SMS Good Practice Submission			
ANSP	United States, FAA/ATO	Date of submission	September 29, 2023
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SoE Study Area	6-1 Safety Risk Management
OP/GP title	Use of tools, techniques, and models to assist in the identification of hazards
In use since	2010
ANSPs using this practice	United States Federal Aviation Administration (FAA) Air Traffic Organization (ATO)

Details:

The Air Traffic Organization (ATO) follows the DIAAT (Describe, Identify, Analyse, Assess, and Treat) process to identify and treat safety hazards. In support of the DIAAT process, the ATO uses a variety of techniques, tools, and models. These items are discussed in the ATO Safety Management System (SMS) Manual.

The following are some examples from the ATO SMS Manual that are recommended for every hazard analysis:

1. The 5M Model (Mission, Human, Machine, Management, and Media) can be used to capture the information needed to describe the system and aid in hazard identification.
2. The Preliminary Hazard List (PHL) is a result of brainstorming for potential sources of hazards based on the described system. The PHL may be a combination of hazards, causes, effects, and system states.
3. The Hazard Analysis Worksheet (HAW) is used to document a safety analysis. Using the HAW helps overcome the tendency to focus on safety risk in one aspect of an operation and overlook more serious issues elsewhere in the operation. Its broad scope guides the identification of issues that may require analysis with more detailed hazard identification tools.

In addition, the ATO SMS Manual recommends several other types of analysis techniques to assist in identifying hazards:

1. Failure Mode and Effect Analysis
2. Failure Modes, Effects, and Criticality Analysis
3. Fault Hazard Analysis
4. Fault Tree Analysis
5. Job Task Analysis
6. Operational Hazard Assessment
7. Scenario Analysis
8. What-If Analysis

Using these items, particularly the HAW, assists in following the DIAAT process.

To facilitate hazard analysis of frequent events, the ATO has and is developing tools to facilitate and standardize hazard assessments. One example is the UAS Risk Assessment Automated Tool (URAAT). URAAT is a decision-support tool used by Safety Risk Management (SRM) panels to access the potential risk of collision between unmanned aircraft systems (UAS) and manned aircraft. URAAT leverages validated data and research along with subject matter expertise to calculate the severity and likelihood of mid-air collisions between UAS and manned aircraft in accordance with ATO Safety Management System (SMS) policy.

For Optimised Practices, this document should be sent together with the SoE in SMS questionnaire, to: soe_2021@eurocontrol.int **by 31st July 2021 at the latest**.

Submissions for consideration as Good Practices may be sent by the above date. They may also be identified during the survey interview sessions with the survey team, following which a Good Practice submission document will be requested.