TSG RAN Meeting #21 **RP-030540**
Frankfurt, Germany, 16 - 19 September 2003

Title **CRs (R99/Rel-4/Rel-5/Rel-6) to TS 25.133 on "** CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found **"**
Source **Nokia, Motorola, Qualcomm**
Agenda Item **7.5.3**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.133	613	-	R99	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found	F	3.14.0	3.15.0		TEI
25.133	614	_	Rel-4	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found	A	4.9.0	4.10.0		TEI
25.133	615	_	Rel-5	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found	A	5.7.0	5.8.0		TEI
25.133	616	_	Rel-6	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found	A	6.2.0	6.3.0		TEI

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CHANGE REQUEST

⌘ **25.133** **CR** **613** ⌘**rev** **-** ⌘ Current version: **3.14.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found.
Source:	⌘	Nokia, Motorola, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	17/09/2003
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)*
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Use one of the following releases:
2 (GSM Phase 2)
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R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	When the UE moves from CELL_DCH to CELL/FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘	It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘	On transition from CELL_DCH to CELL/FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘	4.2.2.1, 5.5.2.3

Other specs affected: ⌘	Y	N		⌘
			Other core specifications	
			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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

The UE shall measure the CPICH Ec/Io and CPICH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [1] for the serving cell at least every DRX cycle. The UE shall filter the CPICH Ec/Io and CPICH RSCP measurements of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$ (see table 4.1).

If the UE has evaluated in N_{serv} consecutive DRX cycles that the serving cell does not fulfil the cell selection criterion S, the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [1]

After this 12 s period a UE in Cell:PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to 25.331.

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

5.5.2.3 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the CPICH Ec/Io and CPICH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{Measurement\_Period\ Intra}$.

The S-critera detection delay in CELL_FACH state shall be less than:

$$T_{S\text{-}criteria} = 5 \times T_{Measurement\_Period\ Intra}\ \text{ms}$$

where

$T_{Measurement\_Period\ Intra}$ = Specified in 8.4.2.2.2.

The UE is "out of service area" if the UE has evaluated for 4 s that that the serving cell does not fulfil the cell selection criterion S and if the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information during these 4 s. When the UE is "out of service area" it shall initiate cell selection procedures for the selected PLMN as defined in [1].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be "out of service area" and shall perform actions according to [16].

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CHANGE REQUEST

⌘ **25.133** **CR** **614** ⌘**rev** **-** ⌘ Current version: **4.9.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found.
Source:	⌘	Nokia, Motorola, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	17/09/2003
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),*
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Reason for change:	⌘	When the UE moves from CELL_DCH to CELL/FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘	It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘	On transition from CELL_DCH to CELL/FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘	4.2.2.1, 5.5.2.3

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

Other comments:	⌘	

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If the UE has evaluated in N_{serv} consecutive DRX cycles that the serving cell does not fulfil the cell selection criterion S, the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [1].

After this 12 s period a UE in Cell:PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to 25.331.

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

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$$T_{S\text{-}criteria} = 5 \times T_{Measurement\_Period\ Intra}\ \text{ms}$$

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The UE is "out of service area" if the UE has evaluated for 4 s that that the serving cell does not fulfil the cell selection criterion S and if the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information during these 4 s. When the UE is "out of service area" it shall initiate cell selection procedures for the selected PLMN as defined in [1].

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CHANGE REQUEST

⌘ **25.133** **CR** **615** ⌘**rev** **-** ⌘ Current version: **5.7.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found.
Source:	⌘	Nokia, Motorola, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	17/09/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
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Rel-6 *(Release 6)*

Reason for change:	⌘	When the UE moves from CELL_DCH to CELL/FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
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Clauses affected:	⌘	4.2.2.1, 5.5.2.3			
Other specs affected:	⌘	**Y**	**N**		
		☐	☐	Other core specifications	⌘
		☐	☐	Test specifications	
		☐	☐	O&M Specifications	
Other comments:	⌘				

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CHANGE REQUEST

⌘ **25.133** **CR** **616** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH transition when a suitable UTRA cell is not found.
Source:	⌘	Nokia, Motorola, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	17/09/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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Clauses affected:	⌘	4.2.2.1, 5.5.2.3

Other specs affected: ⌘	Y	N		⌘
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