TSG-RAN Meeting #12
Stockholm, Sweden, 12 - 15 June 2001

TSGRP#12(01) 0382

Title: **Agreed CRs to TS 25.430**

Source: **TSG-RAN WG3**

Agenda item: **8.3.3/8.3.4**

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num	Workitem
R3-011364	25.430	018		Clarification of Common Channel logical model	F	agreed	3.5.0	3.6.0	TEI
R3-011365	25.430	019		Clarification of Common Channel logical model	A	agreed	4.0.0	4.1.0	TEI
R3-011483	25.430	020		Traffic Management in Common Channels	F	agreed	3.5.0	3.6.0	TEI
R3-011484	25.430	021		Traffic Management in Common Channels	A	agreed	4.0.0	4.1.0	TEI
R3-011508	25.430	022		Alignment of Cell description to NBAP	F	agreed	3.5.0	3.6.0	TEI
R3-011509	25.430	023		Alignment of Cell description to NBAP	A	agreed	4.0.0	4.1.0	TEI

CR-Form-v3

CHANGE REQUEST

⌘ **25.430** CR **18** ⌘ rev ⌘ Current version: **3.5.0** ⌘

*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 of Common Channel logical model	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	*Date:* ⌘ May 2001
Category: ⌘	**F**	*Release:* ⌘ R99

Use <u>one</u> 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 <u>one</u> 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 logical model for common resources is somewhat confusing particularly in S-CCPCH resources since it is unclear which resource certain repetition's belong
Summary of change: ⌘	Rearrange the picture to make it clear which statements belong to which common resources.
Consequences if not approved: ⌘	If this CR was not approved confusion over the number of allowed common resources is possible. Backward Compatibility This CR is backward compatible however since an implementation could make erroneous assumptions based on a misinterpretation of the diagram it is possible it is not backward compatible in all instances.

Clauses affected: ⌘	6.2.4.1		
Other specs affected: ⌘	**X** Other core specifications ⌘	25.430 v4.0.0 CR 19	
	☐ 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

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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.
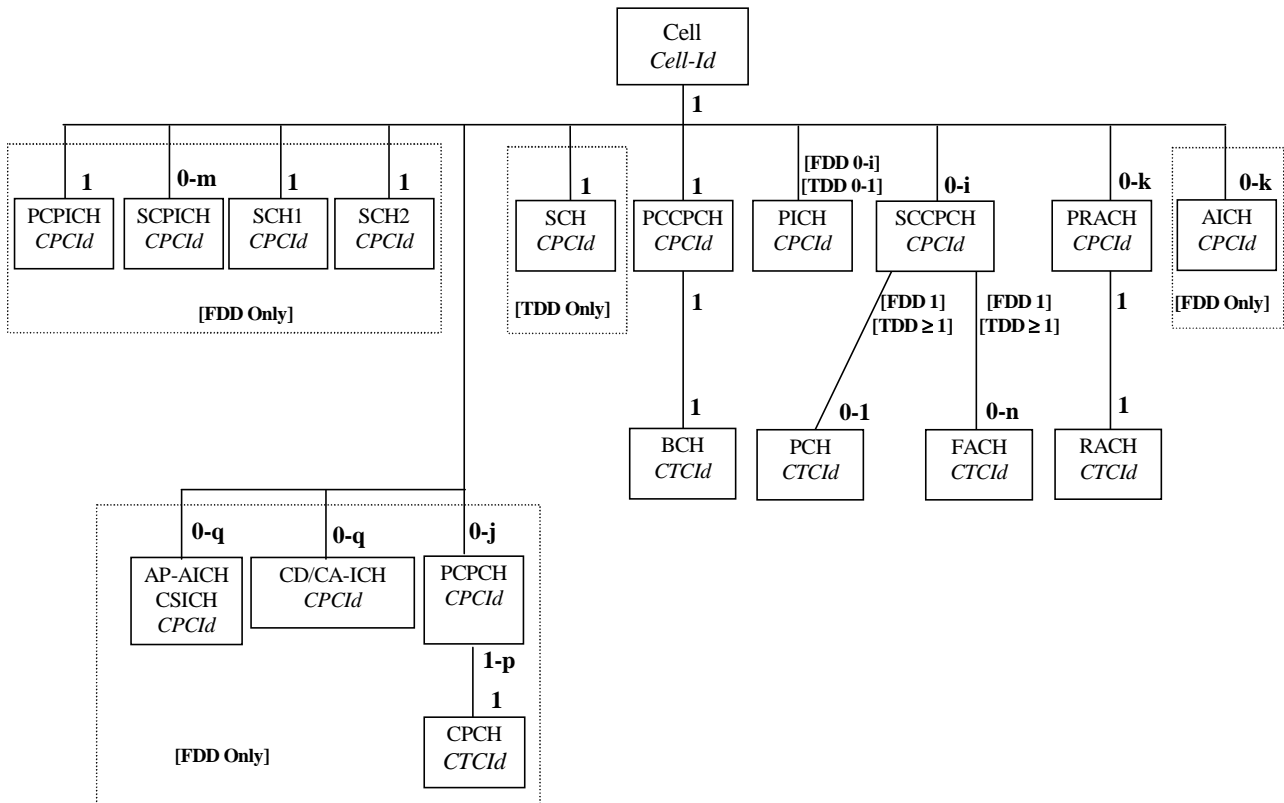
6.2.4 Radio Network Logical resources

6.2.4.1 Common Resources

The CRNC manages logical radio network resources in Node B and needs to use both common and dedicated resources in a Node B to run a radio network. Therefore, it is the CRNC that orders the Node B to configure, reconfigure and delete these resources. However, if the equipment in Node B cannot fully support the configuration that the CRNC requests, or the equipment breaks down, then Node B can indicate the availability of the common resources (i.e. both downgrade and upgrade).

The common resources are the Cell, the common physical channels and the common transport channels.

In Node B these common resources have an operational state, that indicates whether they are operational or not, i.e. whether they can carry traffic or not.

Figure 3 shows the common resources that a CRNC is managing in a Node B to be able to run a radio network.

```
                                          ┌──────────┐
                                          │   Cell   │
                                          │  Cell-Id │
                                          └──────────┘
                                               │ 1
```

1	**0-m**	**1**	**1**	**1**	**1**	[FDD 0-i] [TDD 0-1]	**0-i**	**0-k**	**0-k**
PCPICH *CPCId*	SCPICH *CPCId*	SCH1 *CPCId*	SCH2 *CPCId*	SCH *CPCId*	PCCPCH *CPCId*	PICH *CPCId*	SCCPCH *CPCId*	PRACH *CPCId*	AICH *CPCId*

[FDD Only]   [TDD Only]   [FDD Only]

1	**[FDD 1] [TDD ≥ 1]**	**[FDD 1] [TDD ≥ 1]**	**1**
1	**0-1**	**0-n**	**1**
BCH *CTCId*	PCH *CTCId*	FACH *CTCId*	RACH *CTCId*

0-q	**0-q**	**0-j**
AP-AICH CSICH *CPCId*	CD/CA-ICH *CPCId*	PCPCH *CPCId*

1-p
1
CPCH *CTCId*

[FDD Only]

The number or range above each box indicates how many of the channels named in that box can exist as "children" under one instant of a "parent" box to which the "child" box is connected.

The number or range beneath each box indicates how many of the channels named in that box can exist as "parent" boxes for one instant of a "child" channel to which the "parent" box is connected.

CPCId = Common Physical Channel Identifier

CTCId = Common Transport Channel Identifier

[TDD - The number of PICH = the number of PCH]

[FDD - The number of AICH = the number of PRACH]

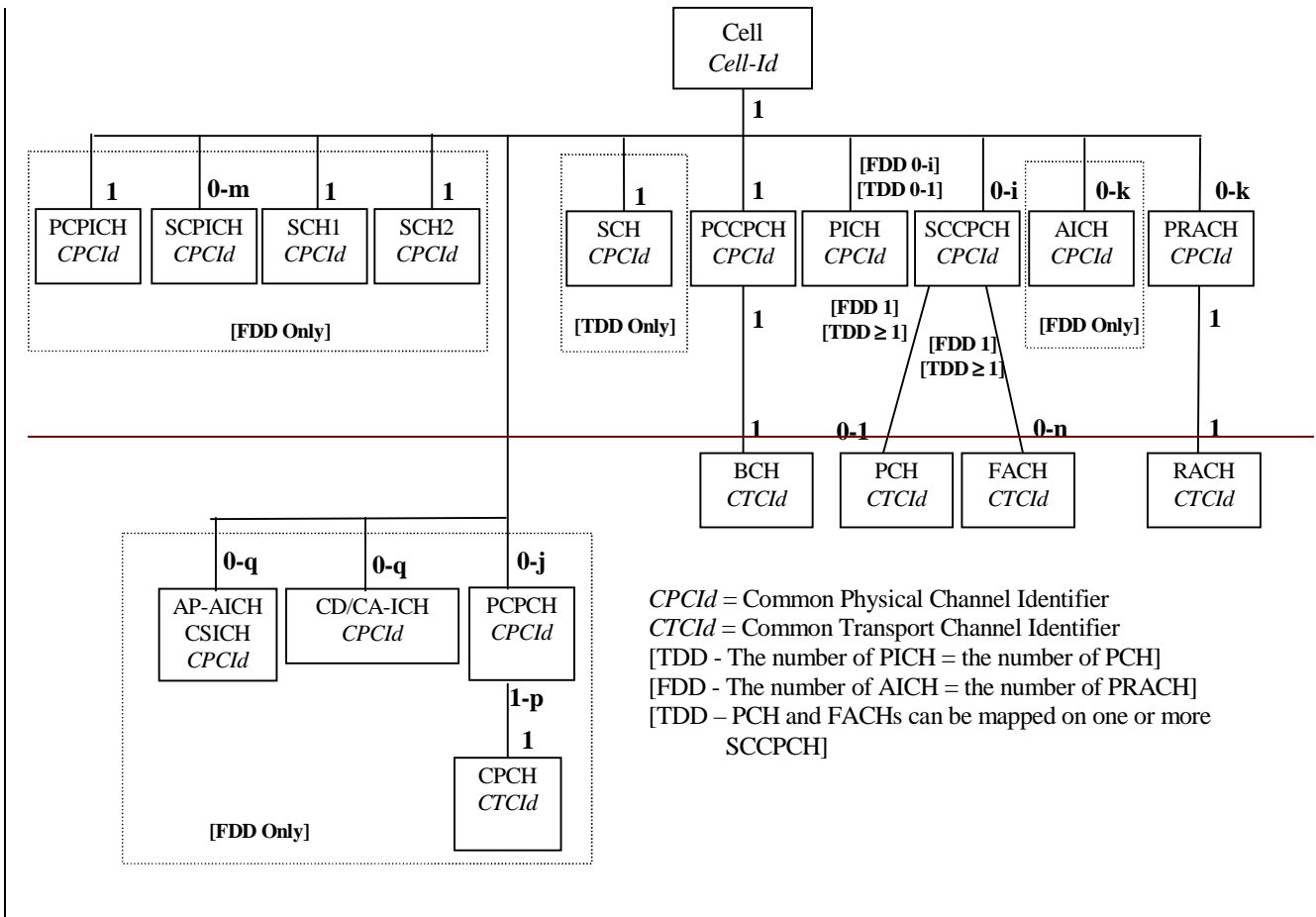[TDD – PCH and FACHs can be mapped on one or more SCCPCH]

```
                                        ┌──────────────┐
                                        │     Cell     │
                                        │   Cell-Id    │
                                        └──────────────┘
                                              1
```

	PCPICH *CPCId*	SCPICH *CPCId*	SCH1 *CPCId*	SCH2 *CPCId*	SCH *CPCId*	PCCPCH *CPCId*	PICH *CPCId*	SCCPCH *CPCId*	AICH *CPCId*	PRACH *CPCId*

Multiplicities: PCPICH 1, SCPICH 0-m, SCH1 1, SCH2 1 **[FDD Only]**; SCH 1 **[TDD Only]**; PCCPCH 1; PICH [FDD 0-i] [TDD 0-1]; SCCPCH 0-i; AICH 0-k **[FDD Only]**; PRACH 0-k

Lower level: BCH *CTCId* (1...1), PCH *CTCId* (0-1 ... [FDD 1][TDD ≥ 1]), FACH *CTCId* (0-n ... [FDD 1][TDD ≥ 1]), RACH *CTCId* (1...1)

AP-AICH CSICH *CPCId* (0-q), CD/CA-ICH *CPCId* (0-q), PCPCH *CPCId* (0-j) **[FDD Only]**; CPCH *CTCId* (1-p ... 1)

CPCId = Common Physical Channel Identifier
CTCId = Common Transport Channel Identifier
[TDD - The number of PICH = the number of PCH]
[FDD - The number of AICH = the number of PRACH]
[TDD – PCH and FACHs can be mapped on one or more
      SCCPCH]

Figure 3: Common resources in a Node B that are managed by the CRNC

CR-Form-v3

CHANGE REQUEST

⌘   **25.430 CR 19**   ⌘ rev ⌘ Current version: **4.0.0** ⌘

*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 of Common Channel logical model	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	***Date:*** ⌘ May 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: ⌘	The logical model for common resources is somewhat confusing particularly in S-CCPCH resources since it is unclear which resource certain repetition's belong
Summary of change: ⌘	Rearrange the picture to make it clear which statements belong to which common resources.
Consequences if not approved: ⌘	If this CR was not approved confusion over the number of allowed common resources is possible. Backward Compatibility This CR is backward compatible however since an implementation could make erroneous assumptions based on a misinterpretation of the diagram it is possible it is not backward compatible in all instances.

Clauses affected: ⌘	6.2.4.1	
Other specs affected: ⌘	**X** Other core specifications ⌘	25.430 v3.5.0 CR 18
	☐ 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

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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.

6.2.4   Radio Network Logical resources

6.2.4.1   Common Resources

The CRNC manages logical radio network resources in Node B and needs to use both common and dedicated resources in a Node B to run a radio network. Therefore, it is the CRNC that orders the Node B to configure, reconfigure and delete these resources. However, if the equipment in Node B cannot fully support the configuration that the CRNC requests, or the equipment breaks down, then Node B can indicate the availability of the common resources (i.e. both downgrade and upgrade).

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The number or range above each box indicates how many of the channels named in that box can exist as "children" under one instant of a "parent" box to which the "child" box is connected.

The number or range beneath each box indicates how many of the channels named in that box can exist as "parent" boxes for one instant of a "child" channel to which the "parent" box is connected.

CPCId = Common Physical Channel Identifier

CTCId = Common Transport Channel Identifier

[TDD - The number of PICH = the number of PCH]

[FDD - The number of AICH = the number of PRACH]

[TDD – PCH and FACHs can be mapped on one or more SCCPCH]

Figure 3: Common resources in a Node B that are managed by the CRNC

CR-Form-v3

CHANGE REQUEST

⌘   **25.430** CR **CR-020** ⌘ rev **-** ⌘ Current version: **3.5.0** ⌘

*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: ⌘	Traffic Management in Common Channels	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	***Date:*** ⌘ 2001-05-02
Category: ⌘	F	***Release:*** ⌘ R99

Use <u>one</u> 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 <u>one</u> 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 Downlink Shared Channel (DSCH) transport channel is listed as being a common channel in Section 5.2.5. The DSCH is already referenced in Section 5.2.7.
Summary of change: ⌘	Removed the reference to DSCH in Section 5.2.5
Consequences if not approved: ⌘	The DSCH channel could be mistaken as a common channel. The proposed change is backwards compatible.

Clauses affected: ⌘	5.2.5
Other specs affected: ⌘	**X** Other core specifications ⌘ TS 25.430 v 4.0.0 CR 021 ☐ 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.

5.2.5 Traffic management of Common Channels

The common channels need to be controlled from the RNC. This is typically the control of the RACH, CPCH [FDD], DSCH and FACH channels, the information that is broadcast on the Broadcast control channel, and the control and request for sending information on the paging channels.

CR-Form-v3

CHANGE REQUEST

⌘	**25.430** CR	**CR-021**	⌘	rev	**-**	⌘	Current version:	**4.0.0**	⌘

*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: ⌘	Traffic Management in Common Channels	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	*Date:* ⌘ 2001-05-02
Category: ⌘ **A**		*Release:* ⌘ REL-4

Use <u>one</u> 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 <u>one</u> 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 Downlink Shared Channel (DSCH) transport channel is listed as being a common channel in Section 5.2.5. The DSCH is already referenced in Section 5.2.7.
Summary of change: ⌘	Removed the reference to DSCH in Section 5.2.5
Consequences if not approved: ⌘	The DSCH channel could be mistaken as a common channel. The proposed change is backwards compatible.

Clauses affected: ⌘	5.2.5
Other specs affected: ⌘	**X** Other core specifications ⌘ TS 25.430 v 3.5.0 CR 020 ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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CR-Form-v3

CHANGE REQUEST

⌘ **25.430** CR **022** ⌘ rev **-** ⌘ Current version: **3.5.0** ⌘

*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 of Cell description to NBAP
Source:	⌘	R-WG3
Work item code: ⌘	TEI	***Date:*** ⌘ May 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:	⌘	The current version of 25.430 states that when a cell is deleted and transport bearers exist, the Node B shall take no action to release those transport bearers. This behaviour is in contradiction with what is on the other hand specified in NBAP, which is the most lately revised specification.
Summary of change: ⌘		The relevant sentence is modified and aligned to NBAP.
Consequences if not approved:	⌘	The specification would maintain an error. NBAP and 25.430 would not be aligned. Backward compatibility: this CR is not backward compatible with the previous version of 25.430, however it is backward compatible with the intended behaviour of the Node B described in 25.433.

Clauses affected:	⌘	6.2.4.2
Other specs affected:	⌘ ☒ **X**	Other core specifications ⌘ CR 023 R4 on 25.430
	☐	Test specifications
	☐	O&M Specifications
Other comments:	⌘	

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6.2.4.2   Cell

A Cell is identified by a UTRAN Cell identifier (UC-id) [1].

The semantics of a Cell include the following:

- The Cell can be created and removed by administrative procedures. When a Local Cell, i.e. equipment in a Node B, is made available to the CRNC for configuration of a cell, the CRNC can configure the cell with configuration data, common physical channels and common transport channels in Node B. In so doing a Local cell is added to the RNS.

- If any Iub transport bearers for common or dedicated transport channels exists when the cell is deleted, the Node B shall ~~take no action to~~ initiate the release of ~~release~~ those transport bearers.

- Node B may support one or more cells.

- Configuration of a cell over the Iub interface cannot be successful unless Node B has reported a Local Cell Id [1] as available to the CRNC.

- Once a Local Cell is configured to support a cell, it cannot be deleted without the CRNC first deleting the cell.

Figure 4 illustrates the state diagram for a Local Cell in Node B, as seen over the Iub interface.

CR-Form-v3

CHANGE REQUEST

| ⌘ | **25.430** CR **023** | ⌘ rev **-** ⌘ | Current version: **4.0.0** | ⌘ |

*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 of Cell description to NBAP	
Source: ⌘	R-WG3	
Work item code: ⌘	TEI	***Date:*** ⌘ May 2001
Category: ⌘	**A**	***Release:*** ⌘ REL-4

Use *one* of the following categories:
   F *(essential correction)*
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   R96 *(Release 1996)*
   R97 *(Release 1997)*
   R98 *(Release 1998)*
   R99 *(Release 1999)*
   REL-4 *(Release 4)*
   REL-5 *(Release 5)*

Reason for change: ⌘	25.430 3.5.0 states that when a cell is deleted and transport bearers exist, the Node B shall take no action to release those transport bearers. This behaviour is in contradiction with what is on the other hand specified in NBAP, which is the most lately revised specification. As this needs to be corrected for R99, a consistent modification is needed also for 25.430 4.0.0.
Summary of change: ⌘	The relevant sentence is modified and aligned to NBAP.
Consequences if not approved: ⌘	The specification would maintain an error. NBAP and 25.430 would not be aligned. Backward compatibility: this CR is not backward compatible with the previous version of 25.430, however it is backward compatible with the intended behaviour of the Node B described in 25.433.

Clauses affected: ⌘	6.2.4.2
Other specs affected: ⌘	**X** Other core specifications ⌘ CR 022 R99 on 25.430 ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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6.2.4.2   Cell

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- If any Iub transport bearers for common or dedicated transport channels exists when the cell is deleted, the Node B shall ~~take no action to~~ initiate the release of ~~release~~ those transport bearers.

- Node B may support one or more cells.

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- Once a Local Cell is configured to support a cell, it cannot be deleted without the CRNC first deleting the cell.

Figure 4 illustrates the state diagram for a Local Cell in Node B, as seen over the Iub interface.