

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

***RP-030479***

**Title:** Maintaining the RRC Connection while Emergency camped on a F-PLMN during Out of Service  
CR (Rel-5) to 25.331.

**Source:** TSG-RAN WG2

**Agenda item:** 7.3.2

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	2034	-	Rel-5	Maintaining the RRC Connection while Emergency camped on a F-PLMN during OOS	C	5.5.0	5.6.0	R2-031942	TEI5

## CHANGE REQUEST

⌘ **25.331 CR 2034** ⌘ rev ⌘ Current version: **5.5.0** ⌘

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Maintaining the RRC Connection while Emergency camped on a F-PLMN during OOS		
<b>Source:</b>	⌘ RAN WG2		
<b>Work item code:</b>	⌘ TEI5	<b>Date:</b>	⌘ Aug 2003
<b>Category:</b>	⌘ <b>C</b> Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<b>Release:</b>	⌘ Rel-5 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) Rel-6 (Release 6)

**Reason for change:** ⌘ The current R99, R4 and R5 specifications allow two different UE behaviours when it camps on a Forbidden PLMN whilst it is in “Out-of-service” state in RRC Connected Mode. RAN Plenary agreed to have only one behaviour for Rel-6, but left the decision on Rel-5 open.

This CR proposes to remove the option of releasing the RRC connection when the UE does not try to make a random access, as has been agreed for Rel-6.

The CR is submitted as technically endorsed only and a decision should be made in RAN Plenary.

**Summary of change:** ⌘ The text stating the UE is allowed to release the RRC Connection after finding an acceptable cell in RRC Connected mode is removed.

### Isolated Impact Change Analysis.

The impact if the UE does not implement that CR and the UTRAN does implement it is covered by the ‘Consequences if not approved’ section. If the UE implements the CR and UTRAN does not implement it, there would be no problems, since UTRAN may not be aware that the UE is out of service.

It would not affect implementations behaving like indicated in the CR, it

would affect implementations supporting the corrected functionality otherwise	
<b>Consequences if not approved:</b>	⌘

<b>Clauses affected:</b>	⌘	7.2.2.1, 7.2.2.2, 8.5.24										
<b>Other specs affected:</b>	⌘	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
		Y	N									
			X									
			X									
	X											
	X	Test specifications										
	X	O&M Specifications										
<b>Other comments:</b>	⌘											

**How to create CRs using this form:**

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.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.

## 7.2.2 UTRA RRC Connected mode

In this specification unless otherwise mentioned "connected mode" shall refer to "UTRA RRC connected mode".

### 7.2.2.1 URA\_PCH or CELL\_PCH state

In the URA\_PCH or CELL\_PCH state the UE shall perform the following actions:

NOTE: Neither DCCH nor DTCH are available in these states.

1> if the UE is "in service area":

- 2> maintain up-to-date system information as broadcast by the serving cell as specified in the subclause 8.1.1;
- 2> perform cell reselection process as specified in [4];
- 2> perform a periodic search for higher priority PLMNs as specified in [25];

NOTE: If the DRX cycle length is 80ms, then a search for higher priority PLMNs may not identify all the available PLMNs due to the paging occasion on the current serving cell coinciding with the MIB of the cell of interest.

- 2> monitor the paging occasions and PICH monitoring occasions determined according to subclauses 8.6.3.1a and 8.6.3.2 and receive paging information on the PCH mapped on the S-CCPCH selected by the UE according to the procedure in subclause 8.5.19;
- 2> act on RRC messages received on PCCH and BCCH;
- 2> perform measurements process according to measurement control information as specified in subclause 8.4 and in subclause 14.4;
- 2> maintain up-to-date BMC data if it supports Cell Broadcast Service (CBS) as specified in [37];
- 2> run timer T305 for periodical URA update if the UE is in URA\_PCH or for periodical cell update if the UE is in CELL\_PCH.

1> if the UE is "out of service area":

- 2> perform cell selection process as specified in [4];
- 2> run timer T316;
- 2> run timer T305;
- 2> if the cell selection process fails to find a suitable cell after a complete scan of all RATs and all frequency bands supported by the UE, the UE shall after a minimum of TimerOutOfService time (default value 30 s) of being "out of service area":
  - 3> indicate all available PLMNs to NAS to enable the selection of a new PLMN. If the NAS indicates the selection of a new PLMN the UE shall store information for the new PLMN within the variable SELECTED\_PLMN and perform actions according to subclause 8.5.24;
  - 3> if an acceptable cell is found then the UE shall camp on that cell to obtain limited service as defined in [4] and, perform actions according to subclause 8.5.24. ~~If the RRC connection is released due to camping on an acceptable cell, indicate this to upper layers;~~
  - 3> else if no acceptable cell is found, the UE shall continue looking for an acceptable cell as defined in [4].

### 7.2.2.2 CELL\_FACH state

In the CELL\_FACH state the UE shall perform the following actions:

NOTE: DCCH and, if configured, DTCH are available in this state.

1> if the UE is "in service area":

- 2> maintain up-to-date system information as broadcast by the serving cell as specified in subclause 8.1.1;
- 2> perform cell reselection process as specified in [4];
- 2> perform measurements process according to measurement control information as specified in subclause 8.4 and in subclause 14.4;

- 2> run timer T305 (periodical cell update);
  - 2> select and configure the RB multiplexing options applicable for the transport channels to be used in this RRC state;
  - 2> listen to all FACH transport channels mapped on the S-CCPCH selected by the UE according to the procedure in subclause 8.5.19;
  - 2> act on RRC messages received on BCCH, CCCH and DCCH;
  - 2> act on RRC messages received on, if available, SHCCH (TDD only).
- 1> if the UE is "out of service area":
- 2> perform cell selection process as specified in [4];
  - 2> run timers T305 (periodical cell update), and T317 (cell update when re-entering "in service") or T307 (transition to Idle mode);
  - 2> if the cell selection process fails to find a suitable cell after a complete scan of all RATs and all frequency bands supported by the UE, the UE shall after a minimum of TimerOutOfService time (default value 30 seconds) of being "out of service area":
    - 3> indicate all available PLMNs to NAS to enable the selection of a new PLMN. If the NAS indicates the selection of a new PLMN the UE shall store information for the new PLMN within the variable SELECTED\_PLMN and perform actions according to subclause 8.5.24;
    - 3> if an acceptable cell is found then the UE shall camp on that cell to obtain limited service as defined in [4] and perform actions according to subclause 8.5.24. ~~If the RRC connection is released due to camping on an acceptable cell, indicate this to upper layers;~~
    - 3> else if no acceptable cell is found, the UE shall continue looking for an acceptable cell as defined in [4].

## 8.5.24 Change of PLMN while in RRC connected mode

If the UE camps on an acceptable cell to obtain limited service while in RRC connected mode the UE shall ~~either~~:

- ~~1> move to idle mode;~~
- ~~1> release all dedicated resources;~~
- ~~1> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED\_SIGNALLING\_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED\_RABS) to upper layers;~~
- ~~1> clear the variable ESTABLISHED\_SIGNALLING\_CONNECTIONS;~~
- ~~1> clear the variable ESTABLISHED\_RABS; and~~
- ~~1> perform actions specified in subclause 8.5.2 when entering idle mode from connected mode.~~

~~or~~:

- 1> keep the RRC connection of the selected PLMN and its behaviour while camping on the cell of the other PLMN shall be as if in Idle mode in that PLMN;
- 1> if the UE re-enters "in service area" on the selected PLMN or cannot maintain limited service (i.e. cannot find any acceptable cell of any PLMN), the UE shall resume its RRC Connected mode behaviour as if it had not camped on any cell whilst being in "out of service area".

If the NAS indicates the selection of a new PLMN while the UE is in RRC connected mode in the selected PLMN or if the UE attempts transmission on a cell of another PLMN (i.e. to initiate emergency call), the UE shall for the selected PLMN:

- 1> move to idle mode;
- 1> release all dedicated resources;
- 1> indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED\_SIGNALLING\_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED\_RABS) to upper layers;
- 1> clear the variable ESTABLISHED\_SIGNALLING\_CONNECTIONS;
- 1> clear the variable ESTABLISHED\_RABS; and