TSG-RAN Meeting #14
Kyoto, Japan, 11 - 14, December, 2001

TSGRP#14(01) 0862

Title: **Agreed CRs to TS 25.433**

Source: **TSG-RAN WG3**

Agenda item: **8.3.3/8.3.4/9.4.3**

RP Tdoc	R3 Tdoc	Spec	CR_Num	Rev	Release	CR_Subject	Cat	Cur_Ver	New_Ver	Workitem
RP-010862	R3-013140	25.433	537		R99	Alignment to RAN4 spec for Transmitted Code Power Measurement	F	3.7.0	3.8.0	TEI
RP-010862	R3-013141	25.433	538		Rel-4	Alignment to RAN4 spec for Transmitted Code Power Measurement	A	4.2.1	4.3.0	TEI
RP-010862	R3-013640	25.433	539		R99	Correction the Clause 10 Error Handling	F	3.7.0	3.8.0	TEI
RP-010862	R3-013179	25.433	549		R99	Transmit Diversity for TDD	F	3.7.0	3.8.0	TEI
RP-010862	R3-013236	25.433	551		R99	Clarification for the definition of the ASN.1 constants	F	3.7.0	3.8.0	TEI
RP-010862	R3-013144	25.433	541		R99	Clarification of TrCh Ordering in TFCS	F	3.7.0	3.8.0	TEI
RP-010862	R3-013237	25.433	552		Rel-4	Clarification for the definition of the ASN.1 constants	A	4.2.1	4.3.0	TEI
RP-010862	R3-013542	25.433	558	1	R99	Terminology Corrections	F	3.7.0	3.8.0	TEI
RP-010862	R3-013641	25.433	540		Rel-4	Correction the Clause 10 Error Handling	A	4.2.1	4.3.0	TEI
RP-010862	R3-013543	25.433	559	1	Rel-4	Terminology Corrections	A	4.2.1	4.3.0	TEI
RP-010862	R3-013135	25.433	536		Rel-4	Added UTRAN modes in the IE Type and Reference and Semantics	A	4.2.1	4.3.0	TEI
RP-010862	R3-013147	25.433	544		Rel-4	Addition of SIB15.4 and SIB18 to tabular	F	4.2.1	4.3.0	TEI
RP-010862	R3-013146	25.433	543		R99	Reconstruction of the procedure text for Radio Link Setup in case of	F	3.7.0	3.8.0	TEI
RP-010862	R3-013180	25.433	550		Rel-4	Transmit Diversity for TDD	A	4.2.1	4.3.0	TEI
RP-010862	R3-013129	25.433	534		Rel-4	Bitstrings ordering	A	4.2.1	4.3.0	TEI
RP-010862	R3-013128	25.433	533		R99	Bitstrings ordering	F	3.7.0	3.8.0	TEI
RP-010862	R3-013090	25.433	530	1	Rel-4	CR on Priority range	A	4.2.1	4.3.0	TEI
RP-010862	R3-013486	25.433	529	2	R99	CR on Priority range	F	3.7.0	3.8.0	TEI
RP-010862	R3-013134	25.433	535		R99	Added UTRAN modes in the IE Type and Reference and Semantics	F	3.7.0	3.8.0	TEI
RP-010862	R3-013145	25.433	542		Rel-4	Clarification of TrCh Ordering in TFCS	A	4.2.1	4.3.0	TEI

3GPP TSG-RAN3 Meeting #25 ***R3-013486***
Makuhari, Japan, 26-30 November 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.433** **CR** **529** ⌘ ev **2** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	CR on Priority range
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	17-10-2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ In Allocation/Retention priority IE, it is not clear whether priority values 2 to 13 are possible or not. The initial intention of the group was to define 15 values. The range and the usage must be specified clearly, and should be aligned to the Allocation/Retention priority IE of TS25.413.
The value “not used” is unclear and not aligned to TS 25.413.

Summary of change: ⌘ Rev1:
In the tabular format, value 15 (no-priority) description is removed since already in the procedure text. Behaviour related to value zero is specified for the receiving side only and treated as a logical error for backward compatibility reasons. Same layout as CR to 25.413 is used in tabular format.

Rev0:
The range and the order of the allocation/retention priorities are specified.
The value “not used” is changed into “no priority” for alignment with TS25.413.

Impact Analysis:
This CR has no impact with the previous version of the specification (same release) with the assumed interpretation of the previous version of the specification.

Consequences if not approved: ⌘ The use of values 2 to 13 would remain unclear and may lead to different implementations and interoperability problems.

Clauses affected: ⌘ 9.2.1.1A, A1, A2

Other specs affected: ⌘

X	Other core specifications	25.433 v4.2.1 CR530
☐	Test specifications	25.423 v3.7.0 CR477, 25.423 v4.2.0 CR478
☐	O&M Specifications	25.413 v3.7.0 CR360, 25.413 v4.2.0 CR361

Other comments: ⌘

9.2.1.1A Allocation/Retention Priority

This parameter indicates the priority level in the allocation and retention of Node B internal resources. See Annex A.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Priority Level	M		INTEGER {spare (0), highest (1), ..., lowest (14), no priority (15)} (0..15)	This IE indicates the priority of the request. ~~0 = spare.~~ ~~1 = highest priority.~~ ~~.~~ ~~.~~ ~~.~~ ~~14 = Lowest priority.~~ ~~15= not used.~~ **Usage:** -Values between 1 and 14 are ordered in decreasing order of priority, '1' being the highest and '14' the lowest. Value 0 shall be treated as a logical error if received.
Pre-emption Capability	M		ENUMERATED(shall not trigger pre-emption, may trigger pre-emption)	
Pre-emption Vulnerability	M		ENUMERATED (not pre-emtable, pre-emtable)	

A.1 Deriving Allocation Information for a Radio Link

A.1.1 Establishment of a New Radio Link

The Allocation Information for a Radio Link in the case of establishment of a new Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels that are intended to use the Radio Link is set to "~~not used~~no priority", the pre-emption capability of the Radio Link shall be set to “shall not trigger pre-emption”.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels that are intended to use the Radio Link is not set to “~~not used~~no priority”, the allocation priority and the pre-emption capability of the Radio Link shall be set according to the following:

  - The transport channels that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "~~not used~~no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link.

  - The allocation priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all non excluded transport channels that are intended to use the Radio Link.

  - If all non-excluded transport channels that are intended to use a Radio Link to be established have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to “shall not trigger pre-emption”, the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".
    If one or more non-excluded transport channels that are intended to use the Radio Link to be established have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to “may trigger pre-emption”, the pre-emption capability of the Radio Link shall be set to “may trigger pre-emption”.

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.1.2 Modification of an Existing Radio Link

The Allocation Information for a Radio Link in the case of modification of a Radio Link (addition or modification of transport channels using the Radio Link) shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B,
b) a previous procedure adding or modifying the transport channel, or
c) the current procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels to be added or modified in the Radio Link is set to “~~not used~~no priority”, the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels to be added or modified in the Radio Link is not set to “~~not used~~no priority”, the allocation priority of and the pre-emption capability of the Radio Link to be modified shall be set according to the following:

- The transport channels to be added or modified that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "~~not used~~no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link to be modified.

- The allocation priority for a Radio Link to be modified shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all the non-excluded transport channels that are to be added or modified.

- If all non-excluded transport channels that are to be added or modified in the Radio Link have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".
  If one or more of the non-excluded transport channels to be added or modified in the Radio Link have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.2 Deriving Retention Information for a Radio Link

The Retention Information for an existing Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more transport channels using the Radio Link is set to "~~not used~~no priority", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all the transport channels using the Radio Link is not set to "~~not used~~no priority", the retention priority of the Radio Link and the pre-emption vulnerability of the Radio Link shall be set according to the following:

  - The retention priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all transport channels that uses the Radio Link.

  - If all transport channels that uses the Radio Link have the pre-emption vulnerability, given by the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE, set to "pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "pre-emptable".
    If one or more transport channels that uses the Radio Link have the value of the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE set to "not pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

The derived retention priority and pre-emption vulnerability are valid until they are changed, or until the Radio Link is deleted. When new transport channels are added to or deleted from the Radio Link or when existing transport channels are modified with regards to the Allocation/Retention Priority IE, the retention information shall be derived again according to above.

3GPP TSG-RAN3 Meeting #25 ***R3-013090***
Makuhari, Japan, 26-30 November 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.433** **CR** **530** ⌘ ev **1** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title: ⌘	CR on Priority range	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	***Date:*** ⌘ 17-10-2001
Category: ⌘	**A**	***Release:*** ⌘ R4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘ In Allocation/Retention priority IE, it is not clear whether priority values 2 to 13 are possible or not. The initial intention of the group was to define 15 values. The range and the usage must be specified clearly, and should be aligned to the Allocation/Retention priority IE of TS25.413.
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Summary of change: ⌘ Rev1:
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Rev0:
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The value “not used” is changed into “no priority” for alignment with TS25.413.

Impact Analysis:
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Consequences if not approved: ⌘ The use of values 2 to 13 would remain unclear and may lead to different implementations and interoperability problems.

Clauses affected: ⌘ 9.2.1.1A, A1, A2

Other specs affected: ⌘

☒	Other core specifications	25.433 v3.7.0 CR529
☐	Test specifications	25.423 v3.7.0 CR477, 25.423 v4.2.0 CR478
☐	O&M Specifications	25.413 v3.7.0 CR360, 25.413 v4.2.0 CR361

Other comments: ⌘

9.2.1.1A Allocation/Retention Priority

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Pre-emption Capability	M		ENUMERATED(shall not trigger pre-emption, may trigger pre-emption)	
Pre-emption Vulnerability	M		ENUMERATED (not pre-emtable, pre-emtable)	

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Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels that are intended to use the Radio Link is set to "~~not used~~no priority", the pre-emption capability of the Radio Link shall be set to “shall not trigger pre-emption”.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels that are intended to use the Radio Link is not set to “~~not used~~no priority”, the allocation priority and the pre-emption capability of the Radio Link shall be set according to the following:

  - The transport channels that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "~~not used~~no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link.

  - The allocation priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all non excluded transport channels that are intended to use the Radio Link.

  - If all non-excluded transport channels that are intended to use a Radio Link to be established have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to “shall not trigger pre-emption”, the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".
    If one or more non-excluded transport channels that are intended to use the Radio Link to be established have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to “may trigger pre-emption”, the pre-emption capability of the Radio Link shall be set to “may trigger pre-emption”.

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.1.2 Modification of an Existing Radio Link

The Allocation Information for a Radio Link in the case of modification of a Radio Link (addition or modification of transport channels using the Radio Link) shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B,
b) a previous procedure adding or modifying the transport channel, or
c) the current procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels to be added or modified in the Radio Link is set to “~~not used~~no priority”, the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels to be added or modified in the Radio Link is not set to “~~not used~~no priority”, the allocation priority of and the pre-emption capability of the Radio Link to be modified shall be set according to the following:

- The transport channels to be added or modified that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "~~not used~~no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link to be modified.

- The allocation priority for a Radio Link to be modified shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all the non-excluded transport channels that are to be added or modified.

- If all non-excluded transport channels that are to be added or modified in the Radio Link have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".
  If one or more of the non-excluded transport channels to be added or modified in the Radio Link have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.2 Deriving Retention Information for a Radio Link

The Retention Information for an existing Radio Link shall be derived as follows:

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Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the Node B Communication Context in the Node B or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more transport channels using the Radio Link is set to "~~not used~~no priority", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all the transport channels using the Radio Link is not set to "~~not used~~no priority", the retention priority of the Radio Link and the pre-emption vulnerability of the Radio Link shall be set according to the following:

  - The retention priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all transport channels that uses the Radio Link.

  - If all transport channels that uses the Radio Link have the pre-emption vulnerability, given by the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE, set to "pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "pre-emptable".
    If one or more transport channels that uses the Radio Link have the value of the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE set to "not pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

The derived retention priority and pre-emption vulnerability are valid until they are changed, or until the Radio Link is deleted. When new transport channels are added to or deleted from the Radio Link or when existing transport channels are modified with regards to the *Allocation/Retention Priority* IE, the retention information shall be derived again according to above.

3GPP TSG-RAN WG3 Meeting #25 ***R3-013128***
Makuhari, Japan, 26th-30th November 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **533** ⌘ rev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Bitstrings ordering
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001-11-21
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	In CR 512 (R3-012373) the ordering of bitstrings has been clarified by a set of rules (principles). However, at RAN3#25 it was agreed, that the the 4th rule shall not be specified. This rule states that in case of individually named bits indexed with '0' (or the bit with the lowest index within the set of bits) shall correspond to the LSB. This decision to delete this rule was made due to the fact that the bit ordering of named bits is specified within the encoding rules of ASN.1 by indicating the bit-position for each named bit with an unique number in ASN.1.
Summary of change:	⌘	The rule for individually named bits has been removed from chapter 9.2.0. <u>Impact analysis</u> Impact assessment towards the previous version of the specification (same release): This CR has no impact as the aforementioned rule, which is deleted by this CR was established without changing the tabular format or the ASN.1 code of possibly affected information elements, so neither the protocol nor any functional behaviour is affected.
Consequences if not approved:	⌘	If this CR is not approved, a superfluous rule would unnecessarily restrict the encoding of named bits.

Clauses affected:	⌘	9.2.0		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR534 25.433 4.2.1
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2 Information Element Functional Definition and Contents

9.2.0 General

Subclause 9.2 presents the RNSAP IE definitions in tabular format. The corresponding ASN.1 definition is presented in subclause 9.3. In case there is contradiction between the tabular format in subclause 9.2 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, where the tabular format shall take precedence.

When specifying information elements which are to be represented by bitstrings, if not otherwise specifically stated in the semantics description of the concerned IE or elsewhere, the following principle applies with regards to the ordering of bits:

- The first bit (leftmost bit) contains the most significant bit (MSB);
- The last bit (rightmost bit) contains the least significant bit (LSB);
- When importing bitstrings from other specifications, the first bit of the bitstring contains the first bit of the concerned information;
- ~~When bits are individually named, i.e. ordered as b0, b1, etc, then b0 is the least significant bit (LSB).~~

3GPP TSG-RAN WG3 Meeting #25 ***R3-013129***
Makuhari, Japan, 26th-30th November 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **534** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Bitstrings ordering
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001-11-21
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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R98 *(Release 1998)*
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REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	In CR 513 (R3-012374) the ordering of bitstrings has been clarified by a set of rules (principles). However, at RAN3#25 it was agreed, that the the 4th rule shall not be specified. This rule states that in case of individually named bits indexed with '0' (or the bit with the lowest index within the set of bits) shall correspond to the LSB. This decision to delete this rule was made due to the fact that the bit ordering of named bits is specified within the encoding rules of ASN.1 by indicating the bit-position for each named bit with an unique number in ASN.1.
Summary of change:	⌘	The rule for individually named bits has been removed from chapter 9.2.0. Impact analysis Impact assessment towards the previous version of the specification (same release): This CR has no impact as the aforementioned rule, which is deleted by this CR was established without changing the tabular format or the ASN.1 code of possibly affected information elements, so neither the protocol nor any functional behaviour is affected.
Consequences if not approved:	⌘	If this CR is not approved, a superfluous rule would unnecessarily restrict the encoding of named bits.

Clauses affected:	⌘	9.2.0		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR533 25.433 3.7.0
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2 Information Element Functional Definition and Contents

9.2.0 General

Subclause 9.2 presents the NBAP IE definitions in tabular format. The corresponding ASN.1 definition is presented in Subclause 9.3. In case there is contradiction between the tabular format in Subclause 9.2 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, where the tabular format shall take precedence.

When specifying information elements which are to be represented by bitstrings, if not otherwise specifically stated in the semantics description of the concerned IE or elsewhere, the following principle applies with regards to the ordering of bits:

- The first bit (leftmost bit) contains the most significant bit (MSB);
- The last bit (rightmost bit) contains the least significant bit (LSB);
- When importing bitstrings from other specifications, the first bit of the bitstring contains the first bit of the concerned information;
- ~~When bits are individually named, i.e. ordered as b0, b1, etc, then b0 is the least significant bit (LSB).~~

TSG-RAN WG 3 meeting #25 *R3-013134*
Makuhari, Japan, 26th – 30th Nov 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **535** ⌘ rev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Added UTRAN modes in the 'IE Type and Reference' and 'Semantics Description' in IEs in NBAP messages
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	1. The 'IE Type and Reference' in some messages are mismatched. 2. The 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are missing.
Summary of change:	⌘	In section 9.1.32, 9.1.40.1,the 'IE Type and Reference' in the messages which were mismatched are changed. In section 9.1.43, 9.1.58, 9.1.59 , the 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are added The corresponding contents are added in ASN.1. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because it is just a clarification and removal of inconsistencies to make sure the specification unambiguously conveys the intended meaning of the specification.
Consequences if not approved:	⌘	The 'IE Type and Reference' in some messages are still mismatched. And the 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are still missing.

Clauses affected:	⌘	9.1.32, 9.1.40.1, 9.1.43, 9.1.58, 9.1.59, 9.3.3		
Other specs	⌘	☒ Other core specifications	⌘	25.423 v3.7.0 CR 481 25.423 v4.2.0 CR 482

affected:		25.433 v4.2.1 CR 536
	Test specifications	
	O&M Specifications	
Other comments:	⌘ This CR was in principle agreed with modification at R3#24 meeting (R3-012824) with the following comments: - Error in dash in RL-RESTORE ASN.1 - CCPCH (primary and secondary) should not be tagged with "FDD-only" - Number of contributions is missing on word-file and cover In addition the following changes have been made: - Primary SCH Information and Secondary SCH Information is tagged with "FDD only" and the SCH Information is tagged with "TDD only" in the RESOURCE STATUS INDICATION message (tabular format and ASN.1)	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.1.32 RESOURCE STATUS INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		–	
Indication Type	M		9.2.1.36		YES	ignore
CHOICE *Indication Type*	M				YES	ignore
>No Failure					–	
>>Local Cell Information		*1.. <max LocalCellinNodeB >*			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>Add/Delete Indicator	M		9.2.1.1		–	
>>>DL or Global Capacity Credit	C-add		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	C-add		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	C-add		9.2.1.20A		–	
>>>Maximum DL Power Capability	C-add		9.2.1.39		–	
>>>Minimum Spreading Factor	C-add		9.2.1.47		–	
>>>Minimum DL Power Capability	C-add		9.2.1.46A		–	
>>>Local Cell Group ID	O		9.2.1.37A		–	
>>Local Cell Group Information		*0.. <maxLocalCellinNodeB>*			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		–	
>>>DL or Global Capacity Credit	M		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	M		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	M		9.2.1.20A		–	
>Service Impacting					–	
>>Local Cell Information		*0.. <maxLocalCellinNodeB>*			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>DL or Global Capacity Credit	O		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels	O		~~9.2.2.3~~9.2.		–	

Capacity Consumption Law			1.9A			
>>>Dedicated Channels Capacity Consumption Law	O		9.2.1.20A		–	
>>>Maximum DL Power Capability	O		9.2.1.39		–	
>>>Minimum Spreading Factor	O		9.2.1.47		–	
>>>Minimum DL Power Capability	O		9.2.1.46A		–	
>>**Local Cell Group Information**		*0.. <maxLocal CellinNodeB>*			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		–	
>>>DL or Global Capacity Credit	O		~~9.2.2.12~~9.2.1.20B		–	
>>>UL Capacity Credit	O		~~9.2.2.60~~9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	O		~~9.2.2.3~~9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	O		9.2.1.20A		–	
>>Communication Control Port Information		*0.. <maxCCPinNodeB>*			EACH	ignore
>>>Communication Control Port ID	M		9.2.1.15		–	
>>>Resource Operational State	M		9.2.1.52		–	
>>>Availability Status	M		9.2.1.2		–	
>>Cell Information		*0.. <maxCellinNodeB>*			EACH	ignore
>>>C-ID	M		9.2.1.9		–	
>>>Resource Operational State	O		9.2.1.52		–	
>>>Availability Status	O		9.2.1.2		–	
>>>Primary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	FDD only	YES	ignore
>>>Secondary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	FDD only	YES	ignore
>>>Primary CPICH Information	O		Common Physical Channel Status Information 9.2.1.13A	FDD only	YES	ignore

>>>Secondary CPICH Information		*0..<maxSCPICHCell>*		FDD only	EACH	ignore
>>>>Secondary CPICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>Primary CCPCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>BCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>Secondary CCPCH Information		*0..<maxSCCPCHCell>*			EACH	ignore
>>>>Secondary CCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>PCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>PICH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>FACH Information		*0..<maxFACHCell>*			EACH	ignore
>>>>FACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>PRACH Information		*0..<maxPRACHCell>*			EACH	ignore
>>>>PRACH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>RACH Information		*0..<maxPRACHCell>*			EACH	ignore
>>>>RACH Individual Information	M		Common Transport Channel Status Information		–	

			9.2.1.14B			
>>>AICH Information		*0.. <maxPRACHCell>*		FDD only	EACH	ignore
>>>>AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>PCPCH Information		*0..<maxPCPCHCell>*		FDD only	EACH	ignore
>>>>PCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>CPCH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>CPCH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>AP-AICH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>AP-AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>CD/CA-ICH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>CD/CA-ICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	TDD only	YES	ignore
Cause	O		9.2.1.6		YES	ignore

Condition	Explanation
add	The IE shall be present if the *Add/Delete Indicator* IE is set to ”Add”.

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
MaxCPCHCell	Maximum number of CPCHes that can be defined in a Cell
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
MaxPCPCHCell	Maximum number of PCPCHes 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

/* UNCHAGED PARTS ARE OMITTED*/

9.1.40 RADIO LINK ADDITION RESPONSE

9.1.40.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
RL Information Response		1..*<maxnoofRL-1>*			EACH	ignore
>RL ID	M		9.2.1.53		–	
>RL Set ID	M		9.2.2.~~9~~39		–	
> Received total wide band power	M		9.2.2.39A		–	
>Diversity Indication	M		9.2.1.26		–	
>CHOICE *Diversity Indication*	M				–	
>>*Combining*					–	
>>>RL ID	M		9.2.1.53	Reference RL	–	
>>*Non combining*					–	
>>>DCH Information Response	M		9.2.1.20C		–	
>SSDT support indicator	M		9.2.2.46		–	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Range bound	Explanation
MaxnoofRL	Maximum number of RLs for one UE

/* UNCHAGED PARTS ARE OMITTED*/

9.1.43 RADIO LINK RECONFIGURATION READY

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
RL Information Response		*0..<maxnoofRLs>*		Only one RL information response group for one group of combined RLs shall be present	EACH	ignore
>RL ID	M		9.2.1.53		–	
>DCH Information Response	O		9.2.1.20C		YES	ignore
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>USCH Information Response	O		9.2.3.29	TDD only	YES	ignore
>TFCI2 Bearer Information Response	O		9.2.2.49A	FDD only	–	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

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

/* UNCHAGED PARTS ARE OMITTED*/

9.1.58 RADIO LINK FAILURE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
CHOICE *Reporting Object*	M			Object for which the Failure shall be reported.	YES	ignore
>RL					–	
>>RL Information		1 to *<MaxnoofRLs>*			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>>>Cause	M		9.2.1.6		–	
>RL Set				FDD only	–	
>>RL Set Information		1 to *<MaxnoofRLSets>*			EACH	ignore
>>>RL Set ID	M		9.2.2.39		–	
>>>Cause	M		9.2.1.6		–	
>CCTrCH				TDD only		
>>RL ID	M		9.2.1.53		–	
>>CCTrCH List		1 to *<MaxnoCCTrCH>*			EACH	ignore
>>>CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	
>>>Cause	M		9.2.1.6		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

/* UNCHAGED PARTS ARE OMITTED*/

9.1.59 RADIO LINK RESTORE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
CHOICE *Reporting Object*	M			Object for which the Restoration shall be reported.	YES	ignore
>RL					–	
>>Radio Link Information		*1 to <MaxnoofRLs>*			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>RL Set				FDD only	–	
>>RL Set Information		1 to *<MaxnoofRLSets>*			EACH	ignore
>>>RL Set ID	M		9.2.2.39		–	
>CCTrCH				TDD only		
>>RL ID	M		9.2.1.53			
>>CCTrCH List		1 to *<MaxnoCCTrCH>*			EACH	ignore
>>>CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

/* UNCHAGED PARTS ARE OMITTED*/

9.3.3 PDU Definitions

```
/* UNCHAGED PARTS ARE OMITTED*/
-- **************************************************************
--
-- RESOURCE STATUS INDICATION
--
-- **************************************************************

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

ResourceStatusIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-IndicationType-ResourceStatusInd         CRITICALITY     ignore          TYPE    IndicationType-ResourceStatusInd        PRESENCE
    mandatory   }|
    -- This IE represents both the Indication Type IE and the choice based on the indication type as described in the tabular message format in
subclause 9.1.
    { ID    id-Cause                                    CRITICALITY     ignore          TYPE    Cause
    PRESENCE    optional    },
    ...
}

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

IndicationType-ResourceStatusInd ::= CHOICE {
    no-Failure                          No-Failure-ResourceStatusInd,
    serviceImpacting                    ServiceImpacting-ResourceStatusInd,
    ...
}

No-Failure-ResourceStatusInd ::= SEQUENCE {
    local-Cell-InformationList              Local-Cell-InformationList-ResourceStatusInd,
    local-Cell-Group-InformationList        Local-Cell-Group-InformationList-ResourceStatusInd  OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { No-FailureItem-ResourceStatusInd-ExtIEs} } OPTIONAL,
    ...
}

No-FailureItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

Local-Cell-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
InformationItemIE-ResourceStatusInd }}

Local-Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-InformationItem-ResourceStatusInd   CRITICALITY ignore   TYPE Local-Cell-InformationItem-ResourceStatusInd      PRESENCE
mandatory }
}

Local-Cell-InformationItem-ResourceStatusInd ::= SEQUENCE {
    local-CellID                            Local-Cell-ID,
    addorDeleteIndicator                    AddorDeleteIndicator,
    dl-or-global-capacityCredit             DL-or-Global-CapacityCredit     OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    ul-capacityCredit                       UL-CapacityCredit       OPTIONAL,
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw     OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    maximumDL-PowerCapability               MaximumDL-PowerCapability       OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    minSpreadingFactor                      MinSpreadingFactor                  OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    minimumDL-PowerCapability               MinimumDL-PowerCapability       OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    local-Cell-Group-ID                     Local-Cell-ID                   OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { Local-Cell-InformationItem-ResourceStatusInd-ExtIEs} }   OPTIONAL,
    ...
}

Local-Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-Group-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
Group-InformationItemIE-ResourceStatusInd }}

Local-Cell-Group-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Group-InformationItem-ResourceStatusInd   CRITICALITY ignore TYPE Local-Cell-Group-InformationItem-ResourceStatusInd
    PRESENCE mandatory }
}

Local-Cell-Group-InformationItem-ResourceStatusInd::= SEQUENCE {
    local-Cell-Group-ID                     Local-Cell-ID,
```

```
    dl-or-global-capacityCredit                DL-or-Global-CapacityCredit,
    ul-capacityCredit                          UL-CapacityCredit       OPTIONAL,
    commnonChannelsCapacityConsumptionLaw      CommonChannelsCapacityConsumptionLaw,
    dedicatedChannelsCapacityConsumptionLaw    DedicatedChannelsCapacityConsumptionLaw,
    iE-Extensions                              ProtocolExtensionContainer { { Local-Cell-Group-InformationItem-ResourceStatusInd-ExtIEs} }
    OPTIONAL,
    ...
}

Local-Cell-Group-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ServiceImpacting-ResourceStatusInd ::= SEQUENCE {
    local-Cell-InformationList             Local-Cell-InformationList2-ResourceStatusInd   OPTIONAL,
    local-Cell-Group-InformationList       Local-Cell-Group-InformationList2-ResourceStatusInd OPTIONAL,
    cCP-InformationList                    CCP-InformationList-ResourceStatusInd           OPTIONAL,
    cell-InformationList                   Cell-InformationList-ResourceStatusInd          OPTIONAL,
    iE-Extensions                          ProtocolExtensionContainer { { ServiceImpactingItem-ResourceStatusInd-ExtIEs} }        OPTIONAL,
    ...
}

ServiceImpactingItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
InformationItemIE2-ResourceStatusInd }}

Local-Cell-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-InformationItem2-ResourceStatusInd   CRITICALITY ignore  TYPE Local-Cell-InformationItem2-ResourceStatusInd     PRESENCE
mandatory }
}

Local-Cell-InformationItem2-ResourceStatusInd ::= SEQUENCE {
    local-Cell-ID                          Local-Cell-ID,
    dl-or-global-capacityCredit            DL-or-Global-CapacityCredit     OPTIONAL,
    ul-capacityCredit                      UL-CapacityCredit               OPTIONAL,
    commnonChannelsCapacityConsumptionLaw      CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    dedicatedChannelsCapacityConsumptionLaw    DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
    maximum-DL-PowerCapability             MaximumDL-PowerCapability       OPTIONAL,
    minSpreadingFactor                     MinSpreadingFactor              OPTIONAL,
    minimumDL-PowerCapability              MinimumDL-PowerCapability       OPTIONAL,
    iE-Extensions                          ProtocolExtensionContainer { { Local-Cell-InformationItem2-ResourceStatusInd-ExtIEs} }     OPTIONAL,
    ...
```

```
}

Local-Cell-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-Group-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
Group-InformationItemIE2-ResourceStatusInd }}

Local-Cell-Group-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Group-InformationItem2-ResourceStatusInd   CRITICALITY ignore    TYPE Local-Cell-Group-InformationItem2-ResourceStatusInd
    PRESENCE mandatory }
}

Local-Cell-Group-InformationItem2-ResourceStatusInd ::= SEQUENCE {
    local-Cell-Group-ID                     Local-Cell-ID,
    dl-or-global-capacityCredit             DL-or-Global-CapacityCredit     OPTIONAL,
    ul-capacityCredit                       UL-CapacityCredit               OPTIONAL,
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { Local-Cell-Group-InformationItem2-ResourceStatusInd-ExtIEs} }
    OPTIONAL,
    ...
}

Local-Cell-Group-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCP-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCCPinNodeB)) OF ProtocolIE-Single-Container {{ CCP-InformationItemIE-
ResourceStatusInd }}

CCP-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CCP-InformationItem-ResourceStatusInd   CRITICALITY ignore  TYPE CCP-InformationItem-ResourceStatusInd        PRESENCE mandatory }
}

CCP-InformationItem-ResourceStatusInd ::= SEQUENCE {
    communicationControlPortID              CommunicationControlPortID,
    resourceOperationalState                ResourceOperationalState,
    availabilityStatus                      AvailabilityStatus,
    iE-Extensions                           ProtocolExtensionContainer { { CCP-InformationItem-ResourceStatusInd-ExtIEs} }     OPTIONAL,
    ...
}

CCP-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

Cell-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF ProtocolIE-Single-Container {{ Cell-InformationItemIE-
ResourceStatusInd }}

Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationItem-ResourceStatusInd   CRITICALITY ignore TYPE Cell-InformationItem-ResourceStatusInd       PRESENCE mandatory }
}

Cell-InformationItem-ResourceStatusInd  ::= SEQUENCE {
    c-ID                                    C-ID,
    resourceOperationalState                ResourceOperationalState                    OPTIONAL,
    availabilityStatus                      AvailabilityStatus                          OPTIONAL,
    primary-SCH-Information                 P-SCH-Information-ResourceStatusInd         OPTIONAL, --FDD only
    secondary-SCH-Information               S-SCH-Information-ResourceStatusInd         OPTIONAL, --FDD only
    primary-CPICH-Information               P-CPICH-Information-ResourceStatusInd       OPTIONAL, --FDD only
    secondary-CPICH-Information             S-CPICH-InformationList-ResourceStatusInd   OPTIONAL, --FDD only
    primary-CCPCH-Information               P-CCPCH-Information-ResourceStatusInd       OPTIONAL,
    bCH-Information                         BCH-Information-ResourceStatusInd           OPTIONAL,
    secondary-CCPCH-InformationList         S-CCPCH-InformationList-ResourceStatusInd   OPTIONAL,
    pCH-Information                         PCH-Information-ResourceStatusInd           OPTIONAL,
    pICH-Information                        PICH-Information-ResourceStatusInd          OPTIONAL,
    fACH-InformationList                    FACH-InformationList-ResourceStatusInd      OPTIONAL,
    pRACH-InformationList                   PRACH-InformationList-ResourceStatusInd     OPTIONAL,
    rACH-InformationList                    RACH-InformationList-ResourceStatusInd      OPTIONAL,
    aICH-InformationList                    AICH-InformationList-ResourceStatusInd      OPTIONAL, --FDD only
    pCPCH-InformationList                   PCPCH-InformationList-ResourceStatusInd     OPTIONAL, --FDD only
    cPCH-InformationList                    CPCH-InformationList-ResourceStatusInd      OPTIONAL, --FDD only
    aP-AICH-InformationList                 AP-AICH-InformationList-ResourceStatusInd   OPTIONAL, --FDD only
    cDCA-ICH-InformationList                CDCA-ICH-InformationList-ResourceStatusInd  OPTIONAL, --FDD only
    sCH-Information                         SCH-Information-ResourceStatusInd           OPTIONAL, --TDD only
    iE-Extensions                           ProtocolExtensionContainer { { Cell-InformationItem-ResourceStatusInd-ExtIEs} }    OPTIONAL,
    ...
}

Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

P-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-SCH-InformationIE-ResourceStatusInd }}

P-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-SCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}
```

```
S-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ S-SCH-InformationIE-ResourceStatusInd }}

S-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-SCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

P-CPICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CPICH-InformationIE-ResourceStatusInd }}

P-CPICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-CPICH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

S-CPICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-Single-Container {{ S-CPICH-InformationItemIE-
ResourceStatusInd }}

S-CPICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

P-CCPCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CCPCH-InformationIE-ResourceStatusInd }}

P-CCPCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-CCPCH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

BCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ BCH-InformationIE-ResourceStatusInd }}

BCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-BCH-Information   CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information      PRESENCE mandatory }
}

S-CCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF ProtocolIE-Single-Container {{ S-CCPCH-InformationItemIE-
ResourceStatusInd }}

S-CCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-CCPCH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

PCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PCH-InformationIE-ResourceStatusInd }}

PCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-Information   CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information      PRESENCE mandatory }
}
```

```
PICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PICH-InformationIE-ResourceStatusInd }}

PICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PICH-Information   CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

FACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxFACHCell)) OF ProtocolIE-Single-Container {{ FACH-InformationItemIE-
ResourceStatusInd }}

FACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-Information   CRITICALITY ignore   TYPE Common-TransportChannel-Status-Information      PRESENCE mandatory }
}

PRACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ PRACH-InformationItemIE-
ResourceStatusInd }}

PRACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

RACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ RACH-InformationItemIE-
ResourceStatusInd }}

RACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-Information   CRITICALITY ignore   TYPE Common-TransportChannel-Status-Information      PRESENCE mandatory }
}

AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ AICH-InformationItemIE-
ResourceStatusInd }}

AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-AICH-Information   CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

PCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPCPCHCell)) OF ProtocolIE-Single-Container {{ PCPCH-InformationItemIE-
ResourceStatusInd }}

PCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PCPCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information       PRESENCE optional }
}

CPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ CPCH-InformationItemIE-
ResourceStatusInd }}

CPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
```

```
    { ID id-CPCH-Information    CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information      PRESENCE optional }
}

AP-AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ AP-AICH-InformationItemIE-
ResourceStatusInd }}

AP-AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-AP-AICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE optional }
}

CDCA-ICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ CDCA-ICH-InformationItemIE-
ResourceStatusInd }}

CDCA-ICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CDCA-ICH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE optional }
}

SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ SCH-InformationIE-ResourceStatusInd }}

SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-SCH-Information    CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information       PRESENCE mandatory }
}

/*UNCHAGED PATRS ATR OMITTED*/
-- **************************************************************
--
-- 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    } |
    { ID    id-CriticalityDiagnostics                           CRITICALITY     ignore      TYPE CriticalityDiagnostics
    PRESENCE    optional    },
    ...
}
```

```
RadioLinkReconfigurationReady-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationResponseList-RL-ReconfReady    ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationResponseItemIE-
RL-ReconfReady}}

RL-InformationResponseItemIE-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID    id-RL-InformationResponseItem-RL-ReconfReady           CRITICALITY     ignore      TYPE RL-InformationResponseItem-RL-ReconfReady
    PRESENCE    mandatory}
}

RL-InformationResponseItem-RL-ReconfReady ::= SEQUENCE {
    rL-ID                                   RL-ID,
    dCH-InformationResponseList-RL-ReconfReady      DCH-InformationResponseList-RL-ReconfReady  OPTIONAL,
    dSCH-InformationResponseList-RL-ReconfReady     DSCH-InformationResponseList-RL-ReconfReady OPTIONAL,
    uSCH-InformationResponseList-RL-ReconfReady     USCH-InformationResponseList-RL-ReconfReady OPTIONAL,
    tFCI2-BearerInformationResponse                 TFCI2-BearerInformationResponse     OPTIONAL, --FDD only
    iE-Extensions                                   ProtocolExtensionContainer { { RL-InformationResponseItem-RL-ReconfReady-ExtIEs} }
    OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReady-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ DCH-InformationResponseListIEs-RL-ReconfReady }}

DCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore    TYPE DCH-InformationResponse    PRESENCE mandatory }
}

DSCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-ReconfReady }}

DSCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse   CRITICALITY ignore   TYPE DSCH-InformationResponse   PRESENCE mandatory }
}

USCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ USCH-InformationResponseListIEs-RL-ReconfReady }}

USCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationResponse   CRITICALITY ignore   TYPE USCH-InformationResponse       PRESENCE mandatory }
}
```

```
/*UNCHAGED PARTS ARE OMITTED*/
-- **************************************************************
--
-- 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-Reporting-Object-RL-FailureInd           CRITICALITY     ignore          TYPE    Reporting-Object-RL-FailureInd     PRESENCE
    mandatory   } ,
    ...
}

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

Reporting-Object-RL-FailureInd ::= CHOICE {
    rL                      RL-RL-FailureInd,
    rL-Set                  RL-Set-RL-FailureInd, --FDD only
    ...,
    cCTrCH                  CCTrCH-RL-FailureInd --TDD only
}

RL-RL-FailureInd ::= SEQUENCE {
    rL-InformationList-RL-FailureInd        RL-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-FailureInd-ExtIEs } }       OPTIONAL,
    ...
 }

RLItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationItemIE-RL-FailureInd}}

RL-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
```

```
    { ID    id-RL-InformationItem-RL-FailureInd         CRITICALITY     ignore          TYPE    RL-InformationItem-RL-FailureInd
    PRESENCE    mandatory}
 }

RL-InformationItem-RL-FailureInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { RL-InformationItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

RL-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-FailureInd ::= SEQUENCE {
    rL-Set-InformationList-RL-FailureInd        RL-Set-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-FailureInd-ExtIEs } }        OPTIONAL,
    ...
 }

RL-SetItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container {{ RL-Set-InformationItemIE-RL-
FailureInd }}

RL-Set-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-RL-FailureInd    CRITICALITY ignore      TYPE RL-Set-InformationItem-RL-FailureInd      PRESENCE mandatory    }
}

RL-Set-InformationItem-RL-FailureInd ::= SEQUENCE {
    rL-Set-ID               RL-Set-ID,
    cause                   Cause,
    iE-Extensions           ProtocolExtensionContainer { { RL-Set-InformationItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-FailureInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
```

```
    cCTrCH-InformationList-RL-FailureInd        CCTrCH-InformationList-RL-FailureInd,
    iE-Extensions                          ProtocolExtensionContainer { { CCTrCHItem-RL-FailureInd-ExtIEs } }        OPTIONAL,
    ...
 }

CCTrCHItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
FailureInd}}

CCTrCH-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-FailureInd         CRITICALITY     ignore          TYPE CCTrCH-InformationItem-RL-FailureInd
    PRESENCE    mandatory}
 }

CCTrCH-InformationItem-RL-FailureInd ::= SEQUENCE {
    cCTrCH-ID                                   CCTrCH-ID,
    cause                                       Cause,
    iE-Extensions                               ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
/*UNCHAGED PARTS ARE OMITTED*/
-- **************************************************************
--
-- 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-Reporting-Object-RL-RestoreInd           CRITICALITY     ignore          TYPE    Reporting-Object-RL-RestoreInd     PRESENCE
    mandatory   },
```

```
    ...
}

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

Reporting-Object-RL-RestoreInd ::= CHOICE {
    rL                      RL-RL-RestoreInd,
    rL-Set                  RL-Set-RL-RestoreInd, --FDD only
    ...,
    cCTrCH                  CCTrCH-RL-RestoreInd  --TDD only
}

RL-RL-RestoreInd ::= SEQUENCE {
    rL-InformationList-RL-RestoreInd        RL-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-RestoreInd-ExtIEs } }        OPTIONAL,
    ...
 }

RLItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{RL-InformationItemIE-RL-RestoreInd}}

RL-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID    id-RL-InformationItem-RL-RestoreInd         CRITICALITY     ignore          TYPE    RL-InformationItem-RL-RestoreInd
    PRESENCE    mandatory}
 }

RL-InformationItem-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    iE-Extensions                           ProtocolExtensionContainer { { RL-InformationItem-RL-RestoreInd-ExtIEs } }     OPTIONAL,
    ...
 }

RL-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-RestoreInd ::= SEQUENCE {
    rL-Set-InformationList-RL-RestoreInd    RL-Set-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-RestoreInd-ExtIEs } }        OPTIONAL,
    ...
```

```
 }

RL-SetItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container {{ RL-Set-InformationItemIE-RL-
RestoreInd }}

RL-Set-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-RL-RestoreInd    CRITICALITY ignore      TYPE RL-Set-InformationItem-RL-RestoreInd PRESENCE mandatory    }
 }

RL-Set-InformationItem-RL-RestoreInd ::= SEQUENCE {
    rL-Set-ID               RL-Set-ID,
    iE-Extensions           ProtocolExtensionContainer { { RL-Set-InformationItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cCTrCH-InformationList-RL-RestoreInd        CCTrCH-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { CCTrCHItem-RL-RestoreInd-ExtIEs } }        OPTIONAL,
    ...
 }

CCTrCHItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
RestoreInd}}

CCTrCH-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-RestoreInd         CRITICALITY     ignore          TYPE CCTrCH-InformationItem-RL-RestoreInd
    PRESENCE    mandatory}
 }

CCTrCH-InformationItem-RL-RestoreInd ::= SEQUENCE {
    cCTrCH-ID                                   CCTrCH-ID,
    iE-Extensions                               ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-RestoreInd-ExtIEs } }     OPTIONAL,
```

```
    ...
 }

CCTrCH-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

TSG-RAN WG 3 meeting #25 *R3-013135*
Makuhari, Japan, 26th – 30th Nov 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **536** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Added UTRAN modes in the 'IE Type and Reference' and 'Semantics Description' in IEs in NBAP messages
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**A**
Release:	⌘	Rel4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	1. The 'IE Type and Reference' in some messages are mismatched. 2. The 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are missing.
Summary of change:	⌘	1. In section 9.1.32, 9.1.40.1,the 'IE Type and Reference' in the messages which were mismatched are changed. 2. In section 9.1.43, 9.1.58, 9.1.59 , the 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are added 3. The corresponding contents are added in ASN.1. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because it is just a clarification and removal of inconsistencies to make sure the specification unambiguously conveys the intended meaning of the specification.
Consequences if not approved:	⌘	The 'IE Type and Reference' in some messages are still mismatched. And the 'Semantics Description', such as 'FDD only' and 'TDD only' in some messages are still missing.

Clauses affected:	⌘	9.1.32, 9.1.40.1, 9.1.43, 9.1.58, 9.1.59, 9.3.3		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications	⌘	25.423 v3.7.0 CR 481 25.423 v4.2.0 CR 482 25.433 v3.7.0 CR 535

	☐ O&M Specifications	
Other comments:	⌘	This CR was in principle agreed with modification at R3#24 meeting (R3-012825) with the following comments: - Error in dash in RL-RESTORE ASN.1 - CCPCH (primary and secondary) should not be tagged with "FDD-only" - Number of contributions is missing on word-file and cover In addition the following changes have been made: - Primary SCH Information and Secondary SCH Information is tagged with "FDD only" and the SCH Information is tagged with "3.84Mcps TDD only" in the RESOURCE STATUS INDICATION message (tabular format and ASN.1)

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.1.32 RESOURCE STATUS INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		–	
Indication Type	M		9.2.1.36		YES	ignore
CHOICE *Indication Type*	M				YES	ignore
>No Failure					–	
>>Local Cell Information		*1.. <max LocalCellinNodeB >*			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>Add/Delete Indicator	M		9.2.1.1		–	
>>>DL or Global Capacity Credit	C-add		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	C-add		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	C-add		9.2.1.20A		–	
>>>Maximum DL Power Capability	C-add		9.2.1.39		–	
>>>Minimum Spreading Factor	C-add		9.2.1.47		–	
>>>Minimum DL Power Capability	C-add		9.2.1.46A		–	
>>>Reference Clock availability	C-add		9.2.3.14A	TDD only	YES	ignore
>>>Local Cell Group ID	O		9.2.1.37A		–	
>>**Local Cell Group Information**		*0.. <maxLocalCellinNodeB>*			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		–	
>>>DL or Global Capacity Credit	M		9.2.1.20B		–	
>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	M		9.2.1.9A		–	
>>>Dedicated Channels Capacity Consumption Law	M		9.2.1.20A		–	
>Service Impacting					–	
>>Local Cell Information		*0.. <maxLocalCellinNodeB>*			EACH	ignore
>>>Local Cell ID	M		9.2.1.38		–	
>>>DL or Global Capacity Credit	O		9.2.1.20B		–	

>>>UL Capacity Credit	O		9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	O		9.2.1.9A~~9.2.2.3~~		–	
>>>Dedicated Channels Capacity Consumption Law	O		9.2.1.20A~~9.2.2.6~~		–	
>>>Maximum DL Power Capability	O		9.2.1.39		–	
>>>Minimum Spreading Factor	O		9.2.1.47		–	
>>>Minimum DL Power Capability	O		9.2.1.46A		–	
>>>Reference Clock availability	O		9.2.3.14A	TDD only	YES	ignore
>>**Local Cell Group Information**		*0.. <maxLocalCellinNodeB>*			EACH	ignore
>>>Local Cell Group ID	M		9.2.1.37A		–	
>>>DL or Global Capacity Credit	O		~~9.2.2.12~~9.2.1.20B		–	
>>>UL Capacity Credit	O		~~9.2.2.60~~9.2.1.65A		–	
>>>Common Channels Capacity Consumption Law	O		9.2.1.9A~~9.2.2.3~~		–	
>>>Dedicated Channels Capacity Consumption Law	O		9.2.1.20A~~9.2.2.6~~		–	
>>Communication Control Port Information		*0.. <maxCCPinNodeB>*			EACH	ignore
>>>Communication Control Port ID	M		9.2.1.15		–	
>>>Resource Operational State	M		9.2.1.52		–	
>>>Availability Status	M		9.2.1.2		–	
>>Cell Information		*0.. <maxCellinNodeB>*			EACH	ignore
>>>C-ID	M		9.2.1.9		–	
>>>Resource Operational State	O		9.2.1.52		–	
>>>Availability Status	O		9.2.1.2		–	
>>>Primary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	FDD only	YES	ignore
>>>Secondary SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	FDD only	YES	ignore
>>>Primary CPICH	O		Common	FDD only	YES	ignore

Information			Physical Channel Status Information 9.2.1.13A			
>>>Secondary CPICH Information		*0..<maxSCPICHCell>*		FDD only	EACH	ignore
>>>>Secondary CPICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>Primary CCPCH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>BCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>Secondary CCPCH Information		*0..<maxSCCPCHCell>*			EACH	ignore
>>>>Secondary CCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>PCH Information	O		Common Transport Channel Status Information 9.2.1.14B		YES	ignore
>>>PICH Information	O		Common Physical Channel Status Information 9.2.1.13A		YES	ignore
>>>FACH Information		*0..<maxFACHCell>*			EACH	ignore
>>>>FACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>PRACH Information		*0..<maxPRACHCell>*			EACH	ignore
>>>>PRACH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>RACH Information		*0..<maxPRACHCell>*			EACH	ignore

>>>>RACH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>AICH Information		*0.. <maxPRACHCell>*		FDD only	EACH	ignore
>>>>AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>PCPCH Information		*0..<maxPCPCHCell>*		FDD only	EACH	ignore
>>>>PCPCH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>CPCH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>CPCH Individual Information	M		Common Transport Channel Status Information 9.2.1.14B		–	
>>>AP-AICH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>AP-AICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>CD/CA-ICH Information		*0.. <maxCPCHCell>*		FDD only	EACH	ignore
>>>>CD/CA-ICH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>SCH Information	O		Common Physical Channel Status Information 9.2.1.13A	3.84Mcps TDD only	YES	ignore
>>>FPACH Information		*0 .. <maxFPACHCell>*		For 1.28Mcps TDD only	EACH	ignore
>>>>FPACH Individual Information	M		Common Physical Channel Status Information 9.2.1.13A		–	
>>>DwPCH	O		Common	For	YES	ignore

Information			Physical Channel Status Information 9.2.1.13A	1.28Mcps TDD only		
Cause	O		9.2.1.6		YES	ignore

Condition	Explanation
add	The IE shall be present if the *Add/Delete Indicator* IE is set to ”Add”.

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
MaxCPCHCell	Maximum number of CPCHes that can be defined in a Cell
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
MaxPCPCHCell	Maximum number of PCPCHes 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
MaxFPACHCell	Maximum number of FPACHes that can be defined in a Cell

/* UNCHAGED PARTS ARE OMITTED*/

9.1.40 RADIO LINK ADDITION RESPONSE

9.1.40.1 FDD message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
RL Information Response		1..*<maxnoofRL-1>*			EACH	ignore
>RL ID	M		9.2.1.53		–	
>RL Set ID	M		9.2.2.39~~9~~		–	
> Received total wide band power	M		9.2.2.39A		–	
>Diversity Indication	M		9.2.1.26		–	
>CHOICE *Diversity Indication*	M				–	
>>*Combining*					–	
>>>RL ID	M		9.2.1.53	Reference RL	–	
>>*Non combining*					–	
>>>DCH Information Response	M		9.2.1.20C		–	
>SSDT support indicator	M		9.2.2.46		–	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

Range bound	Explanation
MaxnoofRL	Maximum number of RLs for one UE

/* UNCHAGED PARTS ARE OMITTED*/

9.1.43 RADIO LINK RECONFIGURATION READY

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
RL Information Response		*0..<maxnoofRLs>*		Only one RL information response group for one group of combined RLs shall be present	EACH	ignore
>RL ID	M		9.2.1.53		–	
>DCH Information Response	O		9.2.1.20C		YES	ignore
>DSCH Information Response	O		9.2.1.27A		YES	ignore
>USCH Information Response	O		9.2.3.29	TDD only	YES	ignore
>TFCI2 Bearer Information Response	O		9.2.2.49A	FDD only	–	
Criticality Diagnostics	O		9.2.1.17		YES	ignore

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

/* UNCHAGED PARTS ARE OMITTED*/

9.1.58 RADIO LINK FAILURE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
CHOICE *Reporting Object*	M			Object for which the Failure shall be reported.	YES	ignore
>RL					–	
>>RL Information		1 to *<MaxnoofRLs>*			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>>>Cause	M		9.2.1.6		–	
>RL Set				FDD only	–	
>>RL Set Information		1 to *<MaxnoofRLSets>*			EACH	ignore
>>>RL Set ID	M		9.2.2.39		–	
>>>Cause	M		9.2.1.6		–	
>CCTrCH				TDD only		
>>RL ID	M		9.2.1.53		–	
>>CCTrCH List		1 to *<MaxnoCCTrCH>*			EACH	ignore
>>>CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	
>>>Cause	M		9.2.1.6		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

/* UNCHAGED PARTS ARE OMITTED*/

9.1.59 RADIO LINK RESTORE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	ignore
CRNC Communication Context ID	M		9.2.1.18	The reserved value "All CRNCC C" shall not be used.	YES	ignore
Transaction ID	M		9.2.1.62		–	
CHOICE *Reporting Object*	M			Object for which the Restoration shall be reported.	YES	ignore
>RL					–	
>>Radio Link Information		*1 to <MaxnoofRLs>*			EACH	ignore
>>>RL ID	M		9.2.1.53		–	
>RL Set				FDD only	–	
>>RL Set Information		1 to *<MaxnoofRLSets>*			EACH	ignore
>>>RL Set ID	M		9.2.2.39		–	
>CCTrCH				TDD only		
>>RL ID	M		9.2.1.53			
>>CCTrCH List		1 to *<MaxnoCCTrCH>*			EACH	ignore
>>>CCTrCH ID	M		CCTrCH ID 9.2.3.3		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

/* UNCHAGED PARTS ARE OMITTED*/

9.3.3 PDU Definitions

```
/*UNCHAGED PARTS ATR OMITTED*/
-- **************************************************************
--
-- RESOURCE STATUS INDICATION
--
-- **************************************************************

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

ResourceStatusIndication-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-IndicationType-ResourceStatusInd         CRITICALITY     ignore          TYPE    IndicationType-ResourceStatusInd        PRESENCE
    mandatory   }|
    -- This IE represents both the Indication Type IE and the choice based on the indication type as described in the tabular message format in
subclause 9.1.
    { ID    id-Cause                                    CRITICALITY     ignore          TYPE    Cause
    PRESENCE    optional    },
    ...
}

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

IndicationType-ResourceStatusInd ::= CHOICE {
    no-Failure                          No-Failure-ResourceStatusInd,
    serviceImpacting                    ServiceImpacting-ResourceStatusInd,
    ...
}

No-Failure-ResourceStatusInd ::= SEQUENCE {
    local-Cell-InformationList              Local-Cell-InformationList-ResourceStatusInd,
    local-Cell-Group-InformationList        Local-Cell-Group-InformationList-ResourceStatusInd  OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { No-FailureItem-ResourceStatusInd-ExtIEs} } OPTIONAL,
    ...
}

No-FailureItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

Local-Cell-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
InformationItemIE-ResourceStatusInd }}

Local-Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-InformationItem-ResourceStatusInd   CRITICALITY ignore   TYPE Local-Cell-InformationItem-ResourceStatusInd      PRESENCE
mandatory }
}

Local-Cell-InformationItem-ResourceStatusInd ::= SEQUENCE {
    local-CellID                            Local-Cell-ID,
    addorDeleteIndicator                    AddorDeleteIndicator,
    dl-or-global-capacityCredit             DL-or-Global-CapacityCredit     OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    ul-capacityCredit                       UL-CapacityCredit       OPTIONAL,
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw     OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    maximumDL-PowerCapability               MaximumDL-PowerCapability       OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    minSpreadingFactor                      MinSpreadingFactor                  OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    minimumDL-PowerCapability               MinimumDL-PowerCapability       OPTIONAL,
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add”
    local-Cell-Group-ID                     Local-Cell-ID                   OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { Local-Cell-InformationItem-ResourceStatusInd-ExtIEs} }   OPTIONAL,
    ...
}

Local-Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID id-FPACH-LCR-InformationList-ResourceStatusInd     CRITICALITY ignore      EXTENSION   FPACH-LCR-InformationList-ResourceStatusInd
    PRESENCE optional   }|  -- for 1.28Mcps TDD only
    { ID id-DwPCH-LCR-Information-ResourceStatusInd CRITICALITY ignore      EXTENSION   DwPCH-LCR-Information-ResourceStatusInd         PRESENCE
optional    }|  -- for 1.28Mcps TDD only
    { ID    id-ReferenceClockAvailability       CRITICALITY     ignore          EXTENSION ReferenceClockAvailability           PRESENCE optional
},
    -- This IE shall be present if AddorDeleteIndicator IE is set to “add“ and the Local Cell is related to a TDD cell
    ...
}

Local-Cell-Group-InformationList-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
Group-InformationItemIE-ResourceStatusInd }}
```

```
Local-Cell-Group-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Group-InformationItem-ResourceStatusInd   CRITICALITY ignore TYPE Local-Cell-Group-InformationItem-ResourceStatusInd
    PRESENCE mandatory }
}

Local-Cell-Group-InformationItem-ResourceStatusInd::= SEQUENCE {
    local-Cell-Group-ID                         Local-Cell-ID,
    dl-or-global-capacityCredit                 DL-or-Global-CapacityCredit,
    ul-capacityCredit                           UL-CapacityCredit       OPTIONAL,
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw,
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw,
    iE-Extensions                               ProtocolExtensionContainer { { Local-Cell-Group-InformationItem-ResourceStatusInd-ExtIEs} }
    OPTIONAL,
    ...
}

Local-Cell-Group-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ServiceImpacting-ResourceStatusInd ::= SEQUENCE {
    local-Cell-InformationList              Local-Cell-InformationList2-ResourceStatusInd   OPTIONAL,
    local-Cell-Group-InformationList        Local-Cell-Group-InformationList2-ResourceStatusInd OPTIONAL,
    cCP-InformationList                     CCP-InformationList-ResourceStatusInd           OPTIONAL,
    cell-InformationList                    Cell-InformationList-ResourceStatusInd          OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { ServiceImpactingItem-ResourceStatusInd-ExtIEs} }        OPTIONAL,
    ...
}

ServiceImpactingItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Local-Cell-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
InformationItemIE2-ResourceStatusInd }}

Local-Cell-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-InformationItem2-ResourceStatusInd   CRITICALITY ignore  TYPE Local-Cell-InformationItem2-ResourceStatusInd     PRESENCE
mandatory }
}

Local-Cell-InformationItem2-ResourceStatusInd ::= SEQUENCE {
    local-Cell-ID                           Local-Cell-ID,
    dl-or-global-capacityCredit             DL-or-Global-CapacityCredit     OPTIONAL,
    ul-capacityCredit                       UL-CapacityCredit               OPTIONAL,
```

```
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
    maximum-DL-PowerCapability              MaximumDL-PowerCapability       OPTIONAL,
    minSpreadingFactor                      MinSpreadingFactor              OPTIONAL,
    minimumDL-PowerCapability               MinimumDL-PowerCapability       OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { Local-Cell-InformationItem2-ResourceStatusInd-ExtIEs} }      OPTIONAL,
    ...
}

Local-Cell-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    { ID    id-ReferenceClockAvailability       CRITICALITY     ignore          EXTENSION ReferenceClockAvailability           PRESENCE optional
},
    ...
}

Local-Cell-Group-InformationList2-ResourceStatusInd ::= SEQUENCE(SIZE (1..maxLocalCellinNodeB)) OF ProtocolIE-Single-Container {{ Local-Cell-
Group-InformationItemIE2-ResourceStatusInd }}

Local-Cell-Group-InformationItemIE2-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Local-Cell-Group-InformationItem2-ResourceStatusInd   CRITICALITY ignore    TYPE Local-Cell-Group-InformationItem2-ResourceStatusInd
    PRESENCE mandatory }
}

Local-Cell-Group-InformationItem2-ResourceStatusInd ::= SEQUENCE {
    local-Cell-Group-ID                     Local-Cell-ID,
    dl-or-global-capacityCredit             DL-or-Global-CapacityCredit     OPTIONAL,
    ul-capacityCredit                       UL-CapacityCredit               OPTIONAL,
    commnonChannelsCapacityConsumptionLaw       CommonChannelsCapacityConsumptionLaw    OPTIONAL,
    dedicatedChannelsCapacityConsumptionLaw     DedicatedChannelsCapacityConsumptionLaw OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { Local-Cell-Group-InformationItem2-ResourceStatusInd-ExtIEs} }
    OPTIONAL,
    ...
}

Local-Cell-Group-InformationItem2-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCP-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCCPinNodeB)) OF ProtocolIE-Single-Container {{ CCP-InformationItemIE-
ResourceStatusInd }}

CCP-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CCP-InformationItem-ResourceStatusInd   CRITICALITY ignore  TYPE CCP-InformationItem-ResourceStatusInd    PRESENCE mandatory }
}
```

```
CCP-InformationItem-ResourceStatusInd ::= SEQUENCE {
    communicationControlPortID              CommunicationControlPortID,
    resourceOperationalState                ResourceOperationalState,
    availabilityStatus                      AvailabilityStatus,
    iE-Extensions                           ProtocolExtensionContainer { { CCP-InformationItem-ResourceStatusInd-ExtIEs} }     OPTIONAL,
    ...
}

CCP-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Cell-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCellinNodeB)) OF ProtocolIE-Single-Container {{ Cell-InformationItemIE-
ResourceStatusInd }}

Cell-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-Cell-InformationItem-ResourceStatusInd   CRITICALITY ignore TYPE Cell-InformationItem-ResourceStatusInd   PRESENCE mandatory }
}

Cell-InformationItem-ResourceStatusInd  ::= SEQUENCE {
    c-ID                                    C-ID,
    resourceOperationalState                ResourceOperationalState                    OPTIONAL,
    availabilityStatus                      AvailabilityStatus                          OPTIONAL,
    primary-SCH-Information                 P-SCH-Information-ResourceStatusInd         OPTIONAL, --FDD only
    secondary-SCH-Information               S-SCH-Information-ResourceStatusInd         OPTIONAL, --FDD only
    primary-CPICH-Information               P-CPICH-Information-ResourceStatusInd       OPTIONAL, --FDD only
    secondary-CPICH-Information             S-CPICH-InformationList-ResourceStatusInd   OPTIONAL, --FDD only
    primary-CCPCH-Information               P-CCPCH-Information-ResourceStatusInd       OPTIONAL,
    bCH-Information                         BCH-Information-ResourceStatusInd           OPTIONAL,
    secondary-CCPCH-InformationList         S-CCPCH-InformationList-ResourceStatusInd   OPTIONAL,
    pCH-Information                         PCH-Information-ResourceStatusInd           OPTIONAL,
    pICH-Information                        PICH-Information-ResourceStatusInd          OPTIONAL,
    fACH-InformationList                    FACH-InformationList-ResourceStatusInd      OPTIONAL,
    pRACH-InformationList                   PRACH-InformationList-ResourceStatusInd     OPTIONAL,
    rACH-InformationList                    RACH-InformationList-ResourceStatusInd      OPTIONAL,
    aICH-InformationList                    AICH-InformationList-ResourceStatusInd      OPTIONAL, --FDD only
    pCPCH-InformationList                   PCPCH-InformationList-ResourceStatusInd     OPTIONAL, --FDD only
    cPCH-InformationList                    CPCH-InformationList-ResourceStatusInd      OPTIONAL, --FDD only
    aP-AICH-InformationList                 AP-AICH-InformationList-ResourceStatusInd   OPTIONAL, --FDD only
    cDCA-ICH-InformationList                CDCA-ICH-InformationList-ResourceStatusInd  OPTIONAL, --FDD only
    sCH-Information                         SCH-Information-ResourceStatusInd           OPTIONAL, --3.84Mcps TDD only
    iE-Extensions                           ProtocolExtensionContainer { { Cell-InformationItem-ResourceStatusInd-ExtIEs} }    OPTIONAL,
    ...
}
```

```
Cell-InformationItem-ResourceStatusInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

P-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-SCH-InformationIE-ResourceStatusInd }}

P-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-SCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information                    PRESENCE mandatory }
}

S-SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ S-SCH-InformationIE-ResourceStatusInd }}

S-SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-SCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information                    PRESENCE mandatory }
}

P-CPICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CPICH-InformationIE-ResourceStatusInd }}

P-CPICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-CPICH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information               PRESENCE mandatory }
}

S-CPICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-Single-Container {{ S-CPICH-InformationItemIE-
ResourceStatusInd }}

S-CPICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-S-CPICH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information               PRESENCE mandatory }
}

P-CCPCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ P-CCPCH-InformationIE-ResourceStatusInd }}

P-CCPCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-P-CCPCH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information               PRESENCE mandatory }
}

BCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ BCH-InformationIE-ResourceStatusInd }}

BCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-BCH-Information   CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information                  PRESENCE mandatory }
}

S-CCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxSCCPCHCell)) OF ProtocolIE-Single-Container {{ S-CCPCH-InformationItemIE-
ResourceStatusInd }}

S-CCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
```

```
    { ID id-S-CCPCH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information                PRESENCE mandatory }
}

PCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PCH-InformationIE-ResourceStatusInd }}

PCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PCH-Information   CRITICALITY ignore    TYPE Common-TransportChannel-Status-Information                PRESENCE mandatory }
}

PICH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ PICH-InformationIE-ResourceStatusInd }}

PICH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PICH-Information   CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information                PRESENCE mandatory }
}

FACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxFACHCell)) OF ProtocolIE-Single-Container {{ FACH-InformationItemIE-
ResourceStatusInd }}

FACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-FACH-Information   CRITICALITY ignore   TYPE Common-TransportChannel-Status-Information                PRESENCE mandatory }
}

PRACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ PRACH-InformationItemIE-
ResourceStatusInd }}

PRACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PRACH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information                PRESENCE mandatory }
}

RACH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ RACH-InformationItemIE-
ResourceStatusInd }}

RACH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-RACH-Information   CRITICALITY ignore   TYPE Common-TransportChannel-Status-Information                PRESENCE mandatory }
}

AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPRACHCell)) OF ProtocolIE-Single-Container {{ AICH-InformationItemIE-
ResourceStatusInd }}

AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-AICH-Information   CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information                PRESENCE mandatory }
}

PCPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxPCPCHCell)) OF ProtocolIE-Single-Container {{ PCPCH-InformationItemIE-
ResourceStatusInd }}
```

```
PCPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-PCPCH-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information                    PRESENCE optional }
}

CPCH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ CPCH-InformationItemIE-
ResourceStatusInd }}

CPCH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CPCH-Information   CRITICALITY ignore   TYPE Common-TransportChannel-Status-Information                  PRESENCE optional }
}

AP-AICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ AP-AICH-InformationItemIE-
ResourceStatusInd }}

AP-AICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-AP-AICH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information               PRESENCE optional }
}

CDCA-ICH-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (1..maxCPCHCell)) OF ProtocolIE-Single-Container {{ CDCA-ICH-InformationItemIE-
ResourceStatusInd }}

CDCA-ICH-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-CDCA-ICH-Information   CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information               PRESENCE optional }
}

SCH-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ SCH-InformationIE-ResourceStatusInd }}

SCH-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-SCH-Information   CRITICALITY ignore    TYPE Common-PhysicalChannel-Status-Information                   PRESENCE mandatory }
}

FPACH-LCR-InformationList-ResourceStatusInd ::= SEQUENCE (SIZE (0..maxFPACHCell)) OF ProtocolIE-Single-Container {{ FPACH-LCR-InformationItemIE-
ResourceStatusInd }}

FPACH-LCR-InformationItemIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-FPACH-LCR-Information  CRITICALITY ignore   TYPE Common-PhysicalChannel-Status-Information               PRESENCE mandatory }
}

DwPCH-LCR-Information-ResourceStatusInd ::= ProtocolIE-Single-Container {{ DwPCH-LCR-InformationIE-ResourceStatusInd }}

DwPCH-LCR-InformationIE-ResourceStatusInd NBAP-PROTOCOL-IES ::= {
    { ID id-DwPCH-LCR-Information   CRITICALITY ignore  TYPE Common-PhysicalChannel-Status-Information               PRESENCE mandatory }
}
```

```
/*UNCHAGED PATRS ATR OMITTED*/
-- **************************************************************
--
-- 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    } |
    { ID    id-CriticalityDiagnostics                           CRITICALITY     ignore      TYPE                    CriticalityDiagnostics
                    PRESENCE    optional    },
    ...
}

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

RL-InformationResponseList-RL-ReconfReady    ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationResponseItemIE-
RL-ReconfReady}}

RL-InformationResponseItemIE-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID    id-RL-InformationResponseItem-RL-ReconfReady            CRITICALITY     ignore                          TYPE   RL-
InformationResponseItem-RL-ReconfReady      PRESENCE    mandatory}
}

RL-InformationResponseItem-RL-ReconfReady ::= SEQUENCE {
    rL-ID                                       RL-ID,
    dCH-InformationResponseList-RL-ReconfReady      DCH-InformationResponseList-RL-ReconfReady  OPTIONAL,
    dSCH-InformationResponseList-RL-ReconfReady     DSCH-InformationResponseList-RL-ReconfReady OPTIONAL,
    uSCH-InformationResponseList-RL-ReconfReady     USCH-InformationResponseList-RL-ReconfReady OPTIONAL,
    tFCI2-BearerInformationResponse                 TFCI2-BearerInformationResponse     OPTIONAL, --FDD only
    iE-Extensions                                   ProtocolExtensionContainer { { RL-InformationResponseItem-RL-ReconfReady-ExtIEs} }
    OPTIONAL,
    ...
}
```

```
RL-InformationResponseItem-RL-ReconfReady-ExtIEs  NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ DCH-InformationResponseListIEs-RL-ReconfReady }}

DCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore    TYPE DCH-InformationResponse    PRESENCE mandatory }
}

DSCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-ReconfReady }}

DSCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationResponse   CRITICALITY ignore   TYPE DSCH-InformationResponse   PRESENCE mandatory }
}

USCH-InformationResponseList-RL-ReconfReady::= ProtocolIE-Single-Container {{ USCH-InformationResponseListIEs-RL-ReconfReady }}

USCH-InformationResponseListIEs-RL-ReconfReady NBAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationResponse   CRITICALITY ignore   TYPE USCH-InformationResponse       PRESENCE mandatory }
}
/*UNCHAGED PARTS ARE OMITTED*/
-- **************************************************************
--
-- 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-Reporting-Object-RL-FailureInd           CRITICALITY     ignore          TYPE    Reporting-Object-RL-FailureInd     PRESENCE
    mandatory   } ,
    ...
}

RadioLinkFailureIndication-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

Reporting-Object-RL-FailureInd ::= CHOICE {
    rL                      RL-RL-FailureInd,
    rL-Set                  RL-Set-RL-FailureInd, --FDD only
    ...,
    cCTrCH                  CCTrCH-RL-FailureInd  --TDD only
}

RL-RL-FailureInd ::= SEQUENCE {
    rL-InformationList-RL-FailureInd        RL-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-FailureInd-ExtIEs } }            OPTIONAL,
    ...
 }

RLItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{ RL-InformationItemIE-RL-FailureInd}}

RL-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
    { ID    id-RL-InformationItem-RL-FailureInd         CRITICALITY     ignore          TYPE    RL-InformationItem-RL-FailureInd
    PRESENCE    mandatory}
 }

RL-InformationItem-RL-FailureInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { RL-InformationItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

RL-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-FailureInd ::= SEQUENCE {
    rL-Set-InformationList-RL-FailureInd        RL-Set-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-FailureInd-ExtIEs } }        OPTIONAL,
    ...
 }

RL-SetItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

RL-Set-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container {{ RL-Set-InformationItemIE-RL-
FailureInd }}

RL-Set-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-RL-FailureInd    CRITICALITY ignore      TYPE RL-Set-InformationItem-RL-FailureInd     PRESENCE mandatory    }
}

RL-Set-InformationItem-RL-FailureInd ::= SEQUENCE {
    rL-Set-ID               RL-Set-ID,
    cause                   Cause,
    iE-Extensions           ProtocolExtensionContainer { { RL-Set-InformationItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-FailureInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cCTrCH-InformationList-RL-FailureInd        CCTrCH-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { CCTrCHItem-RL-FailureInd-ExtIEs } }        OPTIONAL,
    ...
 }

CCTrCHItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
FailureInd}}

CCTrCH-InformationItemIE-RL-FailureInd NBAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-FailureInd         CRITICALITY     ignore          TYPE                    CCTrCH-InformationItem-RL-
FailureInd          PRESENCE    mandatory}
 }

CCTrCH-InformationItem-RL-FailureInd ::= SEQUENCE {
    cCTrCH-ID                               CCTrCH-ID,
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }
```

```
CCTrCH-InformationItem-RL-FailureInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
/*UNCHAGED PARTD ARE OMITTED*/
-- **************************************************************
--
-- 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-Reporting-Object-RL-RestoreInd           CRITICALITY     ignore          TYPE    Reporting-Object-RL-RestoreInd     PRESENCE
    mandatory   },
    ...
}

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

Reporting-Object-RL-RestoreInd ::= CHOICE {
    rL                      RL-RL-RestoreInd,
    rL-Set                  RL-Set-RL-RestoreInd, --FDD only
    ...,
    cCTrCH                  CCTrCH-RL-RestoreInd  --TDD only
}

RL-RL-RestoreInd ::= SEQUENCE {
    rL-InformationList-RL-RestoreInd        RL-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-RestoreInd-ExtIEs } }           OPTIONAL,
    ...
 }

RLItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
RL-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {{RL-InformationItemIE-RL-RestoreInd}}

RL-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID    id-RL-InformationItem-RL-RestoreInd         CRITICALITY     ignore          TYPE    RL-InformationItem-RL-RestoreInd
    PRESENCE    mandatory}
 }

RL-InformationItem-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    iE-Extensions                           ProtocolExtensionContainer { { RL-InformationItem-RL-RestoreInd-ExtIEs } }     OPTIONAL,
    ...
 }

RL-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-RestoreInd ::= SEQUENCE {
    rL-Set-InformationList-RL-RestoreInd    RL-Set-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-RestoreInd-ExtIEs } }        OPTIONAL,
    ...
 }

RL-SetItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container {{ RL-Set-InformationItemIE-RL-
RestoreInd }}

RL-Set-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-RL-RestoreInd    CRITICALITY ignore      TYPE RL-Set-InformationItem-RL-RestoreInd PRESENCE mandatory    }
 }

RL-Set-InformationItem-RL-RestoreInd ::= SEQUENCE {
    rL-Set-ID               RL-Set-ID,
    iE-Extensions           ProtocolExtensionContainer { { RL-Set-InformationItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CCTrCH-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cCTrCH-InformationList-RL-RestoreInd    CCTrCH-InformationList-RL-RestoreInd,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCHItem-RL-RestoreInd-ExtIEs } }    OPTIONAL,
    ...
 }

CCTrCHItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
RestoreInd}}

CCTrCH-InformationItemIE-RL-RestoreInd NBAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-RestoreInd     CRITICALITY     ignore      TYPE                CCTrCH-InformationItem-RL-
RestoreInd      PRESENCE    mandatory}
 }

CCTrCH-InformationItem-RL-RestoreInd ::= SEQUENCE {
    cCTrCH-ID                               CCTrCH-ID,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-RestoreInd-ExtIEs } }    OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-RestoreInd-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

/*UNCHAGED PARTS ARE OMITTED*/

3GPP TSG-RAN3 #25 Meeting
Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013140

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **537** ⌘ rev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Alignment to RAN4 specifications for Transmitted Code Power measurement
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	In TS 25.133, the Transmitted code power measurement report mapping is defined from the values 10 to 122. In TS 25.433, this is defined as an INTEGER (0..127). This needs to be aligned.
Summary of change:	⌘	It is clarified that values 0 to 9 and 123 to 127 shall not be used. This change has isolated impact on this function. It would not affect implementations behaving like indicated in the CR, but it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	If this CR is not approved, the specification will remain unclear.

Clauses affected:	⌘	9.2.1.24		
Other specs affected:	⌘	**X** Other core specifications	⌘	TS 25.423 v3.7.0 CR483 TS 25.423 v4.2.0 CR484 TS 25.433 v4.2.1 CR538
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.24 Dedicated Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Dedicated Measurement Value*				
>SIR Value				
>>SIR value	M		INTEGER(0. .63)	According to mapping in [22] and [23]
>SIR Error Value				FDD only
>>SIR error Value	M		INTEGER(0. .125)	According to mapping in [22]
>Transmitted Code Power				
>>Transmitted Code Power Value	M		INTEGER(0. .127)	According to mapping in [22] and [23] Values 0 to 9 and 123 to 127 shall not be used.
>RSCP				TDD only
>>RSCP	M		INTEGER(0. .127)	According to mapping in [23]
>Rx Timing Deviation				TDD only
>>Rx Timing Deviation	M		INTEGER(0. .8191)	According to mapping in [23]
>Round Trip Time				FDD only
>>Round Trip Time	M		INTEGER(0. .32767)	According to mapping in [22]

3GPP TSG-RAN3 #25 Meeting
Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013141

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **538** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Alignment to RAN4 specifications for Transmitted Code Power measurement
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	In TS 25.133, the Transmitted code power measurement report mapping is defined from the values 10 to 122. In TS 25.433, this is defined as an INTEGER (0..127). This needs to be aligned.
Summary of change:	⌘	It is clarified that values 0 to 9 and 123 to 127 shall not be used. This change has isolated impact on this function. It would not affect implementations behaving like indicated in the CR, but it would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	If this CR is not approved, the specification will remain unclear.

Clauses affected:	⌘	9.2.1.24		
Other specs affected:	⌘	**X** Other core specifications	⌘	TS 25.423 v3.7.0 CR483 TS 25.423 v4.2.0 CR484 TS 25.433 v3.7.0 CR537
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.24 Dedicated Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Dedicated Measurement Value*				
>SIR Value				
>>SIR value	M		INTEGER(0..63)	According to mapping in [22] and [23]
>SIR Error Value				FDD only
>>SIR error Value	M		INTEGER(0..125)	According to mapping in [22]
>Transmitted Code Power Value				
>>Transmitted Code Power Value	M		INTEGER(0..127)	According to mapping in [22] and [23] Values 0 to 9 and 123 to 127 shall not be used.
>RSCP				TDD only
>>RSCP	M		INTEGER(0..127)	According to mapping in [23]
>Rx Timing Deviation Value				3.84Mcps TDD only
>>Rx Timing Deviation	M		INTEGER(0..8191)	According to mapping in [23]
>Round Trip Time				FDD only
>>Round Trip Time	M		INTEGER(0..32767)	According to mapping in [22]
>Rx Timing Deviation Value LCR				1.28Mcps TDD only
>>Rx Timing Deviation LCR	M		INTEGER(0..255)	According to mapping in [23]

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November, 2001

Tdoc R3-013640

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **539** ⌘ rev ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Correction the Clause 10 Error Handling
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001 November
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ If the receiver detect an error (e.g. transfer syntax error, abstract syntax error) in the receiving message but there is no unsuccessful response message to report the error, the Error Indication procedure is specified to use to report the error. The *Procedure ID* IE and the *Triggering Message* Criticality IE in the Diagnostics IE is specified to include in the Error Indication procedure so that the sender who sent the erroneous message can understand which procedure had the error. However, this was not clearly specified in error cases such as “transfer syntax error (Subclause 10.2)”, “not comprehended Type of Message IE (Subclause 10.3.4.1A)” and “IEs or IE groups received in wrong order or with too many occurrences or erroneously present (Subclause 10.3.6)”.This could lead to a situation e.g. the sender who sent the erroneous message can not understand what was the Error Indication procedure corresponding to and cause the traffic load if the sender resent the initiating (erroneous) message unlimitedly.

Other corrections are needed in the case of “Ignore and Notify Sender” and “Notify” in Missing IE or IE group (10.3.5) to have consistency description with 10.3.4.2.

Summary of change: ⌘ This CR is to state that optional information elements other than those which have been currently stated may also be included if available, within the message that is used to report the error.

The corrections are also done in the case of “Ignore and Notify Sender” and “Notify” in Missing IE or IE group (10.3.5).

Consequences if not approved: ⌘ If this is not approved, in some error cases it would be not possible for the node who receives the ERROR INDICATION message to know which procedure is the ERROR INDICATION message corresponding to.

Impact Analysis:

Impact assessment towards the previous version of the specification (same

	release): This CR has [isolated impact] with the previous version of the specification (same release) because some existing implementation may interpret that optional information can not be included when reporting the error. ONLY if there is impact: This CR has an impact under [functional/protocol] point of view. The impact [can] be considered isolated because the change affects error handling.

Clauses affected:	⌘	10.1, 10.3.4.2 10.3.5			
Other specs affected:	⌘	X	Other core specifications	⌘	25.413 v3.7.0 CR399 25.413 v4.2.0 CR400 25.419 v3.6.0 CR079 25.419 v4.2.0 CR080 25.423 v3.7.0 CR533 25.423 v4.2.0 CR534 25.433 v4.2.1 CR540 25.453 v5.1.0 CR015
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.4 Message Transfer Syntax

NBAP shall use the ASN.1 Basic Packed Encoding Rules (BASIC-PER) Aligned Variant as transfer syntax as specified in ref. [11].

9.5 Timers

$T_{Preempt}$

- Specifies the maximum time that a Node B may wait for pre-emption of resources for establishment or reconfiguration of Radio Links.

10 Handling of unknown, unforeseen and erroneous protocol data

10.1 General

Protocol Error cases can be divided into three classes:

- Transfer Syntax Error
- Abstract Syntax Error
- Logical Error

Protocol errors can occur in the following functions within a receiving node:

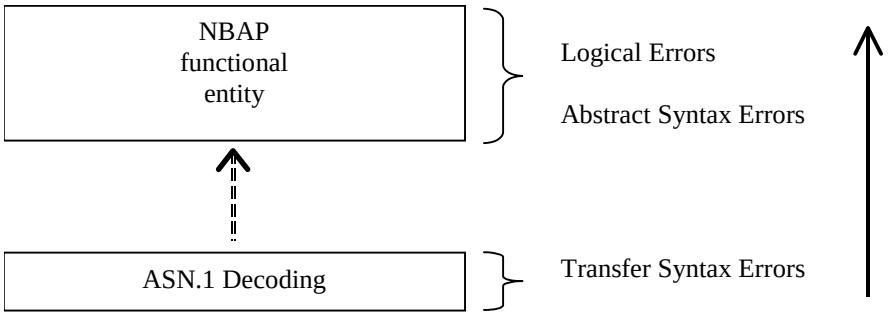

Figure 38: Protocol Errors in NBAP.

The information stated in subclauses 10.2, 10.3 and 10.4, to be included in the message used when reporting an error, is what at minimum shall be included. Other optional information elements within the message may also be included, if available. This is also valid for the case when the reporting is done with a response message. The latter is an exception to what is stated in subclause 4.1.

10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received physical message. Transfer syntax errors are always detected in the process of ASN.1 decoding. If a Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the Transfer Syntax protocol error.

Examples for Transfer Syntax Errors are:

- Violation of value ranges in ASN.1 definition of messages. e.g.: If an IE has a defined value range of 0 to 10 (ASN.1: INTEGER (0..10)), and 12 will be received, then this will be treated as a transfer syntax error.

- Violation in list element constraints. e.g.: If a list is defined as containing 1 to 10 elements, and 12 elements will be received, than this case will be handled as a transfer syntax error.

- Missing mandatory elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).

- Wrong order of elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).

10.3 Abstract Syntax Error

10.3.1 General

An Abstract Syntax Error occurs when the receiving functional NBAP entity:

1. receives IEs or IE groups that cannot be understood (unknown id);

2. receives IEs for which the logical range is violated (e.g.: ASN.1 definition: 0 to 15, the logical range is 0 to 10 (values 11 to 15 are undefined), and 12 will be received; this case will be handled as an abstract syntax error using criticality information sent by the originator of the message);

3. does not receive IEs or IE groups but according to the specified presence of the concerning object, the IEs or IE groups should have been present in the received message;

4. receives IEs or IE groups that are defined to be part of that message in wrong order or with too many occurrences of the same IE or IE group;

5. receives IEs or IE groups but according to the conditional presence of the concerning object and the specified condition, the IEs or IE groups should not have been present in the received message.

Cases 1 and 2 (not comprehended IE/IE group) are handled based on received Criticality information. Case 3 (missing IE/IE group) is handled based on Criticality information and Presence information for the missing IE/IE group specified in the version of the specification used by the receiver. Case 4 (IEs or IE groups in wrong order or with too many occurrences) and Case 5 (erroneously present conditional IEs or IE groups) result in rejecting the procedure.

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error that belong to cases 1-3 act according to the Criticality Information and Presence Information for the IE/IE group due to which Abstract Syntax Error occurred in accordance with subclauses 10.3.4 and 10.3.5. The handling of cases 4 and 5 is specified in subclause 10.3.6.

10.3.2 Criticality Information

In the NBAP messages there is criticality information set for individual IEs and/or IE groups. This criticality information instructs the receiver how to act when receiving an IE or an IE group that is not comprehended, i.e. the entire item (IE or IE group) which is not (fully or partially) comprehended shall be treated in accordance with its own criticality information as specified in subclause 10.3.4.

In addition, the criticality information is used in case of the missing IE/IE group abstract syntax error (see subclause 10.3.5).

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information for an IE/IE group are:

- Reject IE

- Ignore IE and Notify Sender

- Ignore IE

The following rules restrict when a receiving entity may consider an IE, an IE group or an EP not comprehended (not implemented), and when action based on criticality information is applicable:

1. IE or IE group: When one new or modified IE or IE group is implemented for one EP from a standard version, then other new or modified IEs or IE groups specified for that EP in that standard version shall be considered comprehended by the receiving entity (some may still remain unsupported).

   Note that this restriction is applicable to a sending entity for constructing messages.

2. EP: The comprehension of different EPs within a standard version or between different standard versions is not mandated. Any EP that is not supported may be considered not comprehended, even if another EP from that standard version is comprehended, and action based on criticality shall be applied.

When the criticality information cannot even be decoded in a not comprehended IE or IE group, the Error Indication procedure shall be initiated with an appropriate cause value.

10.3.3 Presence Information

For many IEs/IE groups which are optional according to the ASN.1 transfer syntax, NBAP specifies separately if the presence of these IEs/IE groups is optional or mandatory with respect to RNS application by means of the presence field of the concerning object of class NBAP-PROTOCOL-IES, NBAP-PROTOCOL-IES-PAIR, NBAP-PROTOCOL-EXTENSION or NBAP-PRIVATE-IES.

The presence field of the indicated classes supports three values:

1. Optional;
2. Conditional;
3. Mandatory.

If an IE/IE group is not included in a received message and the presence of the IE/IE group is mandatory or the presence is conditional and the condition is true according to the version of the specification used by the receiver, an abstract syntax error occurs due to a missing IE/IE group.

If an IE/IE group is included in a received message and the presence of the IE/IE group is conditional and the condition is false according to the version of the specification used by the receiver, an abstract syntax error occurs due to this erroneously present conditional IE/IE group.

10.3.4 Not comprehended IE/IE group

10.3.4.1 Procedure ID

The receiving node shall treat the different types of received criticality information of the *Procedure ID* according to the following:

Reject IE:

- If a message is received with a *Procedure ID* 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 ID* 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 ID* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

When using the Error Indication procedure to reject a procedure or to report an ignored procedure it shall include the *Procedure ID* IE, the *Triggering Message* IE, and the *Procedure Criticality* IE in the *Criticality Diagnostics* IE.

10.3.4.1A Type of Message

When the receiving node cannot decode the *Type of Message* IE, the Error Indication procedure shall be initiated with an appropriate cause value.

10.3.4.2 IEs other than the Procedure ID and Type of Message

The receiving node shall treat the different types of received criticality information of an IE/IE group other than the *Procedure ID* according to the following:

Reject IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups 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/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Reject IE*" that the receiving node does not comprehend, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups and report in the response message of the procedure that one or more IEs/IE groups have been ignored. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report the outcome of the procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and initiate the Error Indication procedure to report that one or more IEs/IE groups have been ignored.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups and initiate the Error Indication procedure.

Ignore IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id~~d~~D* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.5 Missing IE or IE group

The receiving node shall treat the missing IE/IE group according to the criticality information for the missing IE/IE group in the received message specified in the version of this specification used by the receiver:

Reject IE:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Reject IE*"; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the missing IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report unsuccessful outcome is missing one or more IEs/IE groups with specified criticality "*Reject IE*", the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Reject IE*, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and report in the response message of the procedure that one or more IEs/IE groups were missing. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report the outcome of the procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

Ignore IE:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs/IE groups are missing and continue with the procedure based on the other IEs/IE groups present in the message.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id~~d~~D* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.6 IEs or IE groups received in wrong order or with too many occurrences or erroneously present

If a message with IEs or IE groups in wrong order or with too many occurrences is received or if IEs or IE groups with a conditional presence are present when the condition is not met (i.e. erroneously present), the receiving node shall behave according to the following:

- If a message *initiating* a procedure is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the cause value "Abstract Syntax Error (Falsely Constructed Message)" using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node shall terminate the procedure and initiate the Error Indication procedure, and use cause value "Abstract Syntax Error (Falsely Constructed Message)".

- If a *response* message is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

When determining the correct order only the IEs specified in the specification version used by the receiver shall be considered.

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November, 2001

Tdoc R3-013641

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **540** ⌘ rev ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Correction the Clause 10 Error Handling
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001 November
Category:	⌘	**A**
Release:	⌘	Rel4

Use one of the following categories:
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Other corrections are needed in the case of “Ignore and Notify Sender” and “Notify” in Missing IE or IE group (10.3.5) to have consistency description with 10.3.4.2.

Summary of change: ⌘ This CR is to state that optional information elements other than those which have been currently stated may also be included if available, within the message that is used to report the error.

The corrections are also done in the case of “Ignore and Notify Sender” and “Notify” in Missing IE or IE group (10.3.5).

Consequences if not approved: ⌘ If this is not approved, in some error cases it would be not possible for the node who receives the ERROR INDICATION message to know which procedure is the ERROR INDICATION message corresponding to.

Impact Analysis:

Impact assessment towards the previous version of the specification (same

	release): This CR has [isolated impact] with the previous version of the specification (same release) because some existing implementation may interpret that optional information can not be included when reporting the error. ONLY if there is impact: This CR has an impact under [functional/protocol] point of view. The impact [can] be considered isolated because the change affects error handling.

Clauses affected:	⌘	10.1, 10.3.4.2, 10.3.5			
Other specs	⌘	X	Other core specifications	⌘	25.413 v3.7.0 CR399 25.413 v4.2.0 CR400 25.419 v3.6.0 CR079 25.419 v4.2.0 CR080 25.423 v3.7.0 CR533 25.423 v4.2.0 CR534 25.433 v3.7.0 CR539 25.453 v5.1.0 CR015
affected:			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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10 Handling of unknown, unforeseen and erroneous protocol data

10.1 General

Protocol Error cases can be divided into three classes:

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- Abstract Syntax Error
- Logical Error

Protocol errors can occur in the following functions within a receiving node:

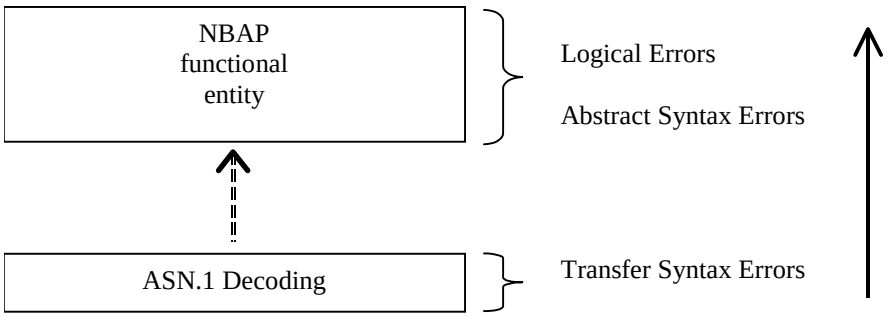

Figure 38: Protocol Errors in NBAP.

The information stated in subclauses 10.2, 10.3 and 10.4, to be included in the message used when reporting an error, is what at minimum shall be included. Other optional information elements within the message may also be included, if available. This is also valid for the case when the reporting is done with a response message. The latter is an exception to what is stated in subclause 4.1.

10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received physical message. Transfer syntax errors are always detected in the process of ASN.1 decoding. If a Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the Transfer Syntax protocol error.

Examples for Transfer Syntax Errors are:

- Violation of value ranges in ASN.1 definition of messages. e.g.: If an IE has a defined value range of 0 to 10 (ASN.1: INTEGER (0..10)), and 12 will be received, then this will be treated as a transfer syntax error.
- Violation in list element constraints. e.g.: If a list is defined as containing 1 to 10 elements, and 12 elements will be received, than this case will be handled as a transfer syntax error.
- Missing mandatory elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).
- Wrong order of elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).

10.3 Abstract Syntax Error

10.3.1 General

An Abstract Syntax Error occurs when the receiving functional NBAP entity:

1. receives IEs or IE groups that cannot be understood (unknown id);

2. receives IEs for which the logical range is violated (e.g.: ASN.1 definition: 0 to 15, the logical range is 0 to 10 (values 11 to 15 are undefined), and 12 will be received; this case will be handled as an abstract syntax error using criticality information sent by the originator of the message);

3. does not receive IEs or IE groups but according to the specified presence of the concerning object, the IEs or IE groups should have been present in the received message;

4. receives IEs or IE groups that are defined to be part of that message in wrong order or with too many occurrences of the same IE or IE group;

5. receives IEs or IE groups but according to the conditional presence of the concerning object and the specified condition, the IEs or IE groups should not have been present in the received message.

Cases 1 and 2 (not comprehended IE/IE group) are handled based on received Criticality information. Case 3 (missing IE/IE group) is handled based on Criticality information and Presence information for the missing IE/IE group specified in the version of the specification used by the receiver. Case 4 (IEs or IE groups in wrong order or with too many occurrences) and Case 5 (erroneously present conditional IEs or IE groups) result in rejecting the procedure.

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error that belong to cases 1-3 act according to the Criticality Information and Presence Information for the IE/IE group due to which Abstract Syntax Error occurred in accordance with subclauses 10.3.4 and 10.3.5. The handling of cases 4 and 5 is specified in subclause 10.3.6.

10.3.2 Criticality Information

In the NBAP messages there is criticality information set for individual IEs and/or IE groups. This criticality information instructs the receiver how to act when receiving an IE or an IE group that is not comprehended, i.e. the entire item (IE or IE group) which is not (fully or partially) comprehended shall be treated in accordance with its own criticality information as specified in subclause 10.3.4.

In addition, the criticality information is used in case of the missing IE/IE group abstract syntax error (see subclause 10.3.5).

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information for an IE/IE group are:

- Reject IE
- Ignore IE and Notify Sender
- Ignore IE

The following rules restrict when a receiving entity may consider an IE, an IE group or an EP not comprehended (not implemented), and when action based on criticality information is applicable:

1. IE or IE group: When one new or modified IE or IE group is implemented for one EP from a standard version, then other new or modified IEs or IE groups specified for that EP in that standard version shall be considered comprehended by the receiving entity (some may still remain unsupported).

   Note that this restriction is applicable to a sending entity for constructing messages.

2. EP: The comprehension of different EPs within a standard version or between different standard versions is not mandated. Any EP that is not supported may be considered not comprehended, even if another EP from that standard version is comprehended, and action based on criticality shall be applied.

When the criticality information cannot even be decoded in a not comprehended IE or IE group, the Error Indication procedure shall be initiated with an appropriate cause value.

10.3.3 Presence Information

For many IEs/IE groups which are optional according to the ASN.1 transfer syntax, NBAP specifies separately if the presence of these IEs/IE groups is optional or mandatory with respect to RNS application by means of the presence field of the concerning object of class NBAP-PROTOCOL-IES, NBAP-PROTOCOL-IES-PAIR, NBAP-PROTOCOL-EXTENSION or NBAP-PRIVATE-IES.

The presence field of the indicated classes supports three values:

1. Optional;
2. Conditional;
3. Mandatory.

If an IE/IE group is not included in a received message and the presence of the IE/IE group is mandatory or the presence is conditional and the condition is true according to the version of the specification used by the receiver, an abstract syntax error occurs due to a missing IE/IE group.

If an IE/IE group is included in a received message and the presence of the IE/IE group is conditional and the condition is false according to the version of the specification used by the receiver, an abstract syntax error occurs due to this erroneously present conditional IE/IE group.

10.3.4 Not comprehended IE/IE group

10.3.4.1 Procedure ID

The receiving node shall treat the different types of received criticality information of the *Procedure ID* according to the following:

Reject IE:

- If a message is received with a *Procedure ID* 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 ID* 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 ID* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

When using the Error Indication procedure to reject a procedure or to report an ignored procedure it shall include the *Procedure ID* IE, the *Triggering Message* IE, and the *Procedure Criticality* IE in the *Criticality Diagnostics* IE.

10.3.4.1A Type of Message

When the receiving node cannot decode the *Type of Message* IE, the Error Indication procedure shall be initiated with an appropriate cause value.

10.3.4.2 IEs other than the Procedure ID and Type of Message

The receiving node shall treat the different types of received criticality information of an IE/IE group other than the *Procedure ID* according to the following:

Reject IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups 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/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Reject IE*" that the receiving node does not comprehend, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups and report in the response message of the procedure that one or more IEs/IE groups have been ignored. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report the outcome of the procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and initiate the Error Indication procedure to report that one or more IEs/IE groups have been ignored.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups and initiate the Error Indication procedure.

Ignore IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id~~d~~D* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.5 Missing IE or IE group

The receiving node shall treat the missing IE/IE group according to the criticality information for the missing IE/IE group in the received message specified in the version of this specification used by the receiver:

Reject IE:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Reject IE*"; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the missing IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report unsuccessful outcome is missing one or more IEs/IE groups with specified criticality "*Reject IE*", the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Reject IE*, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and report in the response message of the procedure that one or more IEs/IE groups were missing. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report the outcome of the procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

Ignore IE:

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs/IE groups are missing and continue with the procedure based on the other IEs/IE groups present in the message.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id*~~*d*~~*ID* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.6 IEs or IE groups received in wrong order or with too many occurrences or erroneously present

If a message with IEs or IE groups in wrong order or with too many occurrences is received or if IEs or IE groups with a conditional presence are present when the condition is not met (i.e. erroneously present), the receiving node shall behave according to the following:

- If a message *initiating* a procedure is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the cause value "Abstract Syntax Error (Falsely Constructed Message)" using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node shall terminate the procedure and initiate the Error Indication procedure, and use cause value "Abstract Syntax Error (Falsely Constructed Message)".

- If a *response* message is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

When determining the correct order only the IEs specified in the specification version used by the receiver shall be considered.

3GPP TSG-RAN3 Meeting #25 **R3-013144**
Makuhari, Japan, 26th – 30th November, 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.433** **CR** **541** ⌘ ev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Clarification of Transport Channel Ordering in TFCS
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November, 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	It is currently not clear what is the order of transport channels when calculating CTFC values for the case of common channels, i.e. what is TrCH-1, TrCH-2, and so on. On this point NBAP refers to RRC, where for dedicated channels RRC clarifies the issue in a non RRC-specific way (applicable also to NBAP) by referring to the transport channel id. On the other hand, for common channels, RRC clarifies the ordering in a RRC-specific way, i.e. by referring to the order of IEs in the RRC message. This is not applicable to NBAP, therefore a specific clarification is needed.
Summary of change:	⌘	A clarification is added to the TFCS subclause Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact on the previous version of the specification (same release) for implementations aligned with the added clarification. For implementations based otherwise on different assumptions, this CR may have isolated/non isolated impact, depending on the single implementation choices.
Consequences if not approved:	⌘	Lack of specification regarding the ordering of transport channels for CTFC calculation purposes (common channels case).

Clauses affected:	⌘	9.2.1.58		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR 542 on 25.433 (R4)
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.58 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.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:

Method #1 - TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.

Method #2 - Explicit

The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2)]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *DSCH*				
>No split in TFCI				This choice is made if : a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Node B communication contexts are assigned any DSCH transport channels OR c) The mode is TDD
>>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)	~~Integer number calculated according to [18]~~ See Note 1.
>>>CHOICE Gain Factors	C-PhysChan			
>>>>Signalled Gain Factors				
>>>>>CHOICE mode				
>>>>>>FDD				
>>>>>>>Gain Factor β_C	M		Integer (0..15)	For UL DPCCH or control part of PRACH or control part of PCPCH in FDD; mapping in accordance to [9]
>>>>>>>Gain Factor β_D	M		Integer (0..15)	For UL DPDCH or data part of PRACH or data part of PCPCH in FDD: mapping in accordance to [9]
>>>>>>TDD				
>>>>>>>Gain Factor β	M		Integer (0..15)	For UL DPCH in TDD; mapping in accordance to [20]
>>>>>Reference TFC nr	O		Integer (0..3)	If this TFC is a reference TFC, this IE indicates the reference number
>>>>Computed Gain Factors				
>>>>>Reference TFC nr	M		Integer (0..3)	Indicates the reference TFC to be used to calculate the gain factors for this TFC
>There is a split in the TFCI				This choice is made if : a) The TFCS refers to the downlink AND b) The mode is FDD and one of the Node B communication contexts is assigned one or more DSCH transport channels
>>**Transport format combination_DCH**		1 to <MaxTFCI_1_Combs>		The first instance of the parameter *Transport format combination_DCH* corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
>>>CTFC(field1)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DSCH transport channels which may be assigned~~ See Note 1.
>>Choice *Signalling method*				
>>>TFCI range				
>>>>**TFC mapping on DSCH**		1 to <MaxNoTFCIGroups>		

>>>>>Max TFCI(field2) value	M		Integer(1..1023)	This is the Maximum value in the range of TFCI(field2) values for which the specified CTFC(field2) applies
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned~~ See Note 1.
>>>*Explicit*				
>>>>**Transport format combination_DSCH**		1 to <MaxTFCI_2_Combs>		The first instance of the parameter *Transport format combination_DSCH* corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned~~ See Note 1.

Condition	Explanation
PhysChan	The IE shall be present if the TFCS concerns a UL DPCH or PRACH channel [FDD – or PCPCH channel].

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations.
MaxTFCI_1_Combs	Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1))
MaxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2))
MaxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies
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 ref. [18]

Note 1:

The CTFC is an integer number calculated in accordance with [18], subclause 14.10. Regarding the channel ordering, for all transport channels, 'TrCH1' corresponds to the transport channel having the lowest transport channel identity among all configured transport channels on this CCTrCH. 'TrCH2' corresponds to the transport channel having the next lowest transport channel identity, and so on.

3GPP TSG-RAN3 Meeting #25 ***R3-013145***
Makuhari, Japan, 26th – 30th November, 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.433** **CR** **542** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Clarification of Transport Channel Ordering in TFCS
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November, 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	It is currently not clear what is the order of transport channels when calculating CTFC values for the case of common channels, i.e. what is TrCH-1, TrCH-2, and so on. On this point NBAP refers to RRC, where for dedicated channels RRC clarifies the issue in a non RRC-specific way (applicable also to NBAP) by referring to the transport channel id. On the other hand, for common channels, RRC clarifies the ordering in a RRC-specific way, i.e. by referring to the order of IEs in the RRC message. This is not applicable to NBAP, therefore a specific clarification is needed.
Summary of change:	⌘	A clarification is added to the TFCS subclause.
Consequences if not approved:	⌘	Lack of specification regarding the ordering of transport channels for CTFC calculation purposes (common channels case). Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact on the previous version of the specification (same release) for implementations aligned with the added clarification. For implementations based otherwise on different assumptions, this CR may have isolated/non isolated impact, depending on the single implementation choices.

Clauses affected:	⌘	9.2.1.58		
Other specs affected:	⌘	**X** Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR 541 on 25.433 (R99)

Other comments: ⌘	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.58 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.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:

Method #1 - TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.

Method #2 - Explicit

The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2)]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *DSCH*				
>No split in TFCI				This choice is made if : a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Node B communication contexts are assigned any DSCH transport channels OR c) The mode is TDD
>>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)	~~Integer number calculated according to [18]~~ See Note 1.
>>>CHOICE Gain Factors	C-PhysChan			
>>>>Signalled Gain Factors				
>>>>>CHOICE mode				
>>>>>>FDD				
>>>>>>>Gain Factor β_C	M		Integer (0..15)	For UL DPCCH or control part of PRACH or control part of PCPCH in FDD; mapping in accordance to [9]
>>>>>>>Gain Factor β_D	M		Integer (0..15)	For UL DPDCH or data part of PRACH or data part of PCPCH in FDD: mapping in accordance to [9]
>>>>>>TDD				
>>>>>>>Gain Factor β	M		Integer (0..15)	For UL DPCH in TDD; mapping in accordance to [20]
>>>>>Reference TFC nr	O		Integer (0..3)	If this TFC is a reference TFC, this IE indicates the reference number
>>>>Computed Gain Factors				
>>>>>Reference TFC nr	M		Integer (0..3)	Indicates the reference TFC to be used to calculate the gain factors for this TFC
>There is a split in the TFCI				This choice is made if : a) The TFCS refers to the downlink AND b) The mode is FDD and one of the Node B communication contexts is assigned one or more DSCH transport channels
>>**Transport format combination_DCH**		1 to <MaxTFCI_1_Combs>		The first instance of the parameter *Transport format combination_DCH* corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
>>>CTFC(field1)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DSCH transport channels which may be assigned~~ See Note 1.
>>Choice *Signalling method*				
>>>TFCI range				
>>>>**TFC mapping on DSCH**		1 to <MaxNoTFCIGroups>		

>>>>>Max TFCI(field2) value	M		Integer(1..1023)	This is the Maximum value in the range of TFCI(field2) values for which the specified CTFC(field2) applies
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned~~ See Note 1.
>>>*Explicit*				
>>>>**Transport format combination_DSCH**		1 to <MaxTFCI_2_Combs>		The first instance of the parameter *Transport format combination_DSCH* corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	~~Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned~~ See Note 1.

Condition	Explanation
PhysChan	The IE shall be present if the TFCS concerns a UL DPCH or PRACH channel [FDD – or PCPCH channel].

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations.
MaxTFCI_1_Combs	Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1))
MaxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2))
MaxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies
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 ref. [18]

Note 1:

The CTFC is an integer number calculated in accordance with [18], subclause 14.10. Regarding the channel ordering, for all transport channels, 'TrCH1' corresponds to the transport channel having the lowest transport channel identity among all configured transport channels on this CCTrCH. 'TrCH2' corresponds to the transport channel having the next lowest transport channel identity, and so on.

3GPP TSG-RAN WG3 Meeting #25 ***R3-013146***
Makuhari, Japan, 26th – 30th November 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.433** **CR** **543** ⌘ rev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Reconstruction of the procedure text for Radio Link Setup in case of TDD.
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Part of the last sentence of section 8.2.17.2 had been inadvertently cut off during text restructuring in the 2001-06 version of the R99 Specification. This sentence shall be reconstructed.
Summary of change:	⌘	The sentence if reconstructed as it existed in the 2001-03 version already, by adding the missing 10 words, to read as follows: "[TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]" Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because the behaviour was agreed in previous versions.
Consequences if not approved:	⌘	If this CR is not approved, the respective sentence in the procedure text for the RL Setup Response message for TDD is incomplete which would force the readers of the R99 Specifications to take resort to the 2001-03 version of R99, or to the current version of the Rel-4 Specs, to fill the gap.

Clauses affected:	⌘	8.2.17.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	A Rel-4 "shadow" CR is not needed, because the error in the text occurred in R99 only, and the reconstruction for R99 makes it aligned with Rel-4 again. This CR was in principle agreed at R3#24 meeting (R3-012933).

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.2.17.2 Successful Operation

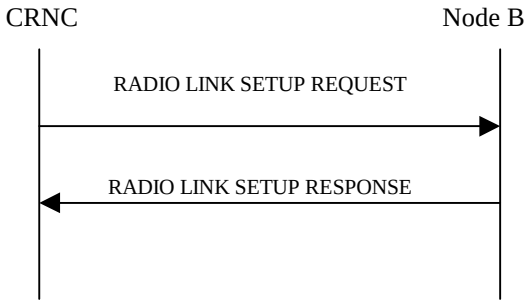

Figure 24: Radio Link Setup procedure, Successful Operation

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.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channels Handling:

DCH(s):

[TDD – If the *DCH Information* IE is present, the Node B shall configure the new DCH(s) according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then, the Node B shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

[FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to “selected” shall be used for the QE in the UL data frames, ref. [16]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [16]].

The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the 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 RL(s) has been activated.

[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 is set to"May", then

Node B shall decide for either of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. 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 Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to "Must not", the Node B shall not combine the RL with any other existing RL.]

[FDD – In the RADIO LINK SETUP RESPONSE message 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 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.]

[TDD – The Node B 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.]

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

DSCH(s):

If the *DSCH Information* IE is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[FDD – If the RADIO LINK SETUP REQUEST message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received. The Node B shall manage the time of arrival of these frames according to the values of ToAWS and ToAWE specified in the IE's. The *Binding ID* IE and *Transport Layer Address* IE for the new bearer to be set up for this purpose shall be returned in the RADIO LINK SETUP RESPONSE message.]

The Node B 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 – USCH(s)]:

[TDD – If the *USCH Information* IE is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

[TDD – In case the *USCH Information* IE is present, the Node B 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.]

Physical Channels Handling:

[FDD - Compressed Mode]:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the Node B shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[FDD – If the *Downlink compressed mode method* IE in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the Node B shall use or not the alternate scrambling code as indicated for each DL Channelisation Code in the *Transmission Gap Pattern Sequence Code Information* IE.]

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the Node B shall use the information to activate the indicated Transmission Gap Pattern Sequences(s) in the new RL.The received *CM Configuration Change CFN* IE refers to the latest passed CFN with that value. The Node B shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the DRNS shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the DRNS shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

[FDD - DL Code Information]:

[FDD – When more than one DL DPDCH is assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1"*, the second to *"PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

General:

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

[FDD – The *UL SIR Target* IE included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control.]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the Node B shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI field but the *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power.]

[FDD - If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronization is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer (see ref.[24]).]

Radio Link Handling:

[FDD - Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "*STTD*", "*Closedloop mode1*", or "*Closedloop mode2*", the Node B shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE.]

DL Power Control:

[FDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until either UL synchronisation on the Uu is achieved for the RLS or a DL POWER CONTROL REQUEST message is received. No inner loop power control or balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) with DPC MODE=0 and the power control procedure (see subclause 8.3.7), but shall always be kept within the maximum and minimum limit specified in the RADIO LINK SETUP REQUEST message. During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

[TDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until the UL synchronisation on the Uu is achieved for the RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3), but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.]

[TDD – If the *DL Time Slot ISCP Info* IE is present, the Node B shall use the indicated value when deciding the initial DL TX Power for each timeslot as specified in [21], i.e. it shall reduce the DL TX power in those

downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

[FDD – If the received *Inner Loop DL PC Status* IE is set to "Active", the Node B shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the Node B shall deactivate the inner loop DL power control for all RLs according to ref. [10].]

General:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE, the Node B shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

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

[FDD - Radio Link Set Handling]:

[FDD – The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the Node B together with the value of the *DL TPC pattern 01 count* IE which the Node B has received in the Cell Setup procedure, to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD –The UL out-of-sync algorithm defined in [10] shall, for each of the established RL Set(s), use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set].

Response Message:

If the RLs are successfully established, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

After sending of the RADIO LINK SETUP RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]

3GPP TSG-RAN3 Meeting #25 ***R3-013147***
Makuhari, Japan, 26th – 30th November 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **544** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Addition of SIB15.4 and SIB18 to tabular
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change: ⌘ The following approved CR in R3#21 meeting has been partly incorrectly implemented in NBAP v4.1.0, and thus there occurs error also in NBAP v.4.2.1

25.433 CR 456r1/rel4 (R3-011713) IB Type correction

This CR corrects the incorrect implementation.

Summary of change: ⌘ SIB 15.4 and SIB18 added for *IB Type* IE tabular

Consequences if not approved: ⌘ If this CR is not approved, the incorrect implementation of the approved CR is still remaining.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release):

This CR has no impact with the previous version of the specification because this CR corrects the contradiction between the tabular format and the ASN.1 definition. When contradiction is found it is the ASN.1, that shall take precedence (except for the definition of conditions for the presence of conditional IEs).

Clauses affected: ⌘ 9.2.1.35

Other specs affected: ⌘
☐ Other core specifications
☐ Test specifications
☐ O&M Specifications
⌘

Other comments: ⌘

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are

9.2.1.35 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, SB1, SB2, SIB1, SIB2 SIB3, SIB4, SIB5, SIB6, SIB7, SIB8, SIB9, SIB10, SIB11, SIB12, SIB13, SIB13.1 SIB13.2, SIB13.3, SIB13.4, SIB14, SIB15, SIB15.1, SIB15.2, SIB15.3, SIB16, …, SIB17, SIB15.4, SIB18)	

3GPP TSG-RAN3 Meeting #25 ***R3-013179***
Makuhari, Japan November 26-30, 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **549** ⌘ rev **-** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	TDD Transmit Diversity for P-CCPCH and S-CCPCH
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November, 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	Block STTD Transmit Diversity is no longer applied. It was replaced by Space Code Transmit Diveristy (SCTD) and is now applied to S-CCPCH
Summary of change:	⌘	The references to Block STTD are replaced by the references to SCTD. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because the signalling remains identical however of course the layer 1 function triggered is different as reflected in the CRs to the physical layer.
Consequences if not approved:	⌘	Misleading information, inconsistencies between specifications.

Clauses affected:	⌘	3.3, 8.3.1.2, 9.1.4.2, 9.2.1.4A, 9.2.1.41D, .9.2.3A, 9.3.3, 9.3.4		
Other specs affected:	⌘	☒ Other core specifications	⌘	25.221 CR 64 and CR 65 25.224 CR 67 and CR 68 25.225 CR 35 and CR 36 25.331 CR 1090 and CR 1091 25.423 CR 490 and CR 491 25.433 CR 550
		☐ Test specifications		
		☐ O&M Specifications		

Other comments: ⌘	

How to create CRs using this form:

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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AICH	Acquisition Indicator Channel
AP-AICH	Access Preamble Acquisition Indicator Channel
ASN.1	Abstract Syntax Notation One
BCCH	Broadcast Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CM	Compressed Mode
CPCH	Common Packet Channel
CPICH	Common Pilot Channel
CRNC	Controlling Radio Network Controller
CSICH	CPCH Status Indicator Channel
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
ISCP	Interference Signal Code Power
L1	Layer 1
L2	Layer 2
MIB	Master Information Block
NBAP	Node B Application Part
O&M	Operation and Maintenance
PCCPCH	Primary Common Control Physical Channel
PCH	Paging Channel
PCPCH	Physical Common Packet Channel
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
RACH	Random Access Channel
RL	Radio Link
RLS	Radio Link Set
RNC	Radio Network Controller
RRC	Radio Resource Control
SB	Scheduling Block
SCCPCH	Secondary Common Control Physical Channel
SCH	Synchronisation Channel
SCTD	Space Code Transmit Diversity
SIB	System Information Block
SRNC	Serving Radio Network Controller
SSDT	Site Selection Diversity Transmission
STTD	Space Time Transmit Diversity
TDD	Time Division Duplex
TFC	Transport Format Combination
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
TSTD	Time Switched Transmit Diversity
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
UMTS	Universal Mobile Telecommunications System
USCH	Uplink Shared Channel
UTRA	Universal Terrestrial Radio Access

UTRAN Universal Terrestrial Radio Access Network

9.1.24 CELL SETUP REQUEST

9.1.24.1 FDD Message

9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation Id	M		9.2.1.16		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nt [15]	YES	reject
Cell Parameter ID	M		9.2.3.4		YES	reject
Maximum Transmission Power	M		9.2.1.40		YES	reject
Transmission Diversity Applied	M		9.2.3.26	On DCHs	YES	reject
Sync Case	M		9.2.3.18		YES	reject
Synchronisation Configuration		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DPCH Constant Value	M		Constant Value		YES	reject
PUSCH Constant Value	M		Constant Value		YES	reject
PRACH Constant Value	M		Constant Value		YES	reject
Timing Advance Applied	M		9.2.3.22A		YES	reject
SCH Information		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>CHOICE *Sync Case*	M				YES	reject
>>*Case 1*					–	
>>>Time Slot	M		9.2.3.23		–	
>>*Case 2*					–	
>>>SCH Time Slot	M		9.2.3.17		–	
>SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
PCCPCH Information		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
> SCTD ~~Block STTD~~ Indicator	M		9.2.3.~~1~~x		–	
Time Slot Configuration		1 .. 15			GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	

9.2.3.1 Block STTD Indicator

Void ~~Indicates if Block STTD antenna diversity is applied or not to the PCCPCH.~~

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

9.2.3.x SCTD Indicator

Indicates if SCTD antenna diversity is applied or not to the PCCPCH and SCCPCH.

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

9.3.3 PDU Definitions

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AddorDeleteIndicator,
    AICH-Power,
    AICH-TransmissionTiming,
    AllocationRetentionPriority,
    APPreambleSignature,
    APSubChannelNumber,
    AvailabilityStatus,
    BCCH-ModificationTime,
    BindingID,
    BlockingPriorityIndicator,
    SCTDBlockSTTD-Indicator,
    Cause,
    CCTrCH-ID,
    CDSubChannelNumbers,
    CellParameterID,
    CFN,
    Channel-Assignment-Indication,
    ChipOffset,
    C-ID,
    Closedlooptimingadjustmentmode,
    CommonChannelsCapacityConsumptionLaw,
    Compressed-Mode-Deactivation-Flag,
    CommonMeasurementType,
    CommonMeasurementValue,
    CommonMeasurementValueInformation,
    CommonPhysicalChannelID,
    Common-PhysicalChannel-Status-Information,
```

```
    Common-TransportChannel-Status-Information,
    CommonTransportChannelID,
    CommonTransportChannel-InformationResponse,
    CommunicationControlPortID,
    ConfigurationGenerationID,
    ConstantValue,
    CriticalityDiagnostics,
    CPCH-Allowed-Total-Rate,
    CPCHScramblingCodeNumber,
    CPCH-UL-DPCCH-SlotFormat,
    CRNC-CommunicationContextID,
    DCH-FDD-Information,
    DCH-InformationResponse,
    DCH-ID,
    FDD-DCHs-to-Modify,
    TDD-DCHs-to-Modify,
    DCH-TDD-Information,
    DedicatedChannelsCapacityConsumptionLaw,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DedicatedMeasurementValueInformation,
    DiversityControlField,
    DiversityMode,
    DL-DPCH-SlotFormat,
    DL-or-Global-CapacityCredit,
    DL-Power,
    DLPowerAveragingWindowSize,
    DL-ScramblingCode,
    DL-TimeslotISCP,
    DL-Timeslot-Information,
    DL-TimeslotISCPInfo,
    DL-TPC-Pattern01Count,
    DPCH-ID,
    DSCH-ID,
    DSCH-FDD-Information,
    DSCH-InformationResponse,
    DSCH-TDD-Information,
    End-Of-Audit-Sequence-Indicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-DL-CodeInformation,
    FDD-S-CCPCH-Offset,
    FDD-TPC-DownlinkStepSize,
    FirstRLS-Indicator,
    FNReportingIndicator,
    FrameHandlingPriority,
    FrameOffset,
    IB-OC-ID,
    IB-SG-DATA,
    IB-SG-POS,
    IB-SG-REP,
    IB-Type,
    IndicationType,
    InnerLoopDLPCStatus,
```

```
    LimitedPowerIncrease,
    Local-Cell-ID,
    MaximumDL-PowerCapability,
    MaximumTransmissionPower,
    Max-Number-of-PCPCHes,
    MaxNrOfUL-DPDCHs,
    MaxPRACH-MidambleShifts,
    MeasurementFilterCoefficient,
    MeasurementID,
    MidambleShiftAndBurstType,
    MinimumDL-PowerCapability,
    MinSpreadingFactor,
    MinUL-ChannelisationCodeLength,
    MultiplexingPosition,
    NEOT,
    NFmax,
    N-INSYNC-IND,
    N-OUTSYNC-IND,
    NodeB-CommunicationContextID,
    NStartMessage,
    PagingIndicatorLength,
    PayloadCRC-PresenceIndicator,
    PCCPCH-Power,
    PCP-Length,
    PDSCH-CodeMapping,
    PDSCHSet-ID,
    PDSCH-ID,
    PICH-Mode,
    PICH-Power,
    PowerAdjustmentType,
    PowerOffset,
    PowerRaiseLimit,
    PRACH-Midamble,
    PreambleSignatures,
    PreambleThreshold,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    SCH-TimeSlot,
    PunctureLimit,
    PUSCHSet-ID,
    PUSCH-ID,
    QE-Selector,
    RACH-SlotFormat,
    RACH-SubChannelNumbers,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    ResourceOperationalState,
    RL-Set-ID,
    RL-ID,
    Received-total-wide-band-power-Value,
    AdjustmentPeriod,
```

```
    ScaledAdjustmentRatio,
    MaxAdjustmentStep,
    ScramblingCodeNumber,
    SecondaryCCPCH-SlotFormat,
    Segment-Type,
    S-FieldLength,
    SFN,
    ShutdownTimer,
    SIB-Originator,
    SpecialBurstScheduling,
    SSDT-Cell-Identity,
    SSDT-CellID-Length,
    SSDT-Indication,
    Start-Of-Audit-Sequence-Indicator,
    STTD-Indicator,
    SSDT-SupportIndicator,
    SyncCase,
    T-Cell,
    T-RLFAILURE,
    TDD-ChannelisationCode,
    TDD-DPCHOffset,
    TDD-TPC-DownlinkStepSize,
    TDD-PhysicalChannelOffset,
    TFCI2-BearerInformationResponse,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TFCS,
    TimeSlot,
    TimeSlotDirection,
    TimeSlotStatus,
    TimingAdvanceApplied,
    ToAWE,
    ToAWS,
    TransmissionDiversityApplied,
    TransmitDiversityIndicator,
    TransmissionGapPatternSequenceCodeInformation,
    Transmission-Gap-Pattern-Sequence-Information,
    TransportBearerRequestIndicator,
    TransportFormatSet,
    TransportLayerAddress,
    TSTD-Indicator,
    UARFCN,
    USCH-Information,
    USCH-InformationResponse,
    UL-CapacityCredit,
    UL-DPCCH-SlotFormat,
    UL-SIR,
    UL-FP-Mode,
    UL-PhysCH-SF-Variation,
    UL-ScramblingCode,
    UL-Timeslot-Information,
```

```
    UL-TimeSlot-ISCP-Info,
    UL-TimeslotISCP-Value,
    UL-TimeslotISCP-Value-IncrDecrThres,
    USCH-ID
```

```
-- **************************************************************
--
-- CELL SETUP REQUEST TDD
--
-- **************************************************************

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

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-Local-Cell-ID                                CRITICALITY     reject      TYPE  Local-Cell-ID                           PRESENCE
    mandatory   }|
        { ID    id-C-ID                                         CRITICALITY     reject      TYPE C-ID                               PRESENCE
    mandatory   }|
    { ID    id-ConfigurationGenerationID                    CRITICALITY     reject      TYPE  ConfigurationGenerationID             PRESENCE
    mandatory   }|
    { ID    id-UARFCNforNt                                  CRITICALITY     reject      TYPE UARFCN                                 PRESENCE
    mandatory   }|
    { ID    id-CellParameterID                              CRITICALITY     reject      TYPE  CellParameterID                       PRESENCE
    mandatory   }|
    { ID    id-MaximumTransmissionPower                     CRITICALITY     reject      TYPE  MaximumTransmissionPower              PRESENCE
    mandatory   }|
    { ID    id-TransmissionDiversityApplied                 CRITICALITY     reject      TYPE  TransmissionDiversityApplied           PRESENCE
    mandatory   }|
    { ID    id-SyncCase                                     CRITICALITY     reject      TYPE  SyncCase                          PRESENCE
    mandatory   }|
    { ID    id-Synchronisation-Configuration-Cell-SetupRqst CRITICALITY     reject      TYPE  Synchronisation-Configuration-Cell-SetupRqst
    PRESENCE    mandatory   }|
    { ID    id-DPCHConstant                                 CRITICALITY     reject      TYPE  ConstantValue                         PRESENCE
    mandatory   }|
    { ID    id-PUSCHConstant                                CRITICALITY     reject      TYPE  ConstantValue                         PRESENCE
    mandatory   }|
    { ID    id-PRACHConstant                                CRITICALITY     reject      TYPE  ConstantValue                         PRESENCE
    mandatory   }|
    { ID    id-TimingAdvanceApplied                         CRITICALITY     reject      TYPE  TimingAdvanceApplied                  PRESENCE
    mandatory   }|
    { ID    id-SCH-Information-Cell-SetupRqstTDD            CRITICALITY     reject      TYPE  SCH-Information-Cell-SetupRqstTDD
    PRESENCE    mandatory   }|
    { ID    id-PCCPCH-Information-Cell-SetupRqstTDD         CRITICALITY     reject      TYPE  PCCPCH-Information-Cell-SetupRqstTDD
    PRESENCE    mandatory   }|
    { ID    id-TimeSlotConfigurationList-Cell-SetupRqstTDD  CRITICALITY     reject      TYPE  TimeSlotConfigurationList-Cell-SetupRqstTDD
    PRESENCE    mandatory   },
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
SCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    syncCaseIndicator                       SyncCaseIndicator-Cell-SetupRqstTDD-PSCH,
    sCH-Power                               DL-Power,
    tSTD-Indicator                          TSTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { SCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

SCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SyncCaseIndicator-Cell-SetupRqstTDD-PSCH ::= ProtocolIE-Single-Container {{ SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH }}

SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH NBAP-PROTOCOL-IES ::= {
    { ID id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH   CRITICALITY reject   TYPE SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH    PRESENCE
mandatory }
}

SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH ::= CHOICE {
    case1                               Case1-Cell-SetupRqstTDD,
    case2                               Case2-Cell-SetupRqstTDD,
    ...
}

Case1-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                            TimeSlot,
    iE-Extensions                       ProtocolExtensionContainer { { Case1Item-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

Case1Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Case2-Cell-SetupRqstTDD ::= SEQUENCE {
    sCH-TimeSlot                        SCH-TimeSlot,
    iE-Extensions                       ProtocolExtensionContainer { { Case2Item-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

Case2Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


PCCPCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset               TDD-PhysicalChannelOffset,
    repetitionPeriod                        RepetitionPeriod,
    repetitionLength                        RepetitionLength,
```

```
    pCCPCH-Power                            PCCPCH-Power,
    sCTDblockSTTD-Indicator                     SCTDBlockSTTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-SetupRqstTDD

TimeSlotConfigurationItem-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                                TimeSlot,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- ========================================
--  B
-- ========================================

BCCH-ModificationTime ::= INTEGER  (0..511)
-- Time = BCCH-ModificationTime * 8
-- Range 0 to 4088, step 8
-- All SFN values in which MIB may be mapped are allowed

BindingID ::= OCTET STRING (SIZE (1..4, ...))

BetaCD ::= INTEGER (0..15)

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.

SCTDBlockSTTD-Indicator ::= ENUMERATED {
    active,
    inactive
}
```

3GPP TSG-RAN3 Meeting #25 ***R3-013180***
Makuhari, Japan November 26-30, 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **550** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network [X] Core Network ☐

Title:	⌘	TDD Transmit Diversity for P-CCPCH and S-CCPCH
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November, 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Block STTD Transmit Diversity is no longer applied. It was replaced by Space Code Transmit Diveristy (SCTD) and is now applied to S-CCPCH
Summary of change:	⌘	The references to Block STTD are replaced by the references to SCTD. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because the signalling remains identical however of course the layer 1 function triggered is different as reflected in the CRs to the physical layer.
Consequences if not approved:	⌘	Misleading information, inconsistencies between specifications.

Clauses affected:	⌘	3.3, 8.3.1.2, 9.1.4.2, 9.2.1.4A, 9.2.1.41D, .9.2.3A, 9.3.3, 9.3.4		
Other specs affected:	⌘	[X] Other core specifications	⌘	25.221 CR 64 and CR 65 25.224 CR 67 and CR 68 25.225 CR 35 and CR 36 25.331 CR 1090 and CR 1091 25.423 CR 490 and CR 491 25.433 CR 549
		☐ Test specifications		
		☐ O&M Specifications		

Other comments: ⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

A-GPS	Assisted GPS
AICH	Acquisition Indicator Channel
AP-AICH	Access Preamble Acquisition Indicator Channel
ASN.1	Abstract Syntax Notation One
BCCH	Broadcast Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CM	Compressed Mode
CPCH	Common Packet Channel
CPICH	Common Pilot Channel
CRNC	Controlling Radio Network Controller
CSICH	CPCH Status Indicator Channel
DCH	Dedicated Channel
DGPS	Differential GPS
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
GPS	Global Positioning System
IPDL	Idle Periods in the DownLink
ISCP	Interference Signal Code Power
L1	Layer 1
L2	Layer 2
MIB	Master Information Block
NBAP	Node B Application Part
O&M	Operation and Maintenance
PCCPCH	Primary Common Control Physical Channel
PCH	Paging Channel
PCPCH	Physical Common Packet Channel
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
RACH	Random Access Channel
RL	Radio Link
RLS	Radio Link Set
RNC	Radio Network Controller
RRC	Radio Resource Control
SB	Scheduling Block
SCCPCH	Secondary Common Control Physical Channel
SCH	Synchronisation Channel
SCTD	Space Code Transmit Diversity
SIB	System Information Block
SRNC	Serving Radio Network Controller
SSDT	Site Selection Diversity Transmission
STTD	Space Time Transmit Diversity
TDD	Time Division Duplex
TFC	Transport Format Combination
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
TSTD	Time Switched Transmit Diversity
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment

UL	Uplink
UMTS	Universal Mobile Telecommunications System
USCH	Uplink Shared Channel
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

9.1.24 CELL SETUP REQUEST

9.1.24.1 FDD Message

9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation Id	M		9.2.1.16		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nt [15]	YES	reject
Cell Parameter ID	M		9.2.3.4		YES	reject
Maximum Transmission Power	M		9.2.1.40		YES	reject
Transmission Diversity Applied	M		9.2.3.26	On DCHs	YES	reject
Sync Case	M		9.2.3.18		YES	reject
Synchronisation Configuration		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DPCH Constant Value	M		Constant Value		YES	reject
PUSCH Constant Value	M		Constant Value		YES	reject
PRACH Constant Value	M		Constant Value		YES	reject
Timing Advance Applied	M		9.2.3.22A		YES	reject
SCH Information		0..1		Mandatory For 3.84Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>CHOICE *Sync Case*	M				YES	reject
>>*Case 1*					–	
>>>Time Slot	M		9.2.3.23		–	
>>*Case 2*					–	
>>>SCH Time Slot	M		9.2.3.17		–	
>SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
PCCPCH Information		0..1		Mandatory For 3.84Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
>SCTD ~~Block STTD~~ Indicator	M		9.2.3.~~1~~x		–	
Time Slot Configuration		0 .. 15		Mandatory For 3.84Mcps	GLOBAL	reject

				TDD only		
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
Time Slot Configuration LCR		0 .. 7		Mandatory For 1.28Mcps TDD only	GLOBAL	reject
>Time Slot LCR	M		9.2.3.24A		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
PCCPCH Information LCR		0..1		Mandatory For 1.28Mcps TDD only	YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
>SCTD ~~Block STTD~~ Indicator	M		9.2.3.~~1~~x		–	
>TSTD Indicator	M		9.2.1.64		–	
DwPCH Information		0..1		Mandatory For 1.28Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>TSTD Indicator	M		9.2.1.64		–	
>SYNC_DL Code ID	M		9.2.3.18B		–	
>DwPCH Power	M		9.2.3.5B		–	
Reference SFN offset	O		9.2.3.14B		YES	ignore
IPDL Parameter Information		0..1			YES	reject
>IPDL TDD Parameters	M		9.2.3.5D		–	
>IPDL Indicator	M		9.2.1.36F		–	

9.2.3.1 Block STTD Indicator

Void. ~~Indicates if Block STTD antenna diversity is applied or not to the PCCPCH.~~

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

9.2.3.x SCTD Indicator

Indicates if SCTD antenna diversity is applied or not to the PCCPCH and SCCPCH.

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

9.3.3 PDU Definitions

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AddorDeleteIndicator,
    AICH-Power,
    AICH-TransmissionTiming,
    AllocationRetentionPriority,
    APPreambleSignature,
    APSubChannelNumber,
    AvailabilityStatus,
    BCCH-ModificationTime,
    BindingID,
    BlockingPriorityIndicator,
    SCTDBlockSTTD-Indicator,
    Cause,
    CCTrCH-ID,
    CDSubChannelNumbers,
    CellParameterID,
    CellSyncBurstAvailabilityIndicator,
    CellSyncBurstCode,
    CellSyncBurstCodeShift,
    CellSyncBurstRepetitionPeriod,
    CellSyncBurstSIR,
    CellSyncBurstTiming,
    CellSyncBurstTimingThreshold,
    CFN,
    Channel-Assignment-Indication,
    ChipOffset,
    C-ID,
    Closedlooptimingadjustmentmode,
```

```
    CommonChannelsCapacityConsumptionLaw,
    Compressed-Mode-Deactivation-Flag,
    CommonMeasurementAccuracy,
    CommonMeasurementType,
    CommonMeasurementValue,
    CommonMeasurementValueInformation,
    CommonPhysicalChannelID,
    Common-PhysicalChannel-Status-Information,
    Common-TransportChannel-Status-Information,
    CommonTransportChannelID,
    CommonTransportChannel-InformationResponse,
    CommunicationControlPortID,
    ConfigurationGenerationID,
    ConstantValue,
    CriticalityDiagnostics,
    CPCH-Allowed-Total-Rate,
    CPCHScramblingCodeNumber,
    CPCH-UL-DPCCH-SlotFormat,
    CRNC-CommunicationContextID,
    CSBMeasurementID,
    CSBTransmissionID,
    DCH-FDD-Information,
    DCH-InformationResponse,
    DCH-ID,
    FDD-DCHs-to-Modify,
    TDD-DCHs-to-Modify,
    DCH-TDD-Information,
    DedicatedChannelsCapacityConsumptionLaw,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DedicatedMeasurementValueInformation,
    DiversityControlField,
    DiversityMode,
    DL-DPCH-SlotFormat,
    DL-or-Global-CapacityCredit,
    DL-Power,
    DLPowerAveragingWindowSize,
    DL-ScramblingCode,
    DL-TimeslotISCP,
    DL-Timeslot-Information,
    DL-TimeslotLCR-Information,
    DL-TimeslotISCPInfo,
    DL-TimeslotISCPInfoLCR,
    DL-TPC-Pattern01Count,
    DPC-Mode,
    DPCH-ID,
    DSCH-ID,
    DSCH-FDD-Common-Information,
    DSCH-FDD-Information,
    DSCH-InformationResponse,
    DSCH-TDD-Information,
    DwPCH-Power,
    End-Of-Audit-Sequence-Indicator,
```

```
    EnhancedDSCHPC,
    EnhancedDSCHPCCounter,
    EnhancedDSCHPCIndicator,
    EnhancedDSCHPCWnd,
    EnhancedDSCHPowerOffset,
    FDD-DL-ChannelisationCodeNumber,
    FDD-DL-CodeInformation,
    FDD-S-CCPCH-Offset,
    FDD-TPC-DownlinkStepSize,
    FirstRLS-Indicator,
    FNReportingIndicator,
    FPACH-Power,
    FrameAdjustmentValue,
    FrameHandlingPriority,
    FrameOffset,
    IB-OC-ID,
    IB-SG-DATA,
    IB-SG-POS,
    IB-SG-REP,
    IB-Type,
    IndicationType,
    InformationExchangeID,
    InformationReportCharacteristics,
    InformationType,
    InnerLoopDLPCStatus,
    IPDL-FDD-Parameters,
    IPDL-TDD-Parameters,
    IPDL-Indicator,
    LimitedPowerIncrease,
    Local-Cell-ID,
    MaximumDL-PowerCapability,
    MaximumTransmissionPower,
    Max-Number-of-PCPCHes,
    MaxNrOfUL-DPDCHs,
    MaxPRACH-MidambleShifts,
    MeasurementFilterCoefficient,
    MeasurementID,
    MidambleAllocationMode,
    MidambleShiftAndBurstType,
    MidambleShiftLCR,
    MinimumDL-PowerCapability,
    MinSpreadingFactor,
    MinUL-ChannelisationCodeLength,
    MultiplexingPosition,
    NEOT,
    NCyclesPerSFNperiod,
    NFmax,
    NRepetitionsPerCyclePeriod,
    N-INSYNC-IND,
    N-OUTSYNC-IND,
    NeighbouringCellMeasurementInformation,
    NeighbouringFDDCellMeasurementInformation,
    NeighbouringTDDCellMeasurementInformation,
```

```
    NodeB-CommunicationContextID,
    NStartMessage,
    PagingIndicatorLength,
    PayloadCRC-PresenceIndicator,
    PCCPCH-Power,
    PCP-Length,
    PDSCH-CodeMapping,
    PDSCHSet-ID,
    PDSCH-ID,
    PICH-Mode,
    PICH-Power,
    PowerAdjustmentType,
    PowerOffset,
    PowerRaiseLimit,
    PRACH-Midamble,
    PreambleSignatures,
    PreambleThreshold,
    PredictedSFNSFNDeviationLimit,
    PredictedTUTRANGPSDeviationLimit,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    SCH-TimeSlot,
    PunctureLimit,
    PUSCHSet-ID,
    PUSCH-ID,
    QE-Selector,
    RACH-SlotFormat,
    RACH-SubChannelNumbers,
    ReferenceClockAvailability,
    ReferenceSFNoffset,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    RequestedDataValue,
    RequestedDataValueInformation,
    ResourceOperationalState,
    RL-Set-ID,
    RL-ID,
    Received-total-wide-band-power-Value,
    AdjustmentPeriod,
    ScaledAdjustmentRatio,
    MaxAdjustmentStep,
    RNC-ID,
    ScramblingCodeNumber,
    SecondaryCCPCH-SlotFormat,
    Segment-Type,
    S-FieldLength,
    SFN,
    SFNSFN,
    SFNSFNChangeLimit,
    SFNSFNDriftRate,
    SFNSFNDriftRateQuality,
```

```
    SFNSFNQuality,
    SFNSFNTimeStamp,
    ShutdownTimer,
    SIB-Originator,
    SpecialBurstScheduling,
    SSDT-Cell-Identity,
    SSDT-CellID-Length,
    SSDT-Indication,
    Start-Of-Audit-Sequence-Indicator,
    STTD-Indicator,
    SSDT-SupportIndicator,
    SyncCase,
    SYNCDlCodeId,
    SyncFrameNumber,
    SynchronisationReportCharacteristics,
    SynchronisationReportType,
    T-Cell,
    T-RLFAILURE,
    TDD-ChannelisationCode,
    TDD-ChannelisationCodeLCR,
    TDD-DL-Code-LCR-Information,
    TDD-DPCHOffset,
    TDD-TPC-DownlinkStepSize,
    TDD-PhysicalChannelOffset,
    TDD-UL-Code-LCR-Information,
    TFCI2-BearerInformationResponse,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TFCS,
    TimeSlot,
    TimeSlotLCR,
    TimeSlotDirection,
    TimeSlotStatus,
    TimingAdjustmentValue,
    TimingAdvanceApplied,
    ToAWE,
    ToAWS,
    TransmissionDiversityApplied,
    TransmitDiversityIndicator,
    TransmissionGapPatternSequenceCodeInformation,
    Transmission-Gap-Pattern-Sequence-Information,
    TransportBearerRequestIndicator,
    TransportFormatSet,
    TransportLayerAddress,
    TSTD-Indicator,
    UARFCN,
    TUTRANGPS,
    TUTRANGPSChangeLimit,
    TUTRANGPSDriftRate,
    TUTRANGPSDriftRateQuality,
    TUTRANGPSQuality,
```

```
    UARFCN,
    UC-Id,
    USCH-Information,
    USCH-InformationResponse,
    UL-CapacityCredit,
    UL-DPCCH-SlotFormat,
    UL-SIR,
    UL-FP-Mode,
    UL-PhysCH-SF-Variation,
    UL-ScramblingCode,
    UL-Timeslot-Information,
    UL-TimeslotLCR-Information,
    UL-TimeSlot-ISCP-Info,
    UL-TimeSlot-ISCP-LCR-Info,
    UL-TimeslotISCP-Value,
    UL-TimeslotISCP-Value-IncrDecrThres,
    USCH-ID
```

```
-- **************************************************************
--
-- CELL SETUP REQUEST TDD
--
-- **************************************************************

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

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-Local-Cell-ID                                    CRITICALITY     reject      TYPE                    Local-Cell-ID
        PRESENCE    mandatory   }|
        { ID    id-C-ID                                             CRITICALITY     reject      TYPE                C-ID
    PRESENCE    mandatory   }|
    { ID    id-ConfigurationGenerationID                        CRITICALITY     reject      TYPE                    ConfigurationGenerationID
            PRESENCE    mandatory   }|
    { ID    id-UARFCNforNt                                          CRITICALITY     reject      TYPE                UARFCN
        PRESENCE    mandatory   }|
    { ID    id-CellParameterID                                  CRITICALITY     reject      TYPE                    CellParameterID
            PRESENCE    mandatory   }|
    { ID    id-MaximumTransmissionPower                         CRITICALITY     reject      TYPE                    MaximumTransmissionPower
            PRESENCE    mandatory   }|
    { ID    id-TransmissionDiversityApplied                     CRITICALITY     reject      TYPE                    TransmissionDiversityApplied
            PRESENCE    mandatory   }|
    { ID    id-SyncCase                                         CRITICALITY     reject      TYPE                    SyncCase
    PRESENCE    mandatory   }|
    { ID    id-Synchronisation-Configuration-Cell-SetupRqst     CRITICALITY     reject      TYPE                    Synchronisation-Configuration-
Cell-SetupRqst      PRESENCE    mandatory   }|
    { ID    id-DPCHConstant                                     CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-PUSCHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-PRACHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-TimingAdvanceApplied                             CRITICALITY     reject      TYPE                    TimingAdvanceApplied
            PRESENCE    mandatory   }|
    { ID    id-SCH-Information-Cell-SetupRqstTDD                CRITICALITY     reject      TYPE                    SCH-Information-Cell-SetupRqstTDD
                PRESENCE    optional    }|  -- Mandatory for 3.84Mcps TDD only
    { ID    id-PCCPCH-Information-Cell-SetupRqstTDD             CRITICALITY     reject      TYPE                    PCCPCH-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 3.84Mcps TDD only
    { ID    id-TimeSlotConfigurationList-Cell-SetupRqstTDD      CRITICALITY     reject      TYPE                    TimeSlotConfigurationList-Cell-
SetupRqstTDD        PRESENCE    optional    },  -- Mandatory for 3.84Mcps TDD only
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID    id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD      CRITICALITY     reject      EXTENSION           TimeSlotConfigurationList-LCR-
Cell-SetupRqstTDD       PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
```

```
    { ID    id-PCCPCH-LCR-Information-Cell-SetupRqstTDD             CRITICALITY     reject      EXTENSION           PCCPCH-LCR-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
    { ID    id-DwPCH-LCR-Information-Cell-SetupRqstTDD              CRITICALITY     reject      EXTENSION           DwPCH-LCR-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
    { ID    id-ReferenceSFNoffset       CRITICALITY     ignore          EXTENSION ReferenceSFNoffset                    PRESENCE optional }|
    { ID    id-IPDLParameter-Information-Cell-SetupRqstTDD           CRITICALITY     reject      EXTENSION             IPDLParameter-Information-
Cell-SetupRqstTDD   PRESENCE    optional },
    ...
}


SCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    syncCaseIndicator                       SyncCaseIndicator-Cell-SetupRqstTDD-PSCH,
    sCH-Power                               DL-Power,
    tSTD-Indicator                          TSTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { SCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

SCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SyncCaseIndicator-Cell-SetupRqstTDD-PSCH ::= ProtocolIE-Single-Container {{ SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH }}

SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH NBAP-PROTOCOL-IES ::= {
    { ID id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH   CRITICALITY reject   TYPE SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH    PRESENCE
mandatory }
}

SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH ::= CHOICE {
    case1                               Case1-Cell-SetupRqstTDD,
    case2                               Case2-Cell-SetupRqstTDD,
    ...
}

Case1-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                            TimeSlot,
    iE-Extensions                       ProtocolExtensionContainer { { Case1Item-Cell-SetupRqstTDD-ExtIEs} }          OPTIONAL,
    ...
}

Case1Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Case2-Cell-SetupRqstTDD ::= SEQUENCE {
    sCH-TimeSlot                        SCH-TimeSlot,
    iE-Extensions                       ProtocolExtensionContainer { { Case2Item-Cell-SetupRqstTDD-ExtIEs} }          OPTIONAL,
    ...
}
```

```
Case2Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


PCCPCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset               TDD-PhysicalChannelOffset,
    repetitionPeriod                        RepetitionPeriod,
    repetitionLength                        RepetitionLength,
    pCCPCH-Power                            PCCPCH-Power,
    sCTDblockSTTD-Indicator                     SCTDBlockSTTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-SetupRqstTDD

TimeSlotConfigurationItem-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                                TimeSlot,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..7)) OF TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD

TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlotLCR                             TimeSlotLCR,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PCCPCH-LCR-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset               TDD-PhysicalChannelOffset,
    repetitionPeriod                        RepetitionPeriod,
    repetitionLength                        RepetitionLength,
```

```
    pCCPCH-Power                            PCCPCH-Power,
    blockSTTDsCTD-Indicator                 SCTD----BlockSTTD-Indicator,
    tSTD-Indicator                          TSTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { PCCPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

PCCPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DwPCH-LCR-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelId         CommonPhysicalChannelID,
    tSTD-Indicator                  TSTD-Indicator,
    sYNCDlCodeId                    SYNCDlCodeId,
    dwPCH-Power                     DwPCH-Power,
    iE-Extensions                   ProtocolExtensionContainer { { DwPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

DwPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLParameter-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters                         IPDL-TDD-Parameters,
    iPDL-Indicator                              IPDL-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- ========================================
--  B
-- ========================================

BCCH-ModificationTime ::= INTEGER  (0..511)
-- Time = BCCH-ModificationTime * 8
-- Range 0 to 4088, step 8
-- All SFN values in which MIB may be mapped are allowed

BindingID ::= OCTET STRING (SIZE (1..4, ...))

BetaCD ::= INTEGER (0..15)

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.

SCTDBlockSTTD-Indicator ::= ENUMERATED {
    active,
    inactive
}
```

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November 2001

R3-013236

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **551** ⌘ rev ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Clarification for the definition of the ASN.1 constants
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ In the current NBAP specification, several extension IEs have been introduced. Of course, these IEs are also added in the ASN.1 modules. But these extension IEs do not fully rely on the existing ASN.1 definitions. The assignment of IDs of the extension IEs in the Constants module does not utilise the definition of the ProtocolExtensionID. In stead, these extension IEs utilise the definition of the ProtocolIE-ID. This unclear definition does not cause a syntax error, but this might cause confusion. Therefore, this CR proposes to replace the ProtocolExtensionID by the ProtocolIE-ID and remove the definition of the ProtocolExtensionID.

Summary of change: ⌘
- In chapter 9.3.5, the definition of the ProtocolExtensionID was removed.
- In chapter 9.3.7, the ProtocolExtensionID in the class definition of the NBAP-PROTOCOL-EXTENSION was replaced by the ProtocolIE-ID.

Consequences if not approved: ⌘ If this CR is not approved, the ASN.1 modules will be less clear.

Impact Analysis

Impact assessment towards the previous version of the specification (same release):

This CR has no impact with the previous version of the specification (same release) because the range of ProtocolIE-ID and ProtocolExtensionID are the same and the replacement of ProtocolExtensionID would not result in any change of bits on the line.

Clauses affected: ⌘ 9.3.5 and 9.3.7

Other specs ⌘ **X** Other core specifications ⌘ CR552 on TS 25.433 V4.21 (REL-4)
CR496 on TS 25.423 V3.7.0 (R99)
CR497 on TS 25.423 V4.2.0 (REL-4)

affected:	☐	CR010 on TS 25.453 V5.1.0 (REL-5)
	☐ Test specifications	
	☐ O&M Specifications	
Other comments: ⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.3.5 Common Definitions

```
-- **************************************************************
--
-- Common definitions
--
-- **************************************************************

NBAP-CommonDataTypes {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-CommonDataTypes (3)  }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- Extension constants
--
-- **************************************************************

maxPrivateIEs                   INTEGER ::= 65535
maxProtocolExtensions           INTEGER ::= 65535
maxProtocolIEs                  INTEGER ::= 65535

-- **************************************************************
--
-- Common Data Types
--
-- **************************************************************

Criticality     ::= ENUMERATED { reject, ignore, notify }

MessageDiscriminator    ::= ENUMERATED { common, dedicated }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID    ::= CHOICE {
    local               INTEGER (0..maxPrivateIEs),
    global              OBJECT IDENTIFIER
}

ProcedureCode   ::= INTEGER (0..255)

ProcedureID     ::= SEQUENCE {
    procedureCode           ProcedureCode,
    ddMode                  ENUMERATED { tdd, fdd, common, ... }
}

ProtocolExtensionID ::= INTEGER (0..maxProtocolExtensions)
```

```
ProtocolIE-ID       ::= INTEGER (0..maxProtocolIEs)

TransactionID       ::= CHOICE {
    shortTransActionId      INTEGER (0..127),
    longTransActionId       INTEGER (0..32767)
}

TriggeringMessage   ::= ENUMERATED { initiating-message, successful-outcome, unsuccessfull-outcome, outcome }

END
```

<Not affected part is omitted>

9.3.7 Container Definitions

```
-- **************************************************************
--
-- Container definitions
--
-- **************************************************************

NBAP-Containers {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Containers (5) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    maxProtocolExtensions,
    maxPrivateIEs,
    maxProtocolIEs,
    Criticality,
    Presence,
    PrivateIE-ID,
    ~~ProtocolExtensionID,~~
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

-- **************************************************************
--
-- 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     ProtocolIE-IDProtocolExtensionID        UNIQUE,
    &criticality    Criticality,
    &Extension,
    &presence       Presence
}
WITH SYNTAX {
    ID      &id
```

```
    CRITICALITY &criticality
    EXTENSION   &Extension
    PRESENCE    &presence
}
```

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November 2001

R3-013237

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **552** ⌘ rev ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	Clarification for the definition of the ASN.1 constants
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘ In the current NBAP specification, several extension IEs have been introduced. Of course, these IEs are also added in the ASN.1 modules. But these extension IEs do not fully rely on the existing ASN.1 definitions. The assignment of IDs of the extension IEs in the Constants module does not utilise the definition of the ProtocolExtensionID. In stead, these extension IEs utilise the definition of the ProtocolIE-ID. This unclear definition does not cause a syntax error, but this might cause confusion. Therefore, this CR proposes to replace the ProtocolExtensionID by the ProtocolIE-ID and remove the definition of the ProtocolExtensionID.

Summary of change: ⌘
- In chapter 9.3.5, the definition of the ProtocolExtensionID was removed.
- In chapter 9.3.7, the ProtocolExtensionID in the class definition of the NBAP-PROTOCOL-EXTENSION was replaced by the ProtocolIE-ID.

Consequences if not approved: ⌘ If this CR is not approved, the ASN.1 modules will be less clear.

Impact Analysis

Impact assessment towards the previous version of the specification (same release):

This CR has no impact with the previous version of the specification (same release) because the range of ProtocolIE-ID and ProtocolExtensionID are the same and the replacement of ProtocolExtensionID would not result in any change of bits on the line.

Clauses affected: ⌘ 9.3.5 and 9.3.7

Other specs ⌘ **X** Other core specifications ⌘
CR551 on TS 25.433 V3.7.0 (R99)
CR496 on TS 25.423 V3.7.0 (R99)
CR497 on TS 25.423 V4.2.0 (REL-4)

affected:	☐ Test specifications ☐ O&M Specifications	CR010 on TS 25.453 V5.1.0 (REL-5)
Other comments: ⌘		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.3.5 Common Definitions

```
-- **************************************************************
--
-- Common definitions
--
-- **************************************************************

NBAP-CommonDataTypes {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-CommonDataTypes (3)  }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- Extension constants
--
-- **************************************************************

maxPrivateIEs                   INTEGER ::= 65535
maxProtocolExtensions           INTEGER ::= 65535
maxProtocolIEs                  INTEGER ::= 65535

-- **************************************************************
--
-- Common Data Types
--
-- **************************************************************

Criticality     ::= ENUMERATED { reject, ignore, notify }

MessageDiscriminator    ::= ENUMERATED { common, dedicated }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID    ::= CHOICE {
    local               INTEGER (0..maxPrivateIEs),
    global              OBJECT IDENTIFIER
}

ProcedureCode   ::= INTEGER (0..255)

ProcedureID     ::= SEQUENCE {
    procedureCode           ProcedureCode,
    ddMode                  ENUMERATED { tdd, fdd, common, ... }
}

ProtocolExtensionID ::= INTEGER (0..maxProtocolExtensions)
```

```
ProtocolIE-ID       ::= INTEGER (0..maxProtocolIEs)

TransactionID       ::= CHOICE {
    shortTransActionId      INTEGER (0..127),
    longTransActionId       INTEGER (0..32767)
}

TriggeringMessage   ::= ENUMERATED { initiating-message, successful-outcome, unsuccessfull-outcome, outcome }

END
```

<Not affected part is omitted>

9.3.7 Container Definitions

```
-- **************************************************************
--
-- Container definitions
--
-- **************************************************************

NBAP-Containers {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Containers (5) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    maxProtocolExtensions,
    maxPrivateIEs,
    maxProtocolIEs,
    Criticality,
    Presence,
    PrivateIE-ID,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

-- **************************************************************
--
-- 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     ProtocolIE-IDProtocolExtensionID        UNIQUE,
    &criticality    Criticality,
    &Extension,
    &presence       Presence
}
WITH SYNTAX {
    ID      &id
```

```
    CRITICALITY &criticality
    EXTENSION   &Extension
    PRESENCE    &presence
}
```

3GPP TSG-RAN3 #25 Meeting
Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013542

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **558** ⌘ rev **1** ⌘ Current version: **3.7.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Terminology Corrections
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	In several places, there is still mention of the DRNS/DNRC. Correction of a wrong implementation of CR 483. An alignment of the *TFCS* IE to the RNSAP terminology is necessary to handle the case where e.g. the DSCH is in a RL under the SRNC, then there is a split in the TFCI and the current sentence is not valid for the Iub between the DRNC and its Node Bs. The ERROR INDICATION message should be written with all capitals
Summary of change:	⌘	R1: Modification to the CR title. Modifications to the Semantics Description of the *TFCS* IE. R0: DRNC/DRNS is replaced by Node B. Deletion of "scrambling code" in the sentence: "[FDD – If the *RL Information* IE includes a *DL Code Information* IE containing a *DL Scrambling Code* IE, the Node B shall apply the values scrambling code in the new configuration.]" "Error Indication message" replaced by "ERROR INDICATION message". This change has no impact.
Consequences if not approved:	⌘	If this CR is not approved, the specification will remain incorrect.

Clauses affected:	⌘	8.2.17.2, 8.3.1.2, 8.3.2.2, 9.2.1.58, 9.3.1.2, 10.5			
Other specs affected:	⌘	☒	Other core specifications	⌘	25.423 v3.7.0 CR503 25.423 v4.2.0 CR504 25.433 v4.2.1 CR559
		☐	Test specifications		
		☐	O&M Specifications		

Other comments: ⌘

How to create CRs using this form:
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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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.

[FDD – The RL Setup procedure is used to establish one or more radio links. The procedure establishes 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 establish one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs, including also combinations where one or more transport channel types are not present.]

8.2.17.2 Successful Operation

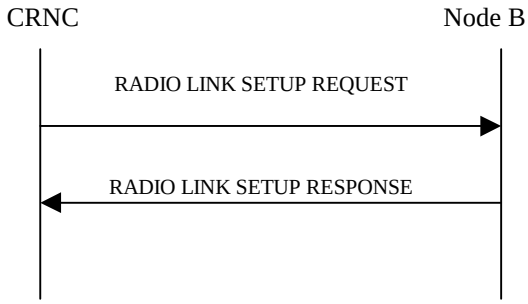

Figure 24: Radio Link Setup procedure, Successful Operation

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.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channels Handling:

DCH(s):

[TDD – If the *DCH Information* IE is present, the Node B shall configure the new DCH(s) according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then, the Node B shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

[FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to “selected” shall be used for the QE in the UL data frames, ref. [16]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [16]].

The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the 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 RL(s) has been activated.

[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 is set to"May", then Node B shall decide for either of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. 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 Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to "Must not", the Node B shall not combine the RL with any other existing RL.]

[FDD – In the RADIO LINK SETUP RESPONSE message 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 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.]

[TDD – The Node B 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.]

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

DSCH(s):

If the *DSCH Information* IE is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[FDD – If the RADIO LINK SETUP REQUEST message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received. The Node B shall manage the time of arrival of these frames according to the values of ToAWS and ToAWE specified in the IE's. The *Binding ID* IE and *Transport Layer Address* IE for the new bearer to be set up for this purpose shall be returned in the RADIO LINK SETUP RESPONSE message.]

The Node B 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 – USCH(s)]:

[TDD – If the *USCH Information* IE is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

[TDD – In case the *USCH Information* IE is present, the Node B 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.]

Physical Channels Handling:

[FDD - Compressed Mode]:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the Node B shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[FDD – If the *Downlink compressed mode method* IE in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the Node B shall use or not the alternate scrambling code as indicated for each DL Channelisation Code in the *Transmission Gap Pattern Sequence Code Information* IE.]

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the Node B shall use the information to activate the indicated Transmission Gap Pattern Sequences(s) in the new RL.The received *CM Configuration Change CFN* IE refers to the latest passed CFN with that value. The Node B shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the ~~DRNS~~ Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the ~~DRNS~~ Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the ~~DRNS~~ Node B shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

[FDD - DL Code Information]:

[FDD – When more than one DL DPDCH is assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1"*, the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

General:

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

[FDD – The *UL SIR Target* IE included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control.]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the Node B shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI field but the *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power.]

[FDD - If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronization is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer (see ref.[24]).]

Radio Link Handling:

[FDD - Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "*STTD*", "*Closedloop mode1*", or "*Closedloop mode2*", the Node B shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE.]

DL Power Control:

[FDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until either UL synchronisation on the Uu is achieved for the RLS or a DL POWER CONTROL REQUEST message is received. No inner loop power control or balancing shall be

performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) with DPC MODE=0 and the power control procedure (see subclause 8.3.7), but shall always be kept within the maximum and minimum limit specified in the RADIO LINK SETUP REQUEST message. During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

[TDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until the UL synchronisation on the Uu is achieved for the RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3), but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.]

[TDD – If the *DL Time Slot ISCP Info* IE is present, the Node B shall use the indicated value when deciding the initial DL TX Power for each timeslot as specified in [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

[FDD – If the received *Inner Loop DL PC Status* IE is set to "Active", the Node B shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the Node B shall deactivate the inner loop DL power control for all RLs according to ref. [10].]

General:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE, the Node B shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

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

[FDD - Radio Link Set Handling]:

[FDD – The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the Node B together with the value of the *DL TPC pattern 01 count* IE which the Node B has received in the Cell Setup procedure, to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD –The UL out-of-sync algorithm defined in [10] shall, for each of the established RL Set(s), use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set].

Response Message:

If the RLs are successfully established, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

After sending of the RADIO LINK SETUP RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start

8.2.17.3 Unsuccessful Operation

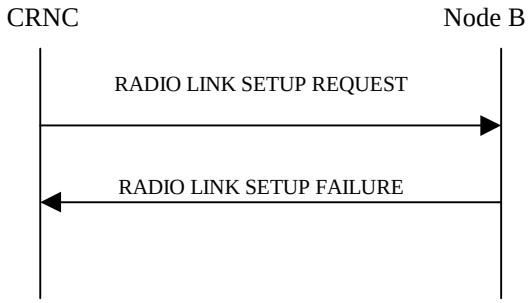

Figure 25: Radio Link Setup procedure: Unsuccessful Operation

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.

[FDD – 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

- Combining not supported
- Combining Resources not available
- Requested Tx Diversity Mode not supported
- Number of DL codes not supported
- Number of UL codes not supported
- UL SF not supported
- DL SF not supported
- Dedicated Transport Channel Type not supported
- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.2.17.4 Abnormal Conditions

[FDD – If the RADIO LINK SETUP REQUEST message contains the *Active Pattern Sequence Information* IE, but the *Transmission Gap Pattern Sequence Information* IE is not present, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the Node B shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCH Information* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.

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.

The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.1.2 Successful Operation

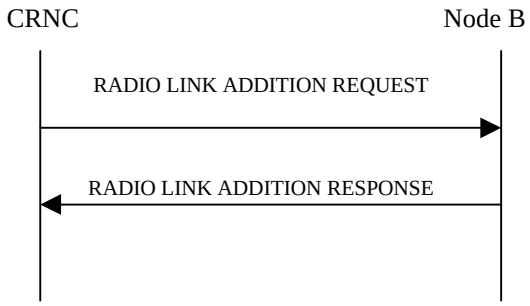

Figure: 28 Radio Link Addition procedure, Successful Operation

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.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Physical Channels Handling:

[TDD – If the *UL DPCH Information* IE is present, the Node B shall configure the new UL DPCH(s) according to the parameters given in the message.]

[TDD – If the *DL DPCH Information* IE is present, the Node B shall configure the new DL DPCH(s) according to the parameters given in the message.]

[FDD - Compressed Mode]:

[FDD – If the RADIO LINK ADDITION REQUEST includes the *Compressed Mode Deactivation Flag* IE with value "Deactivate", the Node B shall not activate any compressed mode pattern in the new RLs. In all the other cases (Flag set to "Maintain Active" or not present), the ongoing compressed mode (if existing) shall be applied also to the added RLs.]

[FDD- If the RADIO LINK ADDITION REQUEST contains the *Transmission Gap Pattern Sequence Code Information* IE for any of the allocated DL Channelisation Codes, the Node B shall apply the alternate scrambling code as indicated for each DL Channelisation Code for which the *Transmission Gap Pattern Sequence Code Information* IE is set to "Code Change".]

[FDD - DL Code Information]:

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to ref. [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

[TDD - CCTrCH Handling]:

[TDD – If the *UL CCTrCH Information* IE is present, the Node B shall configure the new UL CCTrCH(s) according to the parameters given in the message.]

[TDD – If the *DL CCTrCH Information* IE is present, the Node B shall configure the new DL CCTrCH(s) according to the parameters given in the message.]

Radio Link Handling:

Diversity Combination Control:

The *Diversity Control Field* IE indicates for each RL whether the Node B shall combine the new RL with existing RL(s) or not. If the *Diversity Control Field* IE is set to "May", then Node B shall decide for any of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. When a new RL is to be combined, the Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to "Must not", the Node B shall not combine the RL with any other existing RL.

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.

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, [TDD – DSCH, 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 coordinated DCHs.

[TDD – The Node B shall include in the RADIO LINK ADDITION RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH and USCH.]

[FDD - Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "*STTD*", "*Closedloop mode1*", or "*Closedloop mode2*", the ~~DRNC~~ Node B shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE.]

[FDD – When *Transmit Diversity Indicator* IE is present Node B shall activate/deactivate the Transmit Diversity to each new Radio Link in accordance with the *Transmit Diversity Indicator* IE and the already known diversity mode.]

DL Power Control:

[FDD – 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 DPCH of the RL when starting transmission until either UL synchronisation on the Uu is achieved for the RLS or a DL POWER REQUEST message is received. 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. No inner loop power control or balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) with DPC MODE=0 and the downlink power control procedure (see 8.3.7).]

[TDD – 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 DPCH and on each Time Slot of the RL when starting transmission until the UL synchronisation on the Uu is achieved for the RL. 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. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

If the RADIO LINK ADDITION REQUEST message includes the *Maximum DL power* IE, the Node B shall store this value and not transmit with a higher power on any DL DPCH 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. [FDD -

During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

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 DPCH 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.

[TDD – If the RADIO LINK ADDITION REQUEST message includes the *DL Time Slot ISCP Info* IE, the Node B shall use the indicated value when deciding the DL TX Power for each timeslot as specified in ref. [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

General:

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

[FDD - Radio Link Set Handling]:

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another new or existing RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD – After addition of the new RL(s), the UL out-of-sync algorithm defined in [10] shall for each of the previously existing and newly established RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set.]

Response message:

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

After sending of the RADIO LINK ADDITION RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]

8.3.1.3 Unsuccessful Operation

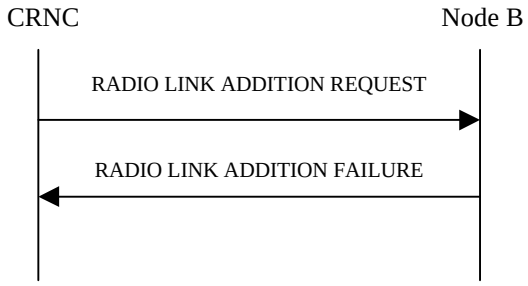

Figure 29: Radio Link Addition procedure: Unsuccessful Operation

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

- Combining not supported
- Combining Resources not available
- Requested Tx Diversity Mode not supported
- UL SF not supported
- DL SF not supported
- Reconfiguration CFN not elapsed
- CM not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.3.1.4 Abnormal conditions

[FDD – If the RADIO LINK ADDITION REQUEST contains the *Compressed Mode Deactivation Flag* IE with the value "Deactivate" when compressed mode is active for the existing RL(s), and at least one of the new RL is added in a cell that has the same UARFCN (both UL and DL) of at least one cell with an already existing RL, the Node B shall regard the Radio Link Addition procedure as failed and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Invalid CM settings".]

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.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.2.2 Successful Operation

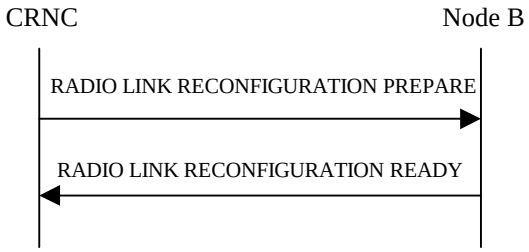

Figure 30: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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 Node B 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.

The Node B shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Modify* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Modify* IE includes the *Frame Handling Priority* IE, 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 *DCHs to Modify* IE includes the *Transport Format Set* IE for the UL of a DCH, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCHs to Modify* IE includes the *Transport Format Set* IE for the DL of a DCH, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- If the *DCHs to Modify* IE includes multiple *DCH Specific Info* IEs then the Node B shall treat the DCHs in the *DCHs to Modify* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs to Modify* IE includes the *UL FP Mode* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWS* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWE* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the DL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Downlink of this DCH in the new configuration.]

- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the UL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Uplink of this DCH in the new configuration.]

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Add* IE includes multiple *DCH specific Info* IEs then, the Node B shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- [FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

- For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [16]. [FDD – If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to ”non-selected” the Physical channel BER shall be used for the QE, ref. [16].]

- 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 shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the DL) in the Downlink of this DCH in the new configuration.]

- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the UL) in the Uplink of this DCH in the new configuration.]

DCH Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Delete* IEs, the Node B shall not include the referenced DCHs in the new configuration.

If all of 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 an *UL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the Node B shall apply the value in the new configuration. The Node B shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *UL SIR Target* IE, the Node B shall use the value for the UL inner loop power control when the new configuration is being used.]

- [FDD – If the *UL DPCH Information* IE includes the *Puncture Limit* IE, the Node B shall apply the value in the uplink of the new configuration.]

- [FDD – The Node B shall use the *TFCS* IE for the UL (if present) when reserving resources for the uplink of the new configuration. The Node B shall apply the new TFCS in the Uplink of the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *UL DPCCH Slot Format* IE, the Node B shall set the new Uplink DPCCH Structure to the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Diversity Mode* IE, the Node B shall apply diversity according to the given value.]

- [FDD – If the *UL DPCH Information* IE includes an *SSDT Cell Identity Length* IE and/or an *S-Field Length* IE, the Node B shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – The Node B shall use the *TFCS* IE for the DL (if it is present) when reserving resources for the downlink of the new configuration. The Node B shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE or the *TFCI Presence* IE, the Node B shall use the information when building TFCIs in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *DL DPCCH Slot Format* IE, group the Node B shall set the new Downlink DPCCH Structure to the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Multiplexing Position* IE, the Node B shall apply the indicated multiplexing type in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Used', the Node B shall use Limited Power Increase ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Not Used', the Node B shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *PDSCH code mapping* IE then the Node B shall apply the defined mapping between TFCI values and PDSCH channelisation codes.]

- [FDD – If the *DL DPCH Information* IE includes the *PDSCH RL ID* IE then the Node B shall infer that the PDSCH for the specified user will be transmitted on the defined radio link.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE the Node B shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. This new Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[TDD – UL/DL CCTrCH Modification]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Modify* or *DL CCTrCH to Modify* IEs, then the Node B shall treat them each as follows:]

- [TDD – If the IE includes any of *TFCS* IE, *TFCI coding* IE or *Puncture Limit* IE the Node B shall apply these as the new values, otherwise the old values specified for this CCTrCH are still applicable.]

- [TDD – If the IE includes any *UL DPCH to add* or *DL DPCH to add* IEs, the Node B shall include this DPCH in the new configuration.]

- [TDD – If the IE includes any *UL DPCH to delete* or *DL DPCH to delete* IEs, the Node B shall remove this DPCH in the new configuration.]

    - [TDD – If the IE includes any UL *DPCH to modify* or *DL DPCH to modify* IEs, and includes any of *Repetition Period* IE, *Repetition Length* IE, or *TDD DPCH Offset* IE or the message includes UL/DL Timeslot Information and includes any of *Midamble shift and Burst Type* IE, *Time Slot* IE, or *TFCI presence* IE or the message includes UL/DL Code information and includes *TDD Channelisation Code* IE, the Node B shall apply these specified information elements as the new values, otherwise the old values specified for this DPCH configuration are still applicable.]

[TDD – UL/DL CCTrCH Addition]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Add* IE or *DL CCTrCH to Add* IE, the Node B shall include this CCTrCH in the new configuration.]

[TDD – If the *UL/DL CCTrCH to Add* IE includes any *UL/DL DPCH Information* IE, the Node B shall reserve necessary resources for the new configuration of the UL/DL DPCH(s) according to the parameters given in the message.]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL CCTrCH to Add* IE, the Node B shall set the TPC step size of that CCTrCH to the same value as the lowest numbered DL CCTrCH in the current configuration.]

[TDD – UL/DL CCTrCH Deletion]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any UL or DL CCTrCH to be deleted , the Node B shall remove this CCTrCH in the new configuration.]

DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to modify*, *DSCH to add* or *DSCH to delete* IEs, then the Node B shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH.

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received if one does not already exist or shall apply the new values if such a bearer does already exist. The *Binding ID* IE and *Transport Layer Address* IE of any new bearer to be set up for this purpose shall be returned in the RADIO LINK RECONFIGURATION READY message. If the RADIO LINK RECONFIGURATION PREPARE message specifies that the TFCI2 transport bearer is to be deleted then the Node B shall release the resources associated with that bearer in the new configuration.

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI field but a TFCI2 transport bearer has not already been set up and *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power in the new configuration.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronisation is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer in the new configuration (see ref. [24]).]

[TDD – USCH Addition/Modification/Deletion:]

- [TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes USCH information for the USCHs to be added/modified/deleted then the Node B shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.]

- [TDD – The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each USCH.]

RL Information:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *RL Information* IE, the Node B shall treat it as follows:

- [FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE in the new configuration.]

- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

- [FDD – If the *RL Information* IE includes a *DL Code Information* IE containing a *DL Scrambling Code* IE, the Node B shall apply the values ~~scrambling code~~ in the new configuration.]

- [FDD – If the *RL Information* IE contains the *Transmission Gap Pattern Sequence Code Information* IE in the *DL Code Information* IE for any of the allocated DL Channelisation Codes, the Node B shall apply the alternate scrambling code as indicated whenever the downlink compressed mode method SF/2 is active in the new configuration.]

- If the *RL Information* IE includes the *Maximum DL Power* and/or the *Minimum DL Power* IEs, the Node B shall apply the values in the new configuration. [FDD - During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

- [TDD – If the *RL Information* IE includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DPCH of the CCTrCH when starting transmission on a new CCTrCH.until the UL synchronisation on the Uu is achieved for the CCTrCH. If no *Initial DL Transmission power* IE is included with a new CCTrCH, the Node B shall use any transmission power level currently used on already existing CCTrCH's when starting transmission for a new CCTrCH. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

General

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. When this procedure has been completed successfully there exist a Prepared Reconfiguration, as defined in subclause 3.1.

In the RADIO LINK RECONFIGURATION READY message, the Node B shall include the *RL Information Response* IE for each affected Radio Link.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

In case of a DCH requiring a new transport bearer on Iub, the *Transport Layer Address* IE and the *Binding ID* shall be included in the IE *DCH Information Response* IE.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE 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 shall be included only for one of the combined RLs. The *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the combined Radio Links.

8.3.2.3 Unsuccessful Operation

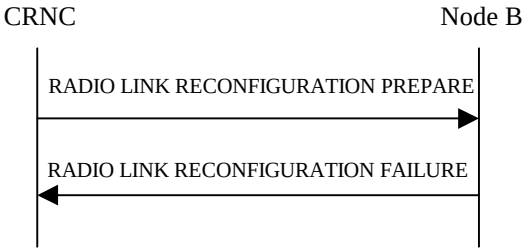

Figure 31: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of co-ordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration Preparation 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

- UL SF not supported
- DL SF not supported
- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported
- Number of DL codes not supported
- Number of UL codes not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated 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.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected”] the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed and shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE" and SSDT is not active in the current configuration, the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed if the *UL DPCH Information* IE does not include the *SSDT Cell Identity Length* IE. In this case, it shall respond with a RADIO LINK RECONFIGURATION FAILURE message.]

If the RADIO LINK RECONFIGURATION PREPARE message includes a *DCHs to Modify* IE or *DCHs to Add* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCHs to Modify* IE or *DCHs to Add* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the Node B shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

9.2.1.58 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.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:

Method #1 - TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.

Method #2 - Explicit

The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2)]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *DSCH*				
>No split in TFCI				This choice is made if : a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Radio Links of the concerned UE ~~Node B communication contexts~~ are assigned any DSCH transport channels OR c) The mode is TDD
>>TFCS		1 to <maxnoofTFCs>		The first instance of the parameter corresponds to TFCI zero, the second to 1 and so on.
>>>CTFC	M		INTEGER(0..MaxCTFC)	Integer number calculated according to [18]
>>>CHOICE Gain Factors	C-PhysChan			
>>>>Signalled Gain Factors				
>>>>>CHOICE *Mode*				
>>>>>>FDD				
>>>>>>>Gain Factor β_C	M		Integer (0..15)	For UL DPCCH or control part of PRACH or control part of PCPCH in FDD; mapping in accordance to [9]
>>>>>>>Gain Factor β_D	M		Integer (0..15)	For UL DPDCH or data part of PRACH or data part of PCPCH in FDD: mapping in accordance to [9]
>>>>>>TDD				
>>>>>>>Gain Factor β	M		Integer (0..15)	For UL DPCH in TDD; mapping in accordance to [20]
>>>>>Reference TFC nr	O		Integer (0..3)	If this TFC is a reference TFC, this IE indicates the reference number
>>>>Computed Gain Factors				
>>>>>Reference TFC nr	M		Integer (0..3)	Indicates the reference TFC to be used to calculate the gain factors for this TFC
>There is a split in the TFCI				This choice is made if : a) The TFCS refers to the downlink AND b) The mode is FDD and one of the Radio Links of the concerned UE ~~Node B communication contexts~~ is assigned one or more DSCH transport channels
>>**Transport format combination_DCH**		1 to <MaxTFCI_1_Combs>		The first instance of the parameter *Transport format combination_DCH* corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
>>>CTFC(field1)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DSCH transport channels which may be assigned
>>Choice *Signalling method*				
>>>TFCI range				
>>>>**TFC mapping on**		1 to		

DSCH		<MaxNoTFCIGroups>		
>>>>>Max TFCI(field2) value	M		Integer(1..1023)	This is the Maximum value in the range of TFCI(field2) values for which the specified CTFC(field2) applies
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned
>>>*Explicit*				
>>>>**Transport format combination_DSCH**		1 to <MaxTFCI_2_Combs>		The first instance of the parameter *Transport format combination_DSCH* corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned

Condition	Explanation
PhysChan	The IE shall be present if the TFCS concerns a UL DPCH or PRACH channel [FDD – or PCPCH channel].

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations.
MaxTFCI_1_Combs	Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1))
MaxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2))
MaxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies
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 ref. [18]

10.5 Exceptions

The error handling for all the cases described hereafter shall take precedence over any other error handling described in the other subclauses of clause 10.

- If any type of error (Transfer Syntax Error, Abstract Syntax Error or Logical Error) is detected in the ERROR INDICATION message, it shall not trigger the Error Indication procedure in the receiving Node but local error handling.

- In case a response message, failure message or ~~Error Indication~~ERROR INDICATION message needs to be returned, but the information necessary to determine the receiver of that message is missing, the procedure shall be considered as unsuccessfully terminated and local error handling shall be initiated.

3GPP TSG-RAN3 #25 Meeting
Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013543

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **559** ⌘ rev **1** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Terminology Corrections
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘ In several places, there is still mention of the DRNS/DNRC.
An alignment of the *TFCS* IE to the RNSAP terminology is necessary to handle the case where e.g. the DSCH is in a RL under the SRNC, then there is a split in the TFCI and the current sentence is not valid for the Iub between the DRNC and its Node Bs.
The ERROR INDICATION message should be written with all capitals

Summary of change: ⌘ R1: Modification to the CR title.
Modifications to the Semantics Description of the *TFCS* IE.

R0: DRNC/DRNS is replaced by Node B.
Correction to a sentence in 8.3.2.2 to align on R99 text (wrong implementation of CR 484)
"Error Indication message" replaced by "ERROR INDICATION message".

This change has no impact.

Consequences if not approved: ⌘ If this CR is not approved, the specification will remain incorrect.

Clauses affected: ⌘ 8.2.17.2, 8.3.1.2., 8.3.2.2, 9.2.1.58, 9.3.1.2, 10.5

Other specs affected: ⌘

☒	Other core specifications
☐	Test specifications
☐	O&M Specifications

⌘ 25.423 v3.7.0 CR503
25.423 v4.2.0 CR504
25.433 v3.7.0 CR558

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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.

[FDD – The RL Setup procedure is used to establish one or more radio links. The procedure establishes 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 establish one radio link including one or more transport channels. The transport channels can be a mixture of DCHs, DSCHs, and USCHs, including also combinations where one or more transport channel types are not present.]

8.2.17.2 Successful Operation

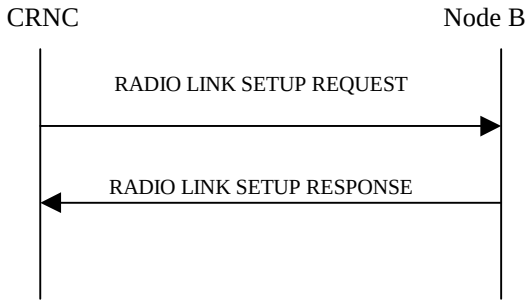

Figure 24: Radio Link Setup procedure, Successful Operation

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.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channels Handling:

DCH(s):

[TDD – If the *DCH Information* IE is present, the Node B shall configure the new DCH(s) according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then, the Node B shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

[FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to “selected” shall be used for the QE in the UL data frames, ref. [16]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [16]].

The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the 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 RL(s) has been activated.

[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 is set to"May", then Node B shall decide for either of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. 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 Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to “Must not” , the Node B shall not combine the RL with any other existing RL.]

[FDD – In the RADIO LINK SETUP RESPONSE message 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 Node B 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.]

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

DSCH(s):

If the *DSCH Information* IE is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[FDD – If the RADIO LINK SETUP REQUEST message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received. The Node B shall manage the time of arrival of these frames according to the values of ToAWS and ToAWE specified in the IE’s. The *Binding ID* IE and *Transport Layer Address* IE for the new bearer to be set up for this purpose shall be returned in the RADIO LINK SETUP RESPONSE message.]

The Node B 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 – USCH(s)]:

[TDD – If the *USCH Information* IE is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

[TDD – In case the *USCH Information* IE is present, the Node B 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.]

Physical Channels Handling:

[FDD – Compressed Mode]:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the Node B shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[FDD – If the *Downlink compressed mode method* IE in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the Node B shall use or not the alternate scrambling code as indicated for each DL Channelisation Code in the *Transmission Gap Pattern Sequence Code Information* IE.]

[FDD – If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the Node B shall use the information to activate the indicated Transmission Gap Pattern Sequence(s) in the new RL.The received *CM Configuration Change CFN* refers to the latest passed CFN with that value The Node B shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the ~~DRNS~~ Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the ~~DRNS~~ Node B shall consider the concerning Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the ~~DRNS~~ Node B shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

[FDD – DL Code Information]:

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1"*, the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

General:

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

[FDD – The *UL SIR Target* IE included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control.]

[1.28Mcps TDD – The *UL SIR Target* IE included in the message shall be used by the Node B as initial UL SIR target for the UL inner loop power control according [19] and [21].]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI field but the *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power.]

[FDD - If the *TFCI Signalling Mode* IE within the RADIO LINK SETUP message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronization is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer (see ref.[24]).]

Radio Link Handling:

[FDD – Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "*STTD*", "*Closedloop mode1*", or "*Closedloop mode2*", the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE]

DL Power Control:

[FDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH of the RL until either UL synchronisation on the Uu is achieved for the RLS or a DL POWER CONTROL REQUEST message is received. No inner loop power control or balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) and the power control procedure (see subclause 8.3.7), but shall always be kept within the maximum and minimum limit specified in the RADIO LINK SETUP REQUEST message. During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK SETUP REQUEST message, the Node B shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK SETUP REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]]

[TDD – The Node B shall start the DL transmission using the initial DL power specified in the message on each DL DPCH and on each Time Slot of the RL until the UL synchronisation on the Uu is achieved for the RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3), but shall always be kept within the maximum and minimum limit specified in the RL SETUP REQUEST message.]

[TDD – If the [3.84Mcps TDD - *DL Time Slot ISCPInfo* IE] or [1.28Mcps TDD - *DL Timeslot ISCP LCR* IE] is present, the Node B shall use the indicated value when deciding the initial DL TX Power for each timeslot as specified in [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

[FDD – If the received *Inner Loop DL PC Status* IE is set to "Active", the Node B shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the Node B shall deactivate the inner loop DL power control for all RLs according to ref. [10]]

General:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE, the Node B shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

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

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity for EDSCHPC* IE, the Node B shall activate enhanced DSCH power control, if supported, using the *SSDT Cell Identity for EDSCHPC* IE and *SSDT Cell Identity Length* IE as well as *Enhanced DSCH PC* IE in accordance with ref. [10] subclause 5.2.2. If the RADIO LINK SETUP REQUEST message includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then the Node B shall ignore the value in *SSDT Cell Identity for EDSCHPC* IE]

[FDD – Radio Link Set Handling]:

[FDD – The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the Node B together with the value of the *DL TPC pattern 01 count* IE which the Node B has received in the Cell Setup procedure, to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD – The UL out-of-sync algorithm defined in [10] shall for each of the established RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set]

Response Message:

If the RLs are successfully established, the Node B shall start reception on the new RL(s) and respond with a RADIO LINK SETUP RESPONSE message.

After sending of the RADIO LINK SETUP RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]

8.2.17.3 Unsuccessful Operation

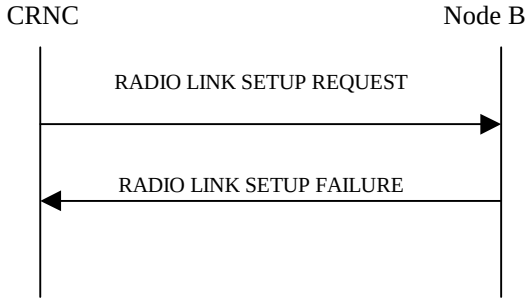

Figure 25: Radio Link Setup procedure: Unsuccessful Operation

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.

[FDD – 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

- Combining not supported
- Combining Resources not available
- Requested Tx Diversity Mode not supported
- Number of DL codes not supported
- Number of UL codes not supported
- UL SF not supported
- DL SF not supported
- Dedicated Transport Channel Type not supported
- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported
- DPC mode change not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.2.17.4 Abnormal Conditions

[FDD – If the RADIO LINK SETUP REQUEST message contains the *Active Pattern Sequence Information* IE, but the *Transmission Gap Pattern Sequence Information* IE is not present, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the Node B shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCH Information* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message

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.

The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.1.2 Successful Operation

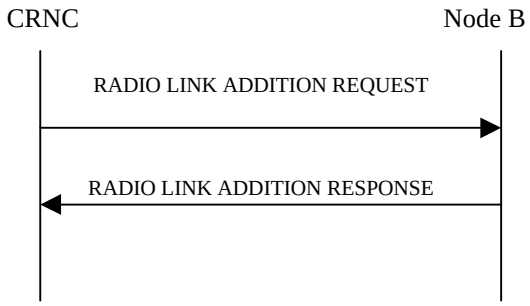

Figure: 28 Radio Link Addition procedure, Successful Operation

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.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Physical Channels Handling:

[TDD – If the *UL DPCH Information* IE is present, the Node B shall configure the new UL DPCH(s) according to the parameters given in the message.]

[TDD – If the *DL DPCH Information* IE is present, the Node B shall configure the new DL DPCH(s) according to the parameters given in the message.]

[FDD – Compressed Mode]:

[FDD – If the RADIO LINK ADDITION REQUEST includes the *Compressed Mode Deactivation Flag* IE with value "Deactivate", the Node B shall not activate any compressed mode pattern in the new RLs. In all the other cases (Flag set to "Maintain Active" or not present), the ongoing compressed mode (if existing) shall be applied also to the added RLs.]

[FDD- If the RADIO LINK ADDITION REQUEST contains the *Transmission Gap Pattern Sequence Code Information* IE for any of the allocated DL Channelisation Codes, the Node B shall apply the alternate scrambling code as indicated for each DL Channelisation Code for which the *Transmission Gap Pattern Sequence Code Information* IE is set to "Code Change".]

[FDD – DL Code Information]:

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to ref. [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

[TDD – CCTrCH Handling]:

[TDD – If the *UL CCTrCH Information* IE is present, the Node B shall configure the new UL CCTrCH(s) according to the parameters given in the message.]

[TDD – If the *DL CCTrCH Information* IE is present, the Node B shall configure the new DL CCTrCH(s) according to the parameters given in the message.]

Radio Link Handling:

Diversity Combination Control:

The *Diversity Control Field* IE indicates for each RL whether the Node B shall combine the new RL with existing RL(s) or not. If the *Diversity Control Field* IE is set to "May", then Node B shall decide for any of the alternatives. If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL. When a new RL is to be combined, the Node B shall choose which RL(s) to combine it with. If the *Diversity Control Field* IE is set to "Must not" the Node B shall not combine the RL with any other existing RL.

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.

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, [TDD – DSCH, 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 coordinated DCHs.

[TDD – The Node B shall include in the RADIO LINK ADDITION RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH and USCH.]

[FDD – Transmit Diversity]:

[FDD – When *Diversity Mode* IE is "*STTD*", "*Closedloop mode1*", or "*Closedloop mode2*", the ~~DRNC~~ Node B shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE.]

[FDD – When *Transmit Diversity Indicator* IE is present Node B shall activate/deactivate the Transmit Diversity to each new Radio Link in accordance with the *Transmit Diversity Indicator* IE and the already known diversity mode.]

DL Power Control:

[FDD – 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 DPCH of the RL when starting transmission until either UL synchronisation on the Uu is achieved for the RLS or a DL POWER REQUEST message is received. 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. No inner loop power control or balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) with DPC MODE currently configured for the relevant Node B Communication Context and the downlink power control procedure (see 8.3.7).]

[TDD – If the RADIO LINK ADDITION REQUEST message includes the [3.84Mcps TDD - *Initial DL Transmission Power* IE] [1.28Mcps TDD – *DL Time Slot ISCP Info LCR* IE], the Node B shall apply the given power to the transmission on each DL DPCH and on each Time Slot of the RL when starting transmission until the UL synchronisation on the Uu is achieved for the RL. 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. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

If the RADIO LINK ADDITION REQUEST message includes the *Maximum DL power* IE, the Node B shall store this value and not transmit with a higher power on any DL DPCH 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. [FDD - During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

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 DPCH 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.

[TDD – If the RADIO LINK ADDITION REQUEST message includes the *DL Time Slot ISCP Info* IE, the Node B shall use the indicated value when deciding the DL TX Power for each timeslot as specified in ref. [21], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged].

General:

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

[FDD – Radio Link Set Handling]:

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message a value that uniquely identifies the RL Set within the Node B Communication context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another new or existing RL, the Node B shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message the same value. This value shall uniquely identify the RL Set within the Node B Communication context.]

[FDD – After addition of the new RL(s), the UL out-of-sync algorithm defined in [10] shall for each of the previously existing and newly established RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set.]

Response Message:

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

After sending of the RADIO LINK ADDITION RESPONSE message the Node B shall continuously attempt to obtain UL synchronisation on the Uu and start reception on the new RL. [FDD – The Node B shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [16].] [TDD – The Node B shall start transmission on the new RL immediately as specified in [16].]

8.3.1.3 Unsuccessful Operation

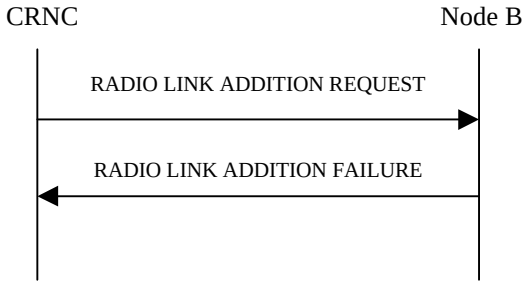

Figure 29: Radio Link Addition procedure: Unsuccessful Operation

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.

[FDD – If the RADIO LINK ADDITION REQUEST contains a *C-ID* IE indicating that a Radio Link must be established on a Cell where DPC Mode change is not supported and DPC Mode can be changed for the relevant Node B Communication Context, the Node B shall consider the procedure as failed for the concerned Radio Link and shall respond with a RADIO LINK ADDITION FAILURE with the appropriate cause value ('DPC Mode change not supported').]

Typical cause values are as follows:

Radio Network Layer Cause

- Combining not supported
- Combining Resources not available
- Requested Tx Diversity Mode not supported
- UL SF not supported
- DL SF not supported
- Reconfiguration CFN not elapsed
- CM not supported
- [FDD – DPC Mode change not supported]

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.3.1.4 Abnormal conditions

[FDD – If the RADIO LINK ADDITION REQUEST contains the *Compressed Mode Deactivation Flag* IE with the value "Deactivate" when compressed mode is active for the existing RL(s), and at least one of the new RL is added in a cell that has the same UARFCN (both UL and DL) of at least one cell with an already existing RL, the Node B shall regard the Radio Link Addition procedure as failed and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Invalid CM settings".]

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.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.2.2 Successful Operation

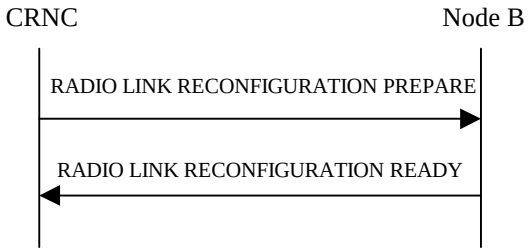

Figure 30: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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 Node B 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.

The Node B shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Modify* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Modify* IE includes the *Frame Handling Priority* IE, 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 *DCHs to Modify* IE includes the *Transport Format Set* IE for the UL of a DCH, the Node B shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCHs to Modify* IE includes the *Transport Format Set* IE for the DL of a DCH, the Node B shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- If the *DCHs to Modify* IE includes multiple *DCH Specific Info* IEs then the Node B shall treat the DCHs in the *DCHs to Modify* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs to Modify* IE includes the *UL FP Mode* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWS* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWE* IE for a DCH or a DCH which belongs to a set of co-ordinated DCHs, the Node B shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the DL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Downlink of this DCH in the new configuration.]

- [TDD – If the *DCHs to Modify* IE includes the *CCTrCH ID* IE for the UL of a DCH to be modified, the Node B shall apply the new CCTrCH ID in the Uplink of this DCH in the new configuration.]

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs then the Node B shall treat them each as follows:

- If the *DCHs to Add* IE includes multiple *DCH specific Info* IEs then, the Node B shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- [FDD – For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

- For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [16]. [FDD – If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to ”non-selected” the Physical channel BER shall be used for the QE, ref. [16].]

- 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 shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the DL) in the Downlink of this DCH in the new configuration.]

- [TDD – The Node B shall apply the *CCTrCH ID* IE (for the UL) in the Uplink of this DCH in the new configuration.]

DCH Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Delete* IEs, the Node B shall not include the referenced DCHs in the new configuration.

If all of 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 an *UL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the Node B shall apply this Uplink Scrambling Code to the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the Node B shall apply the value in the new configuration. The Node B shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *UL SIR Target* IE, the Node B shall use the value for the UL inner loop power control when the new configuration is being used.]

- [FDD – If the *UL DPCH Information* IE includes the *Puncture Limit* IE, the Node B shall apply the value in the uplink of the new configuration.]

- [FDD – The Node B shall use the *TFCS* IE for the UL (if present) when reserving resources for the uplink of the new configuration. The Node B shall apply the new TFCS in the Uplink of the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *UL DPCCH Slot Format* IE, the Node B shall set the new Uplink DPCCH Structure to the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Diversity Mode* IE, the Node B shall apply diversity according to the given value.]

- [FDD – If the *UL DPCH Information* IE includes an *SSDT Cell Identity Length* IE and/or an *S-Field Length* IE, the Node B shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE then the Node B shall apply the parameters to the new configuration as follows:]

- [FDD – The Node B shall use the *TFCS* IE for the DL (if it is present) when reserving resources for the downlink of the new configuration. The Node B shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE or the *TFCI Presence* IE, the Node B shall use the information when building TFCIs in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *DL DPCCH Slot Format* IE, group the Node B shall set the new Downlink DPCCH Structure to the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Multiplexing Position* IE, the Node B shall apply the indicated multiplexing type in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Used', the Node B shall use Limited Power Increase ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Not Used', the Node B shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *PDSCH code mapping* IE then the Node B shall apply the defined mapping between TFCI values and PDSCH channelisation codes.]

- [FDD – If the *DL DPCH Information* IE includes the *PDSCH RL ID* IE then the Node B shall infer that the PDSCH for the specified user will be transmitted on the defined radio link.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE the Node B shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. This new Compressed Mode Configuration shall be valid in the Node B until the next Compressed Mode Configuration is configured in the Node B or Node B Communication Context is deleted.]

[TDD – UL/DL CCTrCH Modification]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Modify* or *DL CCTrCH to Modify* IEs, then the Node B shall treat them each as follows:]

- [TDD – If the IE includes any of *TFCS* IE, *TFCI coding* IE or *Puncture Limit* IE the Node B shall apply these as the new values, otherwise the old values specified for this CCTrCH are still applicable.]

- [TDD – If the IE includes any *UL DPCH to add* or *DL DPCH to add* IEs, the Node B shall include this DPCH in the new configuration.]

- [TDD – If the IE includes any *UL DPCH to delete* or *DL DPCH to delete* IEs, the Node B shall remove this DPCH in the new configuration.]

- [TDD – If the IE includes any UL *DPCH to modify* or *DL DPCH to modify* IEs, and includes any of *Repetition Period* IE, *Repetition Length* IE, or *TDD DPCH Offset* IE or the message includes UL/DL Timeslot Information and includes any of *[3.84Mcps TDD - Midamble shift and Burst Type* IE, *Time Slot* IE], [1.28Mcps TDD - *Midamble shift LCR* IE, *Time Slot LCR* IE], or *TFCI presence* IE or the message includes UL/DL Code information and includes [3.84Mcps TDD - *TDD Channelisation Code* IE], [1.28Mcps TDD - *TDD Channelisation Code LCR* IE], the Node B shall apply these specified information elements as the new values, otherwise the old values specified for this DPCH configuration are still applicable.]

- [1.28Mcps TDD – If the *UL CCTrCH to Modify* IE includes the *UL SIR Target* IE, the Node B shall use the value for the UL inner loop power control according [19] and [21] when the new configuration is being used.]

[TDD – UL/DL CCTrCH Addition]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Add* IE or *DL CCTrCH to Add* IE, the Node B shall include this CCTrCH in the new configuration.]

[TDD – If the *UL/DL CCTrCH to Add* IE includes any *UL/DL DPCH Information* IE, the Node B shall reserve necessary resources for the new configuration of the UL/DL DPCH(s) according to the parameters given in the message.]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL CCTrCH to Add* IE, the Node B shall set the TPC step size of that CCTrCH to the same value as the lowest numbered DL CCTrCH in the current configuration.]

[1.28Mcps TDD –The Node B shall use the *UL SIR Target* IE in the *UL CCTrCH to Add* IE as the UL SIR value for the inner loop power control for this CCTrCH according [19] and [21] in the new configuration.]

[TDD – UL/DL CCTrCH Deletion]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any UL or DL CCTrCH to be deleted , the Node B shall remove this CCTrCH in the new configuration.]

DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to modify*, *DSCH to add* or *DSCH to delete* IEs, then the Node B shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH.

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received if one does not already exist or shall apply the new values if such a bearer does already exist. The *Binding ID* IE and *Transport Layer Address* IE of any new bearer to be set up for this purpose shall be returned in the RADIO LINK RECONFIGURATION READY message. If the RADIO LINK RECONFIGURATION PREPARE message specifies that the TFCI2 transport bearer is to be deleted then the Node B shall release the resources associated with that bearer in the new configuration.

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI field but a TFCI2 transport bearer has not already been set up and *TFCI2 Bearer Information* IE is not included in the message then the Node B shall transmit the TFCI2 field with zero power in the new configuration.]

[FDD – If the *TFCI Signalling Mode* IE within the RADIO LINK RECONFIGURATION PREPARE message indicates that there shall be a hard split on the TFCI and the *TFCI2 Bearer Information* IE is included in the message then the Node B shall transmit the TFCI2 field with zero power until Synchronisation is achieved on the TFCI2 transport bearer and the first valid DSCH TFCI Signalling control frame is received on this bearer in the new configuration (see ref. [24]).]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *DSCH Common Information IE*, the Node B shall treat it as follows:]

- [FDD - If the *Enhanced DSCH PC Indicator* IE is included and set to "Enhanced DSCH PC Active in the UE ", the Node B shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]

  - [FDD - the *SSDT Cell Identity for EDSCHPC* IE in the *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

  - [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* IE are included in the *RL Information* IE.]

  [FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the Node B shall deactivate enhanced DSCH power control in the new configuration.]

[TDD – USCH Addition/Modification/Deletion:]

- [TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes USCH information for the USCHs to be added/modified/deleted then the Node B shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.]

- [TDD – The Node B shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each USCH.]

RL Information:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *RL Information* IE, the Node B shall treat it as follows:

- [FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the *p*th to "*PhCH number p*".]

- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", the Node B may activate SSDT using the *SSDT Cell Identity* IE in the new configuration.]

- [FDD – If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the Node B shall deactivate SSDT in the new configuration.]

- [FDD – If the *RL Information* IE includes a *DL Code Information* IE, the Node B shall apply the values in the new configuration.]

- [FDD – If the *RL Information* IE contains the *Transmission Gap Pattern Sequence Code Information* IE in the *DL Code Information* IE for any of the allocated DL Channelisation Codes, the Node B shall apply the alternate scrambling code as indicated whenever the downlink compressed mode method SF/2 is active in the new configuration.]

- If the *RL Information* IE includes the *Maximum DL Power* and/or the *Minimum DL Power* IEs, the Node B shall apply the values in the new configuration. [FDD - During compressed mode, the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.].

- [TDD – If the *RL Information* IE includes the *Initial DL Transmission Power* IE, the Node B shall apply the given power to the transmission on each DPCH of the CCTrCH when starting transmission on a new CCTrCH.until the UL synchronisation on the Uu is achieved for the CCTrCH. If no *Initial DL Transmission power* IE is included with a new CCTrCH, the Node B shall use any transmission power level currently used on already existing CCTrCH's when starting transmission for a new CCTrCH. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

General

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. When this procedure has been completed successfully there exist a Prepared Reconfiguration, as defined in subclause 3.1.

In the RADIO LINK RECONFIGURATION READY message, the Node B shall include the *RL Information Response* IE for each affected Radio Link.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message the Transport Layer Address and the Binding ID for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

In case of a DCH requiring a new transport bearer on Iub, the *Transport Layer Address* IE and the *Binding ID* shall be included in the IE *DCH Information Response* IE.

In case of a set of coordinated DCHs requiring a new transport bearer on Iub, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE 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 shall be included only for one of the combined RLs. The *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the combined Radio Links.

8.3.2.3 Unsuccessful Operation

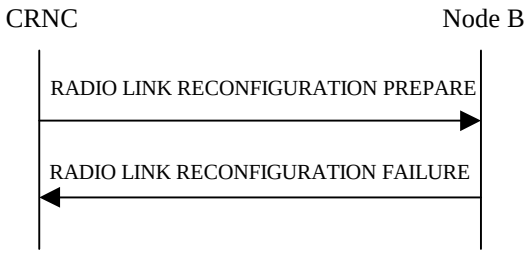

Figure 31: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the Node B cannot reserve the necessary resources for all the new DCHs of one set of co-ordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration Preparation 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

- UL SF not supported
- DL SF not supported
- Downlink Shared Channel Type not supported
- Uplink Shared Channel Type not supported
- CM not supported
- Number of DL codes not supported
- Number of UL codes not supported

Transport Layer Cause

- Transport Resources Unavailable

Miscellaneous Cause

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

8.3.2.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated 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.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected”] the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed and shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE" and SSDT is not active in the current configuration, the Node B shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed if the *UL DPCH Information* IE does not include the *SSDT Cell Identity Length* IE. In this case, it shall respond with a RADIO LINK RECONFIGURATION FAILURE message.]

If the RADIO LINK RECONFIGURATION PREPARE message includes a *DCHs to Modify* IE or *DCHs to Add* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCHs to Modify* IE or *DCHs to Add* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the Node B shall reject the procedure using the RADIO LINK SETUP FAILURE message.

9.2.1.58 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.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:

Method #1 - TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.

Method #2 - Explicit

The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2)]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *DSCH*				
>No split in TFCI				This choice is made if : a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Radio Links of the concerned UE ~~Node B communication contexts~~ are assigned any DSCH transport channels OR c) The mode is TDD
>>TFCS		1 to <maxnoofTFCs>		The first instance of the parameter corresponds to TFCI zero, the second to 1 and so on.
>>>CTFC	M		INTEGER(0..MaxCTFC)	Integer number calculated according to [18]
>>>CHOICE *Gain Factors*	C-PhysChan			
>>>>Signalled Gain Factors				
>>>>>CHOICE *Mode*				
>>>>>>FDD				
>>>>>>>Gain Factor β_C	M		Integer (0..15)	For UL DPCCH or control part of PRACH or control part of PCPCH in FDD; mapping in accordance to [9]
>>>>>>>Gain Factor β_D	M		Integer (0..15)	For UL DPDCH or data part of PRACH or data part of PCPCH in FDD: mapping in accordance to [9]
>>>>>>TDD				
>>>>>>>Gain Factor β	M		Integer (0..15)	For UL DPCH in TDD; mapping in accordance to [20]
>>>>>Reference TFC nr	O		Integer (0..3)	If this TFC is a reference TFC, this IE indicates the reference number
>>>>Computed Gain Factors				
>>>>>Reference TFC nr	M		Integer (0..3)	Indicates the reference TFC to be used to calculate the gain factors for this TFC
>There is a split in the TFCI				This choice is made if : a) The TFCS refers to the downlink AND b) The mode is FDD and one of the Radio Links of the concerned UE ~~Node B communication contexts~~ is assigned one or more DSCH transport channels
>>**Transport format combination_DCH**		1 to <MaxTFCI_1_Combs>		The first instance of the parameter *Transport format combination_DCH* corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
>>>CTFC(field1)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DSCH transport channels which may be assigned
>>Choice *Signalling method*				

>>>TFCI range				
>>>>**TFC mapping on DSCH**		1 to <MaxNoTFCIGroups>		
>>>>>Max TFCI(field2) value	M		Integer(1..1023)	This is the Maximum value in the range of TFCI(field2) values for which the specified CTFC(field2) applies
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned
>>>Explicit				
>>>>**Transport format combination_DSCH**		1 to <MaxTFCI_2_Combs>		The first instance of the parameter *Transport format combination_DSCH* corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
>>>>>CTFC(field2)	M		Integer(0..MaxCTFC)	Integer number calculated according to [18]. The calculation of CTFC ignores any DCH transport channels which may be assigned

Condition	Explanation
PhysChan	The IE shall be present if the TFCS concerns a UL DPCH or PRACH channel [FDD – PCPCH channel].

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations.
MaxTFCI_1_Combs	Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1))
MaxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2))
MaxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies
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 ref. [18]

10.5 Exceptions

The error handling for all the cases described hereafter shall take precedence over any other error handling described in the other subclause of clause 10.

- If any type of error (Transfer Syntax Error, Abstract Syntax Error or Logical Error) is detected in the ERROR INDICATION message, it shall not trigger the Error Indication procedure in the receiving Node but local error handling.

- In case a response message, failure message or ~~Error Indication~~ ERROR INDICATION message needs to be returned, but the information necessary to determine the receiver of that message is missing, the procedure shall be considered as unsuccessfully terminated and local error handling shall be initiated.