**3GPP TSG-SA5 Meeting #148e *S5-233232rev2***

Electronic meeting, Online, 17 -25 April 2023

**Source: Samsung, EUTC, EDF, BMWK, Deutsche Telekom, Huawei, Ericsson, NOVAMINT**

**Title: New Work Item on Network and Service Operations for Energy Utilities**

**Document for: Approval, Information, Discussion**

**Agenda Item: 6.2.3 - Support of New Services**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Network and Service Operations for Energy Utilities

Acronym: NSOEU

Unique identifier: tbd

Potential target Release: *Rel-18*

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | x |  |  |
| No | x | x |  | x |  |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

|  |  |
| --- | --- |
|  | Study  |
| x | Normative – Stage 1 |
| x | Normative – Stage 2 |
| x | Normative – Stage 3 |
|  | Normative – Other\* |

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| SEI | S1 | 920039 | Smart Energy and Infrastructure |
| FS\_NSOEU | S5 | 940040 | Study on Network and Service Operations for Energy Utilities |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
|  |  |  |

# 3 Justification

Energy utilities are an important ‘vertical industry’ for 3GPP. This sector uses telecommunications for diverse purposes in their networks. Energy utility service provider’s communication infrastructure use intensifies over time, as greater stability, integration and efficiency is possible by means of ‘smart energy services’. These services can use any communication system (e.g. fixed, fiber optic, dedicated microwave transmission, etc.). In all cases, the communication must be highly available as energy services have to be as reliable as possible (for business and regulatory reasons.) In order to rely on telecommunication services for these highly available smart energy services, the telecommunication system needs to provide sufficient information to energy utilities to meet their demanding operational requirements.

Another reason that energy utilities are an important sector for 3GPP is that telecommunications network operations themselves require energy. The relationship is bi-directional: MNOs and site operators require energy services, and energy utilities require communication services. This implies a particular risk to both systems, especially in the event of an energy outage.

The stage 1 feature ‘Smart Energy Infrastructure’ includes service requirements for specific standardized capabilities that allow a Utility operator to obtain information from a mobile network operator’s network, and to share information with the mobile network operator. The SA5 "Study on Network and Service Operations for Energy Utilities" further assessed requirements in this area and identified in greater detail which information was needed and how to exchange it. This information all serves to improve the realized availability of energy system services. The energy utility service provider needs information regarding outages and performance degradation of the communication system, as it may be possible for the energy utility service provider to reactively or even proactively establish and use an alternative means of communication.

This work item will realize this potential by providing normative changes corresponding to the conclusions of the Study on Network and Service Operations for Energy Utilities.

# 4 Objective

The objectives of this work item include:

1. Describe the use cases supported by the normative specification.
2. Normative specification of the agreed potential requirements from agreed conclusions of TR 28.829.
3. Normative specification of the functionality to provide management information from the MNO to the energy utility service operator:
	1. An update to ThresholdMonitor for an additional location based attributes to be used to scope the objectInstance. This objectInstance will be defined in the new TS, and is a subset of current 3GPP NRM.
	2. New Performance Measurements and KPI related to availability, cell in-service and out-service.
	3. The specification of the procedure and explanation of its relevance to and use by energy utilities.
4. Normative specification that adds functionality to support energy system recovery through communication of management information between the energy utility service operator and site operator:
	1. NRM updated related with Step-1 and 4 of the solution in 7.3.2.2
	2. The specification of the procedure and explanation of its relevance to and use by energy utilities.

The functionality specified will assume that authentication and authorization between the management service consumer (energy utility operator) and the management service provider (site operator.) Standard mechanisms defined for authentication and authorization for SA5 services consumed by third parties will apply to the functionality specified as a result of this WID.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| Technical Specification | 28.<TBD> | Network and Services Operations for Energy Utilities | TSG 102 | TSG 103 | Specification editor: Ashutosh Kaushik <ashutosh19.k@samsung.com>, Samsung |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 28.552 | Required performance measurements to be defined | TSG 103 |  |
| 28.554 | Required Key Performance Indicator (KPI) to be defined | TSG 103 |  |
| 28.622 | Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS) | TSG 103 |  |

# 6 Work item Rapporteur(s)

Erik Guttman <erik.guttman@samsung.com>, Samsung;

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

None.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| BMWK |
| Deutsche Telekom |
| EDF  |
| Ericsson |
| EUTC |
| Huawei |
| NOVAMINT |
| Samsung |