**3GPP TSG-SA5 Meeting #145-e *S5-225258rev1***

e-meeting, 15 - 24 August 2022

**Source: Huawei, Deutsche Telekom**

**Title: New Key Issue-RAN energy saving when using backup batteries**

**Document for: Approval**

**Agenda Item: 6.9.2.2**

# 1 Decision/action requested

**Include the proposed changes in TR 28.913**

# 2 References

[1] 3GPP TR 28.913: "Study on new aspects of EE for 5G networks phase 2"

[2] SP-211440: "New Study on new aspects of EE for 5G networks Phase 2"

# 3 Rationale

In SP-211440 [2], the third objective (“• On energy saving”) includes the following sub-objective: “o Study new use cases, requirements and solutions for energy saving, applying to NG-RAN …”.

This pCR proposes to introduce a new Key Issue ‘RAN energy saving when using backup battery’ into TR 28.913 [1].

# 4 Detailed proposal

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| **First change** |

## 4.X Key Issue #X: RAN energy saving when using backup batteries

### 4.X.1 Description

#### 4.X.1.1 Introduction

When RAN faces main power failure, it is supported by backup batteries to prolong the service. However, due to cost and deployment space considerations, batteries may have insufficient lifespan. As a result, the period of service time supported by backup batteries may not meet demand, but may be extended by RAN energy saving actions.

RAN energy saving achieved by executing energy saving actions is especially crucial when using backup batteries, and satisfy the following requirements:

# backup requirement: the period of time batteries can provide service needs to be maximized, which needs the help of RAN energy saving;

# QoS requirement: the influence on QoS should also be considered when taking energy saving actions.

For example, to maximize the duration the service can be offered when using backup batteries, QoS may have to be degraded. Conversely, to continue servicing users with the same QoS when using batteries, there is a risk that service is interrupted.

Hence, when using backup batteries, it is much important to manage energy saving actions to balance the backup requirement and the QoS requirement.

#### 4.X.1.2 Potential requirements

Editor’s note: this is FFS.

### 4.X.2 Potential solutions

#### 4.X.2.i Potential solution #<i>: <Potential Solution i Title>

##### 4.X.2.i.1 Introduction

Editor's Note: This clause describes briefly the potential solution at a high-level.

##### 4.X.2.i.2 Description

Editor's Note: This clause further details the potential solution and any assumptions made.

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| **End of changes** |