[SAA.ACT] Published special activity area - activation

Definition

The activation of a pre-existing (published) restricted, danger, prohibited, reserved or similar airspace.

Notes:

- *the term "special activity area" is used in order to encompass P, D, R and other areas of similar nature;*
- *this scenario also supports the activation of an area with changed vertical limits (including beyond normal limits, e.g. below its lower limit or above its upper limit);*
- *this scenario does not support the change of the horizontal limits of an area that is normally active nor the activation beyond these horizontal limits;*
- *this scenario does not support the permanent modification of the activation status of an area;*
- *this scenario does not support the occasional de-activation of an area that is normally active;*
- *if an airspace has several sectors (such as EAD21A and EAD21B) that may become active independently, then a separate SAA.ACT Event is encoded for each such sector;*

- *this scenario does not support the activation/de-activation of CTR and other ATS airspace; see the dedicated scenario {{{[ATSA.ACT]}}.*

Event data

The following diagram identifies the information items that are usually provided by a data originator for this kind of event.
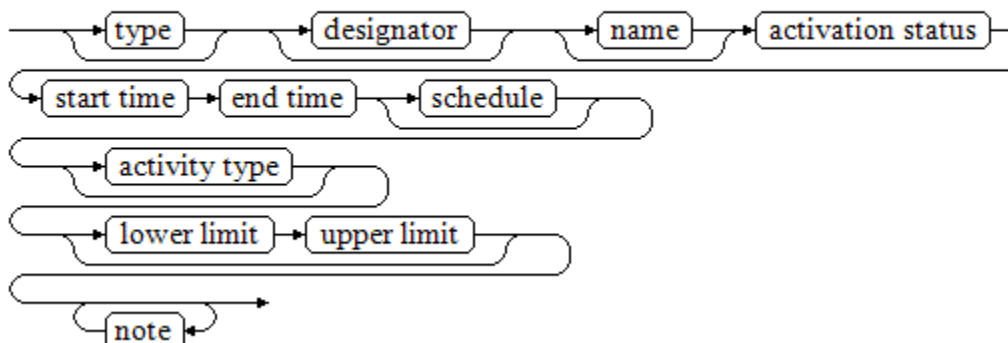
```
input = [type] [designator] [name] "activation status" \n
"start time" "end time" [schedule]\n
["activity type"] \n
["lower limit" "upper limit"]\n
{note}.
```

The following table provides more details about each information item contained in the diagram. It also provided the mapping of each information item within the AIXM 5.1 structure. The name of the variable (first column) is recommended for use as label of the data field in human-machine interfaces (HMI)

Data item	Description	AIXM mapping
type	The type of the airspace concerned by the activation. Typical examples are D (Danger), R (Restricted), D-OTHER (Other activity of Dangerous nature), TSA (Temporary Segregated Area), TRA (Temporary Reserved Area), A (Alert), W (Warning), etc. The item is used in combination with other attributes in order to identify the area concerned.	**Airspace.type** with the list of values CodeAirspaceType.
designator	The designator of the airspace concerned. The item is used in combination with other attributes in order to identify the area concerned.	**Airspace.designator.**
name	The name of the airspace concerned. The item is used in combination with other attributes in order to identify the area concerned.	**Airspace.name.**
activation status	The activation status. The typical term is "active". Systems that provide tactical status data might also use the term "in use", when the airspace is effectively used for the activity for which it was reserved.	**Airspace/AirspaceActivation.status**
start time	The effective date & time when the airspace becomes active. This might be further detailed in a "schedule".	**Airspace/AirspaceTimeSlice/TimePeriod. beginPosition**, **Event/EventTimeSlice.validTime /timePosition** and **Event/EventTimeSlice. featureLifetime/beginPosition**
end time	The end date & time when the airspace activation ends. It might be an estimated value, if the exact end of the activation is unknown.	**Airspace/AirspaceTimeSlice/TimePeriod. endPosition** and **Event/EventTimeSlice. featureLifetime/endPosition** also applying the rules for {{Events with estimated end time}}
schedule	A schedule might be provided, in case the area is only active according to a regular timetable, within the period between the start time and the end time.	**Airspace/AirspaceActivation/Timesheet**/... according to the rules for {{Schedules}}
activity type	The kind of activity that takes place in the airspace	**Airspace/AirspaceActivation.activity** with the limitations on the list of values CodeAirspaceActivityType defined further below. The data encoding rules indicate additional "'OTHER:...'" values for this data item.
lower limit	The vertical level above which and including that level the airspace becomes active; this may be different from the published lower limit of the airspace Baseline(i.e.: could be higher or lower)	**Airspace/AirspaceActivation/AirspaceLayer. lowerLimit** and **Airspace/AirspaceActivation /AirspaceLayer.lowerLimitReference**
upper limit	The vertical level below which and including that level the airspace becomes active; this may be different from the published upper limit of the airspace Baseline(i.e.: could be higher or lower)	**Airspace/AirspaceActivation/AirspaceLayer. upperLimit** and **Airspace/AirspaceActivation /AirspaceLayer.upperLimitReference**
note	A free text note that provides further instructions concerning the area activation, such as the authority to be contacted for further information, the possibility of crossing at ATC discretion, etc.	**Airspace/AirspaceActivation.annotation** with purpose="'REMARK'"

Assumptions for baseline data

It is assumed that information about the area already exists in the form of Airspace BASELINE TimeSlice(s) covering the complete period of validity of the event, coded as specified in the Coding Guidelines for the (ICAO) AIP Data Set.

Data encoding rules

The data encoding rules provided in this section shall be followed in order to ensure the harmonisation of the digital encodings provided by different sources. To the maximum possible extent, the compliance with these encoding rules shall be verified with automatic data validation rules.

Identifier	Data encoding rule
ER-01	The activation of an airspace shall be encoded as: • a new Event with a BASELINE TimeSlice (encoding="DIGITAL", scenario="SAA.ACT", version="2.0"), for which a PERMDELTA TimeSlice may also be provided; and • a TimeSlice of type TEMPDELTA for the corresponding **Airspace** feature, for which the "event:theEvent" property points to the Event instance created above; the TEMPDELTA shall contain at least one **AirspaceActivation** object.
ER-02	If the whole airspace becomes active, from floor to ceiling, then the Airspace TEMPDELTA should use the values "FLOOR, uom=OTHER" for lowerLimit and "CEILING, uom=OTHER" for the upperLimit of the **AirspaceLayer** associated with the AirspaceActivation.
ER-03	Only the following values shall be used for the **AirspaceActivation.status** • ACTIVE • IN_USE • INTERMITTENT
ER-04	If the airspace becomes active below its nominal lower limit or above its nominal upper limit (as defined in the Airspace BASELINE), then the Airspace TEMPDELTA TimeSlice shall include both: • the appropriate upper/lower limit values inside the **AirspaceLayer** associated with the **AirspaceActivation**, and • the **AirspaceGeometryComponents** with the modified upper and/or lower limits.
ER-05	If the area activation is limited to a discrete schedule within the overall time period between the "start time" and the "end time", then this shall be encoded using as many as necessary timeInterval/Timesheet properties for the **AirspaceActivation** of the Airspace TEMPDELTA Timeslice. See the encoding rules for {{Schedules}}.
ER-06	In accordance with the AIXM Temporality Concept, the **AirspaceActivation** associated with the TEMPDELTA completely replaces all the BASELINE AirspaceActivation information, during the TEMPDELTA time of applicability. Therefore, if the activation only concerns certain times and/or levels, the other times and/or levels, when the airspace eventually remains with the same status as in the Baseline data, shall be explicitly included in the TEMPDELTA, as explained in the general rules for coding schedules. The calculation of the necessary additional **AirspaceActivation** elements to be included in the TEMPDELTA shall be automatically done by the applications implementing this specification. All AirspaceActivation elements that are calculated from the BASELINE data for completeness sake shall get an associated Note with purpose=REMARK and the text="Baseline data copy. Not included in the NOTAM text generation". This is based on the current NOTAM practice which consists of including in the NOTAM only the changed information and not explicitly including the static data that remains valid during the NOTAM applicability.

ER-07	Following coded values should not be used for airspace activity encoding (as they are expected to be removed from AIXM):
	- AIR_DROP (use PARACHUTE instead) - ANTI_HAIL (use MISSILES instead) - BIRD_MIGRATION (use BIRD instead) - CROP_DUSTING (use AERIAL_WORK instead) - FAUNA - JET_CLIMBING (use EXERCISE instead) - NATURE - NO_NOISE - OIL - POPULATION - RADIOSONDE (use BALLOON instead) - REFINERY (use CHEMICAL instead) - SHOOTING (use AIR_GUN or ARTILLERY instead) - TECHNICAL (use AERIAL_WORK instead) - ULM - VIP_PRES (use VIP instead) - VIP_VICE (use VIP instead) - WATER_BLASTING (use BLASTING instead)
ER-08	The activity types that do not match the allowed pre-defined value in the CodeAirspaceActivityType shall be encoded as follows:
	- captive balloon activity=OTHER:CAPTIVE_BALLOON - kite activity=OTHER:KITE - demolition with explosives activity=OTHER:DEMOLITION - mass movement of aircraft activity=OTHER:ACFT_MASS_MOVEMENT - formation flight activity=OTHER:ACFT_FORMATION - significant volcanic activity activity=OTHER:VOLCANO - model flying activity=OTHER:MODEL - search and rescue activity=OTHER: SAR - ascent of sky lanterns activity=OTHER:SKY_LANTERN All other hazards should be encoded as activity=OTHER or a relatively similar coded value (for example BALLOON for high balloon, etc.) plus a Note with purpose=DESCRIPTION and propertyName="the activity" which not covered by this specification.

Examples

Following coding examples can be found on GitHub (links attached):

- DN_SAA.ACT_date_range_schedule.xml
- DN_SAA.ACT_changed_limits.xml
- DN_SAA.ACT_area_activation.xml