3GPP TSG CN Plenary Meeting #21 **NP-030409**
17th - 19th September 2003. Frankfurt, Germany.

Source: **TSG CN WG 1**

Title: **CRs to Rel-5 on Work Item TEI5 towards 43.068 and 43.069**

Agenda item: **8.8**

Document for: **APPROVAL**

Introduction:

This document contains **2** CRs, **Rel-5 to** Work Item **"TEI5"**, that have been agreed by **TSG CN WG1 in CN1#31 meeting**, and are forwarded to TSG CN Plenary meeting #21 for approval.

TDoc #	Tdoc Title	Spec	CR #	Rev	CAT	C_Version	Rel
N1-031217	Correction to MS Late Entry description	43.068	013	1	F	5.2.0	Rel-5
N1-031218	Correction to MS Late Entry description	43.069	010	1	F	5.2.0	Rel-5

3GPP TSG-CN1 Meeting #31
Sophia Antipolis, France, 25th to 29th August 2003

Tdoc ⌘N1-031218

CR-Form-v7

CHANGE REQUEST

⌘ **43.069** **CR** **010** ⌘ **rev** **1** ⌘ Current version: **5.2.0** ⌘

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

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

Title:	⌘	Correction to MS Late Entry description
Source:	⌘	Nortel Networks, Siemens, Sagem, Kapsch, Marconi
Work item code:	⌘	TEI5
Date:	⌘	09/04/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In CR 007r4 approved at CN Plenary #18, the functionality for Late Entry of a UE in Voice Broadcast Service was described. This function is used so that during establishment of an emergency call, ASCI capable mobiles engaged in another call receive a notification on the FACCH about this call. When a railway emergency call is ongoing in an area and a user moves into this area via handover (engaged in another call), this notification on FACCH was not provided, but was introduced in CR007r4. In this CR, the situation for late entry in dedicated mode and late entry in group receive or group transmit mode are considered to be the same. This is not actually the case and so the description needs to be corrected. This is an essential correction.
Summary of change:	⌘	The technical solution of MS late entry notification is corrected.
Consequences if not approved:	⌘	The description for late entry notification will be incorrect leading to incorrect and unworkable implementation.

Clauses affected:	⌘	11.3.1.3

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

11.3.1.3 Notification procedures

Different notification procedures shall be applied in relation to the mode of the mobile station as presented in table 1 and defined in the following clauses.

Table 1: Overview on different information messages for new or on-going calls

call type: / MS states:	broadcast call	point-to-point call
Idle mode	(section a)	(standard paging)
group receive mode	(section b)	(section c)
dedicated mode	(section b)	(standard Call Waiting) (note)
NOTE: Only for point to point calls with certain restrictions as defined in 3GPP TS 22.083.		

a) Notification for mobile stations in idle mode

Once the voice broadcast channel has been established in a cell or the network is waiting to receive notification responses to establish a voice broadcast channel, notifications shall be broadcast on the NCH in that cell.

The position of the NCH shall be derived from the system information of the BCCH.

The notification messages shall include the broadcast call reference and possibly the description of the voice broadcast channel, the call priority if eMLPP is applied, and the group cipher key number.

A notification message can contain no, one or more notifications.

The notification process needs to continue throughout the duration of the broadcast call, in order to permit the "late entry" of other mobile stations. Mobile stations moving into the group call area which are in idle mode shall be directed to the voice broadcast channel by the notification messages, possibly by means of the notification response procedure.

The scheduling of the notification messages in a cell shall be managed by the BSS. Information can be added in the messages to limit the required reception of NCH messages. The following constraints shall be met:

- the three first initial notifications (i.e. the first for a given broadcast call) shall have priority over subsequent notifications (i.e. the messages for an on-going broadcast call) and must be sent as soon as possible;

NOTE 1: In addition initial notification messages for calls with or above an operator defined priority level can be sent on all possible paging or access grant channels to reduce the delay for those mobile stations which are not using DRX.

- afterwards, an on-going broadcast call in the cell shall be periodically notified on the NCH.

Since the information for the establishment of a voice broadcast call is sent onto the NCH rather than on the PCH as for normal point-to-point calls, the mobile station must listen to the PCH as well as to the NCH. A "reduced NCH monitoring" mechanism can be used to save power in the mobile station when listening to the NCH.

A mobile station able to receive voice broadcast calls either, depending on the implementation:

- can use the "reduced NCH monitoring" mechanism. When entering a cell, the mobile station shall listen to the NCH to get the notifications of the voice broadcast calls on-going in the cell. Afterwards, the mobile station needs to listen to the NCH only if it is informed on the availability of a notification for a new voice broadcast call. This shall be based on the NCH status information provided, as indicated in 3GPP TS 44.018.

- do not apply the "reduced NCH monitoring" mechanism and read all possible paging or access grant channels.

b) Notification for mobile stations in group receive, group transmit or dedicated mode

In addition to sending initial notification messages on the NCH for the voice broadcast call, the BSS can provide initial notification into on-going voice broadcast, group calls, and point to point calls informing mobile stations partaking in these calls of new voice broadcast calls that are being set-up in the cell.

NOTE 2: The additional notification into on-going voice broadcast, group calls and point to point calls should be provided by the BSS if the priority level of the new call is equal or higher than the O&M defined priority level.

In order to do this the BSS sends initial notification messages on FACCH to all on-going voice broadcast, group calls, and point to point calls in the cell. The initial notification message on FACCH shall contain the broadcast call reference, the priority level if eMLPP applies and possibly the TCH description which allows the mobile station to connect directly to the new call without reading the NCH.

An indication of change of notifications in the current cell may be provided on SACCH by the BSS.

As a mobile station option, the mobile station may read the NCH of the current cell while in group receive, group transmit or dedicated mode in order to be notified on other voice broadcast calls.

NOTE 3: Mobile stations may require an additional receiver to read the NCH in order to ensure a higher probability of receiving notifications for all present voice broadcast calls without degradation of the received speech quality.

Late entry of mobile stations into ongoing high priority group calls is covered by the following mechanisms:

- Late entrance in dedicated mode

  If a mobile station in dedicated mode is moving into an area where a group call (VGCS or VBS) with priority level equal or higher to an operator specific setting is on-going, the BSS shall resend the notification message to the mobile station on FACCH, if the mobile station has ASCI capabilities. This notification shall be triggered by completion of the dedicated channel assignment.

  Sending periodical notification on FACCH to mobile station in dedicated mode is optional, and is done as long as the group call (VGCS or VBS) with priority level equal or higher to an operator specific setting, is ongoing, with a repetition period given by an operator specific setting.

- Late entrance in group receive or group transmit mode

  When a group call (VGCS or VBS) with priority level equal or higher to an operator specific setting, is established, the BSS shall send periodical notification on FACCH to all on-going voice broadcast and group calls in the cell, except on the FACCH of the group call (VGCS or VBS) which has initiated this periodical notification. By this method the mobile station in group receive or group transmit mode moving into this cell is notified. Periodical notification on FACCH is done as long as the group call (VGCS or VBS) with priority level equal or higher to an operator specific setting, is ongoing, with a repetition period given by an operator specific setting.

NOTE 3a: The operator determined Periodical FACCH notification period shall be a BSS specific operator setting and be a minimum of 1s and maximum of 5s.

~~If a mobile station in group transmit or dedicated mode (including call setup phase) is moving to or roaming in an area where a voice group call is on-going with priority level equal to or higher than an operator specific setting, the BSS shall resend the notification message to the mobile station on FACCH, if the mobile station has ASCI capabilities.~~

~~If a mobile station in group receive mode is moving to a cell, the mobile station shall read the full NCH of the new cell.~~

c) Paging into on-going voice broadcast calls

Paging into on-going voice broadcast calls shall be provided as an implementation option.

In addition to establishing the links for the voice broadcast call, the network can provide paging information into on-going voice broadcast calls informing mobile stations partaking in a voice broadcast call of new incoming point-to-point calls.

The mobile station shall be ready to receive a paging message on the FACCH containing the mobile subscriber identity and the priority level if eMLPP applies.

The mechanism for the MSC to select the broadcast calls to be paged as well as the mechanism for the MSC to inform the concerned BSS of paged broadcast calls is still for further study.

- In the event of a reorganisation of the PCH the BSS shall inform the mobile stations via the FACCH that paging reorganisation has occurred. A mobile station receiving this indication shall decode the BCCH in order to obtain the new paging configuration.

As a mobile station option, the mobile station may read its paging subchannel in the current cell in group receive mode or group transmit mode in order to receive paging messages.

NOTE 4: Mobile stations may require an additional receiver to read its PCH subchannel in order to ensure a higher probability of receiving all relevant paging messages without degradation of the received speech quality. The additional receiver may be the same as used for reception of the NCH described under b) above.

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CHANGE REQUEST

⌘ **43.068** **CR** **013** ⌘ **rev** **1** ⌘ Current version: **5.2.0** ⌘

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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In CR 008r4 approved at CN Plenary #18, the functionality for Late Entry of a UE in Voice Group Call Service was described. This function is used so that during establishment of a railway emergency call, ASCI capable mobiles engaged in another call receive a notification on the FACCH about this call. When a railway emergency call is ongoing in an area and a user moves into this area via handover (engaged in another call), this notification on FACCH was not provided, but was introduced in CR008r4. In this CR, the situation for late entry in dedicated mode and late entry in group receive or group transmit mode are considered to be the same. This is not actually the case and so the description needs to be corrected. This is an essential correction.
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- afterwards, an on-going group call in the cell shall be periodically notified on the NCH.

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