**3GPP TSG-SA5 Meeting #132e *S5-204281rev3***

**e-meeting 17th 28th August 2020**

**Source: Huawei**

**Title: Key Issue: Service-oriented energy saving**

**Document for: Approval**

**Agenda Item: 6.6.5**

# 1 Decision/action requested

***The group is asked to discuss and agree on the proposal.***

# 2 References

[1] Draft TS 28.813 0.1.0: Study on new aspects of Energy Efficiency (EE) for 5G

[2] 3GPP TS 28.310: Management and orchestration; Energy efficiency of 5G

# 3 Rationale

Traditional energy saving (ES) solutions include centralized energy saving solution and distributed energy saving solution. TS 28.310 [2] clause 6.2.1 gives an overview about the ES solutions for the scenarios where the capacity booster cell is fully or partially overlaid by the candidate cell(s). The cell activation/deactivation decision is typically based on the load information of the related cells and the energy saving policies (like the allowed ES time period, ES candidate cell relations) without special considering the service content aspects. Since the 5G system is expected to be able to provide support for a variety of different services such as voice, data, IoT small data, multimedia data, etc., the content of different services needs to be considered for cell activation/deactivation decision to reach a more efficient ES.

It is proposed to introduce a new KI for the draft TS 28.813 [1].

# 4 Detailed proposal

This document proposes the following changes in TS 28.813 [1].

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "5G; System Architecture for the 5G System".

[3] 3GPP TS 32.130: "Telecommunication management; Network sharing; Concepts and requirements".

[4] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

[5] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI)".

[6] ETSI ES 203 228 v1.2.1: "Environmental Engineering (EE);Assessment of mobile network energy efficiency".

[7] S5-201169/S2-1912770: LS on analytics support for energy saving.

[XX] 3GPP TS 28.310: "Management and orchestration; Energy efficiency of 5G".

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| **Next Change** |

## 4.X Key Issue #Y: Energy saving in 5G NR based on service type

### 4.X.1 Description

Traditional energy saving (ES) solutions include centralized energy saving solution and distributed energy saving solution. TS 28.310 [XX] clause 6.2.1 gives an overview about the ES solutions for the scenarios where the capacity booster cell is fully or partially overlaid by the candidate cell(s). The cell activation/deactivation decision is typically based on the load information of the related cells and the energy saving policies (like the allowed ES time period, ES candidate cell relations) without special considering information such as service type of cell load, etc. Since the 5G system is expected to be able to provide support for a variety of different communication services such as eMBB services, URLLC services, MIoT services and V2X services, etc., the content of different communication services needs to be considered for cell activation/deactivation decision to reach a more efficient ES.

This key issue studies whether and how to support a balance between ES and SLA assurance for NG-RAN ES based on service types. For example, if 3GPP management system only considers ES from traditional cell load point of view, then it may not take good care of SLA assurance. If 3GPP management system takes too much care about the SLA aspect, the ES aspect may not be fulfilled very well, therefore, there needs a balance between ES and SLA assurance. In particular, this KI addresses:

- Which kind of service content information is needed for ES? For example, ES may be needed for the services which consume more energy and may not be needed for others service consuming less energy.

- How does 3GPP management system know about the service content information of the ES related cells?

- How does 3GPP management system use the service content information of the ES related cells to achieve a balance of ES and SLA assurance?

### 4.X.2 Potential solutions

#### 4.X.2.1 Potential solution #Y-1: <Potential Solution Title>

##### 4.X.2.1.1 Introduction

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

##### 4.X.2.1.2 Description

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

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| **End of change** |