Change ID: 5.1-44

Direction Finder

Summary

It is proposed to include DirectionFinder (DF) as a type of NavaidEquipment, in order to support the modelling of operations, such as landing procedures, that use this kind of legacy equipment.

Background

The ground equipments that support the air navigation are modelled as specialisations of the NavaidEquipment class.

Rationale for the change

Direction finder (DF) equipment consists of a directional antenna system and a VHF radio receiver. The antenna receives the strongest radio signal when it is pointing directly at a transmitter.

This system was widely used at the beginning of air navigation. Although for most applications it has been replaced with more accurate systems, such as radar and satellite navigation systems, there still exist DF procedures around the world. In order to support the modelling of such procedures, it is proposed to insert DF as a new specialisation class of the NavaidEquipment.

Direction Finder can be used in association with certain InformationService (such as TWEB, ASOS, AWOS, etc.) or in association with AirTrafficControlService (such as APP, TWR, etc.). In certain AIP, the word "gonio" is used at the end of the Call Sign in order to indicate that the service is DF assisted. For this purpose it is proposed to add the necessary associations between the new DirectionFinder class and the two service subtypes.

Change proposal details

Insert a new "feature" class DirectionFinder as follows:

- specialisation of the NavaidEquipment class
- definition = " *An electronic device used to determine the position of a radio source by means of directional antennas, which receives the strongest radio signal when it is pointing directly at the transmitter*"
- attributes:
  - doppler = " *Indicates whether the equipment uses the Doppler effect for higher precision*", CodeYesNoType;
- associations:
  - InformationService information [0..*] associatedWith [0..*] DirectionFinder, navigable from DirectionFinder towards InformationService
  - AirTrafficControlService [0..*] assistedBy [0..1] aicraftLocator DirectionFinder, navigable from AirTrafficControlService towards DirectionFinder

Add the following attribute in the InformationService class:

- recorded = " *Indicates that the information broadcast is recorded and played back rather than a live transmission*";

Add the following values in the CodeNavaidServiceType:

- DF = Direction Finder
- SDF = Simplified Directional Facililty