**3GPP TSG-CT WG1 Meeting #134-eC1-221793**

**E-Meeting, 17th – 25th February 2022 (was C1-221412)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **4055** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Paging subgroup during emergency call | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung, MediaTek Inc., Apple, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_UE\_pow\_sav\_enh, 5GProtoc17 | | | | |  | ***Date:*** | | | 2022-02-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RAN2 introduced paging subgrouping as part of new Rel-17 work-item in RP-200938. CT1#133 implemented stage 2 requirements.  In the current specification, UE and AMF apply PEIP as follows.   1. UE and AM locally disable PEIP when emergency PDU session is establshed.   *When an emergency PDU session is successfully established after the UE received the Negotiated PEIPS assistance information IE during the last registration procedure, the UE and the AMF shall not use PEIPS assistance information until:*  *the successful completion of the PDU session release procedure of the emergency PDU; or*  *- the UE receives PEIPS assistance information during a registration procedure with PDU session status IE or upon successful completion of a service request procedure, if the UE or the network locally releases the emergency PDU session.*  This feature is for the 3GPP access so shall be active in below cases  a) UE established emergency PDU session over 3GPP access and handover PDU session to non-3GPP access or EPC  b) UE established emergency PDU session on non-3GPP access  2) UE doesn’t indicate PEIP in the registration request when emergeny PDU session is active  *A UE may indicate its capability to support NR paging subgrouping during registration procedure when the UE:*  *- initiates a registration procedure with 5GS registration type IE not set to "emergency registration"; and*  *- does not have an active emergency PDU session.*  UE shall initiate registration to updated PEIP support in below cases   1. UE have emergency PDU session 2. UE initiated mobility and periodic registration (e.g due to registered TAI change), UE doesn’t indicate PEIP support 3. UE or network release emergency PDU session,Network still doent know about the support of PEIP | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. The UE and the AMF shall not use PEIPS assistance information when emergency PDU session is active over 3GPP access 2. UE and AMF shall start using PEIP if available when emergeny PDU session is move to non-3GPP access or EPC.   If UE doesn’t indicate PEIP indication in the mobility and periodic registraon update procedure due to emergency PDU session, UE shall initiate mobility and periodic registration procedure after emergency PDU session is eneded to indicate PEIP support. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | 1. UE and AMF may not enable or disable PEIP feature simultanioulsy   UE continue to disable PEIP after emergency PDU session is ended | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.25 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 5.3.25 Paging Early Indication with Paging Subgrouping Assistance

A UE may indicate its capability to support NR paging subgrouping during registration procedure when the UE:

- initiates a registration procedure with 5GS registration type IE not set to "emergency registration"; and

- does not have an active emergency PDU session.

If a UE supporting NR paging subgrouping did not indicate its capability to support NR paging subgrouping during the last registration procedure due to an active emergency PDU session over 3GPP access, the UE shall initiate a registration procedure for mobility and periodic registration update procedure to indicate its capability to support NR paging subgrouping after the emergency PDU session is released over 3GPP access.

If the UE indicates support of NR paging subgrouping in the REGISTRATION REQUEST message and the network supports and accepts the use of the PEIPS assistance information for the UE, the network provides to the UE the Negotiated PEIPS assistance information, including the Paging subgroup ID, in the REGISTRATION ACCEPT message. The Paging subgroup ID is used to determine the NR paging subgroup for paging the UE. The network shall store the Paging subgroup ID in the 5GMM context of the UE.

The UE shall use PEIPS assistance information only if the UE received the Negotiated PEIPS assistance information IE during the last registration procedure. If the UE did not receive the Negotiated PEIPS assistance information IE during the last registration procedure, the UE shall not use PEIPS assistance information.

If the network did not accept the request to use PEIPS assistance information during the registration procedure, the network shall delete the stored PEIPS assistance information for the UE, if available.

When an emergency PDU session is successfully established over 3GPP access after the UE received the Negotiated PEIPS assistance information IE during the last registration procedure, the UE and the AMF shall not use PEIPS assistance information until:

- the successful completion of the PDU session release procedure of the emergency PDU;

- the UE receives PEIPS assistance information during a registration procedure with PDU session status IE or upon successful completion of a service request procedure, if the UE or the network locally releases the emergency PDU session;

- the successful completion of handover of emergency PDU session to non-3GPP access; or

- the sucessful transfer of the emergency PDU session in 5GS to the EPS or ePDG connected to EPC.\* \* \* End of Changes \* \* \* \*