This document presents the current status of the EGNOS NOTAM Proposals Service and the plans defined by the ESSP and agreed with the EC to improve the service. This version of the document includes the latest updates with regards to the EGNOS NOTAM Proposals Service roadmap. With respect to the previous version of the roadmap, the extension of the NOTAM Proposals Service roadmap operating hours to H24 every day of the week has been advanced. Concerning the document’s structure, a brief introduction is given in the first place, which covers ESSP role in the NOTAM generation chain and a quick summary of the regulatory environment. Then, the current status of the NOTAM Proposals Service and the improvement plans, including steps and target dates, are provided.

1. Introduction

Since the 2nd of March 2011 (EGNOS SoL Service Declaration date), the ESSP, as the EGNOS Services Provider, is providing the EGNOS NOTAM proposals service to any airport having an EGNOS based approach procedure published. This publication is only possible after the signature of an EGNOS Working Agreement between the ESSP and the ANSP providing Air Traffic Services. The agreement includes the EGNOS NOTAM proposals services as one of the main enablers for the EGNOS based approach procedures implementation. Hence, the ESSP acts as data originator in the EGNOS NOTAM generation chain. In particular, ESSP provides NOTAM proposals to the corresponding NOTAM Offices (AIS provider) of the concerned states, which are responsible for the validation and publication of NOTAMs.

The need for a NOTAM service when implementing SBAS based approach procedures is clearly stated by the ICAO SARPs (“ICAO SARPs, Annex 10, Aeronautical Telecommunications” Am. 82, July 2006):

“Before publishing procedures based on SBAS signals, a State is expected to provide a status monitoring and NOTAM system. To determine the effect of a system element failure on service, a mathematical service volume model is to be used. The State can either obtain the model from the SBAS operator or develop its own model. Using the current and forecast status data of the basic system elements, and the locations where the State has approved operations, the model would identify airspace and airports where service outages are expected, and it could be used to originate NOTAMs. The system element status data (current and forecast) required for the model could be obtained via a bilateral arrangement with the SBAS service provider, or via connection to a real time “broadcast” of the data if the SBAS service provider chooses to provide data this way.”

Apart from establishing the NOTAM service as a key element in the implementation of SBAS based approach procedures, the ICAO SARPs also lay down the applicable recommendations for this kind of service, in terms of notification timeliness:
“For scheduled events, notification should be given to the NOTAM authority at least 72 hours prior to the event. For unscheduled events, notification to the NOTAM authority should be given within 15 minutes. Notification should be given for events of 15 minutes, or longer, duration.”

As stated above, the final responsible for the provision of a NOTAM service is the State (ANSP) publishing SBAS based approach procedures. Hence, the ICAO recommendations are not directly applicable to ESSP (which acts as data originator in the EGNOS NOTAM generation chain) but to the ANSPs having published EGNOS based approach procedures and to which ESSP is providing EGNOS NOTAM proposals, in line with the EGNOS Working Agreement. Nevertheless, ESSP intends to bring the EGNOS NOTAM Proposals Service to a level enabling its Customers (EWA signatories) to fully comply with the ICAO recommendations for a NOTAM service. As ESSP is not certified as AIS provider, each specific ANSP has the final responsibility in making its NOTAM service fully ICAO compliant (time restrictions for the validation and publication of NOTAMs).

2. The EGNOS NOTAM Proposals Service: current status and evolution plan

Since June 26th 2013, the EGNOS NOTAM Proposals Service is (so called Service Level 2) based on:

- NOTAM proposals resulting from
  - GNSS\(^1\) scheduled events notified minimum 72 hours in advance.
  - GNSS unscheduled events notified within:
    - 2h during working hours.
    - 16h00 at maximum, during non-working days\(^2\) (3 checks a day on GNSS inputs).

The EGNOS NOTAM Proposals Service is planned to be provided as per Service Level 2 until the end of 2013. Please note that, with respect to the previous service provided (so-called Service Level 1.0), the service reaction time to GNSS unscheduled events during working hours has been reduced. Hence, the current service is compliant with the ICAO recommendation for notification of scheduled events (72 hours notice) but is not yet in line with the recommendation for unscheduled events. In this situation, the ESSP has defined an improvement plan for the service. In terms of evolution strategy, an incremental approach has been chosen. Intermediate objectives and service levels have been defined. As already mentioned, this roadmap has been updated in the last months, leading to an earlier H24 service operation for the EGNOS NOTAM Proposals Service. Figure 1 details the different evolution objectives with the associated service level expected.

---

\(^{1}\) GNSS stands for both EGNOS and GPS

\(^{2}\) Spanish non-working days
The intermediate upcoming service levels’ definitions and target dates for their entry into service are provided hereafter:

- **Service Level 4:** compared to Service Level 2, Service Level 4 extends the reduced reaction time for unscheduled events at EGNOS and GPS systems level to non-working hours and non-working days.
  - **Target date for entry into service:** January 1\(^{st}\) 2014.
  - **Definition:**
    - NOTAMs resulting from:
      - GNSS scheduled events notified minimum 72 hours in advance.
      - GNSS (EGNOS and GPS) unscheduled events notified within 2 hours (7D/H24).

It is expected that the NOTAM Proposals Service will be based on Service Level 4 for a minimum period of 24 months.

- **Service Level 5 (Fully ICAO Compliant):** compared to Service Level 4, Service Level 5 provides a reduced reaction time for unscheduled events at EGNOS and GPS systems level applicable every day of the week on an H24 basis.
  - **Target date for entry into service:** 2016 (TBC).
  - **Definition:**
    - NOTAMs resulting from:
      - GNSS scheduled events notified minimum 72 hours in advance.
      - GNSS (EGNOS and GPS) unscheduled events notified within 10 minutes\(^{4}\) (7D/H24).

Hence, taken into account the plans above, ESSP expects to be in a position to support its customers in the provision of a fully ICAO compliant NOTAM service for the EGNOS procedures published in their territory in 2016.

The target dates provided in this document are indicative and, for the case of Service Level 5, the feasibility of providing a service with such challenging reaction times is still to be confirmed.

\(^3\) Service Level 3, an intermediate step between SL2 and SL4, has been removed leading to advanced entry into service of SL4.

\(^4\) 5 minutes allocated to the NOF for validation and publication of NOTAMs.