**3GPP TSG-WG SA2 Meeting #162 *S2-2405329***

**15 Apr – 19 Apr, 2024, Changsha, P.R.China (*revision of S2-2404139, 5070*)**

**Title: [DRAFT] LS on Support of Regenerative-based satellite access**

**Response to: -**

**Release: Release 19**

**Work Item: FS\_5GSAT\_ARCH\_Ph3**

**Source:** **SA2**

**To:** **RAN3**

**Cc: RAN2**

**Contact Person:**

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**Attachments:**

**1. Overall Description:**

As part of the Rel-19 study on 5G System enhancements for satellite access (FS\_5GSAT\_ARCH\_Ph3), KI#1 considers the support of Regenerative-based satellite access. SA2 has identified the following questions, which need to be verified by RAN3:

* A procedure to handle the N2 and S1 connections when the eNB/gNB leaves the service area of an AMF/MME (e.g. when setting over the horizon) should be supported. Options e.g. disconnecting/suspending/performing configuration update of the N2/S1 connections are discussed in SA2. It is up to RAN3 to determine the final option about whether to reuse existing or new mechanisms/procedures.
* SA2 assumes that the eNB/gNB IP address changes due to soft feeder link changes can be supported using the existing interface management procedures.
* SA2 assumes that AMF/MME can treat the Mapped Cell ID as per rel-17.
* SA2 also considers inserting an intermediate IWK/Proxy between the moving eNB/gNB and CN to play the role of “earth fixed” eNB/gNB, i.e. no feeder link switch caused impacts in CN’s perspective. RAN3 is consulted to provide a possibility (whether or not such architecture will be studied in RAN3) and feasibility analysis on this architecture.

**2. Actions:**

**To RAN3:**

**ACTION:** SA2 kindly asks RAN3 to consider the above questions and provide feedback for SA2 KI#1 conclusions.

**3. Date of Next TSG-SA WG2 Meetings:**

3GPP SA2#163 27 - 31 May 2024 Jelu, KR

3GPP SA2#164 19 - 23 August 2024 Maastricht, NL