                                      ProtocolExtensionContainer
{{CommonMeasurementFailureIndication-Extensions}}           OPTIONAL,
    ...
}

CommonMeasurementFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID           CRITICALITY ignore  TYPE MeasurementID
    PRESENCE mandatory    }|
    { ID id-Cause               CRITICALITY ignore  TYPE Cause              PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CommonMeasurementFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL SETUP REQUEST FDD
--
-- **************************************************************

CellSetupRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellSetupRequestFDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{CellSetupRequestFDD-Extensions}}
OPTIONAL,
    ...
}

CellSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-ID            CRITICALITY ignore  TYPE LocalCell-ID           PRESENCE
mandatory }|
    { ID id-C-ID                CRITICALITY ignore  TYPE C-ID               PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore  TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-T-Cell              CRITICALITY ignore  TYPE T-Cell             PRESENCE
mandatory }|
    { ID id-UARFCN              CRITICALITY ignore  TYPE UARFCN             PRESENCE
mandatory }|
    { ID id-MaximumTransmissionPower    CRITICALITY ignore  TYPE
MaximumTransmissionPower        PRESENCE mandatory    }|
    { ID id-PrimaryScramblingCode       CRITICALITY ignore  TYPE PrimaryScramblingCode
        PRESENCE mandatory    }|
    { ID id-PrimarySCH-Information-Cellsetup-Req  CRITICALITY ignore  TYPE   PrimarySCH-
Information-Cellsetup-Req   PRESENCE mandatory    }|
    { ID id-SecondarySCH-Information-Cellsetup-Req   CRITICALITY ignore  TYPE
SecondarySCH-Information-Cellsetup-Req  PRESENCE mandatory    }|
    { ID id-PrimaryCPICH-Information-Cellsetup-Req   CRITICALITY ignore  TYPE
```

```
PrimaryCPICH-Information-Cellsetup-Req  PRESENCE mandatory    }|
   { ID id-SecondaryCPICH-Information-Cellsetup-Req     CRITICALITY ignore
   TYPE    SecondaryCPICH-Information-Cellsetup-Req          PRESENCE optional
}|
   { ID id-PrimaryCCPCH-Information-Cellsetup-Req   CRITICALITY ignore   TYPE
PrimaryCCPCH-Information-Cellsetup-Req PRESENCE mandatory    },
   ...
}

CellSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}


PrimarySCH-Information-Cellsetup-Req ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   primarySCH-Power     DL-Power,
   tSTD-Indicator           TSTD-Indicator
}

SecondarySCH-Information-Cellsetup-Req ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   secondarySCH-Power       DL-Power,
   transmitDiversityIndication  TransmitDiversityIndication
}

PrimaryCPICH-Information-Cellsetup-Req ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   primaryCPICH-Power       DL-Power,
   sTTD-Indicator           STTD-Indicator
}

SecondaryCPICH-Information-Cellsetup-Req ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   dl-ScramblingCode      DL-ScramblingCode,
   secondaryCPICH-Power       DL-Power,
   transmitDiversityIndication  TransmitDiversityIndication
}

PrimaryCCPCH-Information-Cellsetup-Req ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   bCH-information-Cellsetup-Req BCH-Information-PrimCCPCH-Cellsetup-Req,
   sTTD-Indicator           STTD-Indicator
}

BCH-Information-PrimCCPCH-Cellsetup-Req ::= SEQUENCE {
   commonTransportChannelID    CommonTransportChannelID,
   bCH-Power            DL-Power
 }

-- **************************************************************
--
-- CELL SETUP REQUEST TDD
--
-- **************************************************************
```

```
CellSetupRequestTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container       {{CellSetupRequestTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{CellSetupRequestTDD-Extensions}}
OPTIONAL,
    ...
}

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-LocalCell-ID            CRITICALITY ignore   TYPE LocalCell-ID            PRESENCE
mandatory }|
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-UARFCN              CRITICALITY ignore   TYPE UARFCN                PRESENCE
mandatory }|
    { ID id-Cell-Parameter-ID       CRITICALITY ignore   TYPE Cell-Parameter-ID
    PRESENCE mandatory    }|
    { ID id-MaximumTransmissionPower      CRITICALITY ignore   TYPE
MaximumTransmissionPower          PRESENCE optional    }|
    { ID id-TransmissionDiversityApplied     CRITICALITY ignore   TYPE
TransmissionDiversityApplied       PRESENCE mandatory    }|
    { ID id-SyncCase            CRITICALITY ignore   TYPE TransmissionDiversityApplied
    PRESENCE mandatory    }|
    { ID id-PSCH-Information-CellsetupReqTDD   CRITICALITY ignore   TYPE              PSCH-
Information-CellsetupReqTDD       PRESENCE mandatory    }|
    { ID id-PCCPCH-Information-CellsetupReqTDD   CRITICALITY ignore   TYPE        PCCPCH-
Information-CellsetupReqTDD       PRESENCE mandatory    }|
{ ID id-TimeSlotConfigurationList-CellsetupReqTDD CRITICALITY     ignore      TYPE
    TimeSlotConfigurationList-CellsetupReqTDD
PRESENCE    mandatory
},
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


PSCH-Information-CellsetupReqTDD ::= SEQUENCE {
    commonPhysicalChannelID       CommonPhysicalChannelID,
    syncCaseIndicator       SyncCaseIndicator-CellsetupReqTDD,
    pSCH-Power          DL-Power,
    tSTD-Indicator            TSTD-Indicator
}

SyncCaseIndicator-CellsetupReqTDD ::= ENUMURATED {
    case1           Case1-CellsetupReqTDD,
    case2andCcase3          Case2andCase3-CellsetupReqTDD
}

Case1-CellsetupReqTDD ::= SEQUNCE {
    timeSlot        TimeSlot
}
```

```
Case2andCase3-CellsetupReqTDD ::= SEQUNCE {
    PSCH-TimeSlot          PSCH-TimeSlot
}

PCCPCH-Information-CellsetupReqTDD ::= SEQUENCE {
    syncCaseIndicator      SyncCaseIndicator-CellsetupReqTDD2,
    repetitionPeriod       RepetitionPeriod,
    repetitionLength       RepetitionLength,
    pCCPCH-Power           DL-Power,
    tSTD-Indicator         TSTD-Indicator
}

SyncCaseIndicator-CellsetupReqTDD2 ::= ENUMERATED {
    case3          Case3-CellsetupReqTDD
}

Case3-CellsetupReqTDD ::= SEQUENCE {
    timeSlot       TimeSlot
}

TimeSlotConfigurationList-CellsetupReqTDD ::= SEQUENCE (SIZE (1..15)) OF
    ProtocolIE-Container{{TimeSlotConfigurationList-CellsetupReqTDD ItemIE }}

TimeSlotConfigurationList-CellsetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-TimeSlotConfigurationList-CellsetupReqTDDItem      CRITICALITY ignore
          TYPE      TimeSlotConfigurationList-CellsetupReqTDDItem          PRESENCE
    mandatory
},
    ...
}

TimeSlotConfigurationList-CellsetupReqTDDItem ::= SEQUENCE {
    timeSlot       TimeSlot,
    timeSlotStatus          TimeSlotStatus,
    timeSlotDirection    TimeSlotDirection
}

-- **************************************************************
--
-- CELL SETUP RESPONSE
--
-- **************************************************************

CellSetupResponse ::= SEQUENCE {
    protocolIEs              ProtocolIE-Container     {{CellSetupResponse-IEs}},
    protocolExtensions                ProtocolExtensionContainer {{CellSetupResponse-Extensions}}
OPTIONAL,
    ...
}

CellSetupResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}
```

```
CellSetupResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL SETUP FAILURE
--
-- **************************************************************

CellSetupFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellSetupFailure-IEs}},
    protocolExtensions              ProtocolExtensionContainer  {{CellSetupFailure-Extensions}}
OPTIONAL,
    ...
}

CellSetupFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause           CRITICALITY ignore   TYPE Cause             PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CellSetupFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL RECONFIGURATION REQUEST FDD
--
-- **************************************************************

CellReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellReconfigurationRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CellReconfigurationRequestFDD-
Extensions}}            OPTIONAL,
    ...
}

CellReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID            CRITICALITY ignore   TYPE C-ID          PRESENCE mandatory
    }|
    { ID id-ConfigurationGenerationID       CRITICALITY ignore   TYPE
ConfigurationGenerationID       PRESENCE mandatory    }|
    { ID id-MaximumTransmissionPower      CRITICALITY ignore   TYPE
MaximumTransmissionPower        PRESENCE optional    }|
    { ID id-PrimarySCH-Information-Cellreconf-Req  CRITICALITY ignore   TYPE     PrimarySCH-
Information-Cellreconf-Req   PRESENCE optional    }|
    { ID id-SecondarySCH-Information-Cellreconf-Req   CRITICALITY ignore   TYPE
```

```
SecondarySCH-Information-Cellreconf-Req PRESENCE optional   }|
   { ID id-PrimaryCPICH-Information-Cellreconf-Req   CRITICALITY ignore   TYPE
PrimaryCPICH-Information-Cellreconf-Req PRESENCE optional   }|
   { ID id-SecondaryCPICH-Information-Cellreconf-Req       CRITICALITY ignore
      TYPE    SecondaryCPICH-Information-Cellreconf-Req         PRESENCE optional
}|
   { ID id-PrimaryCCPCH-Information-Cellreconf-Req  CRITICALITY ignore   TYPE
PrimaryCCPCH-Information-Cellreconf-Req    PRESENCE optional   },
   ...
}

CellReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}


PrimarySCH-Information-Cellreconf-Req ::= SEQUENCE {
   commonPhysicalChannelID         CommonPhysicalChannelID,
   primarySCH-Power        DL-Power
}

SecondarySCH-Information-Cellreconf-Req ::= SEQUENCE {
   commonPhysicalChannelID         CommonPhysicalChannelID,
   secondarySCH-Power         DL-Power
}

PrimaryCPICH-Information-Cellreconf-Req ::= SEQUENCE {
   commonPhysicalChannelID         CommonPhysicalChannelID,
   primaryCPICH-Power         DL-Power
}

SecondaryCPICH-Information-Cellreconf-Req ::= SEQUENCE {
   commonPhysicalChannelID         CommonPhysicalChannelID,    secondaryCPICH-Power
      DL-Power
}

 PrimaryCCPCH-Information-Cellreconf-Req ::= SEQUENCE {
   bCH-information           BCH-information-Cellreconf-Req
}

BCH-Information-Cellreconf-Req ::= SEQUENCE {
   commonTransportChannelID        CommonTransportChannelID,
   bCH-Power              DL-Power
}

-- **************************************************************
--
-- CELL RECONFIGURATION REQUEST TDD
--
-- **************************************************************

CellReconfigurationRequestTDD ::= SEQUENCE {
   protocolIEs              ProtocolIE-Container     {{CellReconfigurationRequestTDD-IEs}},
   protocolExtensions                ProtocolExtensionContainer {{CellReconfigurationRequestTDD-
Extensions}}             OPTIONAL,
   ...
```

```
}

CellReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-LocalCell-ID            CRITICALITY ignore   TYPE LocalCell-ID            PRESENCE
mandatory }|
   { ID id-C-ID                 CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory }|
   { ID id-ConfigurationGeneration-ID      CRITICALITY ignore   TYPE
ConfigurationGeneration-ID       PRESENCE optional   }|
   { ID id-MaximumTransmissionPower      CRITICALITY ignore   TYPE
MaximumTransmissionPower          PRESENCE optional   }|
   { ID id-PSCH-Information-CellReconfReq      CRITICALITY ignore   TYPE              PSCH-
Information-CellReconfReq      PRESENCE optional   }|
   { ID id-PCCPCH-Information-CellReconfReq   CRITICALITY ignore   TYPE            PCCPCH-
Information-CellReconfReq      PRESENCE optional   }|
   { ID id-TimeSlotConfigurationList-CellReconfReq CRITICALITY ignore   TYPE
TimeSlotConfigurationList-CellReconfReq   PRESENCE mandatory   },
   ...
}

CellReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}


PSCH-Information-CellReconfReq ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   pSCH-Power          PSCH-Power
}

PCCPCH-Information-CellReconfReq ::= SEQUENCE {
   commonPhysicalChannelID      CommonPhysicalChannelID,
   pCCPCH-Power          PCCPCH-Power
}

TimeSlotConfigurationList-CellReconfReq ::= SEQUENCE (SIZE (1..15)) OF
   ProtocolIE-Container {{TimeSlotConfiguration-CellReconfReqItemIE }}

 TimeSlotConfiguration-CellReconfReqItemIE NBAP-PROTOCOL-IES ::= {
   { I D id-TimeSlotConfiguration-CellReconfReqItem   CRITICALITY       ignore      TYPE
   TimeSlotConfiguration-CellReconfReqItem          PRESENCE   mandatory
},
   ...
 }

TimeSlotConfiguration-CellReconfReqItem ::= SEQUENCE {
   timeSlot            TimeSlot,
   timeSlotStatus              TimeSlotStatus,
   timeSlotDirection         TimeSlotDirection
 }

-- **************************************************************
--
-- CELL RECONFIGURATION RESPONSE
--
-- **************************************************************
```

```
CellReconfigurationResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellReconfigurationResponse-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{CellReconfigurationResponse-
Extensions}}            OPTIONAL,
    ...
}

CellReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CellReconfigurationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL RECONFIGURATION FAILURE
--
-- **************************************************************

CellReconfigurationFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellReconfigurationFailure-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{CellReconfigurationFailure-
Extensions}}            OPTIONAL,
    privateExtensions                   PrivateExtensionContainer   {{CellReconfigurationFailure-
PrivateExtensions}}     OPTIONAL,
    ...
}

CellReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause               CRITICALITY ignore  TYPE Cause              PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CellReconfigurationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL DELETION REQUEST
--
-- **************************************************************

CellDeletionRequest ::= SEQUENCE {
```

```
    protocolIEs             ProtocolIE-Container     {{CellDeletionRequest-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CellDeletionRequest-Extensions}}
OPTIONAL,
    privateExtensions                       PrivateExtensionContainer    {{CellDeletionRequest-
PrivateExtensions}}         OPTIONAL,
    ...
}

CellDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY ignore   TYPE C-ID              PRESENCE
mandatory },
    ...
}

CellDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- CELL DELETION RESPONSE
--
-- **************************************************************

CellDeletionResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CellDeletionResponse-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CellDeletionResponse-Extensions}}
OPTIONAL,
    ...
}

CellDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CellDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- RESOURCE STATUS INDICATION
--
-- **************************************************************

ResourceStatusIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{ResourceStatusIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{ResourceStatusIndication-Extensions}}
OPTIONAL,

    ...
```

```
}

ResourceStatusIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-IndicationType          CRITICALITY ignore   TYPE IndicationType
    PRESENCE mandatory    }|
    { ID id-Cause               CRITICALITY ignore   TYPE Cause                PRESENCE
mandatory },
    ...
}

ResourceStatusIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


IndicationType ::= ENUMERATED {
    no-Failure          No-Failure,
    serviceImpacting        ServiceImpacting
}

No-Failure ::= SEQUENCE {
    local-CellInformationList-ResourceStatInd                   Local-CellInformationList-
ResourceStatInd
}

Local-CellInformationList-ResourceStatInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF
    ProtocolIE-Container {{Local-CellInformation-ResourceStatIndItemIE}}

Local-CellInformation-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Local-CellInformation-ResourceStatIndItem   CRITICALITY ignore   TYPE          Local-
CellInformation-ResourceStatIndItem     PRESENCE mandatory    },
    ...
}

Local-CellInformation-ResourceStatIndItem ::= SEQUENCE {
    local-CellID            Local-CellID,
    addOrDeleteIndicator        AddOrDeleteIndicator,
    numberOfChannelElements      NumberOfChannelElements,
maximum-DL-PowerCapability  Maximum-DL-PowerCapability
}

ServiceImpacting ::= SEQUENCE {
    local-Cell-InformationList-ResourceStatInd              Local-Cell-InformationList-
ResourceStatInd OPTIONAL,
    communicationControlPortInformationList-ResourceStatInd
    CommunicationControlPortInformationList-ResourceStatInd OPTIONAL,
    cell-InformationList-ResourceStatInd                    Cell-InformationList-
ResourceStatInd OPTIONAL,
    primary-SCH-Information         P-SCH-Information-Audit-Res   OPTIONAL,
    secondary-SCH-Information S-SCH-Information-Audit-Res   OPTIONAL,
    primary-CPICH-Information P-CPICH-Information-Audit-Res    OPTIONAL,
    secondary-CPICH-Information  S-CPICH-Information-Audit-Res    OPTIONAL,
    primary-CCPCH-Information    P-CCPCH-Information-Audit-Res   OPTIONAL,
bCH-InformationItem-ResourceStatInd                     BCH-InformationItem-
ResourceStatInd OPTIONAL,
    secondary-CCPCH-Information S-CCPCH-Information-Audit-Res   OPTIONAL,
```

```
pCH-InformationList-ResourceStatInd                    PCH-InformationList-
ResourceStatInd OPTIONAL,
pICH-InformationItem-ResourceStatInd                   PICH-InformationItem-
ResourceStatInd OPTIONAL,
fACH-InformationList-ResourceStatInd                   FACH-InformationList-
ResourceStatInd OPTIONAL,
   pRACH-InformationList     PRACH-InformationList-Audit-Res     OPTIONAL,
rACH-InformationList-ResourceStatInd                   RACH-InformationList-
ResourceStatInd OPTIONAL,
aICH-InformationList-ResourceStatInd                   AICH-InformationList-
ResourceStatInd OPTIONAL,
sCH-InformationList-ResourceStatInd                    SCH-InformationList-
ResourceStatInd OPTIONAL,
   pSCH-InformationList      PSCH-InformationList-Audit-Res      OPTIONAL,
}

Local-Cell-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxLocalCellinNodeB)) OF
   ProtocolIE-Container {{Local-Cell-Information-ResourceStatIndItemIE }}

Local-Cell-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-Local-Cell-Information-ResourceStatIndItem  CRITICALITY ignore  TYPE    Local-Cell-
Information-ResourceStatIndItem  PRESENCE mandatory    },
   ...
}

Local-Cell-Information-ResourceStatIndItem ::= SEQUENCE {
   local-CellID          Local-CellID,
   numberOfChannelElements     NumberOfChannelElements     OPTIONAL,
maximum-DL-PowerCapability  Maximum-DL-PowerCapability     OPTIONAL
}

CommunicationControlPortInformationList-ResourceStatInd      ::=      SEQUENCE      (SIZE
(1..maxCCPinNodeB)) OF
   ProtocolIE-Container {{CommunicationControlPortInformation-ResourceStatIndItemIE }}

CommunicationControlPortInformation-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-CommunicationControlPortInformation-ResourceStatIndItem
   CRITICALITY    ignore                    TYPE    CommunicationControlPortInformation-
ResourceStatIndItem
   PRESENCE mandatory    },
   ...
}

CommunicationControlPortInformation-ResourceStatIndItem ::= SEQUENCE {
   communicationControlPortID       CommunicationControlPortID,
   resourceOperationalState     ResourceOperationalState,
   availabilityStatus           AvailabilityStatus
}

Cell-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF
   ProtocolIE-Container {{Cell-Information-ResourceStatIndItemIE }}

Cell-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-Cell-Information-ResourceStatIndItem CRITICALITY ignore  TYPE    Cell-Information-
ResourceStatIndItem   PRESENCE mandatory},
   ...
```

```
}

Cell-Information-ResourceStatIndItem ::= SEQUENCE {
    c-ID                C-ID,
    resourceOperationalState  ResourceOperationalState,
    availabilityStatus        AvailabilityStatus,
maximumDL-PowerCapability   MaximumDL-PowerCapability,
minimumSpreadingFactor      MinimumSpreadingFactor
}

P-SCH-Information-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-SCH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CPICH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

S-CPICH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF
    ProtocolIE-Container {{S-CPICH-InformationItemIE-ResourceStatInd }}

S-CPICH-InformationItemIE-ResourceStatInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-InformationItem-ResourceStatInd     CRITICALITY ignore   TYPE S-CPICH-
InformationItem-ResourceStatInd  PRESENCE   mandatory
},
    ...
}

S-CPICH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID    CommonTransportChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

P-CCPCH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID     CommonPhysicalChannelID,
    resourceOperationState      ResourceOperationState,
    availabilityStatus          AvailabilityStatus
}

BCH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    resourceOperationalState    ResourceOperationalState,
    availabilityStatus              AvailabilityStatus
}
```

```
PCH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxPCHinNodeB)) OF
    ProtocolIE-Container {{PCH-Information-ResourceStatIndItemIE }}

PCH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-Information-ResourceStatIndItem    CRITICALITY ignore  TYPE            PCH-
Information-ResourceStatIndItem  PRESENCE mandatory},
    ...
}

PCH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PICH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID         CommonPhysicalChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

FACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxFACHCell)) OF
    ProtocolIE-Container {{FACH-Information-ResourceStatIndItemIE }}

FACH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-Information-ResourceStatIndItem  CRITICALITY ignore  TYPE            FACH-
Information-ResourceStatIndItem  PRESENCE mandatory},
    ...
}

FACH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PRACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF
    ProtocolIE-Container {{PRACH-InformationItemIE-ResourceStatInd}}

PRACH-InformationItemIE-ResourceStatInd NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-InformationItem-ResourceStatInd       CRITICALITY ignore  TYPE   PRACH-
InformationItem-ResourceStatInd PRESENCE    mandatory     },
    ...
}

PRACH-InformationItem-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    resourceOperationState       ResourceOperationState,
    availabilityStatus       AvailabilityStatus
}

RACH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxRACHCell)) OF
    ProtocolIE-Container {{RACH-Information-ResourceStatIndItemIE }}

RACH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-Information-ResourceStatIndItem  CRITICALITY ignore  TYPE            RACH-
```

```
Information-ResourceStatIndItem  PRESENCE mandatory},
    ...
}

RACH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

AICH-InformationList-ResourceStatInd ::= SEQUENCE (SIZE (1..maxAICHCell)) OF
    ProtocolIE-Container {{AICH-Information-ResourceStatIndItemIE }}

AICH-Information-ResourceStatIndItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-AICH-Information-ResourceStatIndItem   CRITICALITY ignore   TYPE            AICH-
Information-ResourceStatIndItem  PRESENCE mandatory},
    ...
}

AICH-Information-ResourceStatIndItem ::= SEQUENCE {
    commonPhysicalChannelID         CommonPhysicalChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}


SCH-Information-ResourceStatInd ::= SEQUENCE {
    commonTransportChannelID        CommonTransportChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

PSCH-Information-ResourceStatInd ::= SEQUENCE {
    commonPhysicalChannelID         CommonPhysicalChannelID,
    resourceOperationalState     ResourceOperationalState,
    availabilityStatus           AvailabilityStatus
}

-- **************************************************************
--
-- SYSTEM INFORMATION UPDATE REQUEST
--
-- **************************************************************

SystemInformationUpdateRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{SystemInformationUpdateRequest-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{SystemInformationUpdateRequest-
Extensions}}              OPTIONAL,
    ...
}

SystemInformationUpdateRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                    CRITICALITY ignore      TYPE C-ID               PRESENCE
mandatory    }|
    { ID id-BCCH-ModificationTime       CRITICALITY ignore      TYPE BCCH-ModificationTime
        PRESENCE mandatory    }|
```

```
{ ID id-MIB-SIB-InformationList-SystemInfoUpdate CRITICALITY ignore TYPE MIB-SIB-
InformationList-SystemInfoUpdate
PRESENCE optional
},
    ...
}

SystemInformationUpdateRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


MIB-SIB-InformationList-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIB)) OF
    ProtocolIE-Container{{ MIB-SIB-InformationList-SystemInfoUpdateItemIE }}

MIB-SIB-InformationList-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-MIB-SIB-InformationList-SystemInfoUpdateItem CRITICALITY ignore
    TYPE MIB-SIB-InformationList-SystemInfoUpdateItem PRESENCE optional
},
    ...
}

MIB-SIB-InformationList-SystemInfoUpdateItem ::= SEQUENCE {
iB-Type IB-Type,
sIB-DeletionIndicator SIB-DeletionIndicator-SystemInfoUpdate
}

SIB-DeletionIndicator-SystemInfoUpdate ::= ENUMERATED {
    no-Delition No-Delitionist-SystemInfoUpdate
}

No-DelitionList-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIBSEG)) OF
    ProtocolIE-Container{{ No-DelitionList-SystemInfoUpdateItemIE }}

No-DelitionList-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
    { ID id- No-DelitionList-SystemInfoUpdate CRITICALITY ignore TYPE No-DelitionList-
SystemInfoUpdate PRESENCE optional },
    ...
}

No-DelitionList-SystemInfoUpdate ::= SEQUENCE {
sIB-Originator sIB-Originator OPTIONAL,
segmentInformation SegmentInformation-SystemInfoUpdate
}

SegmentInformation-SystemInfoUpdate ::= SEQUENCE (SIZE (1..maxIBSEG)) OF
    ProtocolIE-Container{{ SegmentInformation-SystemInfoUpdateItemIE }}

SegmentInformation-SystemInfoUpdateItemIE NBAP-PROTOCOL-IES ::= {
    { ID id- SegmentInformation-SystemInfoUpdateItem CRITICALITY ignore TYPE
    SegmentInformation-SystemInfoUpdateItem PRESENCE optional
},
    ...
}

SegmentInformation-SystemInfoUpdateItem ::= SEQUENCE {
```

```
    segmentType         SegmentType,
    iB-SG-REP           IB-SG-REP,
    iB-SG-POS           IB-SG-POS,
    iB-SG               IB-SG       OPTIONAL

}

-- **************************************************************
--
-- SYSTEM INFORMATION UPDATE RESPONSE
--
-- **************************************************************

SystemInformationUpdateResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{SystemInformationUpdateResponse-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{SystemInformationUpdateResponse-
Extensions}}            OPTIONAL,
    ...
}

SystemInformationUpdateResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-CriticalityDiagnostic           CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

SystemInformationUpdateResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- SYSTEM INFORMATION UPDATE FAILURE
--
-- **************************************************************

SystemInformationUpdateFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{SystemInformationUpdateFailure-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{SystemInformationUpdateFailure-
Extensions}}            OPTIONAL,
    ...
}

SystemInformationUpdateFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause               CRITICALITY ignore  TYPE Cause              PRESENCE
mandatory    }|
{ ID id-CriticalityDiagnostic           CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

SystemInformationUpdateFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


-- **************************************************************
--
-- RADIO LINK SETUP REQUEST FDD
--
-- **************************************************************

RadioLinkSetupRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkSetupRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkSetupRequestFDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore   TYPE                CRNC-
CommunicationContextID        PRESENCE mandatory    }|
    { ID id-UL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore   TYPE        UL-
DPCH-InformationItem-RL-SetupReq-FDD PRESENCE mandatory    }|
    { ID id-DL-DPCH-InformationItem-RL-SetupReq-FDD CRITICALITY ignore   TYPE        DL-
DPCH-InformationItem-RL-SetupReq-FDD PRESENCE mandatory    }|
    { ID id-DCH-InformationList-RL-SetupReq-FDD  CRITICALITY ignore   TYPE           DCH-
InformationList-RL-SetupReq-FDD    PRESENCE mandatory    }|
    { ID id-RL-ID               CRITICALITY ignore   TYPE RL-ID              PRESENCE
optional }|
    { ID id-DSCH-ID             CRITICALITY ignore   TYPE DSCH-ID            PRESENCE
optional }|
    { ID id-DSCH-InformationList-RL-SetupReq-FDD    CRITICALITY ignore   TYPE       DSCH-
InformationList-RL-SetupReq-FDD    PRESENCE optional    }|
    { ID id-RL-InformationList-RL-SetupReq-FDD CRITICALITY ignore   TYPE             RL-
InformationList-RL-SetupReq-FDD        PRESENCE mandatory    },
    ...
}

RadioLinkSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    ul-ScramblingCode       UL-ScramblingCode,
    minUL-ChannelisationCodeLength     MinUL-ChannelisationCodeLength,
    maxNumberOfUL-DPDCHs       MaxNumberOfUL-DPDCHs OPTIONAL
    -- This IE is present only if "Min UL Channelisation Code length" equals to   4 -- ,
    ul-PunctureLimit     UL-PunctureLimit,
    transportFormatCombinationSet     TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat      UL-DPCCH-SlotFormat,
    ul-EbNo-Target          UplinkEbNo,
    diversityMode         DiversityMode,
    d-FieldLength         D-FieldLength         OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-Cell-IDLength         SSDT-Cell-IDLength    OPTIONAL,
    s-FieldLength         S-FieldLength     OPTIONAL
}
```

```
DL-DPCH-InformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    transportFormatCombinationSet    TransportFormatCombinationSet,
    dl-DPCH-SlotFormat        DL-DPCH-SlotFormat,
    tFCI-SignallingMode       TFCI-SignallingMode,
    multiplexingPosition,     MultiplexingPosition,
    tFCI-Presence         TFCI-Presence,
    powerOffsetInformationItem-RL-SetupReq-FDD
            PowerOffsetInformationitem-RL-SetupReq-FDD,
    deltaTPC          DeltaTPC
}

PowerOffsetInformationItem-RL-SetupReq-FDD ::= SEQUENCE {
    pO1           PowerOffset,
    pO2           PowerOffset,
    pO3           PowerOffset
}

DCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container{{DCH-Information-RL-SetupReq-FDDItemIE }}

DCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Information-RL-SetupReq-FDDItem CRITICALITY ignore   TYPE              DCH-
Information-RL-SetupReq-FDDItem   PRESENCE mandatory    },
    ...
}

DCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dCH-ID            DCH-ID,
    dCH-CombinationIndication  DCH-CombinationIndication OPTIONAL,
    rLC-Mode          RLC-Mode,
    ul-TransportFormatSet     TransportFormatSet,
    dl-TransportFormatSet     TransportFormatSet,
    frameHandlingPriority     FrameHandlingPriority,
    payloadCRC-PresenceIndicator  PayloadCRC-PresenceIndicator,
    ul-FP-Mode            UL-FP-Mode,
    toAWS             ToAWS,
    toAWE             ToAWE
}

DSCH-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-Information-RL-SetupReq-FDDItemIE }}

DSCH-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-RL-SetupReq-FDDItem   CRITICALITY ignore   TYPE        DSCH-
Information-RL-SetupReq-FDDItem   PRESENCE mandatory    },
    ...
}

DSCH-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    dSCH-ID               DSCH-ID,
    dSCH-TransportFormatSet       DSCH-TransportFormatSet,
    frameHandlingPriority     FrameHandlingPriority,
    toAWS             ToAWS,
    toAWE             ToAWE
}
```

```
RL-InformationList-RL-SetupReq-FDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{RL-Information-RL-SetupReq-FDDItemIE }}

RL-Information-RL-SetupReq-FDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-SetupReq-FDDItem    CRITICALITY ignore   TYPE RL-Information-
RL-SetupReq-FDDItem        PRESENCE optional    },
    ...
}

RL-Information-RL-SetupReq-FDDItem ::= SEQUENCE {
    rL-ID               RL-ID,
    c-ID            C-ID,
    frameOffset             FrameOffset,
    chipOffset          ChipOffset,
    propagationDelay        PropagationDelay,
    diversityControlField       DiversityControlField   OPTIONAL,
    -- This IE is present only if the RL is not the first one in the RL Information
    dl-CodeInformationList-RL-SetupReqFDD                                   DL-CodeInformationList-
RL-SetupReqFDD,
    initialDL-transmissionPower DL-Power,
    maximumDL-power         DL-Power,
    minimumDL-power         DL-Power,
    sSDT-CellIdentity       SSDT-CellIdentity   OPTIONAL
}

DL-CodeInformationList-RL-SetupReqFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{DL-CodeInformation-RL-SetupReqFDDItemIE }}

DL-CodeInformation-RL-SetupReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformation-RL-SetupReqFDDItem CRITICALITY ignore   TYPE            DL-
CodeInformation-RL-SetupReqFDDItem PRESENCE optional    },
    ...
}

DL-CodeInformation-RL-SetupReqFDDItem ::= SEQUENCE {
    dl-ScramblingCode           DL-ScramblingCode,
    fdd-DL-ChannelisationCodeNumber     FDD-DL-ChannelisationCodeNumber
}

-- **************************************************************
--
-- RADIO LINK SETUP REQUEST TDD
--
-- **************************************************************

RadioLinkSetupRequestTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkSetupRequestTDD-IEs}},
    protocolExtensions                  ProtocolExtensionContainer {{RadioLinkSetupRequestTDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore   TYPE                CRNC-
CommunicationContextID        PRESENCE mandatory    }|
```

```
    { ID id-UL-CCTrCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore TYPE        UL-
CCTrCH-InformationList-RL-SetupReqTDD    PRESENCE optional   }|
    { ID id-DL-CCTrCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore TYPE        DL-
CCTrCH-InformationList-RL-SetupReqTDD    PRESENCE optional   }|
    { ID id-DCH-InformationList-RL-SetupReqTDD   CRITICALITY ignore   TYPE           DCH-
InformationList-RL-SetupReqTDD     PRESENCE optional   }|
{ID id-DSCH-InformationList-RL-SetupReqTDD  CRITICALITY    ignore    TYPE    DSCH-
InformationList-RL-SetupReqTDD PRESENCE optional   }|
{ID id-USCH-InformationList-RL-SetupReqTDD  CRITICALITY    ignore    TYPE    USCH-
InformationList-RL-SetupReqTDD PRESENCE optional   }|
    { ID id-RL-InformationItem-RL-SetupReqTDD CRITICALITY ignore   TYPE                RL-
InformationItem-RL-SetupReqTDD       PRESENCE mandatory   },
    ...
}

RadioLinkSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE(1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container{{UL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

UL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE        UL-
CCTrCH-Information-RL-SetupReqTDDItem   PRESENCE mandatory   },
    ...
}

UL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    cCTrCH-ID               CCTrCH-ID,
    transportFormatCombinationSet       TransportFormatCombinationSet,
    tFCI-Coding             TFCI-Coding,
    puncturing-Limit        Puncturing-Limit,
    ul-DPCH-InformationList-RL-SetupReqTDD                  UL-DPCH-InformationList-RL-
SetupReqTDD       OPTIONAL
}



UL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{UL-DPCH-Information-RL-SetupReqTDDItemIE }}

UL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-Information-RL-SetupReqTDDItem   CRITICALITY ignore   TYPE        UL-
DPCH-Information-RL-SetupReqTDDItem  PRESENCE mandatory },
    ...
}

UL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dPCH-ID                 DPCH-ID,
    tdd-ChannelisationCode          TDD-ChannelisationCode,
    burstType               BurstType,
    midambleShift               MidambleShift,
    timeSlot            TimeSlot,
    tdd-PhysicalChannelOffset       TDD-PhysicalChannelOffset,
```

```
    repetitionPeriod        RepetitionPeriod,
    repetitionLength        RepetitionLength,
    tFCI-Presence           TFCI-Presence
}

DL-CCTrCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoCCTrCHs)) OF
    ProtocolIE-Container{{DL-CCTrCH-Information-RL-SetupReqTDDItemIE }}

DL-CCTrCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-SetupReqTDDItem CRITICALITY ignore TYPE        DL-
CCTrCH-Information-RL-SetupReqTDDItem   PRESENCE mandatory },
    ...
}

DL-CCTrCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    cCTrCH-ID               CCTrCH-ID,
    transportFormatCombinationSet       TransportFormatCombinationSet,
    tFCI-Coding             TFCI-Coding,
    puncturing-Limit        Puncturing-Limit,
    dl-DPCH-InformationList-RL-SetupReqTDD                  DL-DPCH-InformationList-RL-
SetupReqTDD       OPTIONAL
}

DL-DPCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{DL-DPCH-Information-RL-SetupReqTDDItemIE }}

DL-DPCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-Information-RL-SetupReqTDDItem   CRITICALITY ignore   TYPE        DL-
DPCH-Information-RL-SetupReqTDDItem  PRESENCE mandatory},
    ...
}

DL-DPCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dPCH-ID                 DPCH-ID,
    tdd-ChannelisationCode          TDD-ChannelisationCode,
    burstType           BurstType,
    midambleShift               MidambleShift,
    timeSlot            TimeSlot,
    tdd-PhysicalChannelOffset       TDD-PhysicalChannelOffset,
    repetitionPeriod        RepetitionPeriod,
    repetitionLength        RepetitionLength,
    tFCI-Presence           TFCI-Presence
}

DCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container{{DCH-Information-RL-SetupReqTDDItemIE }}

DCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Information-RL-SetupReqTDDItem  CRITICALITY ignore   TYPE              DCH-
Information-RL-SetupReqTDDItem    PRESENCE mandatory},
    ...
}

DCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    ul-CCTrCH-ID            UL-CCTrCH-ID,
    dl-CCTrCH-ID            DL-CCTrCH-ID,
```

```
    dCH-CombinationIndication  DCH-CombinationIndication OPTIONAL,
    ul-TransportFormatSet      TransportFormatSet,
    dl-TransportFormatSet      TransportFormatSet,
    frameHandlingPriority      FrameHandlingPriority,
    payloadCRC-PresenceIndicator      PayloadCRC-PresenceIndicator,
    ul-FP-Mode                 UL-FP-Mode,
    toAWE                      ToAWE,
    toAWS                      ToAWS
}

DSCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container{{DSCH-Information-RL-SetupReqTDDItemIE}}

DSCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-Information-RL-SetupReqTDDItem  CRITICALITY  ignore  TYPE  DSCH-
Information-RL-SetupReqTDDItem  PRESENCE mandatory}
    ...
}

DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    dSCH-ID                    DSCH-ID,
    cCTrCH-ID                  CCTrCH-ID,
    transportFormatSet         TransportFormatSet,
    frameHandlingPriority      FrameHandlingPriority,
    toAWE                      ToAWE,
    toAWS                      ToAWS
}

USCH-InformationList-RL-SetupReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container{{USCH-Information-RL-SetupReqTDDItemIE}}

USCH-Information-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-USCH-Information-RL-SetupReqTDDItem CRITICALITY  ignore  TYPE  USCH-
Information-RL-SetupReqTDDItem  PRESENCE mandatory}
    ...
}

USCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
    uSCH-ID                    USCH-ID,
    cCTrCH-ID                  CCTrCH-ID,
    transportFormatSet         TransportFormatSet
}

RL-Information-RL-SetupReqTDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    c-ID                   C-ID,
    tdd-PhysicalChannelOffset      TDD-PhysicalChannelOffset,
    initialDL-transmissionPower    DL-Power,
    maximumDL-power            DL-Power,
    minimumDL-power            DL-Power
}

-- **************************************************************
--
-- RADIO LINK SETUP RESPONSE FDD
--
```

```
-- **************************************************************

RadioLinkSetupResponseFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkSetupResponseFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkSetupResponseFDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkSetupResponseFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore   TYPE                CRNC-
CommunicationContextID      PRESENCE mandatory    }|
    { ID id-NodeB-CommunicationContextID      CRITICALITY ignore   TYPE             NodeB-
CommunicationContextID      PRESENCE mandatory    }|
    { ID id-CommunicationControlPortID     CRITICALITY ignore   TYPE
CommunicationControlPortID          PRESENCE mandatory    }|
    { ID id-RL-InformationResponseList-RL-setupResFDD     CRITICALITY ignore   TYPE     RL-
InformationResponseList-RL-setupResFDD PRESENCE mandatory                    }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkSetupResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container{{RL-InformationResponse-RL-setupResFDDItemIE }}

RL-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-setupResFDDItem CRITICALITY ignore   TYPE        RL-
InformationResponse-RL-setupResFDDItem    PRESENCE mandatory    },
    ...
}

RL-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    rL-ID                   RL-ID,
    ul-InterferenceLevel            UL-InterferenceLevel,
    diversityIndication         DiversityIndication  OPTIONAL,
-- This IE is present only if the RL is not the first one in the RL Information
    dSCH-InformationResponse-RL-setupResFDD                  DSCH-InformationResponse-
RL-setupResFDD      OPTIONAL,
    sSDT-SupportIndicator           SSDT-SupportIndicator
}

DiversityIndication ::= ENUMERATED {
    combining       CombiningItem,
    non-Combining           Non-CombiningItem
}

CombiningItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}
```

```
Non-CombiningItem ::= SEQUENCE {
    dCH-InformationResponse-RL-setupResFDD                DCH-InformationResponse-RL-
setupResFDD         OPTIONAL
}

DCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container{{DCH-InformationResponse-RL-setupResFDDItemIE }}

DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse-RL-setupResFDDItem  CRITICALITY ignore TYPE    DCH-
InformationResponse-RL-setupResFDDItem    PRESENCE    mandatory                    },
    ...
}

DCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
bindingID           BindingID,
    transportLayerAddress       TransportLayerAddress
}

DSCH-InformationResponseList-RL-setupResFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF
    ProtocolIE-Container{{DSCH-InformationResponse-RL-setupResFDDItemIE }}

-- ** TODO **
numofDSCH INTEGER ::= 10

DSCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DSCH-InformationResponse-RL-setupResFDDItem    CRITICALITY ignore      TYPE
    DSCH-InformationResponse-RL-setupResFDDItem
PRESENCE    mandatory
},
    ...
}

DSCH-InformationResponse-RL-setupResFDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
bindingID           BindingID,
    transportLayerAddress       TransportLayerAddress
}

-- ********************************************************************
--
-- RADIO LINK SETUP RESPONSE TDD
--
-- ********************************************************************

RadioLinkSetupResponseTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkSetupResponseTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkSetupResponseTDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkSetupResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore   TYPE                CRNC-
```

```
CommunicationContextID        PRESENCE mandatory    }|
   { ID id-NodeB-CommunicationContextID        CRITICALITY ignore   TYPE                NodeB-
CommunicationContextID        PRESENCE mandatory    }|
   { ID id-CommunicationControlPortID     CRITICALITY ignore   TYPE
CommunicationControlPortID          PRESENCE mandatory    }|
   { ID id-RL-Information-RL-setupResTDD        CRITICALITY ignore   TYPE     RL-Information-
RL-setupResTDD        PRESENCE mandatory    }|
{ID id-DSCH-InformationResponseList-RL-setupResTDD  CRITICALITY    ignore       TYPE
   DSCH-InformationResponseList-RL-setupResTDD   PRESENCE    optional
}|
{ID id-USCH-InformationResponseList-RL-setupResTDD  CRITICALITY    ignore       TYPE
   USCH-InformationResponseList-RL-setupResTDD   PRESENCE    optional
}|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore       TYPE CriticalityDiagnostic
   PRESENCE optional
   },
   ...
}

RadioLinkSetupResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}


RL-InformationResponseList-RL-setupResTDD ::= SEQUENCE {
   rL-ID                RL-ID,
   ul-InterferenceLevel          UL-InterferenceLevel,
   dCH-InformationResponseList-RL-setupResTDD                    DCH-
InformationResponseList-RL-setupResTDD
}

DCH-InformationResponseList-RL-setupResTDD ::= SEQUENCE (SIZE (1..maxnumofDCHs)) OF
   ProtocolIE-Container{{DCH-InformationResponse-RL-setupResTDDItemIE }}

 DCH-InformationResponse-RL-setupResFDDItemIE NBAP-PROTOCOL-IES ::= {
   { I D id-DCH-InformationResponse-RL-setupResTDDItem CRITICALITY    ignore       TYPE
   DCH-InformationResponse-RL-setupResTDDItem    PRESENCE    mandatory
},
   ...
 }

 DCH-InformationResponse-RL-setupResTDDItem ::= SEQUENCE {
   dCH-ID               DCH-ID,
   bindingID            BindingID,
   transportLayerAddress        TransportLayerAddress
 }

DSCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
   ProtocolIE-Container{{DSCH-InformationResponse-RL-SetupResTDDItemIE}}

DSCH-Informationresponse-RL-SetupResTDDItemIE NBAP-PROTOCOL-IES ::= {
   {ID id-DCH-InformationResponse-RL-SetupResTDDItem  CRITICALITY    ignore       TYPE
   DSCH-Informationresponse-RL-SetupReqTDDItem  PRESENCE    mandatory
}
   ...
}
```

```
DSCH-Information-RL-SetupReqTDDItem ::= SEQUENCE {
   dSCH-ID              DSCH-ID,
   binding-ID        Binding-ID,
   transport-Layer-Address      Transport-Layer-Address
}

USCH-InformationResponseList-RL-SetupResTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
   ProtocolIE-Container{{USCH-InformationResponse-RL-SetupResTDDItemIE}}

USCH-Informationresponse-RL-SetupReqTDDItemIE NBAP-PROTOCOL-IES ::= {
   {ID id-USCH-InformationResponse-RL-SetupReqTDDItem    CRITICALITY    ignore
   TYPE    USCH-InformationResponse-RL-SetupReqTDDItem PRESENCE    mandatory
}
   ...
}

USCH-InformationResponse-RL-SetupReqTDDItem ::= SEQUENCE {
   uSCH-ID              USCH-ID,
   binding-ID        Binding-ID,
   transport-Layer-Address      Transport-Layer-Address
}

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE FDD
--
-- **************************************************************

RadioLinkSetupFailureFDD ::= SEQUENCE {
   protocolIEs             ProtocolIE-Container     {{RadioLinkSetupFailureFDD-IEs}},
   protocolExtensions                ProtocolExtensionContainer {{RadioLinkSetupFailureFDD-
Extensions}}            OPTIONAL,
   ...
}

RadioLinkSetupFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-CRNC-CommunicationContextID    CRITICALITY ignore   TYPE                CRNC-
CommunicationContextID       PRESENCE mandatory   }|
   { ID id-NodeB-CommunicationContextID       CRITICALITY ignore   TYPE            NodeB-
CommunicationContextID       PRESENCE mandatory   }|
{ I D id-CommunicationControlPortID    CRITICALITY    ignore
TYPE CommunicationControlPortID         PRESENCE mandatory   }|
   { ID id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD
   CRITICALITY    ignore                TYPE    Unsuccessful-RL-InformationResponseList-
RL-SetupFailFDD
   PRESENCE    mandatory                }|
   { ID id-Successful-RL-InformationResponseList-RL-SetupFailFDD
   CRITICALITY    ignore                TYPE    Successful-RL-InformationResponseList-
RL-SetupFailFDD
   PRESENCE    optional                }|
{ ID id-CriticalityDiagnostic         CRITICALITY ignore      TYPE CriticalityDiagnostic
   PRESENCE optional
   },
   ...
}
```

```
RadioLinkSetupFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD ::=          SEQUENCE          (SIZE
(1..maxnoofRLs)) OF
ProtocolIE-Container    {{Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE }}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem
    CRITICALITY    ignore                    TYPE    Unsuccessful-RL-InformationResponse-RL-
SetupFailFDDItem
    PRESENCE    optional                },
    ...
}

Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
    rL-ID              RL-ID,
cause          Cause
}

Successful-RL-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE      (SIZE              (1..
maxnoofRLs-1)) OF
    ProtocolIE-Container    {{Successful-RL-InformationResponse-RL-SetupFailFDDItemIE }}


Successful-RL-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-Successful-RL-InformationResponse-RL-SetupFailFDDItem
    CRITICALITY    ignore                    TYPE    Successful-RL-InformationResponse-RL-
SetupFailFDDItem
    PRESENCE    optional                },
    ...
}

Successful-RL-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
    rL-ID                RL-ID,
    ul-InterferenceLevel          UL-InterferenceLevel,
    diversityIndication          DiversityIndication,
    dSCH-InformationResponseList-RL-SetupFailFDD                    DSCH-
InformationResponseList-RL-SetupFailFDD    OPTIONAL,
    sSDT-SupportIndicator          SSDT-SupportIndicator
}

DiversityIndicationRL-SetupFailFDD ::= ENUMERATED {
    combining          Combining-RL-SetupFailFDD,
    non-combining          Non-CombiningRL-SetupFailFDD
 }

Combining-RL-SetupFailFDD ::= SEQUENCE {
    rL-ID              RL-ID
 }

Non-Combining-RL-SetupFailFDD ::= SEQUENCE {
    dCH-InformationResponseList-RL-SetupFailFDD                    DCH-
```

```
InformationResponseList-RL-SetupFailFDD    OPTIONAL
}

DCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1.. maxnoofDCHs)) OF
   ProtocolIE-Container{{DCH-InformationResponse-RL-SetupFailFDDItemIE }}

DCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DCH-InformationResponse-RL-SetupFailFDDItem CRITICALITY    ignore    TYPE
   DCH-InformationResponse-RL-SetupFailFDDItem      PRESENCE    mandatory
   },
   ...
}

DCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
   dCH-ID              DCH-ID,
   bindingID           BindingID,
   transportLayerAddress       TransportLayerAddress
}

DSCH-InformationResponseList-RL-SetupFailFDD ::= SEQUENCE (SIZE (1..numofDSCH)) OF
   ProtocolIE-Container{{DSCH-InformationResponse-RL-SetupFailFDDItemIE }}

DSCH-InformationResponse-RL-SetupFailFDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DSCH-InformationResponse-RL-SetupFailFDDItem   CRITICALITY       ignore
   TYPE    DSCH-InformationResponse-RL-SetupFailFDDItem    PRESENCE    mandatory
           },
   ...
}

DSCH-InformationResponse-RL-SetupFailFDDItem ::= SEQUENCE {
   dSCH-ID               DSCH-ID,
   bindingID           BindingID,
   transportLayerAddress       TransportLayerAddress
}

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE TDD
--
-- **************************************************************

RadioLinkSetupFailureTDD ::= SEQUENCE {
   protocolIEs              ProtocolIE-Container     {{RadioLinkSetupFailureTDD-IEs}},
   protocolExtensions                  ProtocolExtensionContainer  {{RadioLinkSetupFailureTDD-
Extensions}}            OPTIONAL,
   ...
}

RadioLinkSetupFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-CRNC-CommunicationContextID    CRITICALITY ignore      TYPE              CRNC-
CommunicationContextID    PRESENCE mandatory      }|
   { ID id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD CRITICALITY    ignore
TYPE    Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD
PRESENCE    mandatory
}|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
```

```
    PRESENCE optional
    },
    ...
}

RadioLinkSetupFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD ::= SEQUENCE {
    rL-ID               RL-ID,
    cause           Cause
}

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST FDD
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-- **************************************************************

RadioLinkAdditionRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkAdditionRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkAdditionRequestFDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-RL-InformationList-RL-Add-ReqFDD    CRITICALITY ignore      TYPE            RL-
InformationList-RL-Add-ReqFDD       PRESENCE optional    },
    ...
}

RadioLinkAdditionRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
    ...
}

RL-InformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
    ProtocolIE-Container {{RL-informationList-RL-Add-ReqFDDItemIE }}

RL-InformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-Add-ReqFDDItem CRITICALITY ignore      TYPE            RL-
InformationList-RL-Add-ReqFDDItem    PRESENCE mandatory    },
    ...
}

RL-InformationList-RL-Add-ReqFDDItem ::= SEQUENCE {
    rL-ID               RL-ID,
    c-ID            C-ID,
```

```
    frameOffset             FrameOffset,
    chipOffset              ChipOffset,
    diversityControlField   DiversityControlField,
    dl-CodeInformationList-RL-Add-ReqFDD                    DL-CodeInformationList-
RL-Add-ReqFDD
    initialDL-TransmissionPower     DL-Power,
    maximumDL-Power         DL-Power        OPTIONAL,
    minimumDL-Power         DL-Power        OPTIONAL,
    sSDT-CellIdentity       SSDT-CellIdentity   OPTIONAL
     }

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
    ProtocolIE-Container {{ DL-CodeInformationList-RL-Add-ReqFDDItemIE }}

DL-CodeInformationList-RL-Add-ReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformationList-RL-Add-ReqFDD     CRITICALITY ignore      TYPE        DL-
CodeInformationList-RL-Add-ReqFDD    PRESENCE mandatory    },
    ...
}

DL-CodeInformationList-RL-Add-ReqFDD ::= SEQUENCE {
    scramblingCode          ScramblingCode,
    fdd-DL-ChannelisationCodeNumber   FDD-DL-ChannelisationCodeNumber
 }

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST TDD
--
-- **************************************************************

RadioLinkAdditionRequestTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkAdditionRequestTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkAdditionRequestTDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID        PRESENCE mandatory    }|
    { ID id-UL-CCTrCHInformationList-RL-Add-ReqTDD   CRITICALITY ignore      TYPE      UL-
CCTrCHInformationList-RL-Add-ReqTDD   PRESENCE optional    }|
    { ID id-DL-CCTrCHInformationList-RL-Add-ReqTDD   CRITICALITY ignore      TYPE      DL-
CCTrCHInformationList-RL-Add-ReqTDD   PRESENCE optional    }|
    { ID id-RL-Information-RL-Add-ReqTDD         CRITICALITY ignore      TYPE RL-Information-
RL-Add-ReqTDD     PRESENCE mandatory    },
    ...
}

RadioLinkAdditionRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-CCTrCHInformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCH)) OF
```

```
    ProtocolIE-Container {{UL-CCTrCHInformation-RL-Add-ReqTDDItemIE }}

UL-CCTrCHInformation-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCHInformation-RL-Add-ReqTDDItem  CRITICALITY ignore      TYPE      UL-
CCTrCHInformation-RL-Add-ReqTDDItem PRESENCE mandatory    },
    ...
}

UL-CCTrCHInformation-RL-Add-ReqTDDItem ::= SEQUENCE {
    cCTrCH              CCTrCH,
    ul-DPCH-InformationList     UL-DPCH-InformationList-RL-Add-ReqTDD    OPTIONAL
}

UL-DPCH-InformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container {{UL-DPCH-InformationList-RL-Add-ReqTDDItemIE}}

UL-DPCH-InformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id- UL-DPCH-InformationList-RL-Add-ReqTDDItem       CRITICALITY    ignore
            TYPE    UL-DPCH-InformationList-RL-Add-ReqTDDItem        PRESENCE
    mandatory
},
    ...
}

UL-DPCH-InformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
    dPCH-ID             DPCH-ID,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
    burstType           BurstType,
    midambleShift           MidambleShift,
    timeSlot        TimeSlot,
    tdd-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
    repetitionPeriod        RepetitionPeriod,
    repetitionLength        RepetitionLength,
    tFCI-Presence       TFCI-Presence
}

DL-CCTrCHInformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs)) OF
    ProtocolIE-Container {{ DL-CCTrCHInformationList-RL-Add-ReqTDDItemIE }}

DL-CCTrCHInformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCHInformationList-RL-Add-ReqTDDItem CRITICALITY       ignore
    TYPE    DL-CCTrCHInformationList-RL-Add-ReqTDDItem      PRESENCE    mandatory
},
    ...
}

DL-CCTrCHInformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
    cCTrCH-ID           CCTrCH-ID,
    dl-DPCH-InformationList-RL-Add-ReqTDD                   DL-DPCH-InformationList-RL-
Add-ReqTDD      OPTIONAL
}

DL-DPCH-InformationList-RL-Add-ReqTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container {{ DL-DPCH-InformationList-RL-Add-ReqTDDItemIE }}

DL-DPCH-InformationList-RL-Add-ReqTDDItemIE NBAP-PROTOCOL-IES ::= {
```

```
    { ID id-DL-DPCH-InformationList-RL-Add-ReqTDDItem   CRITICALITY      ignore
    TYPE    DL-DPCH-InformationList-RL-Add-ReqTDDItem    PRESENCE   mandatory
},
    ...
}

DL-DPCH-InformationList-RL-Add-ReqTDDItem ::= SEQUENCE {
    dPCH-ID             DPCH-ID,
    tdd-ChannelisationCode      TDD-ChannelisationCode,
    burstType       BurstType,
    midambleShift           MidambleShift,
    timeSlot        TimeSlot,
    tdd-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
    repetitionPeriod        RepetitionPeriod,
    repetitionLength        RepetitionLength,
    tFCI-Presence       TFCI-Presence
}

 RL-informationItem-RL-Add-ReqTDD ::= SEQUENCE {
    rL-ID               RL-ID,
    c-ID                C-ID,
    cFN                 CFN     OPTIONAL,
    frameOffset             FrameOffset,
    diversityControlField           DiversityControlField,
    initial-DL-Transmission-Power       DL-Power   OPTIONAL,
    maximumDL-Power             DL-Power   OPTIONAL,
    minimumDL-Power             DL-Power   OPTIONAL
 }

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

RadioLinkAdditionResponseFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkAdditionResponseFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkAdditionResponseFDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionResponseFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID CRITICALITY ignore      TYPE                CRNC-
CommunicationContextID    PRESENCE    mandatory }|
    { ID id-RL-ResponseInformationList-RL-Add-ResFDD      CRITICALITY    ignore
          TYPE      RL-ResponseInformationList-RL-Add-ResFDD     PRESENCE    mandatory
                }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkAdditionResponseFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


RL-ResponseInformationList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
    ProtocolIE-Container {{RL-ResponseInformationList-RL-Add-ResFDDItemIE }

RL-ResponseInformation-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-ResponseInformation-RL-Add-ResFDDItem      CRITICALITY    ignore
            TYPE    RL-ResponseInformation-RL-Add-ResFDDItem          PRESENCE    mandatory
},
    ...
}

RL-ResponseInformation-RL-Add-ResFDDItem ::= SEQUENCE {
    rL-ID               RL-ID,
    ul-InterferenceLevel        UL-InterferenceLevel,
    diversityIndication       DiversityIndication-RL-Add-ResFDD,
    sSDT-SupportIndicator         SSDT-SupportIndicator
}

DiversityIndication-RL-Add-ResFDD ::= ENUMERATED {,
    combining         Combining-RL-Add-ResFDD,
    non-combining           Non-Combining-RL-Add-ResFDD
}

Combining-RL-Add-ResFDD ::= SEQUENCE {
    rL-ID                 RL-ID
}

Non-Combining-RL-Add-ResFDD ::= SEQUENCE {
dCH-InformationResponseList-RL-Add-ResFDD
DCH-InformationResponseList-RL-Add-ResFDD
}

DCH-InformationResponseList-RL-Add-ResFDD ::= SEQUENCE (SIZE (1..maxnoofRL-1)) OF
    ProtocolIE-Container{{DCH-InformationResponseList-RL-Add-ResFDD ItemIE }}

DCH-InformationResponseList-RL-Add-ResFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponseList-RL-Add-ResFDDItem      CRITICALITY    ignore
                TYPE    DCH-InformationResponseList-RL-Add-ResFDDItem          PRESENCE
    mandatory
},
    ...
}

DCH-InformationResponseList-RL-Add-ResFDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    bindingID             BindingID,
    transportLayerAddress         TransportLayerAddress
}

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE TDD
--
-- **************************************************************
```

```
RadioLinkAdditionResponseTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkAdditionResponseTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkAdditionResponseTDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionResponseTDD-IEs NBAP-PROTOCOL-IES ::= {
    {ID id-CRNC-Communication-Context-ID    CRITICALITY    ignore      TYPE    CRNC-
Communication-Context-ID   PRESENCE mandatory      }|
    { ID id-RL-Information-RL-Add-RespTDD   CRITICALITY    ignore      TYPE            RL-
Information-RL-Add-RespTDD  PRESENCE    mandatory    }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkAdditionResponseTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-Information-RL-Add-Resp ::= SEQUENCE {
    rL-ID               RL-ID,
    ul-InterferenceLevel        UL-InterferenceLevel,
    diversityIndication     DiversityIndication-RL-Add-RespTDD,
}

DiversityIndication-RL-Add-RespTDD ::= ENUMERATED {
    combining       Combining-RL-Add-RespTDD,
    non-Combining           Non-Combining-RL-Add-RespTDD
}

Combining-RL-Add-RespTDD ::= SEQUENCE {
    rL-ID               RL-ID
}

Non-Combining-RL-Add-RespTDD ::= SEQUENCE {
dCH-InfomationResponseList    DCH-InformationResponseList-RL-Add-RespTDD
    OPTIONAL,
dSCH-InfomationResponseList      DSCH-InformationResponseList-RL-Add-RespTD
    OPTIONAL,
uSCH-InfomationResponseList      USCH-InformationResponseList-RL-Add-RespTDD
    OPTIONAL
}

DCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-InformationRespopnse-RL-Add-RespTDDItemIE}}

DCH-InformationResponse-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
    {ID id-DCH-InformationResponse-RL-Add-RespTDDItem CRITICALITY    ignore      TYPE
    DCH-InformationResponse-RL-Add-RespTDDItem    PRESENCE    mandatory
},
    ...
```

```
}

DCH-InformationResponse-RL-Add-RespTDDItem ::= SEQUENCE {
   dCH-ID            DCH-ID,
   binding-ID        Binding-ID,
   transport-Layer-Address      Transport-Laer-Address
}

DSCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
   ProtocolIE-Container {{DSCH-InformationRespopnse-RL-Add-RespTDDItemIE}}

DSCH-InformationResponse-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
   {ID id-DSCH-InformationResponse-RL-Add-RespTDDItem    CRITICALITY    ignore
   TYPE    DSCH-InformationResponse-RL-Add-RespTDDItem PRESENCE    mandatory
},
   ...
}

DSCH-InformationResponse-RL-Add-RespTDDItem ::= SEQUENCE {
   dSCH-ID              DSCH-ID,
   binding-ID        Binding-ID,
   transport-Layer-Address      Transport-Laer-Address
}

USCH-InformationResponseList-RL-Add-RespTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
   ProtocolIE-Container {{USCH-InformationResponseList-RL-Add-RespTDD ItemIE}}

USCH-InformationResponseList-RL-Add-RespTDDItemIE NBAP-PROTOCOL-IES ::= {
   {ID id-USCH-InformationResponseList-RL-Add-RespTDDItem      CRITICALITY    ignore
                TYPE    USCH-InformationResponseList-RL-Add-RespTDDItem
   PRESENCE    mandatory
},
   ...
}

USCH-InformationResponseList-RL-Add-RespTDDItem ::= SEQUENCE {
   uSCH-ID              USCH-ID,
   binding-ID        Binding-ID,
   transport-Layer-Address      Transport-Laer-Address
}

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

RadioLinkAdditionFailureFDD ::= SEQUENCE {
   protocolIEs              ProtocolIE-Container      {{RadioLinkAdditionFailureFDD-IEs}},
   protocolExtensions                ProtocolExtensionContainer {{RadioLinkAdditionFailureFDD-
Extensions}}              OPTIONAL,
   ...
}

RadioLinkAdditionFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-CRNC-CommunicationContextID     CRITICALITY ignore   TYPE                    CRNC-
```

```
CommunicationContextID        PRESENCE mandatory    }|
   { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD        CRITICALITY
   ignore                    TYPE    Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD
      PRESENCE    mandatory
}|
   { ID id-Successful-RL-InformationResponseList-RL-Add-FailFDD        CRITICALITY    ignore
                     TYPE    Successful-RL-InformationResponseList-RL-Add-FailFDD
   PRESENCE    mandatory
}|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore       TYPE CriticalityDiagnostic
   PRESENCE optional
   },
   ...
}

RadioLinkAdditionFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}


Unsuccessful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE       (SIZE
(1..maxnoofRL-1)) OF
   ProtocolIE-Container   {{Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE }}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem     CRITICALITY
ignore                    TYPE Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem
      PRESENCE    mandatory                    },
   ...
}

Unsuccessful-RL-InformationResponseList-RL-Add-FailFDDItem ::= SEQUENCE {
   rL-ID                RL-ID,
   cause             Cause
}

Successful-RL-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofRL-
2)) OF
   ProtocolIE-Container {{Successful-RL-InformationResponse-RL-Add-FailFDD ItemIE }}

Successful-RL-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-Successful-RL-InformationResponse-RL-Add-FailFDDItem      CRITICALITY ignore
                TYPE    Successful-RL-InformationResponse-RL-Add-FailFDDItem
   PRESENCE    mandatory                    },
   ...
}

Successful-RL-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
   rL-ID             RL-ID,
   ul-InterferenceLevel       UL-InterferenceLevel,
   diversityIndication      DiversityIndication-RL-Add-FailFDD,
   sSDT-SupportIndicator       SSDT-SupportIndicator
}

DiversityIndication-RL-Add-FailFDD ::= ENUMERATED {
   combining         Combining-RL-Add-FailFDD,
```

```
    non-combining           Non-Combining-RL-Add-FailFDD
}

Combining-RL-Add-FailFDD ::= SEQUENCE {
    rL-ID               RL-ID
}

Non-Combining-RL-Add-FailFDD ::= SQUENCE {
    dCH-InformationResponseList                         DCH-InformationResponseList-RL-
Add-FailFDD
}

DCH-InformationResponseList-RL-Add-FailFDD ::= SEQUENCE (SIZE (1..maxnoofDCH)) OF
    ProtocolIE-Container {{DCH-InformationResponse-RL-Add-FailFDDItemIE }}

DCH-InformationResponse-RL-Add-FailFDDItemIE NBAP-PROTOCOL-IES ::= {
    { I D id-DCH-InformationResponse-RL-Add-FailFDDItem     CRITICALITY ignore   TYPE
DCH-InformationResponse-RL-Add-FailFDDItem     PRESENCE mandatory                    },
    ...
}

DCH-InformationResponse-RL-Add-FailFDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    bindingID           BindingID,
    transportLayerAddress       TransportLayerAddress
}

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE TDD
--
-- **************************************************************

RadioLinkAdditionFailureTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkAdditionFailureTDD-IEs}},
    protocolExtensions                  ProtocolExtensionContainer {{RadioLinkAdditionFailureTDD-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionFailureTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Unsuccessful-RL-InformationResponse CRITICALITY ignore   TYPE    Unsuccessful-RL-
InformationResponse    PRESENCE mandatory    }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkAdditionFailureTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}



Unsuccessful-RL-InformationResponse ::= SEQUENCE {
```

```
    rL-ID                   RL-ID,
    cause                Cause
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
--
-- **************************************************************

RadioLinkReconfigurationPrepareFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container        {{RadioLinkReconfigurationPrepareFDD-
IEs}},
    protocolExtensions                                      ProtocolExtensionContainer
{{RadioLinkReconfigurationPrepareFDD-Extensions}}       OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE    UL-DPCH-
Information-RL-ReconfPrepFDD    PRESENCE optional    } |
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD  CRITICALITY ignore  TYPE    DL-DPCH-
Information-RL-ReconfPrepFDD    PRESENCE optional    } |
    { ID id-DCH-ModifyList-RL-ReconfPrepFDD       CRITICALITY ignore      TYPE            DCH-
ModifyList-RL-ReconfPrepFDD     PRESENCE optional       } |
    { ID id-DCH-AddList-RL-ReconfPrepFDD        CRITICALITY ignore      TYPE    DCH-AddList-
RL-ReconfPrepFDD     PRESENCE optional    } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD       CRITICALITY ignore      TYPE            DCH-
DeleteList-RL-ReconfPrepFDD     PRESENCE optional    } |
    { ID id-DSCH-ModifyItem-RL-ReconfPrepFDD    CRITICALITY ignore      TYPE            DSCH-
ModifyItem-RL-ReconfPrepFDD       PRESENCE optional    } |
    { ID id-DSCH-AddItem-RL-ReconfPrepFDD       CRITICALITY ignore      TYPE            DSCH-
AddItem-RL-ReconfPrepFDD       PRESENCE optional    } |
    { ID id-DSCH-DeleteItem-RL-ReconfPrepFDD CRITICALITY ignore      TYPE            DSCH-
DeleteItem-RL-ReconfPrepFDD     PRESENCE optional    } |
    { ID id-RadioLinkInformationList-RL-ReconfPrepFDD  CRITICALITY       ignore      TYPE
RadioLinkInformationList-RL-ReconfPrepFDD       PRESENCE    optional
},
    ...
}

RadioLinkReconfigurationPrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode           UL-ScramblingCode     OPTIONAL,
    minUL-ChannelisationCodeLength    MinUL-ChannelisationCodeLength    OPTIONAL,
    maxNrOfUL-DPDCHs      MaxNrOfUL-DPDCHs OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4
    ul-PunctureLimit        UL-PunctureLimit        OPTIONAL,
    tFCS            TFCS            OPTIONAL,
    ul-DPCCH-SlotFormat     UL-DPCCH-SlotFormat    OPTIONAL,
```

```
    sSDT-CellIdentityLength      SSDT-CellIdentityLength OPTIONAL,
    s-FieldLength        S-FieldLength     OPTIONAL,
-- The following information element is needed if there is a need to add Ies        with        specific
criticality.
}

DL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    tFCS          TFCS          OPTIONAL,
    dl-DPCH-SlotFormat       DL-DPCH-SlotFormat  OPTIONAL,
    tFCI-SignallingMode      TFCI-SignallingMode  OPTIONAL,
    tFCI-Presence        TFCI-Presence       OPTIONAL,
    dTX-InsertionPoint      DTX-InsertionPoint OPTIONAL,
    ...
}

DCH-ModifyList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepFDDItemIE }}

DCH-Modify-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfPrepFDDItem  CRITICALITY ignore      TYPE     DCH-Modify-
RL-ReconfPrepFDDItem   PRESENCE optional       },
    ...
}

DCH-Modify-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID           DCH-ID,
    ul-TransportFormatSet     TransportFormatSet     OPTIONAL,
    dl-TransportFormatSet     TransportFormatSet     OPTIONAL,
    frameHandlingPriority     FrameHandlingPriority     OPTIONAL,
    ul-FP-Mode           UL-FP-Mode      OPTIONAL,
    toAWS            ToAWS         OPTIONAL,
    toAWE            ToAWE         OPTIONAL
}

DCH-AddList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfPrepFDDItemIE }}

DCH-Add-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfPrepFDDItem  CRITICALITY ignore      TYPE       DCH-Add-RL-
ReconfPrepFDDItem    PRESENCE optional       },
    ...
}

DCH-Add-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID           DCH-ID,
    dCH-CombinationIndication  DCH-CombinationIndication OPTIONAL,
    rLC-Mode         RLC-Mode,
    ul-TransportFormatSet     TransportFormatSet,
    dl-TransportFormatSet     TransportFormatSet,
    frameHandlingPriority     FrameHandlingPriority,
    payloadCRC-PresenceIndicator  PayloadCRC-PresenceIndicator,
    ul-FP-Mode           UL-FP-Mode,
    toAWS            ToAWS,
    toAWE            ToAWE
}
```

```
DCH-DeleteList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepFDDItemIE }}

DCH-Delete-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfPrepFDDItem    CRITICALITY ignore      TYPE      DCH-Delete-
RL-ReconfPrepFDDItem    PRESENCE optional       },
    ...
}

DCH-Delete-RL-ReconfPrepFDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID
}

DSCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dl-TransportFormatSet     TransportFormatSet        OPTIONAL,
    rL-ID                RL-ID          OPTIONAL,
    frameHandlingPriority     FrameHandlingPriority     OPTIONAL,
    toAWS                ToAWS          OPTIONAL,
    toAWE                ToAWE          OPTIONAL
}

DSCH-AddItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dl-TransportFormatSet     TransportFormatSet,
    rL-ID                RL-ID,
    frameHandlingPriority     FrameHandlingPriority,
    toAWS                ToAWS,
    toAWE                ToAWE
}

DSCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                RL-ID
}

RadioLinkInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RadioLinkInformation-RL-ReconfPrepFDDItemIE}}

RadioLinkInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RadioLinkInformation-RL-ReconfPrepFDDItem CRITICALITY       ignore      TYPE
    RadioLinkInformation-RL-ReconfPrepFDDItem    PRESENCE    mandatory},
    ...
}

RadioLinkInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
    rL-ID                RL-ID,
    dl-CodeInformationList-RL-ReconfPrepFDD                    DL-CodeInformationList-RL-
ReconfPrepFDD      OPTIONAL,
    maxDL-Power          DL-Power       OPTIONAL,
    minDL-Power          DL-Power       OPTIONAL,
    sSDT-Indication          SSDT-Indication     OPTIONAL,
    sSDT-CellIdentity        SSDT-CellIdentity   OPTIONAL
-- The IE may be present if the SSDT Indication is set to SSDT Active in the UE
}

DL-CodeInformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofDLCodes)) OF
    ProtocolIE-Container {{DL-CodeInformation-RL-ReconfPrepFDDItemIE }}
```

```
DL-CodeInformation-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformation-RL-ReconfPrepFDDItem    CRITICALITY ignore    TYPE        DL-
CodeInformation-RL-ReconfPrepFDDItem    PRESENCE optional    },
    ...
}

DL-CodeInformation-RL-ReconfPrepFDDItem ::= SEQUENCE {
    scramblingCode              ScramblingCode  OPTIONAL,
    fdd-DL-ChannelisationCodeNumber        FDD-DL-ChannelisationCodeNumber OPTIONAL
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE TDD
--
-- **************************************************************

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container        {{RadioLinkReconfigurationPrepareTDD-
IEs}},
    protocolExtensions                                      ProtocolExtensionContainer
{{RadioLinkReconfigurationPrepareTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID    CRITICALITY    ignore        TYPE          NodeB-
CommunicationContextID    PRESENCE    mandatory }|
    { ID id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD  CRITICALITY        ignore
    TYPE    UL-CCTrCH-InformationList-RL-ReconfPrepTDD    PRESENCE    optional
} |
    { ID id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD  CRITICALITY        ignore
    TYPE DL-CCTrCH-InformationList-RL-ReconfPrepTDD        PRESENCE    optional
} |
    { ID id-DCH-ModifyList-RL-ReconfPrepTDD        CRITICALITY ignore    TYPE          DCH-
ModifyList-RL-ReconfPrepTDD      PRESENCE optional    } |
    { ID id-DCH-AddList-RL-ReconfPrepTDD        CRITICALITY ignore TYPE    DCH-AddList-RL-
ReconfPrepTDD      PRESENCE optional    } |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD        CRITICALITY    ignore    TYPE          DCH-
DeleteList-RL-ReconfPrepTDD      PRESENCE optional    } |
{ ID id-DSCH-Information-ModifyList-RL-ReconfPrepTDD    CRITICALITY        ignore
    TYPE    DSCH-Information-ModifyList-RL-ReconfPrepTDD      PRESENCE    optional
}|
    { ID id-DSCH-information-AddList-RL-ReconfPrepTDD CRITICALITY        ignore        TYPE
    DSCH-Information-AddList-RL-ReconfPrepTDD      PRESENCE    optional
} |
    { ID id-DSCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY    ignore        TYPE
    DSCH-Information-DeleteList-RL-ReconfPrepTDD      PRESENCE    optional
} |
{ ID id-USCH-Information-ModifyList-RL-ReconfPrepTDD    CRITICALITY        ignore
    TYPE    USCH-Information-ModifyList-RL-ReconfPrepTDD      PRESENCE    optional
} |
    { ID id-USCH-information-AddList-RL-ReconfPrepTDD CRITICALITY        ignore TYPE
USCH-Information-AddList-RL-ReconfPrepTDD      PRESENCE    optional
} |
    { ID id-USCH-Information-DeleteList-RL-ReconfPrepTDD CRITICALITY    ignore        TYPE
```

```
    USCH-Information-DeleteList-RL-ReconfPrepTDD      PRESENCE   optional
} |
    { ID id-RadioLinkInformation-RL-ReconfPrepTDD      CRITICALITY        ignore  TYPE
RadioLinkInformation-RL-ReconfPrepTDD     PRESENCE   optional
},
    ...
}

RadioLinkReconfigurationPrepareTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}



UL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs))
OF    ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem CRITICALITY    ignore    TYPE
    UL-CCTrCH-Information-RL-ReconfPrepTDDItem    PRESENCE    optional},
    ...
}

UL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
    cCTrCH-ID              CCTrCH-ID,
    tFCS              TFCS        OPTIONAL,
    tFCI-Coding              TFCI-Coding  OPTIONAL,      punturing-Limit              Punturing-
Limit OPTIONAL
    ul-DPCH-InformationList-RL-ReconfPrepTDD                    UL-DPCH-InformationList-RL-
ReconfPrepTDD  OPTIONAL
}

UL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
    ProtocolIE-Container {{UL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

UL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-Information-RL-ReconfPrepTDDItem    CRITICALITY        ignore
    TYPE    UL-DPCH-Information-RL-ReconfPrepTDDItem  PRESENCE    manadtory
},
    ...
}

UL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
dPCH-ID              DPCH-ID,
    tDD-ChannelisationCode      TDD-ChannelisationCode OPTIONAL,
    burstType          BurstType      OPTIONAL,
    midambleShift            MidambleShift        OPTIONAL,
    timeSlot         TimeSlot        OPTIONAL,
    tdd-PhysicalChannelOffset    TDD-PhysicalChannelOffset      OPTIONAL,
    repetitionPeriod       RepetitionPeriod  OPTIONAL,
    repetitionLength       RepetitionLength      OPTIONAL,
    tFCI-Presence          TFCI-Presence         OPTIONAL
}

DL-CCTrCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs))
OF    ProtocolIE-Container {{DL-CCTrCH-Information-RL-ReconfPrepTDDItemIE }}
```

```
DL-CCTrCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE
    DL-CCTrCH-Information-RL-ReconfPrepTDDItem PRESENCE mandatory
},
   ...
}

DL-CCTrCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
   cCTrCH-ID CCTrCH-ID,
   tFCS TFCS OPTIONAL,
   tFCI-Coding TFCI-Coding OPTIONAL, punturing-Limit Punturing-
Limit OPTIONAL
   dl-DPCH-InformationList-RL-ReconfPrepTDD DL-DPCH-InformationList-RL-
ReconfPrepTDD OPTIONAL
}

DL-DPCH-InformationList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDPCHs)) OF
   ProtocolIE-Container {{DL-DPCH-Information-RL-ReconfPrepTDDItemIE }}

DL-DPCH-Information-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DL-DPCH-Information-RL-ReconfPrepTDDItem CRITICALITY ignore
   TYPE DL-DPCH-Information-RL-ReconfPrepTDDItem PRESENCE mandatory
},
   ...
}

DL-DPCH-Information-RL-ReconfPrepTDDItem ::= SEQUENCE {
dPCH-ID DPCH-ID,
   tDD-ChannelisationCode TDD-ChannelisationCode OPTIONAL,
   burstType BurstType OPTIONAL,
   midambleShift MidambleShift OPTIONAL,
   timeSlot TimeSlot OPTIONAL,
tdd-PhysicalChannelOffset TDD-PhysicalChannelOffset OPTIONA
repetitionPeriod RepetitionPeriod OPTIONAL,
   rpetitionLength RepetitionLength OPTIONAL,
   tFCI-Presence TFCI-Presence OPTIONAL
}

DCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
   ProtocolIE-Container {{DCH-Modify-RL-ReconfPrepTDDItemIE }}

DCH-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DCH-Modify-RL-ReconfPrepTDDItem CRITICALITY ignore TYPE DCH-Modify-
RL-ReconfPrepTDDItem PRESENCE optional },
   ...
}

 DCH-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
   dCH-ID DCH-ID,
   ul-TransportFormatSet TransportFormatSet OPTIONAL,
   dl-TransportFormatSet TransportFormatSet OPTIONAL,
   frameHandlingPriority FrameHandlingPriority OPTIONAL,
   ul-FP-Mode UL-FP-Mode OPTIONAL,
   toAWS ToAWS OPTIONAL,
   toAWE ToAWE OPTIONAL,
```

```
}

DCH-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfPrepTDDItemIE }}

DCH-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfPrepTDDItem  CRITICALITY ignore     TYPE     DCH-Add-RL-
ReconfPrepTDDItem    PRESENCE optional   },
    ...
}

DCH-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    dCH-CombinationIndication     DCH-CombinationIndication OPTIONAL,
    rLC-Mode            RLC-Mode,
    ul-CCTrCH-ID            CCTrCH-ID,
    dl-CCTrCH-ID            CCTrCH-ID,
    ul-TransportFormatSet       TransportFormatSet,
    dl-TransportFormatS         TransportFormatSet,
    frameHandlingPriority       FrameHandlingPriority,
    payloadCRC-PresenceIndicator     PayloadCRC-PresenceIndicator,
    ul-FP-Mode              UL-FP-Mode,
    toAWS               ToAWS,
    toAWE               ToAWE
}

DCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DCH-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfPrepTDDItem  CRITICALITY ignore     TYPE     DCH-Delete-
RL-ReconfPrepTDDItem   PRESENCE optional   },
    ...
}

DCH-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID
}

DSCH-Information-ModifyList-RL-ReconfPrepTDD  ::=  SEQUENCE  (SIZE  (1..maxnoofDSCHs))
OF    ProtocolIE-Container {{DSCH-Information-Modify-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Modify-RL-ReconfPrepTDDItem   CRITICALITY    ignore
    TYPE DSCH-Information-Modify-RL-ReconfPrepTDDItem    PRESENCE    optional
},
    ...
}

 DSCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
    transportFormatSet     TransportFormatSet     OPTIONAL,
    cCTrCH-ID           CCTrCH-ID       OPTIONAL,
    frameHandlingPriority     FrameHandlingPriority     OPTIONAL,
    toAWE           ToAWE       OPTIONAL,
    toAWS           ToAWS       OPTIONAL
```

```
}

DSCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Information-Add-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Add-RL-ReconfPrepTDDItem    CRITICALITY        ignore
    TYPE    DCH-Add-RL-ReconfPrepTDDItem            PRESENCE    mandatory
},
    ...
}

DSCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
    cCTrCH-ID           CCTrCH-ID,
    transportFormatSet      TransportFormatSet,
    frameHandlingPriority      FrameHandlingPriority    OPTIONAL,
    toAWE               ToAWE,
    toAWS               ToAWS
}

DSCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfPrepTDDItemIE }}

DSCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Information-Delete-RL-ReconfPrepTDDItem    CRITICALITY    ignore
    TYPE    DSCH-Information-Delete-RL-ReconfPrepTDDItem PRESENCE    optional
},
    ...
}

DSCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID
}

USCH-Information-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs))
OF    ProtocolIE-Container {{USCH-Information-Modify-RL-ReconfPrepTDDItemIE }}

USCH-Information-Modify-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Modify-RL-ReconfPrepTDDItem    CRITICALITY    ignore
    TYPE USCH-Information-Modify-RL-ReconfPrepTDDItem    PRESENCE optional    },
    ...
}

 USCH-Information-Modify-RL-ReconfPrepTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
    transportFormatSet      TransportFormatSet    OPTIONAL,
    cCTrCH-ID           CCTrCH-ID       OPTIONAL
}

USCH-Information-AddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Information-Add-RL-ReconfPrepTDDItemIE }}

USCH-Information-Add-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Add-RL-ReconfPrepTDDItem    CRITICALITY        ignore
    TYPE    USCH-Add-RL-ReconfPrepTDDItem    PRESENCE    optional
```

```
},
    ...
}

USCH-Information-Add-RL-ReconfPrepTDDItem ::= SEQUENCE {
    uSCH-ID                 USCH-ID,
    cCTrCH-ID               CCTrCH-ID,
    transportFormatSet      TransportFormatSet
}

USCH-Information-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Delete-RL-ReconfPrepTDDItemIE }}

USCH-Information-Delete-RL-ReconfPrepTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Information-Delete-RL-ReconfPrepTDDItem    CRITICALITY    ignore
    TYPE    USCH-Information-Delete-RL-ReconfPrepTDDItem  PRESENCE optional
},
    ...
}

USCH-Information-Delete-RL-ReconfPrepTDDItem ::= SEQUENCE {
    uSCH-ID             USCH-ID
}

RadioLinkInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    maxDL-Power         DL-Power      OPTIONAL,
    minDL-Power         DL-Power      OPTIONAL
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION READY
--
-- **************************************************************

RadioLinkReconfigurationReady ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkReconfigurationReady-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationReady-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationReady-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore     TYPE              CRNC-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-RL-InformationResponseList-RL-ReconfReady   CRITICALITY    ignore      TYPE
    RL-InformationResponseList-RL-ReconfReady PRESENCE    optional
},
    ...
}

RadioLinkReconfigurationReady-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
RL-InformationResponseList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-InformationResponse-RL-ReconfReadyItemIE }}

RL-InformationResponse-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyItem    CRITICALITY    ignore
            TYPE    RL-InformationResponseList-RL-ReconfReadyItem          PRESENCE
    mandatory
},
    ...
}

RL-InformationResponseList-RL-ReconfReadyItem ::= SEQUENCE {
    rL-ID           RL-ID,
    dCHsToBeAdded    DCH-AddList-RL-ReconfReady  OPTIONAL,
    dCHsToBeModified DCH-ModifyList-RL-ReconfReady  OPTIONAL,
    dSCH-SetupItem    DSCH-SetupItem-RL-ReconfReady    OPTIONAL,
    dSCH-ModifyItem      DSCH-ModifyItem-RL-ReconfReady  OPTIONAL
    uCH-SetupItem     USCH-SetupItem-RL-ReconfReady    OPTIONAL,
    uSCH-ModifyItem      USCH-ModifyItem-RL-ReconfReady  OPTIONAL
}

DCH-AddList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReadyItemIE }}

DCH-Add-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReadyItem     CRITICALITY    ignore     TYPE    DCH-Add-RL-
ReconfReadyItem          PRESENCE mandatory    },
    ...
}

DCH-Add-RL-ReconfReadyItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    bindingID           BindingID,
    transportLayerAddress       TransportLayerAddress
}

DCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReadyItemIE }}

DCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReadyItem      CRITICALITY ignore   TYPE    DCH-Modify-RL-
ReconfReadyItem       PRESENCE mandatory    },
    ...
}

DCH-Modify-RL-ReconfReadyItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    bindingID           BindingID,
    transportLayerAddress       TransportLayerAddress
}

DSCH-SetupList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Setup-RL-ReconfReadyItemIE }}

DSCH-Setup-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
```

```
   { ID id-DSCH-Setup-RL-ReconfReadyItem     CRITICALITY ignore  TYPE  DSCH-Setup-RL-
ReconfReadyItem      PRESENCE mandatory   },
   ...
}

DSCH-Setup-RL-ReconfReadyitem ::= SEQUENCE {
   dSCH-ID                DSCH-ID
   bindingID          BindingID,
   transportLayerAddress      TransportLayerAddress
}

DSCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
   ProtocolIE-Container {{DSCH-Modify-RL-ReconfReadyItemIE }}

DSCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-DSCH-Modify-RL-ReconfReadyItem     CRITICALITY ignore  TYPE  DSCH-Modify-RL-
ReconfReadyItem      PRESENCE mandatory   },
   ...
}

DSCH-ModifyItem-RL-ReconfReadyItem ::= SEQUENCE {
   dSCH-ID                DSCH-ID
   bindingID          BindingID,
   transportLayerAddress      TransportLayerAddress
}

USCH-SetupList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
   ProtocolIE-Container {{USCH-Setup-RL-ReconfReadyItemIE }}

USCH-Setup-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-USCH-Setup-RL-ReconfReadyItem     CRITICALITY ignore  TYPE  USCH-Setup-RL-
ReconfReadyItem      PRESENCE mandatory   },
   ...
}

USCH-Setup-RL-ReconfReadyitem ::= SEQUENCE {
   uSCH-ID                USCH-ID
   bindingID          BindingID,
   transportLayerAddress      TransportLayerAddress
}

USCH-ModifyList-RL-ReconfReady ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
   ProtocolIE-Container {{USCH-Modify-RL-ReconfReadyItemIE }}

USCH-Modify-RL-ReconfReadyItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-USCH-Modify-RL-ReconfReadyItem     CRITICALITY ignore  TYPE  USCH-Modify-RL-
ReconfReadyItem      PRESENCE mandatory   },
   ...
}

USCH-ModifyItem-RL-ReconfReadyItem ::= SEQUENCE {
   uSCH-ID                USCH-ID
   bindingID          BindingID,
   transportLayerAddress      TransportLayerAddress
}
```

```
-- **************************************************************
--
-- RADIO LINK RECONFIGURATION FAILURE
--
-- **************************************************************

RadioLinkReconfigurationFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkReconfigurationFailure-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkReconfigurationFailure-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY    ignore      TYPE          CRNC-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-Cause              CRITICALITY ignore      TYPE Cause              PRESENCE
mandatory } |
    { ID id-RL-ReconfigurationFailureList-RL-ReconfFail   CRITICALITY       ignore TYPE  RL-
ReconfigurationFailureList-RL-ReconfFail  PRESENCE   optional                }|
{ ID id-CriticalityDiagnostic        CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkReconfigurationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-ReconfigurationFailureList-RL-ReconfFail ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-ReconfigurationFailure-RL-ReconfFailItemIE}}

RL-ReconfigurationFailure-RL-ReconfFailItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-RL-ReconfigurationFailure-RL-ReconfFailItem  CRITICALITY ignore  TYPE   RL-
ReconfigurationFailure-RL-ReconfFailItem  PRESENCE optional
},
    ...
}

RL-ReconfigurationFailure-RL-ReconfFailItem ::= SEQUENCE {
    rL-ID                   RL-ID,
    cause                Cause
 }

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION COMMIT
--
-- **************************************************************

RadioLinkReconfigurationCommit ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkReconfigurationCommit-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkReconfigurationCommit-
Extensions}}            OPTIONAL,
```

```
    ...
}

RadioLinkReconfigurationCommit-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID       CRITICALITY ignore      TYPE        NodeB-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-CFN                CRITICALITY ignore      TYPE CFN                PRESENCE
mandatory },
    ...
}

RadioLinkReconfigurationCommit-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}



-- **************************************************************
--
-- RADIO LINK RECONFIGURATION CANCEL
--
-- **************************************************************

RadioLinkReconfigurationCancel ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkReconfigurationCancel-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationCancel-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationCancel-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID       CRITICALITY ignore      TYPE        NodeB-
CommunicationContextID       PRESENCE mandatory    },
    ...
}

RadioLinkReconfigurationCancel-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- **************************************************************

RadioLinkReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkReconfigurationRequestFDD-
IEs}},
    protocolExtensions                                  ProtocolExtensionContainer
{{RadioLinkReconfigurationRequestFDD-Extensions}}       OPTIONAL,
    ...
}

RadioLinkReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
```

```
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID        PRESENCE mandatory    } |
    { ID id-UL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore  TYPE        UL-
DPCH-InformationItem-RL-ReconfReqFDD     PRESENCE optional    } |
    { ID id-DL-DPCH-InformationItem-RL-ReconfReqFDD CRITICALITY ignore  TYPE        DL-
DPCH-InformationItem-RL-ReconfReqFDD     PRESENCE optional    } |
    { ID id-DCH-ModifyList-RL-ReconfReqFDD     CRITICALITY ignore  TYPE    DCH-ModifyList-
RL-ReconfReqFDD      PRESENCE optional    } |
    { ID id-DCH-AddList-RL-ReconfReqFDD     CRITICALITY ignore  TYPE      DCH-AddList-RL-
ReconfReqFDD      PRESENCE optional    } |
    { ID id-DCH-DeleteList-RL-ReconfReqFDD     CRITICALITY ignore  TYPE    DCH-DeleteList-
RL-ReconfReqFDD      PRESENCE optional    } |
    { ID id-DSCH-ModifyItem-RL-ReconfReqFDD     CRITICALITY ignore  TYPE        DSCH-
ModifyItem-RL-ReconfReqFDD     PRESENCE optional    } |
    { ID id-DSCH-AddItem-RL-ReconfReqFDD     CRITICALITY ignore  TYPE    DSCH-AddItem-
RL-ReconfReqFDD      PRESENCE optional    } |
    { ID id-DSCH-DeleteItem-RL-ReconfReqFDD     CRITICALITY ignore  TYPE        DSCH-
DeleteItem-RL-ReconfReqFDD     PRESENCE optional    } |
    { ID id-RL-InformationList-RL-ReconfReqFDD CRITICALITY ignore  TYPE              RL-
InformationList-RL-ReconfPrepFDD  PRESENCE optional    },
    ...
}

RadioLinkReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
    tFCS            TFCS        OPTIONAL
}

DL-DPCH-InformationItem-RL-ReconfReqFDD ::= SEQUENCE {
    tFCS            TFCS            OPTIONAL
    tFCI-SignallingMode     TFCI-SignallingMode  OPTIONAL
 }

DCH-ModifyList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReqFDDItemIE }}

DCH-Modify-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReqFDDItem    CRITICALITY ignore      TYPE    DCH-Modify-
RL-ReconfReqFDDItem    PRESENCE optional       },
    ...
}

DCH-Modify-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    ul-TransportFormatSet    TransportFormatSet    OPTIONAL,
    dl-TransportFormatSet    TransportFormatSet    OPTIONAL,
    frameHandlingPriority    FrameHandlingPriority    OPTIONAL,
    ul-FP-Mode          UL-FP-Mode      OPTIONAL,
    toAWS           ToAWS       OPTIONAL,
    toAWE           ToAWE       OPTIONAL
}
```

```
DCH-AddList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReqFDDItemIE }}

DCH-Add-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReqFDDItem    CRITICALITY ignore      TYPE      DCH-Add-RL-
ReconfReqFDDItem PRESENCE optional      },
    ...
}

DCH-Add-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    ul-TransportFormatSet     TransportFormatSet,
    dl-TransportFormatSet     TransportFormatSet,
    frameHandlingPriority     FrameHandlingPriority,
    payloadCRC-PresenceIndicator  PayloadCRC-PresenceIndicator,
    ul-FP-Mode          UL-FP-Mode,
    toAWS               ToAWS,
    toAWE               ToAWE
}

DCH-DeleteList-RL-ReconfReqFDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfReqFDDItemIE }}

DCH-Delete-RL-ReconfReqFDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfReqFDDItem    CRITICALITY ignore      TYPE      DCH-Delete-
RL-ReconfReqFDDItem    PRESENCE optional    },
    ...
}

DCH-Delete-RL-ReconfReqFDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID
}

DSCH-ModifyItem-RL-ReconfReqFDD ::= SEQUENCE {
    dl-TransportFormatSet     TransportFormatSet     OPTIONAL,
    rL-ID               RL-ID           OPTIONAL,
    frameHandlingPriority     FrameHandlingPriority     OPTIONAL,
    toAWS               ToAWS           OPTIONAL,
    toAWE               ToAWE           OPTIONAL
}

DSCH-AddItem-RL-ReconfReqFDD ::= SEQUENCE {
    dl-TransportFormatSet     TransportFormatSet,
    rL-ID               RL-ID,
    frameHandlingPriority     FrameHandlingPriority,
    toAWS               ToAWS,
    toAWE               ToAWE
}

DSCH-DeleteItem-RL-ReconfReqFDD ::= SEQUENCE {
    rL-ID               RL-ID
}

RL-InformationList-RL-ReconfPrepFDD ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-RL-ReconfPrepFDDItemIE }}
```

```
RL-Information-RL-ReconfPrepFDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-RL-Information-RL-ReconfPrepFDDItem  CRITICALITY ignore  TYPE RL-Information-
RL-ReconfPrepFDDItem  PRESENCE optional  },
   ...
}

RL-Information-RL-ReconfPrepFDDItem ::= SEQUENCE {
   rL-ID             RL-ID,
   maxDL-Power       DL-Power      OPTIONAL,
   minDL-Power       DL-Power      OPTIONAL
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- **************************************************************

RadioLinkReconfigurationRequestTDD ::= SEQUENCE {
   protocolIEs                ProtocolIE-Container        {{RadioLinkReconfigurationRequestTDD-
IEs}},
   protocolExtensions                                     ProtocolExtensionContainer
{{RadioLinkReconfigurationRequestTDD-Extensions}}          OPTIONAL,
   ...
}

RadioLinkReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-NodeB-CommunicationContextID       CRITICALITY ignore      TYPE          NodeB-
CommunicationContextID       PRESENCE mandatory   } |
{ ID id-UL-CCTrCH-InformationList-RL-ReconfReqTDD  CRITICALITY ignore     TYPE   UL-
CCTrCH-InformationList-RL-ReconfReqTDD
PRESENCE optional
} |
{ ID id-DL-CCTrCH-InformationList-RL-ReconfReqTDD  CRITICALITY ignore     TYPE    DL-
CCTrCH-InformationList-RL-ReconfReqTDD
PRESENCE   optional
} |
   { ID id-DCH-ModifyList-RL-ReconfReqTDD   CRITICALITY ignore  TYPE  DCH-ModifyList-
RL-ReconfReqTDD      PRESENCE optional   } |
   { ID id-DCH-AddList-RL-ReconfReqTDD   CRITICALITY ignore  TYPE     DCH-AddList-RL-
ReconfReqTDD      PRESENCE optional   } |
   { ID id-DCH-DeleteList-RL-ReconfReqTDD   CRITICALITY ignore  TYPE  DCH-DeleteList-
RL-ReconfReqTDD      PRESENCE optional   } |
   { ID id-DSCH-ModifyList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE          DSCH-
ModifyList-RL-ReconfReqTDD      PRESENCE optional   } |
   { ID id-DSCH-AddList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE DSCH-AddList-RL-
ReconfReqTDD      PRESENCE optional   } |
   { ID id-DSCH-DeleteList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE          DSCH-
DeleteList-RL-ReconfReqTDD      PRESENCE optional   } |
   { ID id-USCH-ModifyList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE          USCH-
ModifyList-RL-ReconfReqTDD      PRESENCE optional   } |
   { ID id-USCH-AddList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE USCH-AddList-RL-
ReconfReqTDD      PRESENCE optional   } |
   { ID id-USCH-DeleteList-RL-ReconfReqTDD      CRITICALITY ignore  TYPE          USCH-
DeleteList-RL-ReconfReqTDD      PRESENCE optional   },
   ...
```

```
}

RadioLinkReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


UL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs))
OF
    ProtocolIE-Container {{UL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}

UL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-UL-CCTrCH-Information-RL-ReconfReqTDDItem  CRITICALITY ignore      TYPE    UL-
CCTrCH-Information-RL-ReconfReqTDDItem
PRESENCE    mandatory
},
    ...
}

UL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
    cCTrCH-ID               CCTrCH-ID,
    tFCS                TFCS,
    puncturingLimit             PuncturingLimit

}

DL-CCTrCH-InformationList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofCCTrCHs))
OF
    ProtocolIE-Container {{DL-CCTrCH-Information-RL-ReconfReqTDDItemIE }}

DL-CCTrCH-Information-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-DL-CCTrCH-Information-RL-ReconfReqTDDItem  CRITICALITY ignore      TYPE    DL-
CCTrCH-Information-RL-ReconfReqTDDItem
PRESENCE    mandatory
},
    ...
}

DL-CCTrCH-Information-RL-ReconfReqTDDItem ::= SEQUENCE {
    cCTrCH-ID               CCTrCH-ID,
    tFCS                TFCS,
    puncturingLimit             PuncturingLimit
}

DCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfReqTDDItemIE }}

DCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfReqTDDItem    CRITICALITY ignore      TYPE     DCH-Modify-
RL-ReconfReqTDDItem    PRESENCE optional    },
    ...
}

DCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID              DCH-ID,
    ul-CCTrCH-ID            CCTrCH-ID,
```

```
    dl-CCTrCH-ID            CCTrCH-ID,
    ul-TransportFormatSet    TransportFormatSet    OPTIONAL,
    dl-TransportFormatSet    TransportFormatSet    OPTIONAL,
    frameHandlingPriority    FrameHandlingPriority    OPTIONAL,
    ul-FP-Mode            UL-FP-Mode        OPTIONAL,
    toAWS                ToAWS            OPTIONAL,
    toAWE                ToAWE            OPTIONAL
}

DCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfReqTDDItemIE }}

DCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfReqTDDItem    CRITICALITY ignore    TYPE    DCH-Add-RL-
ReconfReqTDDItem PRESENCE optional    },
    ...
}

DCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID,
    rLC-Mode              RLC-Mode,
    ul-CCTrCH-ID          CCTrCH-ID,
    dl-CCTrCH-ID          CCTrCH-ID,
    ul-TransportFormatSet    TransportFormatSet,
    dl-TransportFormatSet    TransportFormatSet,
    frameHandlingPriority    FrameHandlingPriority,
    payloadCRC-PresenceIndicator    PayloadCRC-PresenceIndicator,
    ul-FP-Mode            UL-FP-Mode,
    toAWS                 ToAWS,
    toAWE                 ToAWE
}

DCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Delete-RL-ReconfReqTDDItemIE }}

DCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Delete-RL-ReconfReqTDDItem    CRITICALITY ignore    TYPE    DCH-Delete-
RL-ReconfReqTDDItem    PRESENCE optional    },
    ...
}

DCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
    dCH-ID                DCH-ID
}

DSCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Modify-RL-ReconfReqTDDItemIE }}

DSCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Modify-RL-ReconfReqTDDItem    CRITICALITY ignore    TYPE    DSCH-
Modify-RL-ReconfReqTDDItem    PRESENCE optional    },
    ...
}

DSCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID               DSCH-ID,
```

```
    cCTrCH-ID           CCTrCH-ID,
    transportFormatSet      TransportFormatSet      OPTIONAL,
    frameHandlingPriority       FrameHandlingPriority       OPTIONAL,
    toAWE           ToAWE       OPTIONAL,
    toAWS           ToAWS       OPTIONAL
}

DSCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Add-RL-ReconfReqTDDItemIE }}

DSCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore      TYPE      DSCH-Add-RL-
ReconfReqTDDItem PRESENCE optional    },
    ...
}

DSCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
    cCTrCH-ID           CCTrCH-ID,
    transportFormatSet      TransportFormatSet,
    frameHandlingPriority       FrameHandlingPriority       OPTIONAL,
    toAWE           ToAWE,
    toAWS           ToAWS
}

DSCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Delete-RL-ReconfReqTDDItemIE }}

DSCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Delete-RL-ReconfReqTDDItem  CRITICALITY ignore      TYPE      DSCH-Delete-
RL-ReconfReqTDDItem     PRESENCE optional    },
    ...
}

DSCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID
}

USCH-ModifyList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Modify-RL-ReconfReqTDDItemIE }}

USCH-Modify-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Modify-RL-ReconfReqTDDItem      CRITICALITY ignore      TYPE      USCH-
Modify-RL-ReconfReqTDDItem      PRESENCE optional    },
    ...
}

USCH-Modify-RL-ReconfReqTDDItem ::= SEQUENCE {
    uSCH-ID             USCH-ID,
    cCTrCH-ID           CCTrCH-ID       OPTIONAL,
    transportFormatSet      TransportFormatSet      OPTIONAL,
}

USCH-AddList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Add-RL-ReconfReqTDDItemIE }}
```

```
USCH-Add-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-USCH-Add-RL-ReconfReqTDDItem CRITICALITY ignore TYPE USCH-Add-RL-
ReconfReqTDDItem PRESENCE optional },
   ...
}

USCH-Add-RL-ReconfReqTDDItem ::= SEQUENCE {
   uSCH-ID USCH-ID,
   cCTrCH-ID CCTrCH-ID,
   transportFormatSet TransportFormatSet,
}

USCH-DeleteList-RL-ReconfReqTDD ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
   ProtocolIE-Container {{USCH-Delete-RL-ReconfReqTDDItemIE }}

USCH-Delete-RL-ReconfReqTDDItemIE NBAP-PROTOCOL-IES ::= {
   { ID id-USCH-Delete-RL-ReconfReqTDDItem CRITICALITY ignore TYPE USCH-Delete-
RL-ReconfReqTDDItem PRESENCE mandatory },
   ...
}

USCH-Delete-RL-ReconfReqTDDItem ::= SEQUENCE {
   uSCH-ID USCH-ID
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE
--
-- **************************************************************

RadioLinkReconfigurationResponse ::= SEQUENCE {
   protocolIEs ProtocolIE-Container {{RadioLinkReconfigurationResponse-IEs}},
   protocolExtensions ProtocolExtensionContainer {{RadioLinkReconfigurationResponse-
Extensions}} OPTIONAL,
   ...
}

RadioLinkReconfigurationResponse-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-CRNC-CommunicationContextID CRITICALITY ignore TYPE CRNC-
CommunicationContextID PRESENCE mandatory } |
   { ID id-RL-InformationResponseList-RL-ReconfResp CRITICALITY ignore TYPE RL-
InformationResponseList-RL-ReconfResp PRESENCE optional
}|
{ ID id-CriticalityDiagnostic CRITICALITY ignore TYPE CriticalityDiagnostic
   PRESENCE optional
   },
   ...
}

RL-InformationResponseList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
ProtocolIE-Container { {RL-InformationResponseItem-RL-ReconfRespIE} }

RL-InformationResponseItem-RL-ReconfRespIE NBAP-PROTOCOL-IE ::= {
   { ID id-RL-InformationResponseItem-RL-ReconfResp CRITICALITY ignore TYPE RL-
InformationResponseItem-RL-ReconfResp PRESENCE mandatory
```

```
},
    ...
}

RL-InformationResponseItem-RL-ReconfResp ::= SEQUENCE {
    rL-ID           RL-ID,
    dCHsToBeAdded     DCH-AddList-RL-ReconfResp    OPTIONAL,
    dCHsToBeModified  DCH-ModifyList-RL-ReconfResp    OPTIONAL,
    dSCHsToBeSetup       DSCH-SetupList-RL-ReconfResp    OPTIONAL,
    dSCHsToBeModifie  DSCH-ModifyList-RL-ReconfResp  OPTIONAL,
    uSCHsToBeSetup       USCH-SetupList-RL-ReconfResp    OPTIONAL,
    uSCHsToBeModifie  USCH-ModifyList-RL-ReconfResp  OPTIONAL
    ...
}

DCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Modify-RL-ReconfRespItemIE }}

DCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Modify-RL-ReconfRespItem CRITICALITY ignore      TYPE      DCH-Modify-RL-
ReconfRespItem   PRESENCE optional    },
    ...
}

DCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress     TransportLayerAddress
}

DCH-AddList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDCHs)) OF
    ProtocolIE-Container {{DCH-Add-RL-ReconfRespItemIE }}

DCH-Add-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-Add-RL-ReconfRespItem CRITICALITY ignore      TYPE              DCH-Add-RL-
ReconfRespItem   PRESENCE optional    },
    ...
}

DCH-Add-RL-ReconfRespItem ::= SEQUENCE {
    dCH-ID          DCH-ID,
    bindingID       BindingID,
    transportLayerAddress     TransportLayerAddress
}

DSCH-SetupList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Setup-RL-ReconfRespItemIE }}

DSCH-Setup-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Setup-RL-ReconfRespItem       CRITICALITY ignore      TYPE     DSCH-Setup-
RL-ReconfRespItem     PRESENCE optional       },
    ...
}

DSCH-Setup-RL-ReconfRespItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
```

```
    bindingID           BindingID,
    transportLayerAddress     TransportLayerAddress
}

DSCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofDSCHs)) OF
    ProtocolIE-Container {{DSCH-Modify-RL-ReconfRespItemIE }}

DSCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-Modify-ReconfRespItem    CRITICALITY ignore      TYPE      DSCH-Modify-RL-
ReconfRespItem   PRESENCE optional    },
    ...
}

DSCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
    dSCH-ID             DSCH-ID,
    bindingID           BindingID,
    transportLayerAddress     TransportLayerAddress
}

USCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Modify-RL-ReconfRespItemIE }}

USCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Modify-RL-ReconfRespItem   CRITICALITY ignore      TYPE  USCH-Modify-RL-
ReconfRespItem   PRESENCE optional    },
    ...
}

USCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
    uSCH-ID             USCH-ID,
    cCTrCH-ID           CCTrCH-ID,
    transportFormatSet      TransportFormatSet,
}

USCH-ModifyList-RL-ReconfResp ::= SEQUENCE (SIZE (1..maxnoofUSCHs)) OF
    ProtocolIE-Container {{USCH-Modify-RL-ReconfRespItemIE }}

USCH-Modify-RL-ReconfRespItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-Modify-RL-ReconfRespItem      CRITICALITY ignore      TYPE  USCH-Modify-
RL-ReconfRespItem      PRESENCE optional    },
    ...
}

USCH-Modify-RL-ReconfRespItem ::= SEQUENCE {
    uSCH-ID             USCH-ID,
    cCTrCH-ID           CCTrCH-ID       OPTIONAL,
    transportFormatSet      TransportFormatSet      OPTIONAL,
}

RadioLinkReconfigurationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
```

```
-- RADIO LINK DELETION REQUEST
--
-- **************************************************************

RadioLinkDeletionRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkDeletionRequest-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{RadioLinkDeletionRequest-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkDeletionRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID       CRITICALITY ignore      TYPE          NodeB-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-RL-informationList-RL-Del-Req      CRITICALITY ignore      TYPE          RL-
informationList-RL-Del-Req      PRESENCE mandatory    } ,
    ...
}

RadioLinkDeletionRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-informationList-RL-Del-Req ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-informationList-RL-Del-ReqItemIE }}

RL-informationList-RL-Del-ReqItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-informationList-RL-Del-ReqItem CRITICALITY ignore      TYPE          RL-
informationList-RL-Del-ReqItem       PRESENCE mandatory    },
    ...
}

RL-informationList-RL-Del-ReqItem ::= SEQUENCE {
    rL-ID               RL-ID
 }

-- **************************************************************
--
-- RADIO LINK DELETION RESPONSE
--
-- **************************************************************

RadioLinkDeletionResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkDeletionResponse-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{RadioLinkDeletionResponse-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkDeletionResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore  TYPE          CRNC-
CommunicationContextID       PRESENCE mandatory    }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
```

```
    ...
}

RadioLinkDeletionResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}



-- **************************************************************
--
-- DL POWER CONTROL REQUEST FDD
--
-- **************************************************************

DLPowerControlRequestFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{DLPowerControlRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{DLPowerControlRequestFDD-
Extensions}}            OPTIONAL,
    privateExtensions               PrivateExtensionContainer    {{DLPowerControlRequestFDD-
PrivateExtensions}}     OPTIONAL,
    ...
}

DLPowerControlRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID     CRITICALITY ignore    TYPE          NodeB-
CommunicationContextID     PRESENCE mandatory   } |
    { ID id-ProcedureScopeType       CRITICALITY ignore    TYPE ProcedureScopeType
        PRESENCE mandatory   } ,
    ...
}

DLPowerControlRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DLPowerControlRequestFDD-PrivateExtensions NBAP-PRIVATE-EXTENSION ::= {
    ...
}

ProcedureScopeType ::= CHOICE {
    all-RL              All-RL,
    individualRL        IndividualRL
}

All-RL ::= SEQUENCE {
    dl-ReferencePower       DL-Power
}

IndividualRL ::= SEQUENCE {
    dl-ReferencePowerInformationList-PC                                DL-
ReferencePowerInformationList-PC
}

DL-ReferencePowerInformationList-PC ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{DL-ReferencePowerInformationList-PCItemIE }}
```

```
DL-ReferencePowerInformationList-PCItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-DL-ReferencePowerInformationList-PCItem      CRITICALITY      ignore      TYPE
    DL-ReferencePowerInformationList-PCItem      PRESENCE    mandatory
},
    ...
}

DL-ReferencePowerInformationList-PCItem ::= SEQUENCE {
    rL-ID                RL-ID,
dl-ReferencePower        DL-Power
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- **************************************************************

DedicatedMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container      {{DedicatedMeasurementInitiationRequest-
IEs}},
    protocolExtensions                                          ProtocolExtensionContainer
{{DedicatedMeasurementInitiationRequest-Extensions}}          OPTIONAL,
    ...
}

DedicatedMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID      CRITICALITY ignore      TYPE          NodeB-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-MeasurementID            CRITICALITY ignore      TYPE MeasurementID
    PRESENCE mandatory    } |
    { ID id-DedicatedMeasurementObjectType-Req    CRITICALITY ignore      TYPE
DedicatedMeasurementObjectType-Req      PRESENCE mandatory    } |
    { ID id-DedicatedMeasurementType      CRITICALITY ignore      TYPE
DedicatedMeasurementType      PRESENCE mandatory    } |
    { ID id-MeasurementCharacteristics      CRITICALITY  ignore      TYPE
MeasurementCharacteristics      PRESENCE mandatory    } |
    { ID id-ReportCharacteristics      CRITICALITY  ignore      TYPE ReportCharacteristics
    PRESENCE mandatory    } ,
    ...
}

DedicatedMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


DedicatedMeasurementObjectType-Req ::= ENUMERATED {
    rL          RL-DMeasureReq,
    all-RL              All-DMeasureReq
}

RL-DMeasureReq ::= SEQUENCE {
    rL-InformationList  RL-InformationList-DMeasureReq
}
```

```
RL-InformationList-DMeasureReq ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{ RL-InformationList-DMeasureReqItemIE }}

RL-InformationList-DMeasureReqItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-RL-InformationList-DMeasureReqItem CRITICALITY ignore
TYPE    RL-InformationList-DMeasureReqItem   PRESENCE mandatory
},
    ...
}

RL-InformationList-DMeasureReqItem ::= SEQUENCE {
    rL-ID                RL-ID,
    dPCH-ID                DPCH-ID
}

All-RL-Req ::= SEQUENCE {
    dedicatedMeasurementValue    DedicatedMeasurementValue
 }

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- **************************************************************

DedicatedMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container      {{DedicatedMeasurementInitiationResponse-
IEs}},
    protocolExtensions                                          ProtocolExtensionContainer
{{DedicatedMeasurementInitiationResponse-Extensions}}              OPTIONAL,
    ...
}

DedicatedMeasurementInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore      TYPE              CRNC-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-MeasurementID              CRITICALITY ignore      TYPE MeasurementID
    PRESENCE mandatory    } |
    { ID id-DedicatedMeasurementObjectType-Resp   CRITICALITY ignore      TYPE
DedicatedMeasurementObjectType-Resp PRESENCE mandatory    } |
    { ID id-CFN                CRITICALITY ignore      TYPE CFN              PRESENCE
mandatory }|
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

DedicatedMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


DedicatedMeasurementObjectType-Resp ::= ENUMERATED {
    rL          RL-Resp,
```

```
    all-RL              All-RL-resp
 }

RL-Resp ::= SEQUENCE {
    rL-InformationList-DMeasureResponse                    RL-InformationList-
DmeasureResponse
}

RL-InformationList-DmeasureResponse ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-DMeasureResponseItemIE }}

RL-Information-DMeasureResponseItemIE NBAP-PROTOCOL-IES ::= {
{ ID id-RL-Information-DMeasureResponseItem      CRITICALITY ignore      TYPE    RL-
Information-DMeasureResponseItem  PRESENCE mandatory
},
    ...
}

RL-Information-DMeasureResponseItem ::= SEQUENCE {
    rL-ID                RL-ID,
    dedicatedMeasurementValue    DedicatedMeasurementValue
}

All-RL-Resp ::= SEQUENCE {
    dedicatedMeasurementValue    DedicatedMeasurementValue
 }

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

DedicatedMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container      {{DedicatedMeasurementInitiationFailure-
IEs}},
    protocolExtensions                                   ProtocolExtensionContainer
{{DedicatedMeasurementInitiationFailure-Extensions}}          OPTIONAL,
    ...
}

DedicatedMeasurementInitiationFailure-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore      TYPE              CRNC-
CommunicationContextID       PRESENCE mandatory    } |
    { ID id-MeasurementID            CRITICALITY ignore      TYPE MeasurementID
    PRESENCE mandatory    } |
    { ID id-Cause              CRITICALITY ignore      TYPE Cause              PRESENCE
mandatory } |
{ ID id-CriticalityDiagnostic          CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

DedicatedMeasurementInitiationFailure-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


-- **************************************************************
--
-- DEDICATED MEASUREMENT REPORT
--
-- **************************************************************

DedicatedMeasurementReport ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{DedicatedMeasurementReport-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{DedicatedMeasurementReport-
Extensions}}            OPTIONAL,
    ...
}

DedicatedMeasurementReport-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID    CRITICALITY ignore     TYPE            CRNC-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-MeasurementID           CRITICALITY ignore     TYPE MeasurementID
    PRESENCE mandatory    } |
    { ID id-DedicatedMeasurementObjectType-Rep    CRITICALITY ignore     TYPE
DedicatedMeasurementObjectType-Rep     PRESENCE mandatory    } |
    { ID id-CFN             CRITICALITY ignore     TYPE CFN             PRESENCE
mandatory },
    ...
}

DedicatedMeasurementReport-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


DedicatedMeasurementObjectType-Rep ::= ENUMERATED {
    rL          RL-Rep,
    all-RL          All-RL-Rep
 }

RL-Rep ::= SEQUENCE {
    rL-InformationList-DMeasureReport                       RL-InformationList-
DMeasureReport
 }

RL-InformationList-DmeasureReport ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-Information-DMeasureReportItemIE }}

RL-Information-DMeasureReportItemIE NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-DMeasureReportItem  CRITICALITY ignore  TYPE    RL-Information-
DMeasureReportItem      PRESENCE mandatory    },
    ...
}

RL-Information-DMeasureReportItem ::= SEQUENCE {
    rL-ID               RL-ID,
    dedicatedMeasurementValue    DedicatedMeasurementValue
}
```

```
All-RL-Rep ::= SEQUENCE {
   dedicatedMeasurementValue    DedicatedMeasurementValue
 }

-- **************************************************************
--
-- DEDICATED MEASUREMENT TERMINATION REQUEST
--
-- **************************************************************

DedicatedMeasurementTerminationRequest ::= SEQUENCE {
   protocolIEs          ProtocolIE-Container     {{DedicatedMeasurementTerminationRequest-IEs}},
   protocolExtensions                       ProtocolExtensionContainer {{DedicatedMeasurementTerminationRequest-Extensions}}           OPTIONAL,
OPTIONAL,
   ...
}

DedicatedMeasurementTerminationRequest-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-NodeB-CommunicationContextID      CRITICALITY ignore     TYPE          NodeB-CommunicationContextID       PRESENCE mandatory    } |
   { ID id-MeasurementID             CRITICALITY ignore     TYPE MeasurementID
   PRESENCE mandatory    },
   ...
}

DedicatedMeasurementTerminationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
   ...
}



-- **************************************************************
--
-- DEDICATED MEASUREMENT FAILURE INDICATION
--
-- **************************************************************

DedicatedMeasurementFailureIndication ::= SEQUENCE {
   protocolIEs          ProtocolIE-Container     {{DedicatedMeasurementFailureIndication-IEs}},
   protocolExtensions                       ProtocolExtensionContainer {{DedicatedMeasurementFailureIndication-Extensions}}           OPTIONAL,
   ...
}

DedicatedMeasurementFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
   { ID id-CRNC-CommunicationContextID    CRITICALITY ignore     TYPE          CRNC-CommunicationContextID       PRESENCE mandatory    } |
   { ID id-MeasurementID             CRITICALITY ignore     TYPE MeasurementID
   PRESENCE mandatory    } |
   { ID id-Cause             CRITICALITY ignore     TYPE Cause          PRESENCE mandatory } |
{ ID id-CriticalityDiagnostic        CRITICALITY ignore     TYPE CriticalityDiagnostic
```

```
    PRESENCE optional
    },

    ...
}

DedicatedMeasurementFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}



-- **************************************************************
--
-- RADIO LINK FAILURE INDICATION
--
-- **************************************************************

RadioLinkFailureIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkFailureIndication-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{RadioLinkFailureIndication-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkFailureIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore      TYPE            CRNC-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-RL-InformationList-RL-FailInd       CRITICALITY ignore      TYPE            RL-
InformationList-RL-FailInd      PRESENCE mandatory    }|
{ ID id-CriticalityDiagnostic       CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

RadioLinkFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-InformationList-RL-FailInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{ RL-InformationList-RL-FailIndItemIE }}

RL-InformationList-RL-FailInd ItemIE NBAP-PROTOCOL-IES ::= {
    { I D id- RL-InformationList-RL-FailIndItem    CRITICALITY ignore      TYPE            RL-
InformationList-RL-FailIndItem      PRESENCE mandatory    },
    ...
 }

RL-InformationList-RL-FailIndItem ::= SEQUENCE {
    rL-ID           RL-ID,
    cause           Cause
 }

-- **************************************************************
```

```
--
-- RADIO LINK RESTORE INDICATION
--
-- ********************************************************************

RadioLinkRestoreIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{RadioLinkRestoreIndication-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{RadioLinkRestoreIndication-
Extensions}}            OPTIONAL,
    ...
}

RadioLinkRestoreIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore      TYPE            CRNC-
CommunicationContextID      PRESENCE mandatory    } |
    { ID id-RL-InformationList-RL-RestoreInd  CRITICALITY ignore      TYPE              RL-
InformationList-RL-RestoreInd      PRESENCE mandatory    },
    ...
}

RadioLinkRestoreIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


RL-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxnoofRLs)) OF
    ProtocolIE-Container {{RL-InformationList-RL-RestoreIndItemIE }}

RL-InformationList-RL-RestoreIndItemIE NBAP-PROTOCOL-IES ::= {
    { I D id-RL-InformationList-RL-RestoreIndItem    CRITICALITY ignore      TYPE            RL-
InformationList-RL-RestoreIndItem    PRESENCE mandatory    },
    ...
 }

RL-InformationList-RL-RestoreIndItem ::= SEQUENCE {
    rL-ID               RL-ID
 }

-- ********************************************************************
--
-- COMPRESSED MODE PREPARE FDD
--
-- ********************************************************************

CompressedModePrepareFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CompressedModePrepareFDD-IEs}},
    protocolExtensions                  ProtocolExtensionContainer  {{CompressedModePrepareFDD-
Extensions}}            OPTIONAL,
    ...
}

CompressedModePrepareFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID      CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID     PRESENCE mandatory    } |
    { ID id-TGP1            CRITICALITY ignore      TYPE TGP1           PRESENCE
mandatory } |
```

```
    { ID id-TGP2            CRITICALITY ignore      TYPE TGP2           PRESENCE optional
    } |
    { ID id-TGL             CRITICALITY ignore      TYPE TGL            PRESENCE mandatory
    } |
    { ID id-TGD             CRITICALITY ignore      TYPE TGD            PRESENCE mandatory
    } |
    { ID id-UL-DL-CompressedModeSeletion CRITICALITY ignore      TYPE                UL-DL-
CompressedModeSeletion  PRESENCE mandatory    } |
    { ID id-CompressesModeMethod    CRITICALITY ignore      TYPE CompressesModeMethod
    PRESENCE mandatory    } |
    { ID id-GapPositionMode         CRITICALITY ignore      TYPE GapPositionMode
    PRESENCE mandatory    } |
    { ID id-SN              CRITICALITY ignore      TYPE SN             PRESENCE optional    }
|
    -- This IE is present if Gap position mode = 'flexible position'--
    { ID id-DL-FrameType        CRITICALITY ignore      TYPE DL-FrameType
    PRESENCE mandatory    } |
    { ID id-ScramblingCodeChange    CRITICALITY ignore      TYPE ScramblingCodeChange
    PRESENCE optional    }|
    -- This IE is present if Compressed mode method = 'SF/2' --
    { ID id-PowerControlMode        CRITICALITY ignore      TYPE PowerControlMode
    PRESENCE mandatory    } |
    { ID id-PowerResumeMode         CRITICALITY ignore      TYPE PowerResumeMode
    PRESENCE mandatory    } |
    { ID id-UL-DeltaEb-No       CRITICALITY ignore      TYPE UL-DeltaEb-No
    PRESENCE mandatory    } |
    { ID id-UL-DeltaEb-NoAfter      CRITICALITY ignore      TYPE UL-DeltaEb-NoAfter
    PRESENCE mandatory    },
    ...
}

CompressedModePrepareFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMPRESSED MODE READY FDD
--
-- **************************************************************

CompressedModeReadyFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CompressedModeReadyFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer  {{CompressedModeReadyFDD-
Extensions}}            OPTIONAL,
    ...
}

CompressedModeReadyFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNCommunicationContextID       CRITICALITY ignore      TYPE                CRNC-
CommunicationContextID    PRESENCE mandatory    },
    ...
}

CompressedModeReadyFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}


-- **************************************************************
--
-- COMPRESSED MODE COMMIT FDD
--
-- **************************************************************

CompressedModeCommitFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CompressedModeCommitFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CompressedModeCommitFDD-
Extensions}}            OPTIONAL,
    ...
}

CompressedModeCommitFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID    PRESENCE mandatory    } |
    { ID id-CFN             CRITICALITY ignore      TYPE CFN            PRESENCE mandatory
    },
    ...
}

CompressedModeCommitFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- COMPRESSED MODE FAILURE FDD
--
-- **************************************************************

CompressedModeFailureFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CompressedModeFailureFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CompressedModeFailureFDD-
Extensions}}            OPTIONAL,
    ...
}

CompressedModeFailureFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-CRNC-CommunicationContextID     CRITICALITY ignore      TYPE            CRNC-
CommunicationContextID        PRESENCE mandatory    } |
    { ID id-Cause           CRITICALITY ignore      TYPE Cause          PRESENCE
mandatory     }|
{ ID id-CriticalityDiagnostic           CRITICALITY ignore      TYPE CriticalityDiagnostic
    PRESENCE optional
    },
    ...
}

CompressedModeFailureFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}


-- **************************************************************
--
-- COMPRESSED MODE CANCEL FDD
--
-- **************************************************************

CompressedModeCancelFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{CompressedModeCancelFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer  {{CompressedModeCancelFDD-
Extensions}}            OPTIONAL,
    ...
}

CompressedModeCancelFDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID     PRESENCE mandatory    },
    ...
}

CompressedModeCancelFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- ERROR INDICATION
--
-- **************************************************************

ErrorIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container     {{ErrorIndication-IEs}},
    protocolExtensions              ProtocolExtensionContainer  {{ErrorIndication-Extensions}}
OPTIONAL,
    ...
}

ErrorIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-Cause               CRITICALITY ignore      TYPE Cause              PRESENCE
mandatory } |
{ ID id-CRNC-CommunicationContextID     CRITICALITY ignore      TYPE            CRNC-
CommunicationContextID        PRESENCE optional    } |
-- This IE is only present when message is transmitted by RNC --
{ ID id-NodeB-CommunicationContextID        CRITICALITY ignore      TYPE            NodeB-
CommunicationContextID        PRESENCE optional    } |
-- This IE is only present when message is transmitted by NodeB --
    { ID id-CriticalityDiagnostic           CRITICALITY ignore      TYPE L3-CriticalityDiagnostic
        PRESENCE optional    },
    -- At least either or Cause IE or Criticality Diagnostic IE shall be present--
    ...
}

ErrorIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}


END
```

9.3.4 NBAP Information Elements

```
--**************************************************************************
--
-- Information Element Definitions
--
--**************************************************************************

NBAP-IEs
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
        maxTFcount,
        maxnoofTFCs,
        maxCTF-1,
        maxRM,


FROM NBAP-Constants;

DTX-InsertionPoint ::= INTEGER
DedicatedMeasurementValue ::= INTEGER
DeltaTPC ::= INTEGER

-----------------------------------------------
-- A
-----------------------------------------------

-- to do
AcknowledgedRA-TriesValue ::= TBD

AddOrDeleteIndicator ::= ENUMERATED {
add,
delete
}

AICH-TransmissionTiming ::= ENUMERATED {
timing0,
timing1
}

AvailabilityStatus ::= ENUMERATED {
empty,
in-test,
failed,
power-off,
```

```
off-line,
off-duty,
dependency,
degraded,
not-installed,
log-full,
...
}

--to do
AveragingDuration ::= TBD

-----------------------------------------------
-- B
-----------------------------------------------

BCCH-ModificationTime ::= INTEGER (0| 2| 4| .. | 4095)

BindingID ::= OCTET STRING (SIZE (4))

BlockingPriorityIndicator ::= ENUMERATED {
high,
normal,
low
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

BurstType ::= ENUMERATED {
type1,
type2
}

-----------------------------------------------
-- C
-----------------------------------------------

Cause ::= ENUMERATED {
radioNetworkLayer     RadioNetworkLayerCause,
transportLayer        TransportLayerCause,
protocol        ProtocolCause,
misc            MiscellaneousCause
...
}

CCTrCH-ID ::= INTEGER (1..15)

CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

CFN ::= INTEGER (0..255)
```

```
ChipOffset ::= INTEGER (0..38399)

C-ID ::= INTEGER (0..65535)

CodingRate ::= ENUMERATED {
rate1-2,
rate1-3
}

CommonMeasurementObjectType ::= ENUMERATED {
    cell,
    rach,
    ...
}

CommonMeasurementType ::= SEQUENCE  {
    rssi                RSSI-Value,
    transmitted-carrier-power    TransmittedCarrierPowerValue,
    acknowledged-ra-tries        AcknowledgedRA-TriesValue,
    time-slot-iscp           TimeSlotISCP-Value,
    ...
}

CommonPhysicalChannelID ::= INTEGER (0..255)

CommonTransportChannelID ::= INTEGER (0..255)

CommunicationControlPortID ::= INTEGER (0..65535)

CompressedModeMethod ::= ENUMERATED {
puncturing,
sF-2,
gating,
none
}

ConfigurationGenerationID ::= INTEGER (0..255)

CRC-Size ::= ENUMERATED {
size0,
size12,
size16,
size24
}


CRNC-CommunicationContextID ::= INTEGER (0..1048575)

CTFC ::= INTEGER (0..maxCTF-1)

--------------------------------------------
-- D
--------------------------------------------

DCH-CombinationInd ::= INTEGER (0..255)
```

```
DCH-ID ::= INTEGER (0..255)

DedicatedMeasurementObjectType1 ::= ENUMERATED {
    cell,
    rach,
    ...
}

DedicatedMeasurementObjectType2 ::= SEQUENCE {
sir-value       SIR-Value       OPTIONAL,
sir-error-value     SIR-ErrorValue      OPTIONAL,
transmitted-code-power  TransmittedCodePowerValue   OPTIONAL,
time-slot-iscp      TimeSlotISCP-Value      OPTIONAL,
...
}

DedicatedMeasurementObjectType3 ::= ENUMERATED {
    rl,
    all-rl,
    ...
}

-- Reference: 25.215 and 25.225
DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    timeslot-iscp,
    ...
}


D-FieldLength ::= ENUMERATED {
d-length1,
d-lngth2
}

DiversityControlField ::= ENUMERATED {
may,
must,
must-not
}

DiversityIndication ::= ENUMERATED {
combined,
not-combined
}

DiversityMode ::= ENUMERATED {
none,
sTTD,
closed-loop-mode1,
closed-loop-mode2
}

DL-DPCH-SlotFormat ::= INTEGER (0..16)
```

```
DL-FrameType ::= ENUMERATED {
typeA,
typeB
}

-- -35..15 is transformed into 0..50. 0.1 steps gives 0..500
-- Power0 indicates –35dB, Power1 indicates –34.9dB, …, Power500 indicates 15dB
DL-Power ::= ENUMERATED {
power0,
power1,
...
}

-- 0= Primary scrambling code of the cell, 1..15= Secondary scrambling code --
DL-ScramblingCode ::= INTEGER (0..15)

DPCH-ID ::= INTEGER (0..15)

DPCH-Offset ::= INTEGER (0..255)

DSCH-ID ::= INTEGER (0..255)

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatSet ::= TBD

-- to do
-- the parameter need to be defined. It may correspond to the DL TFS defined for DCH
DSCH-TransportFormatCombinationSet ::= TBD

DTX-InsertionPosition ::= ENUMERATED {
fixed,
flexible
}

DynamicTransportFormatInformation ::= SEQUENCE (SIZE (1..maxTFcount)) OF
    SEQUENCE {
    numberOfTransportBlocks        NumberOfTransportBlocks,
    transportBlockSize       TransportBlockSize  OPTIONAL
    -- This IE is only present if  Number of Transport Blocks is greater than 0 --,
    mode-dynamicTFS            Mode-DynamicTFS
        ...
}

------------------------------------------------
-- E
------------------------------------------------

EventA ::= SEQUENCE {
    measurementThreshold        MeasurementThreshold,
    measurementHysteresisTime     MeasurementHysteresisTime OPTIONAL
}

EventB ::= SEQUENCE {
    measurementThreshold        MeasurementThreshold,
```

```
    measurementHysteresisTime      MeasurementHysteresisTime OPTIONAL
}

EventC ::= SEQUENCE {
    measurementIncreaseThreshold    MeasurementIncreaseThreshold,
    measurementChangeTime        MeasurementChangeTime
}

EventD ::= SEQUENCE {
    measurementDecreaseThreshold    MeasurementDecreaseThreshold,
    measurementChangeTime        MeasurementChangeTime
}

EventE ::= SEQUENCE {
    measurementThreshold1      MeasurementThreshold1,
    measurementThreshold2      MeasurementThreshold2  OPTIONAL,
    measurementHysteresisTime    MeasurementHysteresisTime    OPTIONAL,
    reportPeriodicity          ReportPeriodicity     OPTIONAL
}

EventF ::= SEQUENCE {
    measurementThreshold1      MeasurementThreshold1,
    measurementThreshold2      MeasurementThreshold2  OPTIONAL,
    measurementHysteresisTime    MeasurementHysteresisTime    OPTIONAL,
    reportPeriodicity          ReportPeriodicity     OPTIONAL
}

-------------------------------------------------
-- F
-------------------------------------------------

-- The maximum value is equal to the DL spreading factor    --
FDD-DL-ChannalisationCodeNumber ::= INTEGER(0.. 255)


-- 0: 0 chip, 1: 256 chip, 2: 512 chip, .. ,149: 38144 chip [TS 25.211] --
FDD-S-CCPCH-Offset ::= INTEGER (0.. 149)

-- 0=lower priority, 15=higher priority --
FrameHandlingPriority ::= INTEGER (0..15)



-------------------------------------------------
-- G
-------------------------------------------------

GapPeriod ::= INTEGER(0..255)

Gap Position Mode ::= ENUMERATED {
fixed,
flexible
}

-------------------------------------------------
-- H
```

```
--------------------------------------------------

--------------------------------------------------
-- I
--------------------------------------------------

-- to do
IB-SG ::= BIT STRING

IB-SG-POS ::= INTEGER (0..4095)

IB-SG-REP ::= INTEGER {rep(16), rep(32), rep(64), rep(128), rep(256), rep(512), rep(1024), rep(2048)}

IB-Type :: Enumerated {
MIB,
SIB1,
SIB2,
SIB12
}

IndicationType ::= ENUMERATED {
noFailure,
serviceImpacting,
cellControl,
...
}

--------------------------------------------------
-- J
--------------------------------------------------

--------------------------------------------------
-- L
--------------------------------------------------

LocalCell-ID ::= INTEGER (0..268435455)

--------------------------------------------------
-- M
--------------------------------------------------
-- dBm, granularity 1 dBm
-- dl-power0 indicates 0 dBm
MaximumDL-PowerCapability ::= ENUMERATED{
dl-power0,
dl-power1,
dl-power2,
...
}

-- Unit dBm, 0 to 50, Granularity  1 dB
MaximumTransmissionPower ::= ENUMERATED {
power0,
power1,
power2,
...
```

```
}

MaxNumberOfUL-DPDCHs ::= INTEGER (1..6)

MaxPRACH-MidambleShifts ::= ENUMERATED {
shift4,
shift8
}

-- 10ms to 1min, Step10ms
MeasurementChangeTime ::= ENUMERATED {
time10ms,
time20ms,
time30ms,
...
}


MeasurementCharacteristics ::= SEQUENCE {
   measurementFrequency       MeasurementFrequency,
   averagingDuration      AveragingDuration
}

-- to do
MeasurementDecreaseThreshold ::= TBD

-- to do
MeasurementFrequency ::= TBD

-- to do
MeasurementIncreaseThreshold ::= TBD

-- to do
-- 10ms to 1min, Step10ms --
MeasurementHysteresisTime ::= ENUMERATED {
time10ms,
timm20ms,
time30ms,
...
}

MeasurementID ::= INTEGER (0..1048575)

-- to do
MeasurementThreshold ::= TBD

-- to do
MeasurementThreshold1 ::= TBD

-- to do
MeasurementThreshold2 ::= TBD

MeasurementType ::= ENUMERATED {
sCH,
syncRACH-access
}
```

```
MessageDiscriminator ::= ENUMERATED {
common,
dedicated
}

MidambleShift ::= INTEGER (0..15)

MinimumSpreadingFactor ::= ENUMERATED {
sF4,
sF16,
sF32,
sF64,
sF128,
sF256,
sF512
}

MinUL-ChannelisationCodeLength ::= ENUMERATED {
code-length4,
code-length8,
code-length16,
code-length32,
code-length64,
code-length128,
code-length256
}

MiscellaneousCause ::= ENUMERATED {
control-processing-overload,
hardware-failure,
oam-intervention,
not-enough-user-plane-processing-resources,
unspecified
}

Mode-DynamicTFS ::= CHOICE {
    tdd-mode-dynamic   TransmissionTimeInterval-Dynamic,
    ...
}

Mode-SemiStaticTFS ::=    CHOICE {
    tdd-mode-semistatic TransmissionTimeInterval-SemiStatic,
    ...
}

--------------------------------------------------
-- N
--------------------------------------------------

-- to do
NumberOfChannelElements ::= TBD

NodeB-CommunicationContextID ::= INTEGER (0..1048576)

NumberOfTransportBlocks ::= INTEGER (0..4095)
```

```
--------------------------------------------------
-- O
--------------------------------------------------

--------------------------------------------------
-- P
--------------------------------------------------

PagingIndicatorLength ::= ENUMERATED {
ind-length2,
ind-length4,
ind-length8
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
cRC-Included,
cRC-NotIncluded
}

PD ::= INTEGER(0..2047)

PICH-Mode ::= ENUMERATED {
noofPI18,
noofPI36,
noofPI72,
noofPI144
}

PilotBitsUsedIndicator ::= ENUMERATED {
pilot-bits-used,
pilot-bits-not-used
}

PowerControlMode ::= ENUMERATED {
pcm0,
pcm1,
...
}

-- Chips. Step size is 3 chips. 0=0 chips, 1=3 chips .. --
--** TODO. -15..40 is transformed to 0..55. 0.1 steps gives 0..550 **
PowerOffset ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
prm0,
prm1,
...
}


PRACH-Midamble ::= ENUMERATED {
inverted,
direct
}
```

```
PreambleScramblingCode ::= INTEGER (0..4095)

-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [25.213] --
PreambleSignatures ::= BIT STRING (SIZE (16))

-- Unit dBm, -15 to 40, Granularity 0.1 dB
-- cpich-power1 indicates   5 dB
PrimaryCPICH-Power ::= ENUMERATED {
cpich-power1,
cpich-power2,
...
}

PrimaryScramblingCode ::= INTEGER (0..511)

PropagationDelay ::= INTEGER (0..255)

ProtocolCause                                   ::=                                   ENUMERATED
transaction-not-allowed,
transfer-syntax-error,
abstract-syntax-error -reject,
abstract-syntax-error-ignore-and-notify,
message-not-compatible-with-receiver-state,
semantic-error,
unspecified
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-15..40)

PSCH-TimeSlot ::= INTEGER (0..6)

PSCH-Power ::= INTEGER (0..511)

PUSCH-Offset ::= INTEGER (0..255)

-----------------------------------------------
-- R
-----------------------------------------------

-- SF
RACH-SlotFormat ::= ENUMERATED {
format256,
format128,
format64,
format32
}

-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, .., Bit 14=Sub Channel Number
14 --
RACH-SubChannelNumbers ::= BIT STRING (SIZE (15))

RadioNetworkLayerCause :: Enumerated {
unknown-C-ID,
cell-not-available,
```

```
power-level-not-supported,
ul-scramblingcode-already-in-use,
dl-radio-resources-not-available,
ul-radio-resources-not-available,
rl-Already-ActivatedorAllocated,
nodeB-Resources-Unavailable,
insufficient-physical-channel-resources,
measurement-not-supported-for-the-object,
macrodiversity-combining-not-possible,
reconfiguration-not-allowed,
requested-configuration-not-supported,
synchronization-failure,
unspecified
}

RateMatchingAttribute ::= INTEGER (1..maxRM)

RepetitionLength ::= ENUMERATED {
length1,
length2,
length4,
length8
}

ReportCharacteristicsType ::= CHOICE {
    onDemand        NULL,
    periodic        ReportPeriodicity,
    event-a         EventA,
    event-b         EventB,
    event-c         EventC,
    event-d         EventD,
    event-e         EventE,
    event-f         EventF
}

-- 10ms to 1min, step 10ms or
-- 1min to 1hour, step 1min
ReportPeriodicity ::= CHOICE {
    msec            INTEGER (1..1000),
    min             INTEGER (1..60)
}

ResourceOperationalState ::= ENUMERATED {
enabled,
disabled
}

RLC-Mode ::= ENUMERATED {
acknowledgedMode,
unacknowledgedMode,
transparentMode
}

RL-ID ::= INTEGER (0..31)

RNC-ID ::= INTEGER (0..4095)
```

```
-- -30..-100 step 0.1
-- rssi1 indicates -30
RSSI-Value ::= ENUMERATED {
rssi1,
rssi2,
...
}
-----------------------------------------------
-- S
-----------------------------------------------

ScramblingCodeChange ::= ENUMERATED {
change,
no-change
}

Scrambling Code Word Number ::= INTEGER (0..255)

SecondaryCCPCH-SlotFormat ::= INTEGER(0..8)

SegmentType ::= ENUMERATED {
first,
subsequent,
last,
complete
}

SemiStaticTransportFormatInformation ::= SEQUENCE {
    transmissionTimeInterval     TransmissionTimeInterval,
    typeOfChannelCoding     TypeOfChannelCoding,
    codingRate          CodingRate          OPTIONAL
    --  This IE is only present if IE Type of channel coding is Convolutional or Turbo --,
    rateMatchingAttribute     RateMatchingAttribute,
    cRC-Size          CRC-Size,
    mode-semistatic          Mode-SemiStatic
}

S-FieldLength ::= ENUMERATED {
s-length1,
s-length2
}

SIB-DeletionIndicator ::= ENUMERATED {
noDeletion,
deletion
}

SIB-Originator ::= ENUMERATED {
nodeB,
cRNC
}

--** TODO. -10..10 is transformed to 0..10. 0.1 steps gives 0..200 **
-- sir-error-value1 indicates    0 dB
SIR-ErrorValue ::= ENUMERATED {
```

```
sir-error-value1,
sir-error-value2,
...
}

--** TODO. -10..20 is transformed to 0..30. 0.1 steps gives 0..300 **
-- sir-value1 indicates   0 dB
SIR-Value ::= ENUMERATED {
sir-value1,
sir-value2,
...
}

SSDT-CellIdentity ::= ENUMERATED {a, b, c, d, e, f, g, h}

SSDT-Indication ::= ENUMERATED {
    ssdtActiveInTheUE,
    ssdtNotActiveInTheUE
}

STTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

SSDT-SupportIndicator ::= ENUMERATED {
sSDT-not-supported,
sSDT-Supported
}

ShutdownTimer ::= INTEGER (1..3600)


SynchronisationMethod ::= ENUMERATED {
external-reference,
locked-toMaster-cell,
one-time-synchronisation
}

-----------------------------------------------
-- T
-----------------------------------------------

T-Cell ::= ENUMERATED {
    chip-0,
    chip-256,
    chip-512,
    chip-768,
    chip-1024,
    chip-1280,
    chip-1536,
    chip-1892,
    chip-2048,
    chip-2304
}
```

```
TDD-ChannelisationCode ::= ENUMERATED {
channelisationCode1-1,
channelisationCode2-1,
channelisationCode2-2,
channelisationCode4-1,
channelisationCode4-2,
...
}

-- the ChipOffset is   9200 to + 19199
TDD-ChipOffset ::= INTEGER (-19200..19199)

TransmissionTimeInterval-Dynamic ::= SEQUENCE (SIZE (1..maxTTIcount)) OF
    ENUMERATED {tti10, tti20, tti40, tti80}
}

TransmissionTimeInterval-SemiStatic ::= ENUMERATED {
frameRelated,
timeSlotRelated
}

TDD-S-CCPCH-Offset ::= INTEGER (0..63)

TFCI-Presence ::= ENUMERATED {
present,
not-present
}

TFCI-SignallingMode ::= ENUMERATED {
normal,
split
}

TFCS ::= SEQUENCE (SIZE (1..maxnoofTFCs)) OF
    SEQUENCE {
       cTFC        CTFC
}


TFS ::= SEQUENCE {
    dynamicTransportFormatInformation
    DynamicTransportFormatInformation,
    semiStaticTransportFormatInformation
    SemiStaticTransportFormatInformation
}



TGD :: = INTEGER (0..255)

TGL ::= INTEGER (3,4,7,10,14)

TimeSlot ::= INTEGER (0..14)

TimeSlotDirection ::= ENUMERATED {
    ul,
```

```
    dl
}

-- to do
TimeSlotISCP-Value ::= TBD

TimeSlotStatus ::= ENUMERATED {
    active,
    not-active
}

ToAWE ::= INTEGER (0..2559) -- msec. --

ToAWS ::= INTEGER (0..1279) -- msec. --

TPC-DownlinkStepSize ::= ENUMERATED {
step-size0-5,
step-size1
}

Transmit Diversity Indicator ::= ENUMERATED {
active,
Inactive
}

TransmissionTimeInterval ::= ENUMERATED {
time-interval10,
time-interval20,
time-interval40,
time-interval80
}          -- mec --

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- carrier-power1 indicates   5 dB
TransmittedCarrierPowerValue ::= ENUMERATED {
carrier-power1,
carrier-power2,
...
}

--** TODO. -35..15 is transformed to 0..50. 0.1 steps gives 0..500 **
-- code-power1 indicated   5 dB
TransmittedCodePowerValue ::= ENUMERATED {
code-power1,
code-power2,
...
}

TransportBlockSize ::= INTEGER (1..5000)
-- bit --

TSTD-Indicator ::= ENUMERATED {
    active,
    inactive
}
```

```
TransportLayerAddress ::= OCTET STRING (SIZE (1..20, ...))

TransportLayerCause ::= ENUMERATED {
transport-link-failure,
transmission-port-not-available,
transport-resource-unavailable,
unspecified
}

TypeOfChannelCoding ::= ENUMERATED {
no-coding,
convolutional,
turbo
}

-----------------------------------------------
-- U
-----------------------------------------------

UARFCN ::= INTEGER (174 .. 474)

UL-DL-CompressedModeSelection ::= ENUMERATED {
ul-only,
dl-only,
both-UlandDL
}

UL-DPCH-SlotFormat ::= INTEGER (0..5)

UL-EbNo ::= INTEGER (0..255)
-- Resolution is 0.1 dB, range 0-25.5 dB --

UL-FP-Mode ::= ENUMERATED {
normal,
silent
}


-- unit dBm, step 0.1dBm
UL-InterferenceLevel ::= INTEGER (-128..60)

UL-PunctureLimit ::= INTEGER (0..100)

UL-ScramblingCode ::= SEQUENCE {
    uL-ScramblingCodeNumber      UL-ScramblingCodeNumber,
    uL-ScramblingCodeLength      UL-ScramblingCodeLength
}

-- 2^24
UL-ScramblingCodeLength ::= INTEGER (0..16777215)

UL-ScramblingCodeNumber ::= ENUMERATED {
short,
long
}
```

```
UplinkDeltaEb-No ::= ENUMERATED {
deltaEb-No-6dB,
...
}

UplinkDeltaEb-No-after ::= ENUMERATED {
deltaEb-No-after-6dB,
...
}

END
```

9.3.5 NBAP Common Data Type Definitions

```
-- **************************************************************
--
-- Common definitions
--
-- **************************************************************

NBAP-CommonDataTypes -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

Criticality       ::= ENUMERATED { reject, ignore, notify }

MessageDiscriminator  ::= ENUMERATED { common, dedicated }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateExtensionID ::= CHOICE {
   local            INTEGER (0..65535),
   global               OBJECT IDENTIFIER
}

ProcedureID       ::= SEQUENCE {
   procedureCode            INTEGER (0..255),
   ddMode               ENUMERATED { tdd, fdd, common }
}

ProtocolExtensionID    ::= INTEGER (0..65535)

ProtocolIE-ID      ::= INTEGER (0..65535)

TransactionID         ::= INTEGER (0..255)

END
```

9.3.6 NBAP Extension Definitions

```
-- **************************************************************
--
-- Container definitions
--
-- **************************************************************

NBAP-Containers -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    Criticality,
    Presence,
    PrivateExtensionID,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes

    maxProtocolExtensions,
    maxPrivateExtensions,
    maxProtocolIEs
FROM NBAP-Constants;

-- **************************************************************
--
-- Class Definition for Protocol IEs
--
-- **************************************************************

NBAP-PROTOCOL-IES ::= CLASS {
    &id       ProtocolIE-ID         UNIQUE,
    &criticality Criticality,
    &Value,
    &presence  Presence
}
WITH SYNTAX {
    ID    &id
    CRITICALITY    &criticality
    TYPE       &Value
    PRESENCE    &presence
}

-- **************************************************************
--
```

```
-- Class Definition for Protocol IEs
--
-- ***************************************************************

NBAP-PROTOCOL-IES-PAIR ::= CLASS {
   &id           ProtocolIE-ID         UNIQUE,
   &firstCriticality   Criticality,
   &FirstValue,
   &secondCriticality   Criticality,
   &SecondValue,
   &presence      Presence
}
WITH SYNTAX {
   ID        &id
   FIRST CRITICALITY  &firstCriticality
   FIRST TYPE      &FirstValue
   SECOND CRITICALITY  &secondCriticality
   SECOND TYPE      &SecondValue
   PRESENCE       &presence
}

-- ***************************************************************
--
-- Class Definition for Protocol Extensions
--
-- ***************************************************************

NBAP-PROTOCOL-EXTENSION ::= CLASS {
   &id       ProtocolExtensionID        UNIQUE,
   &criticality Criticality,
   &Extension
}
WITH SYNTAX {
   ID    &id
   CRITICALITY    &criticality
   EXTENSION  &Extension
}

-- ***************************************************************
--
-- Class Definition for Private Extensions
--
-- ***************************************************************

NBAP-PRIVATE-EXTENSION ::= CLASS {
   &id       PrivateExtensionID,
   &criticality Criticality,
   &Extension
}
WITH SYNTAX {
   ID    &id
   CRITICALITY    &criticality
   EXTENSION  &Extension
}

-- ***************************************************************
```

```
--
-- Container for Protocol IEs
--
-- ***************************************************************

ProtocolIE-Container {NBAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {NBAP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id      NBAP-PROTOCOL-IES.&id      ({IEsSetParam}),
    criticality      NBAP-PROTOCOL-IES.&criticality    ({IEsSetParam}{@id}),
    value    NBAP-PROTOCOL-IES.&Value     ({IEsSetParam}{@id})
}

-- ***************************************************************
--
-- Container for Protocol IE Pairs
--
-- ***************************************************************

ProtocolIE-ContainerPair {NBAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {NBAP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {
    id            NBAP-PROTOCOL-IES-PAIR.&id         ({IEsSetParam}),
    firstCriticality     NBAP-PROTOCOL-IES-PAIR.&firstCriticality ({IEsSetParam}{@id}),
    firstValue           NBAP-PROTOCOL-IES-PAIR.&FirstValue ({IEsSetParam}{@id}),
    secondCriticality      NBAP-PROTOCOL-IES-PAIR.&secondCriticality ({IEsSetParam}{@id}),
    secondValue           NBAP-PROTOCOL-IES-PAIR.&SecondValue  ({IEsSetParam}{@id})
}

-- ***************************************************************
--
-- Container Lists for Protocol IE Containers
--
-- ***************************************************************

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, NBAP-PROTOCOL-
IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-Container {{IEsSetParam}}

ProtocolIE-ContainerPairList {INTEGER : lowerBound, INTEGER : upperBound, NBAP-
PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-ContainerPair {{IEsSetParam}}

-- ***************************************************************
--
-- Container for Protocol Extensions
--
-- ***************************************************************

ProtocolExtensionContainer {NBAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
```

```
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
    ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {NBAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id      NBAP-PROTOCOL-EXTENSION.&id ({ExtensionSetParam}),
    criticality    NBAP-PROTOCOL-EXTENSION.&criticality   ({ExtensionSetParam}{@id}),
    extensionValue    NBAP-PROTOCOL-EXTENSION.&Extension  ({ExtensionSetParam}{@id})
}

-- ********************************************************************
--
-- Container for Private Extensions
--
-- ********************************************************************

PrivateExtensionContainer {NBAP-PRIVATE-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxPrivateExtensions)) OF
    PrivateExtensionField {{ExtensionSetParam}}

PrivateExtensionField {NBAP-PRIVATE-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id          NBAP-PRIVATE-EXTENSION.&id
    ({ExtensionSetParam}),
    criticality          NBAP-PRIVATE-EXTENSION.&criticality
    ({ExtensionSetParam}{@id}),
    extensionValue       NBAP-PRIVATE-EXTENSION.&Extension
    ({ExtensionSetParam}{@id})
}

END
```

9.3.7 Constant Definitions for NBAP

```
-- ********************************************************************
--
-- Constant definitions
--
-- ********************************************************************

NBAP-Constants -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- ********************************************************************
--
-- Elementary Procedures
--
-- ********************************************************************

id-audit                    INTEGER ::= 0
id-auditRequired                  INTEGER ::= 1
id-blockResource              INTEGER ::= 2
id-cellDeletion               INTEGER ::= 3
id-cellReconfiguration              INTEGER ::= 4
```

```
id-cellSetup                    INTEGER ::= 5
id-commonMeasurementFailure             INTEGER ::= 6
id-commonMeasurementInitiation          INTEGER ::= 7
id-commonMeasurementReport          INTEGER ::= 8
id-commonMeasurementTermination         INTEGER ::= 9
id-commonTransportChannelDeletion           INTEGER ::= 10
id-commonTransportChannelReconfiguration    INTEGER ::= 11
id-commonTransportChannelSetup              INTEGER ::= 12
id-compressedModeControlCancellation        INTEGER ::= 13
id-compressedModeControlCommit              INTEGER ::= 14
id-compressedModeControlPreparation         INTEGER ::= 15
id-dedicatedMeasurementFailure              INTEGER ::= 16
id-dedicatedMeasurementInitiation           INTEGER ::= 17
id-dedicatedMeasurementReport               INTEGER ::= 18
id-dedicatedMeasurementTermination          INTEGER ::= 19
id-dlPowerControl               INTEGER ::= 20
id-neighbourCellMeasurement             INTEGER ::= 21
id-radioLinkAddition                INTEGER ::= 22
id-radioLinkDeletion                INTEGER ::= 23
id-radioLinkFailure             INTEGER ::= 24
id-radioLinkReconfigurationCommit       INTEGER ::= 25
id-radioLinkReconfirurationCancel       INTEGER ::= 26
id-radioLinkRestoration             INTEGER ::= 27
id-radioLinkSetup               INTEGER ::= 28
id-resourceStatusIndication             INTEGER ::= 29
id-synchronisationAdjustment            INTEGER ::= 30
id-synchronisationFailure               INTEGER ::= 31
id-synchronisationRestart               INTEGER ::= 32
id-synchronisedRadioLinkReconfigurationPreparation  INTEGER ::= 33
id-systemInformationUpdate              INTEGER ::= 34
id-unblockResource              INTEGER ::= 35
id-unsynchronisedRadioLinkReconfiguration       INTEGER ::= 36

-- **************************************************************
--
-- Extension constants
--
-- **************************************************************

maxPrivateExtensions        INTEGER ::= 65535
maxProtocolExtensions           INTEGER ::= 65535
maxProtocolIEs              INTEGER ::= 65535

-- **************************************************************
--
-- Lists
--
-- **************************************************************

maxSF               INTEGER ::= 10
maxnoofDLCodes              INTEGER ::= 10
maxnoofRLs              INTEGER ::= 10
maxnoofDPCHs            INTEGER ::= 10
maxnoofSCCPCHs              INTEGER ::= 10
maxnoofPRACHs               INTEGER ::= 10
maxnoofDCHs             INTEGER ::= 10
```

```
maxnoofDSCHs            INTEGER ::= 10
maxnoofFACHs            INTEGER ::= 10
maxnoofCCTrCHs          INTEGER ::= 10
maxnoofPCHs             INTEGER ::= 10
maxnoofPUCSHs           INTEGER ::= 10
maxnoofTFCs             INTEGER ::= 10
maxnoofUSCHs            INTEGER ::= 10
maxUCIDinNodeB          INTEGER ::= 10
maxCellinNodeB          INTEGER ::= 10
maxCCPinNodeB           INTEGER ::= 10
maxCTF-1                INTEGER ::= 10
maxLocalCellinNodeB     INTEGER ::= 10
maxPCHinNodeB           INTEGER ::= 10
maxRACHCell             INTEGER ::= 10
maxnoofFACHCell         INTEGER ::= 10
maxPCHCell              INTEGER ::= 10
maxUSCHCell             INTEGER ::= 10
maxAICHCell             INTEGER ::= 10
maxMIBSEG               INTEGER ::= 10
maxSIBSEG               INTEGER ::= 10
maxnoofFDDNeighbours    INTEGER ::= 10
maxnoofTDDNeighbours    INTEGER ::= 10
maxTFcount              INTEGER ::= 10
maxnoofTFCs             INTEGER ::= 10
maxFACHCell             INTEGER ::= 10
maxnoCCTrCH             INTEGER ::= 10
maxnoCCTrCHs            INTEGER ::= 10
maxnoofCCTrCH           INTEGER ::= 10
maxnoofDPCH             INTEGER ::= 10
maxnoofPUSHs            INTEGER ::= 10
maxnoofRL-1             INTEGER ::= 10
maxnoofRL-2             INTEGER ::= 10
maxRM                   INTEGER ::= 10


-- **************************************************************
--
-- IEs
--
-- **************************************************************

id-AICH-Information-ResourceStatIndItem         INTEGER ::= 0
id-AICH-ParametersList                  INTEGER ::= 1
id-AICH-ParametersListItem              INTEGER ::= 2
id-AllowedSlotFormatInformationListItem-CTCHreconf-Req-FDD  INTEGER ::= 3
id-AllowedSlotFormatInformationListItem-CTCHsetup-Req-FDD   INTEGER ::= 4
id-BlockingPriorityIndicator            INTEGER ::= 5
id-CCTrCH-ParametersList                INTEGER ::= 6
id-CCTrCH-ParametersListItem            INTEGER ::= 7
id-CFN                  INTEGER ::= 8
id-CRNC-CommunicationContextID          INTEGER ::= 9
id-CRNCommunicationContextID            INTEGER ::= 10
id-Cause                INTEGER ::= 11
id-Cell-Information-ResourceStatIndItem         INTEGER ::= 12
id-Cell-InformationItem             INTEGER ::= 13
id-Cell-InformationList             INTEGER ::= 14
```

```
id-Cell-Parameter                   INTEGER ::= 15
id-Cell-ParametersItem                  INTEGER ::= 16
id-Cell-ParametersList                INTEGER ::= 17
id-CellParameter                    INTEGER ::= 18
id-CommonMeasurementObjectType                  INTEGER ::= 19
id-CommonMeasurementType                INTEGER ::= 20
id-CommonPhysicalChannelID              INTEGER ::= 21
id-CommonPhysicalChannelType-CTCHsetup-Req-FDD          INTEGER ::= 22
id-CommonPhysicalChannelType-CTCHsetup-Response       INTEGER ::= 23
id-CommunicationControlPort-InformationItem         INTEGER ::= 24
id-CommunicationControlPortID               INTEGER ::= 25
id-CommunicationControlPortInformation-ResourceStatIndItem    INTEGER ::= 26
id-CommunicationControlPortInformationList        INTEGER ::= 27
id-CompressesModeMethod                 INTEGER ::= 28
id-ConfigurationGenerationID              INTEGER ::= 29
id-DCH-Add-RL-ReconfPrepFDDItem               INTEGER ::= 30
id-DCH-Add-RL-ReconfPrepTDDItem               INTEGER ::= 31
id-DCH-Add-RL-ReconfReadyItem                 INTEGER ::= 32
id-DCH-Add-RL-ReconfReqFDDItem                INTEGER ::= 33
id-DCH-Add-RL-ReconfReqTDDItem                INTEGER ::= 34
id-DCH-AddItem-RL-ReconfResp              INTEGER ::= 35
id-DCH-AddList-RL-ReconfPrepFDD           INTEGER ::= 36
id-DCH-AddList-RL-ReconfPrepTDD           INTEGER ::= 37
id-DCH-AddList-RL-ReconfReqFDD                INTEGER ::= 38
id-DCH-AddList-RL-ReconfReqTDD                INTEGER ::= 39
id-DCH-Delete-RL-ReconfPrepFDDItem            INTEGER ::= 40
id-DCH-Delete-RL-ReconfPrepTDDItem            INTEGER ::= 41
id-DCH-Delete-RL-ReconfReqFDDItem             INTEGER ::= 42
id-DCH-Delete-RL-ReconfReqTDDItem             INTEGER ::= 43
id-DCH-DeleteList-RL-ReconfPrepFDD            INTEGER ::= 44
id-DCH-DeleteList-RL-ReconfPrepTDD            INTEGER ::= 45
id-DCH-DeleteList-RL-ReconfReqFDD             INTEGER ::= 46
id-DCH-DeleteList-RL-ReconfReqTDD             INTEGER ::= 47
id-DCH-Information-RL-SetupReqFDDItem               INTEGER ::= 48
id-DCH-Information-RL-SetupReqTDDItem               INTEGER ::= 49
id-DCH-InformationList-RL-SetupReqFDD               INTEGER ::= 50
id-DCH-InformationList-RL-SetupReqTDD               INTEGER ::= 51
id-DCH-InformationResponse-RL-SetupFailFDDItem          INTEGER ::= 52
id-DCH-InformationResponse-RL-setupResTDDItem           INTEGER ::= 53
id-DCH-InformationResponseItem                  INTEGER ::= 54
id-DCH-Modify-RL-ReconfPrepFDDItem              INTEGER ::= 55
id-DCH-Modify-RL-ReconfPrepTDDItem              INTEGER ::= 56
id-DCH-Modify-RL-ReconfReadyItem                INTEGER ::= 57
id-DCH-Modify-RL-ReconfReqFDDItem               INTEGER ::= 58
id-DCH-Modify-RL-ReconfReqTDDItem               INTEGER ::= 59
id-DCH-ModifyItem-RL-ReconfResp             INTEGER ::= 60
id-DCH-ModifyList-RL-ReconfPrepFDD              INTEGER ::= 61
id-DCH-ModifyList-RL-ReconfPrepTDD              INTEGER ::= 62
id-DCH-ModifyList-RL-ReconfReqFDD               INTEGER ::= 63
id-DCH-ModifyList-RL-ReconfReqTDD               INTEGER ::= 64
id-DL-CCTrCH-Information-RL-ReconfPrepTDDItem          INTEGER ::= 65
id-DL-CCTrCH-Information-RL-ReconfReqTDDItem           INTEGER ::= 66
id-DL-CCTrCH-Information-RL-SetupReqTDDItem         INTEGER ::= 67
id-DL-CCTrCH-InformationItem                INTEGER ::= 68
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD           INTEGER ::= 69
id-DL-CCTrCH-InformationList-RL-ReconfReqTDD         INTEGER ::= 70
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id-DL-CCTrCH-InformationList-RL-SetupReqTDD        INTEGER ::= 71
id-DL-CCTrCHInformationItem                INTEGER ::= 72
id-DL-CCTrCHInformationList                INTEGER ::= 73
id-DL-CodeInformation                      INTEGER ::= 74
id-DL-CodeInformation-RL-ReconfPrepFDDItem        INTEGER ::= 75
id-DL-CodeInformation-RL-SetupReqFDDItem          INTEGER ::= 76
id-DL-DPCH-Information-RL-ReconfPrepFDD           INTEGER ::= 77
id-DL-DPCH-Information-RL-ReconfPrepTDDItem       INTEGER ::= 78
id-DL-DPCH-Information-RL-SetupReqTDDItem         INTEGER ::= 79
id-DL-DPCH-InformationItem                 INTEGER ::= 80
id-DL-DPCH-InformationItem-RL-ReconfReqFDD        INTEGER ::= 81
id-DL-DPCH-InformationItem-RL-SetupReqFDD         INTEGER ::= 82
id-DL-FrameType                    INTEGER ::= 83
id-DL-ReferencePowerInformationItem            INTEGER ::= 84
id-DSCH-AddItem-RL-ReconfPrepFDD               INTEGER ::= 85
id-DSCH-AddItem-RL-ReconfReqFDD                INTEGER ::= 86
id-DSCH-DeleteItem-RL-ReconfPrepFDD            INTEGER ::= 87
id-DSCH-DeleteItem-RL-ReconfReqFDD             INTEGER ::= 88
id-DSCH-ID                         INTEGER ::= 89
id-DSCH-Information-RL-SetupReqFDDItem         INTEGER ::= 90
id-DSCH-InformationList-RL-SetupReqFDD         INTEGER ::= 91
id-DSCH-InformationResponse-RL-SetupFailFDDItem    INTEGER ::= 92
id-DSCH-InformationResponse-RL-setupResFDDItem     INTEGER ::= 93
id-DSCH-ModifyItem-RL-ReconfPrepFDD            INTEGER ::= 94
id-DSCH-ModifyItem-RL-ReconfReqFDD             INTEGER ::= 95
id-DedicatedMeasurementObjectType              INTEGER ::= 96
id-DedicatedMeasurementType                INTEGER ::= 97
id-FACH-Information-ResourceStatIndItem        INTEGER ::= 98
id-FACH-InformationItem                    INTEGER ::= 99
id-FACH-ListItem                   INTEGER ::= 100
id-FACH-ParametersList-CTCHreconf-Req-FDD      INTEGER ::= 101
id-FACH-ParametersList-CTCHreconf-Req-TTD      INTEGER ::= 102
id-FACH-ParametersListItem-CTCHreconf-Req-FDD      INTEGER ::= 103
id-FACH-ParametersListItem-CTCHreconf-Req-TTD      INTEGER ::= 104
id-FACH-ParametersListItem-CTCHsetup-Req-FDD       INTEGER ::= 105
id-FACH-ParametersListItem-CTCHsetup-Response      INTEGER ::= 106
id-GapStartingSlotNumber                   INTEGER ::= 107
id-IndicationType                  INTEGER ::= 108
id-Local-Cell-Information-ResourceStatIndItem      INTEGER ::= 109
id-Local-CellInformation-ResourceStatIndItem       INTEGER ::= 110
id-LocalCell-ID                    INTEGER ::= 111
id-LocalCell-InformationItem               INTEGER ::= 112
id-LocalCellInformationList                INTEGER ::= 113
id-MIB-SegmentInformationItem                  INTEGER ::= 114
id-MIB-SegmentInformationList                  INTEGER ::= 115
id-MaximumTransmissionPower                    INTEGER ::= 116
id-MeasuredCellInfo                  INTEGER ::= 117
id-MeasurementCharacteristics                  INTEGER ::= 118
id-MeasurementID                   INTEGER ::= 119
id-MeasurementType                   INTEGER ::= 120
id-NeighbouringFDD-Cell-InformationItem        INTEGER ::= 121
id-NeighbouringTDD-Cell-InformationItem        INTEGER ::= 122
id-NodeB-CommunicationContextID            INTEGER ::= 123
id-PCCPCH-Information                      INTEGER ::= 124
id-PCH-Information-ResourceStatIndItem         INTEGER ::= 125
id-PCH-InformationItem                     INTEGER ::= 126
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id-PCH-ListItem                 INTEGER ::= 127
id-PCH-Parameters-CTCHreconf-Req-FDD        INTEGER ::= 128
id-PCH-ParametersList                   INTEGER ::= 129
id-PCH-ParametersListItem               INTEGER ::= 130
id-PICH-Parameters-CTCHreconf-Req-FDD           INTEGER ::= 131
id-PRACH-ParametersList                 INTEGER ::= 132
id-PRACH-ParametersListItem                 INTEGER ::= 133
id-PSCH-Information                 INTEGER ::= 134
id-PSCHandPCCPCH-Information                    INTEGER ::= 135
id-PUSCH-ListItem               INTEGER ::= 136
id-PatternDuration              INTEGER ::= 137
id-PowerControlMode                 INTEGER ::= 138
id-PowerResumeMode                  INTEGER ::= 139
id-PrimaryCCPCH-Information                 INTEGER ::= 140
id-PrimaryCPICH-Information                 INTEGER ::= 141
id-PrimarySCH-Information               INTEGER ::= 142
id-PrimaryScramblingCode                INTEGER ::= 143
id-ProcedureScopeType                   INTEGER ::= 144
id-RACH-Information-ResourceStatIndItem         INTEGER ::= 145
id-RACH-InformationItem                 INTEGER ::= 146
id-RL-ID                    INTEGER ::= 147
id-RL-Information                   INTEGER ::= 148
id-RL-Information-DMeasureReportItem            INTEGER ::= 149
id-RL-Information-DMeasureRequestItem           INTEGER ::= 150
id-RL-Information-DMeasureResponseItem              INTEGER ::= 151
id-RL-Information-RL-ReconfPrepFDDItem              INTEGER ::= 152
id-RL-Information-RL-SetupReqFDDItem            INTEGER ::= 153
id-RL-InformationItem                   INTEGER ::= 154
id-RL-InformationItem-RL-SetupReqTDD            INTEGER ::= 155
id-RL-InformationList                   INTEGER ::= 156
id-RL-InformationList-RL-ReconfReqFDD           INTEGER ::= 157
id-RL-InformationList-RL-SetupReqFDD            INTEGER ::= 158
id-RL-InformationResponse-RL-setupResFDDItem        INTEGER ::= 159
id-RL-InformationResponseItem-RL-ReconfResp         INTEGER ::= 160
id-RL-InformationResponseList-RL-ReconfReady        INTEGER ::= 161
id-RL-InformationResponseList-RL-ReconfReadyItem        INTEGER ::= 162
id-RL-InformationResponseList-RL-ReconfResp         INTEGER ::= 163
id-RL-InformationResponseList-RL-setupResFDD            INTEGER ::= 164
id-RL-InformationResponseList-RL-setupResTDD            INTEGER ::= 165
id-RL-ReconfigurationFailure-RL-ReconfFailItem           INTEGER ::= 166
id-RL-ReconfigurationFailureList-RL-ReconfFail       INTEGER ::= 167
id-RL-ResponseInformation               INTEGER ::= 168
id-RL-ResponseInformationItem                   INTEGER ::= 169
id-RL-ResponseInformationList               INTEGER ::= 170
id-RL-informationItem                   INTEGER ::= 171
id-RL-informationList                   INTEGER ::= 172
id-RadioLinkInformation-RL-ReconfPrepFDDItem        INTEGER ::= 173
id-RadioLinkInformation-RL-ReconfPrepTDD        INTEGER ::= 174
id-RadioLinkInformation-RL-ReconfReqTDD         INTEGER ::= 175
id-RadioLinkInformationList-RL-ReconfPrepFDD            INTEGER ::= 176
id-ReportCharacteristics                INTEGER ::= 177
id-SFN                      INTEGER ::= 178
id-SIB-SegmentInformationItem                   INTEGER ::= 179
id-SIB-SegmentInformationList                   INTEGER ::= 180
id-ScramblingCodeChange                 INTEGER ::= 181
id-Secondary-CCPCHListItem                  INTEGER ::= 182
```

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id-SecondaryCPICH-Information                    INTEGER ::= 183
id-SecondarySCH-Information                      INTEGER ::= 184
id-ShutdownTimer                         INTEGER ::= 185
id-Successful-RL-InformationResponse-RL-SetupFailFDDItem    INTEGER ::= 186
id-Successful-RL-InformationResponseItem             INTEGER ::= 187
id-Successful-RL-InformationResponseList           INTEGER ::= 188
id-Successful-RL-InformationResponseList-RL-SetupFailFDD     INTEGER ::= 189
id-SynchronisationMethod                 INTEGER ::= 190
id-T-Cell                        INTEGER ::= 191
id-TDDChipOffset                         INTEGER ::= 192
id-TimeSlotConfigurationItem                     INTEGER ::= 193
id-TimeSlotConfigurationList                     INTEGER ::= 194
id-TransmissionGapDistance                       INTEGER ::= 195
id-TransmissionGapPeriod                 INTEGER ::= 196
id-TransmitGapLength                     INTEGER ::= 197
id-TransmitGapPositionMode                       INTEGER ::= 198
id-UARFCN                        INTEGER ::= 199
id-UC-ID                         INTEGER ::= 200
id-UL-CCTrCH-Information-RL-ReconfPrepTDDItem            INTEGER ::= 201
id-UL-CCTrCH-Information-RL-ReconfReqTDDItem              INTEGER ::= 202
id-UL-CCTrCH-Information-RL-SetupReqTDDItem           INTEGER ::= 203
id-UL-CCTrCH-InformationItemIE                   INTEGER ::= 204
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD            INTEGER ::= 205
id-UL-CCTrCH-InformationList-RL-ReconfReqTDD          INTEGER ::= 206
id-UL-CCTrCH-InformationList-RL-SetupReqTDD           INTEGER ::= 207
id-UL-CCTrCHInformation                  INTEGER ::= 208
id-UL-CCTrCHInformationList                      INTEGER ::= 209
id-UL-DPCH-Information-RL-ReconfPrepFDD              INTEGER ::= 210
id-UL-DPCH-Information-RL-ReconfPrepTDDItem           INTEGER ::= 211
id-UL-DPCH-Information-RL-SetupReqTDDItem             INTEGER ::= 212
id-UL-DPCH-InformationItem-RL-ReconfReqFDD            INTEGER ::= 213
id-UL-DPCH-InformationItem-RL-SetupReqFDD             INTEGER ::= 214
id-UL-DPCH-InformationItemIE                     INTEGER ::= 215
id-USCH-Information-ResourceStatIndItem              INTEGER ::= 216
id-USCH-InformationItem                  INTEGER ::= 217
id-USCH-ListItem-CTCHsetup-Req-TDD                   INTEGER ::= 218
id-Unsuccessful-RL-InformationResponse               INTEGER ::= 219
id-Unsuccessful-RL-InformationResponse-RL-SetupFailFDDItem    INTEGER ::= 220
id-Unsuccessful-RL-InformationResponseItem           INTEGER ::= 221
id-Unsuccessful-RL-InformationResponseItem-RL-SetupFailTDD    INTEGER ::= 222
id-Unsuccessful-RL-InformationResponseList           INTEGER ::= 223
id-Unsuccessful-RL-InformationResponseList-RL-SetupFailFDD     INTEGER ::= 224

END
```

9.4 Message transfer syntax

NBAP shall use the ASN.1 Packed Encoding Rules (PER) Aligned Variant as transfer syntax as specified in ref. [11].

[Editor's note: The dating of reference [11] needs to be verified. It has been included from the ITU-T list of recommendations in force. The dating of the reference is FFS.]

9.5 Timers

10 Handling of unknown, unforeseen and erroneous protocol data

10.1 General

Protocol Error cases can be divided into two classes:
1. Transfer Syntax error
2. Abstract Syntax error

10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received message i.e. the transfer syntax cannot be opened. If Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the protocol error.

10.3 Abstract Syntax Error

10.3.1 General

In the NBAP messages there is criticality information set for individual IEs and/or sequences of IEs. This criticality information instructs the receiver how to act when receiving an IE that is not comprehended. An IE shall be regarded as not comprehended if the receiving node either cannot decode the IE or does not comprehend the function represented by the IE value. The case of the not comprehended IE is an Abstract Syntax Error.
If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error act according to the Criticality Information for the IE or sequences of IEs due to which Abstract Syntax Error occurred in accordance with chapter 10.3.2.
The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information are:
1. Reject IE
2. Ignore IE and Notify Sender
3. Ignore IE

10.3.2 Handling of the Criticality Information at Reception

10.3.2.1 Procedure Code

The receiving node shall treat the different types of criticality information of the *Procedure Code* according to the following:

Reject IE:

If a message is received with a *Procedure Code* marked with *"Reject IE"* which the receiving node does not comprehend, the receiving node shall reject the procedure using the Error Indication procedure.

Ignore IE and Notify Sender:

If a message is received with a *Procedure Code* marked with *"Ignore IE and Notify Sender"* which the receiving node does not comprehend, the receiving node shall ignore the procedure and initiate the Error Indication procedure.

Ignore IE:

If a message is received with a *Procedure Code* marked with *"Ignore IE"* which the receiving node does not comprehend, the receiving node shall ignore the procedure.

10.3.2.2 IEs other than the Procedure Code

The receiving node shall treat the different types of criticality information of an IE other than the *Procedure Code* according to the following:

Reject IE:

If a message *initiating* a procedure is received containing one or more IEs marked with *"Reject IE"* which the receiving node does not comprehend; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the rejection of one or more IEs using the message normally used to report unsuccessful outcome of the procedure.
If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs marked with *"Reject IE"* which the receiving node does not comprehend, the receiving node shall initiate the Error Indication procedure.
If a *response* message is received containing one or more IEs marked with *"Reject IE*, the receiving node shall initiate local error handling.

Ignore IE and Notify Sender:

If a message *initiating* a procedure is received containing one or more IEs marked with *"Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall continue with the procedure using the understood IEs and report that one or more IEs have been ignored in the response message of the procedure.
If a *response* message is received containing one or more IEs marked with *"Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the IE and initiate the Error Indication procedure.

Ignore IE:

If a message *initiating* a procedure is received containing one or more IEs marked with *"Ignore IE"* which the receiving node does not comprehend, the receiving node shall continue with the procedure using the understood IEs.

10.4 Logical Error Handling

Logical error situations occur when a message is comprehended correctly, but the information contained within the message is not valid (i.e. semantic error), or describes a procedure which is not compatible with the state of the receiver. In these conditions, the following behaviour shall be performed as defined by the class of the elementary procedure, irrespective of the criticality of the IE's containing the erroneous values.

Class 1:
Where the logical error occurs in a request message of a class 1 procedure, and the procedure has a failure message, the failure message shall be sent with an appropriate cause value.
Typical cause values are:

Protocol Causes:

- Semantic Error
- Message not compatible with receiver state

Where the logical error is contained in a request message of a class 1 procedure, and the procedure does not have a failure message, the ERROR INDICATION procedure shall be initiated with an appropriate cause value.

Where the logical error exists in a response message of a class 1 procedure, local error handling shall be initiated.

Class 2:
Where the logical error occurs in a message of a class 2 procedure, the ERROR INDICATION procedure shall be initiated with an appropriate cause value.

Class 3:
Where the logical error occurs in a request message of a class 3 procedure, and the procedure has a failure message, the failure message shall be sent with an appropriate cause value. Typical cause values are:

- Semantic Error
- Message not compatible with receiver state

Where the logical error is contained in a request message of a class 3 procedure, and the procedure does not have a failure message, the ERROR INDICATION procedure shall be initiated with an appropriate cause value.

Where the logical error exists in a response message of a class 3 procedure, local error handling shall be initiated.

11 History

Document history		
V0.0.1	March 1999	First Draft
V0.0.2	March 1999	Introduction of content from the Merged Description of I_{ub} Interface, V0.0.2 1999-03
V0.0.3	April 1999	New sections “8.1.4. Measurement Request”, “8.1.5. Measurement Termination requested by RNC” , “8.1.6. Measurement Termination requested by NodeB” and “8.1.7. Measurement Report” have been introduced. Contents in Tdoc R3-99191 have been reflected. Contents for “Measurement Termination requested by NodeB” will be contributed. New section “8.1.9. System Information Update Procedure” has been introduced. Contents in Tdoc R99-192 have been reflected Several corrections and modifications have been made to “4 General”, “8.1.11 Paging”, “8.2.2 Radio Link Reconfiguration (Synchronized)”, and “8.2.4 Radio Link Deletion” reflecting the proposals in Tdoc R3-99193 Editor’s notes were added to “8.2.6 Outer Loop Power Control”. The notes describe the raised discussion items to be solved from Tdoc R3-99176. “8.2.7 Down Link Code Reconfiguration Trigger” has been deleted according to the result of study item “ARC/2: DL Channelisation codes are managed and allocated by CRNC to NodeB”. “9.1.16 DL CODE RECONFIGURATION REQUEST” has also been deleted. “Spreading Code” were renamed to “Channelisation Code” Editor’s notes were added onto the top of 8.1.1 stating that Logical O&M procedures would be included in NBAP Common Procedures
V0.0.4	April 1999	New section “8.1.6 Measurement Termination initiated by NodeB” has been added according to the result from TSG-RAN WG3 meeting #2. In accordance, the title of section 8.1.5 has been changed to “8.1.5 Measurement Termination initiated by RNC”
V0.1.0	April 1999	V0.0.4 has been updated to V0.1.0 after the approval by TSG-RAN WG3
V1.0.0	April 1999	V0.1.0 has been updated to V1.0.0 after the approval by TSG-RAN WG3

V1.0.1	May 1999	Chapter 3 has been detailed (definition and abbreviation were added) Chapter 7 has been detailed (List of messages were added) Section 8.1.2 has been deleted due to the change of paging termination point DL Power Control will be done in outband signalling (8.2.5) Outerloop Power Control will be done in inband signalling (8.2.6) Chapter 9 has been updated Section 9.2 has been divided into two sections, Section 9.2 and Section 9.4; Section 9.2 is for “Information Element Functional Definition and Contents. Section 9.4 is for “Message Transfer New Section 9.3 will be prepared for “Message and Information element abstract syntax with ASN.1” Chapter 12 (Annex B) has been deleted
V1.0.2	June 1999	Several Logical O&M procedures have been introduced and added. Chapter 7 and 8 have been updated according the agreement Small editorial modification/correction have been made to Chapter 2 and 3 A new section in Chapter 5 has been added. This section described the current policy how to handle “Parallel Transactions” The names of the procedures have been placed under the figures
V1.1.0	July 1999	Several editorial modifications (e.g. remove FFS that are already solved) have been made FDD/TDD columns have been removed in order to be aligned with the layout in 25.423 RNSAP specification Modifications related to outer-loop power control have been made Several new parameter tables for e.g. Measurement Procedures, DL power control have been added in chapter 9.1 RL setup procedure and RL reconfiguration procedure(sync/unsync) have been updated according to the decisions on DSCH. Logical O&M procedures and parameters have been detailed. Transaction ID has been added to all parameters
V1.1.1	July 1999	ASN.1 description has been updated
V1.1.2	August 1999	Several dedicated measurement procedures have been detailed (as proposed in R3-99736)

V1.2.0	August 1999	Capability exchange procedure has been removed Section 9.2 “Information Element Functional Definition and Contents” has been divided into 3 sub-sections, “Commonly used parameters for FDD/TDD”, “FDD specific parameters”, and “TDD specific parameters” The figure in 8.1.2.1 Block Resource has been modified by changing the direction of the arrows Power-control-related parameters has been detailed according to the conclusion of R3-99924 discussion ”DL Power Control” has been renamed to “DL Power Control Request” (R3-99A29) “Cell configuration procedure” has been detailed according to the conclusion of R3-99862, R3-99926, and R3-99928 “NodeB failure procedure” has been renamed to “Resource status procedure” and detailed. The message name has also changed accordingly. (R3-99994) “NodeB Resource procedure” has been detailed according to the conclusion of R3-99995 TDD procedures and parameters related to TDD synchronization have been detailed according to the conclusion of R3-99905 and R3-99882 UL interference parameter has been added (R3-99976) Propagation delay parameter has been introduced (R3-99A05) DCH priority issues solved and reflected (R3-99A07) Common Transport Channel Management procedures for DL and UL have been merged (R3-99867) Annex C “List of Outstanding Issues” has been added
V1.2.1	September	Editorial modifications Allocation /Retention priority has been deleted; this parameter is only applicable to RNSAP The definition of Frame Offset and Chip Offset have been detailed (as in R3-99A44) New reference TS25.426 has been added “Cell ID” except “local Cell ID” is renamed to “UC-ID” Cell Setup procedure has been slightly updated by adding some parameter

V1.3.0	September	Approved by RAN WG3 with the following editorial modifications: • 9.2.3.11 and 9.2.3.12 are merged • Contents of Chapter 9.4 have been removed • ToAWS and ToAWE added to RL SETUP REQUEST, RL RECONFIGURATION PREPARE, and RL RECONFIGURATION SETUP • Transport layer address and Binding ID are paired as "Transport layer information"
V1.3.1	October	Approved by TSG-RAN
V1.3.2	October	Conclusions of R3 #7 discussions are included: • The message contents subsections in section 9.1 have been rearranged in order of appearance in Chapter 8. • The IE functional definitions subsections in section 9.2 have been rearranged in alphabetical order. • The contents of "9.4 Message Transfer Syntax" have been removed since the contents provide little information for 3GPP specification at this moment. • 8.1.2.1 Block Resource Procedure has been detailed • 8.1.2.2.2 and 8.1.2.3.2 Audit Procedure has been added • Both Common and Dedicated Measurement Procedures have been detailed. (8.1.4 and 8.2.6) • 8.1.5.1 Cell Setup Procedure has been updated • 8.1.5.2 Cell Reconfiguration Procedure has been newly added • 8.1.6.1 Resource Status Indication Procedure has merged NodeB Resource Notification Procedure • 8.1.7 System Information Update Procedure has been detailed • 8.2.5 DL Power Control Procedure has been detailed • 8.2.7 Radio Link Failure Indication Procedure and 8.2.8 Radio Link Restore Indication Procedure are used when NodeB detects out-of-sync / recovery from out of-sync. • When a new DCH is established in RLs, each DCH may choose either normal mode or silent mode in UL direction • Payload CRC Presence Indicator has been added • Message contents have been updated according to the conclusions • Parameter definitions have been updated according to the conclusions • 10. Error handling Procedure has been added • Other editorial modifications have been made

V1.4.0	October 1999	V1.3.2 approved at R3 #8 meeting with the following modifications: • Reference [6] has been removed • Description of “NodeB ID” has been removed from 8.1.2.2 • Description in Section 8.1.4.1, “Total Transmitted Power” and “Received Interference Signal Code Power (Rx ISCP)” have been renamed to “Transmitted Carrier power” and “Time Slot ISCP” respectively • Description for Cell Setup Procedure has been modified • Some other editorial corrections have been made
V1.4.1	November 1999	TDD descriptions have been detailed (F43) Procedures for Compressed mode have been introduced (F20, E26) TDD parameters have been detailed (E86) RLC mode issue has been reflected to NBAP (F23) Section 3.1 “Definition” has been detailed (D96) “Class concept” has been reflected (D96) Contents for Chapter 7 have been modified (F98) Tabular Format proposal from Ericsson (E96) has been accepted as the source for the preparation. However the contents are not reflected to the baseline document. Principles for specification from Ericsson (E08) have been accepted as the example for procedure description in section 8. However the contents are not reflected to the baseline document. Common Transport Channel management procedures have been updated (D87, F28). P-CCPCH management is now performed by Cell management procedure Cell management procedures have been updated (F27) NodeB restart and RNC restart procedures have been removed (D65) Configuration Generation ID is only used to distinguish common transport/physical channel management procedure; Configuration Generation ID is no longer on Resource Status Indication message (D66, E90, F74) Unblock resource procedure has been introduced (D68) Information Elements of Radio Link management procedures have been updated (F29) SSDT-related items have been updated (F10.F11)

V1.4.2	November 1999	Editorial modifications have been made according to the comments on the reflector Description in 9.3 and 9.4 has been replaced with the proposal by Siemens on the reflector
V1.4.3	November 1999	All the descriptions in Section 8, Section 9.1, and Section 9.2 are replaced with the proposals from the responsible companies for elaboration. No revision marks are made from V1.4.2 in order to relieve the burden of the editor An editorial correction has been made that “Synchronisation Recovery” section has been split into two sections namely “Synchronisation Failure” and “Synchronisation Restart”
V1.4.4	November 1999	Section 9.1 and 9.2 are replaced with the agreed definitions and tables.
V1.5.0	December 1999	Approval with corrections in the procedure descriptions.
V1.5.1	December 1999	The procedure texts, message content, and IE definitions have been detailed according the conclusions in R3 #9 discussions. The following modification have been made: The information on forwards and backwards compatibility R3-99j07. Chapter 10 and the Error Indication procedure have been updated in accordance with the decision on R3-99i60, i06, and j06. Chapter 4 has been updated with the agreed information from R3-99i78. The information is placed in chapter 4.1 instead of 8.1 as agreed. This is an editor's proposal. The Cause IE and the cause values for the different procedures have been updated in accordance with the decision on R3-99i07 and j60. TDD: Neighbour Cell Measurement procedure, Synchronisation Adjustment procedure, Synchronisation Failure procedure, and Synchronisation Recovery procedure have been removed The COMPRESSED MODE PREPARE message has been updated in accordance with the decision on R3-99h99. The TFCI Presence IE has been included in FDD messages in accordance with the decision on R3-99j20. The UC-Id has been replaced with C-ID TDD messages and IEs have been updated: DSCH and USCH management are proceeded by Dedicated procedures The Compressed Mode messages and IEs were updated in accordance with the decision on R3-99j66. The agreement on PER Aligned has been included in chapter 9.4. The dating of the reference is still FFS.
V1.6.0	December 1999	Error handling procedure section has been detailed based on the conclusion of R3-99K24 discussion Some editorial modifications have been made

V1.7.0	December 1999	Accepted as V1.7.0 with some editorial modifications
V1.7.1	December 1999	Error handling procedure descriptions have been added (K32) "Criticality diagnostics" IE has been added to all the *Response*, *Failure*, and *Ready* messages Complete ASN.1 description has been added in Section 9.3

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