**3GPP TSG-CT WG1 Meeting #133-eC1-21xxxx**

**E-meeting, 11-19 November 2021 (rev of C1-217110)**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **3668** | **rev** | **3** | **Current version:** | **17.4.1** |  |
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| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Handling of emergency numbers in SNPN  |
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| ***Source to WG:*** | China Telecom, Deutsche Telekom, China Unicom, Huawei, HiSilicon, ZTE, CATT, Nokia, Nokia Shanghai Bell, OPPO |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | eNPN |  | ***Date:*** | 2021-11-04 |
|  |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | In reply LS S1-213253, SA1 has provided the following answers to CT1’s questions asked in LS C1-213960:***“Question 1:*** *When the serving network is an SNPN, whether or not the above stage-1 requirement is applicable?****SA1 Answer:*** *The above stage-1 requirement applies to PLMN cases, and the stage-1 requirement needs to be updated for NPN cases. SA1 has agreed to clarify the corresponding stage-1 requirements, as per attached CR.**Note: please consider that SA1 only uses the term NPN in stage-1 specifications; SNPN is used in the following answers to align with the questions. ”****"Question 3:*** *If the answer to Question 2 is Yes, can an SNPN deployed in an area which does not belong to any country (e.g. international waters) provide emergency numbers to the UE?****SA1 Answer:*** *Yes. Subject to regulatory requirements the SNPN may provide a list of emergency numbers, some of which may be SNPN specific.****Question 4:*** *If the answers to Question 2 and Question 3 are Yes, is it correct that those emergency numbers provided by the SNPN deployed in an area which does not belong to any country (e.g. international waters) are valid only in the SNPN from which they were received?****SA1 Answer:*** *Yes. The emergency numbers provided by the SNPN may be SNPN specific and only valid in this SNPN."*Furthermore, SA1 has updated the related stage 1 service requriements in TS 22.101(V17.4.0) as below, including the requirement in TS 22.101 subclause 10.1 typically asked by CT1 in their LS C1-213960.In TS 22.101 subclause 10.1:*The serving network may download emergency call numbers to the UE in order to ensure that local emergency call numbers are known to the UE.* ***In case of PLMN,*** *the UE shall regard these emergency numbers as valid in that country only (as identified by the MCC) and shall discard them when a new country is entered.*In TS 22.101 subclause 10.4.1:*The serving network may download emergency call numbers and emergency call types, together with a validity indication of this list, for use in the IM CN subsystem so that local emergency call numbers are made known to the UE. Depending on the validity indication, the UE shall regard these emergency numbers and emergency call types as valid in that country (as identified by the MCC) and shall discard them when a new country is entered, or the UE shall regard these emergency numbers and emergency call types as valid in that serving network, which can be a PLMN (as identified by the MCC and MNC) or an NPN, and shall discard them when the UE enters a new PLMN or NPN.*-------------------To implement above stage 1 requirements on SNPN, in stage 3, it is reasonable that:1. The network in SNPN only provides the emergency numbers via the Extended emergency number list IE to the UE;
2. In the Extended emergency number list IE, the network will set the Extended Emergency Number List Validity (EENLV) field to "Extended Local Emergency Numbers List is valid only in the PLMN from which this IE is received" only;
3. At the UE side, the UE shall consider the emergency number(s) received in the Extended emergency number list IE valid only in the current SNPN regardless of the EENLV field value.

Furthermore, SNPN normally was deployed in a standalone and private mode, "*standalone and private mode*" does mean: 1. emergency number handling for obtaining emergnecy services in SNPN has no any impact on emergency number handling for obtaining emergnecy services in PLMN; and
2. emergency number handling for obtaining emergnecy services in SNPN A has no any dependency on emergency number handling for obtaining emergnecy services in PLMN B.

Hence, it is not a valid assumption that due to the emergency number list was already provided by SNPN A when the UE accessing SNPN A, and hence, the network in PLMN or SNPN B intentionally NOT provides the emergency number list to the UE when the UE accessing PLMN or SNPN B, in order to the UE continues to use the emergency number list provided by SNPN A. Due to "*standalone and private mode*", it is responsibility of each SNPN to provide its emergency number list to the UE without dependency on PLMN and other SNPNs.Note that the existing Extended emergency number list IE defined in TS 24.301 sub 9.9.3.37A can be fully re-used in SNPN without any update. |
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| ***Summary of change:*** | To specify the handling of emergency numbers in SNPN to implement the updated stage 1 service requirements. |
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| ***Consequences if not approved:*** | Lack of stage 3 implementations to fulfill SA1 requirements. |
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| ***Clauses affected:*** | 5.3.12, 5.3.12A.1, 8.2.7.20 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | Original revision was postponed in CT1#132-e.Rev #1 has updated the reason for change without change content update. |

\*\*\*\*\* First change \*\*\*\*\*

### 5.3.12 Handling of local emergency numbers

The additional requirements in subclause 5.3.12A apply to a UE supporting registration or attach procedures via 3GPP access and registration procedures via non-3GPP access.

In case of PLMN, the network may send a local emergency numbers list or an extended local emergency numbers list or both, in the REGISTRATION ACCEPT message, by including the Emergency number list IE and the Extended emergency number list IE, respectively. The Local emergency numbers list can be updated as described in 3GPP TS 24.301 [15], subclause 5.3.7.

In case of SNPN, the network may send an extended local emergency numbers list, in the REGISTRATION ACCEPT message, by including the Extended emergency number list IE. The network shall set the Extended Emergency Number List Validity (EENLV) field within the Extended emergency number list IE to "Extended Local Emergency Numbers List is valid only in the PLMN from which this IE is received". The UE shall consider the emergency number(s) received in the Extended emergency number list IE valid only in the SNPN from which this IE is received regardless of the received value of the EENLV field within the Extended emergency number list IE.

The UE shall store the local emergency numbers list and the extended local emergency numbers list, as provided by the network. The local emergency numbers list stored in the UE shall be replaced on each receipt of the Emergency number list IE. The extended local emergency numbers list stored in the UE shall be replaced on each receipt of the Extended emergency number list IE. The received local emergency numbers list or the received extended local emergency numbers list or both shall be provided to the upper layers.

If a REGISTRATION ACCEPT message is received via non-3GPP access from a PLMN in a country different from the current country of the UE, the UE shall keep the stored local emergency numbers list and the extended local emergency numbers list, if available.

The emergency number(s) received in the Emergency number list IE are valid only in PLMNs in the same country as the PLMN from which this IE is received. If no Emergency number list IE is contained in the REGISTRATION ACCEPT message, then the stored local emergency numbers list in the UE shall be kept, except if the UE has successfully registered to a PLMN in a country different from that of the PLMN that sent the list.

The emergency number(s) received in the Extended emergency number list IE are valid only in:

- PLMNs in the same country as the PLMN from which this IE is received, if the Extended Emergency Number List Validity (EENLV) field within the Extended emergency number list IE indicates "Extended Local Emergency Numbers List is valid in the country of the PLMN from which this IE is received"; and

- the PLMN from which this IE is received, if the EENLV field within the Extended emergency number list IE indicates "Extended Local Emergency Numbers List is valid only in the PLMN from which this IE is received"; and

- the SNPN from which this IE is received, regardless of the value of the EENLV field within the Extended emergency number list IE.

If no Extended Local Emergency Numbers List is contained in the REGISTRATION ACCEPT message, and the registered PLMN or the registered SNPN has not changed, then the stored Extended Local Emergency Numbers List in the UE shall be kept. If no Extended Local Emergency Numbers List is contained in the REGISTRATION ACCEPT message, but the registered PLMN or the registered SNPN has changed, then:

- if the last received indication in the EENLV field within the Extended emergency number list IE indicates "Extended Local Emergency Numbers List is valid only in the PLMN from which this IE is received", the stored Extended Local Emergency Numbers List in the UE shall be deleted; and

- if the last received indication in the EENLV field within the Extended emergency number list IE indicates "Extended Local Emergency Numbers List is valid in the country of the PLMN from which this IE is received" the list shall be kept except if the UE has successfully registered to a PLMN in a country different from that of the PLMN that sent the stored list.

NOTE: To prevent the misrouting of emergency calls, all operators within a country need to follow the regulation or agree on the setting of the Extended emergency number list IE in accordance to national agreement – either to indicate validity within a country or to indicate validity only within the PLMN.

The local emergency numbers list and the extended local emergency numbers list shall be deleted at switch off or removal of the USIM. The UE shall be able to store up to ten entries in the local emergency numbers list and up to twenty entries in the Extended local emergency numbers list, received from the network.

For the use of the local emergency numbers list and the extended local emergency numbers list by the UE see 3GPP TS 24.301 [15], subclause 5.3.7.

\*\*\*\*\*Next change \*\*\*\*\*

#### 5.3.12A.1 General

The requirements in subclause 5.3.12 with the clarifications and additional conditions in subclause 5.3.12A apply to a UE supporting:

- attach procedures (see 3GPP TS 24.301 [15]) or registration procedures via 3GPP access; and

- registration procedures via non-3GPP access.

The UE shall ignore the presence or absence of local emergency numbers list, extended local emergency numbers list or both, in a REGISTRATION ACCEPT message received via non-3GPP access, unless conditions in subclause 5.3.12A.2 are met.

For the purposes of subclause 5.3.12A, the UE is considered neither registered nor attached over 3GPP access if:

1) the UE supports 3GPP access to EPC, the UE does not support 3GPP access to 5GC, and:

a) the EMM sublayer is in the EMM-NULL state, EMM-DEREGISTERED state or EMM-DEREGISTERED-INITIATED state; or

2) the UE supports 3GPP access to 5GC, the UE does not support 3GPP access to EPC, and:

a) the 5GMM sublayer is in the 5GMM-NULL state, 5GMM-DEREGISTERED state or 5GMM-DEREGISTERED-INITIATED state; or

3) supports both 3GPP access to EPC and 3GPP access to 5GC, and:

a) the EMM sublayer is in the EMM-NULL state, EMM-DEREGISTERED state or EMM-DEREGISTERED-INITIATED state; and

a) the 5GMM sublayer is in the 5GMM-NULL state, 5GMM-DEREGISTERED state or 5GMM-DEREGISTERED-INITIATED state.

\*\*\*\*\*Next change \*\*\*\*\*

#### 8.2.7.20 Extended emergency number list

This IE may be sent by the network. If this IE is sent, the contents of this IE indicates a list of emergency numbers (with URN information) valid within the same country as in the PLMN from which this IE is received or valid only in the PLMN or SNPN from which this IE is received.

\*\*\*\*\* End of change \*\*\*\*\*