[2.0] [SAA.NEW] Ad-hoc special activity area - creation (NOTAM)

Note: *this scenario corresponds to two NOTAM Templates: "Ad-hoc PRD and TSA creation" and "Ad-hoc Navigation Warnings ". Therefore, two production rules are included in this scenario.*

Text NOTAM production rules

This section provides rules for the automated production of the text NOTAM message items, based on the AIXM 5.1 data encoding of the Event. Therefore, AIXM specific terms are used, such as names of features and properties, types of TimeSlices, etc:

- the abbreviation **ASE.BL.** indicates that the corresponding data item must be taken from the **Air space BASELINE** that is created by the Event;

Several NOTAMs possible

Note that if an ad-hoc special activity area is located in the vicinity of one or more airports or affects more than one FIR, explicit associations between the **Event** and one or more **AirportHeliport** or **Airspace** may be coded. Then, there exist dedicated provision in the OPADD (v4.1, section 2.3.9.3) with regard to the NOTAM that need to be issued in order to ensure that the NOTAM appear correctly in the relevant en-route and airport Pre-Flight Information Bulletins (PIB). Further details are provided in the "several NOTAM possible" section.

The NOTAM production rules provided on this page, unless specified otherwise, are applicable to the "first NOTAM" and the NOTAM containing one or more FIR in Item A.

Event. concernedAirspace	Event. concernedAirportHeliport	NOTAM to be generated
1..*	None	produce a single NOTAM with scope W for all the FIR(s) identified
1..*	1..*	Produce a "first" NOTAM with scope W for all FIR and additional (scope A) NOTAM for each airport concerned. The NOTAM with scope A shall have a modified Q code - QFALT /QFPLT (aerodrome/heliport limited, as appropriate), according to OPADD edition 4.1, item 2.3.9.3.
1	1..*	Produce a "first" NOTAM with scope AW for the FIR and one of the aerodromes associated with the Event and additional (scope A) NOTAM for each additional airport. The NOTAM with scope A shall have a modified Q code - QFALT/QFPLT (aerodrome /heliport limited, as appropriate), according to OPADD edition 4.1, item 2.3.9.3.

Item A

The item A shall be generated according to the general production rules for item A using the **concernedAirspace**(s) or the **concernedAirportHeliport**, according to the rules specified in table above.

Item Q

Apply the common NOTAM production rules for item Q, complemented by the following specific rules for this particular scenario:

Q code

The following mapping shall be used for the "first NOTAM" and for the NOTAM containing one or more FIR in item A:

- if **ASE.BL.AirspaceActivation.activity** = 'MILOPS', then Q code shall be QRMLP;
- otherwise apply the rules described in the following table:

ASE.BL.type	ASE.BL.AirspaceActivation.activity	Corresponding Q code(s)
P	any	QRPCA
R	any	QRRCA
D	any	QRDCA
TSA	any	QRRCA or QRTCA
TRA	any	QRRCA or QRTCA
W	any	QRRCA
D-OTHER, A or OTHER	AERIAL_WORK, FIRE_FIGHTING, LASER, HI_RADIO	QRDCA
D-OTHER, A or OTHER	none specified	QRDCA
D-OTHER, A or OTHER	AIRSHOW	QWALW
D-OTHER, A or OTHER	SPORT, AEROBATICS	QWBLW
D-OTHER, A or OTHER	EXERCISE, NAVAL_EXER, TRAINING	QWELW
D-OTHER, A or OTHER	REFUEL	QWFLW
D-OTHER, A or OTHER	GLIDING	QWGLW
D-OTHER, A or OTHER	BLASTING	QWHLW
D-OTHER, A or OTHER	BALLOON	QWLLW
D-OTHER, A or OTHER	TOWING	QWJLW
D-OTHER, A or OTHER	MISSILES, AIR_GUN, ARTILLERY, FIREWORK,	QWMLW
D-OTHER, A or OTHER	PARACHUTE, PARAGLIDER, HANGGLIDING	QWPLW
D-OTHER, A or OTHER	CHEMICAL, NUCLEAR	QWRLW
D-OTHER, A or OTHER	GAS	QWSLW
D-OTHER, A or OTHER	UAV	QWULW
D-OTHER, A or OTHER	BIRD	QAFHX
D-OTHER, A or OTHER	OTHER:DEMOLITION	QWDLW
D-OTHER, A or OTHER	OTHER:CAPTIVE_BALLOON, OTHER:KITE	QWCLW
D-OTHER, A or OTHER	OTHER:ACFT_MASS_MOVEMENT	QWTLW
D-OTHER, A or OTHER	OTHER:ACFT_FORMATION	QWVLW
D-OTHER, A or OTHER	OTHER:VOLCANO	QWWLW
D-OTHER, A or OTHER	OTHER:MODEL	QWZLW
PROTECT	ACCIDENT, VIP	QROLP
OTHER	OTHER	QRACA or QWELW
Any other combination of type and activity...		QXXXX or as decided by the operator

Note:

- *In the situations where two or more Q code alternatives are provided in the table above, the first one should be used as default in a data provider interface. The operator shall have the possibility to select an alternative one or even to change it completely (for example, by using "XX").*

Scope

For each NOTAM that is generated:

- If Item A contains the designator of one (or more) FIR, insert W.
- If Item A contains the ICAO code of an airport, then insert AW.

However, more specific rules may be applied, depending on the split in NOTAM series, actual configuration of the FIR, etc. These have to be taken into consideration for each implementation

Apply the common NOTAM production rules for Lower limit / Upper limit.

Geographical reference

Calculate the centre and the radius (in NM) of a circle that encompasses the whole special activity area. Insert these values in the geographical reference item, formatted as follows:

- the set of coordinates comprises 11 characters rounded up or down to the nearest minute; i.e. Latitude (N/S) in 5 characters; Longitude (E /W) in 6 characters. The radius consists of 3 figures rounded up to the next higher whole Nautical Mile; e.g. 10.2NM shall be indicated as 011.

See also the Note with regard to the risk that the circle/radius does not encompass the whole area, as discussed in the Location and radius common rules for the NOTAM text generation.

Items B, C and D

These shall be decoded following the common NOTAM production rules for start of validity, end of validity and schedules.

If at least one **ASE.BL.activation.AirspaceActivation.timeInterval** exists (meaning that the Event has an associated schedule), then it shall be represented in item D according to the common NOTAM production rules for Item D, E - Schedules. Otherwise, item D shall be left empty.

- Important Note: *timeInterval(s) that appear as child of **ASE.BL.activation.AirspaceActivation** with **status** equal-to 'INACTIVE' shall not be translated (because they were encoded for the completeness of the digital data encoding, see rule ER-04).*
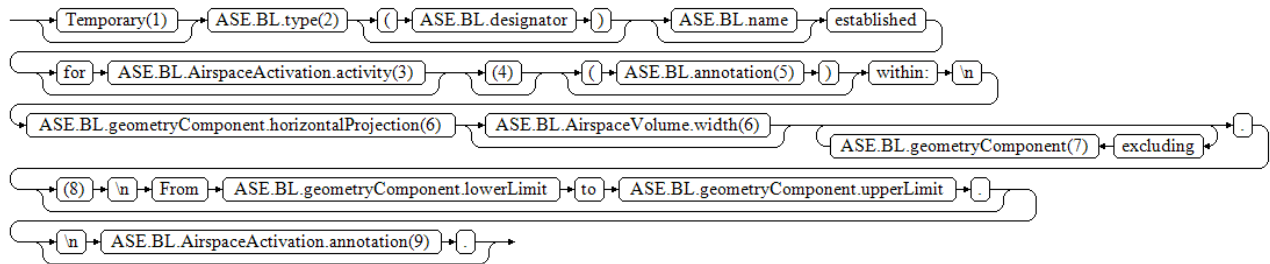
Item E

Two patterns are possible for automatically generating the item E text from the AIXM data.

Item E for ad-hoc PRD, TSA area

This template shall be used when the **ASE.BL.type** has one of the following values: 'P', 'R', 'D', 'TSA', 'TRA', 'W', 'A', 'PROTECT'
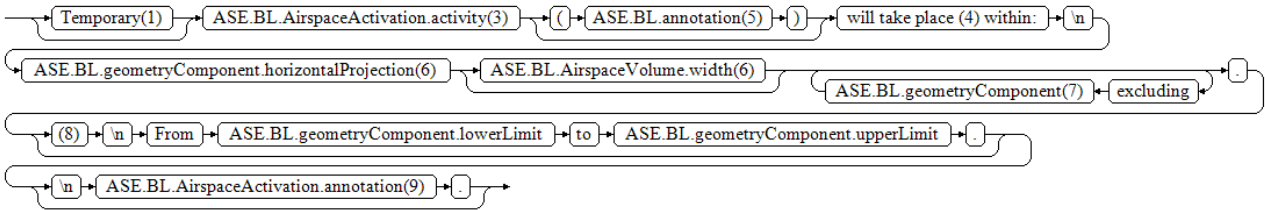

template_area

EBNF Code

```
template_area = ["Temporary(1)"] "ASE.BL.type(2)" ["(" "ASE.BL.designator" ")"] ["ASE.BL.name"] established
\n
[for "ASE.BL.AirspaceActivation.activity(3)"] ["(4)"] ["(" "ASE.BL.annotation(5)" ")"] "within:" "\n" \n
"ASE.BL.geometryComponent.horizontalProjection(6)" ["ASE.BL.AirspaceVolume.width(6)"] {excluding "ASE.BL.
geometryComponent(7)"} "." \n
["(8)" "\n" "From" "ASE.BL.geometryComponent.lowerLimit" "to" "ASE.BL.geometryComponent.upperLimit" "."] \n
["\n" "ASE.BL.AirspaceActivation.annotation(9)" "." ].
```

Item E for ad-hoc navigation warnings

This template shall be used when the **ASE.BL.type** has a value different from: 'P', 'R', 'D', 'TSA', 'TRA', 'W', 'A', 'PROTECT'

template_nav_warning

EBNF Code

```
template_nav_warning = ["Temporary(1)"] "ASE.BL.AirspaceActivation.activity(3)" ["(" "ASE.BL.annotation(5)"
")"] "will take place (4) within:" "\n" \n
"ASE.BL.geometryComponent.horizontalProjection(6)" ["ASE.BL.AirspaceVolume.width(6)"] {excluding "ASE.BL.
geometryComponent(7)"} "." \n
[ "(8)"  "\n" "From" "ASE.BL.geometryComponent.lowerLimit" "to" "ASE.BL.geometryComponent.upperLimit" "."] \n
["\n" "ASE.BL.AirspaceActivation.annotation(9)" "."].
```

Reference	Data item (from coding scenario)	Rule
(1)	type	If ASE.BL.type is different than TSA and TRA insert the word "Temporary". Otherwise, ignore this branch.
(2)	type	The area type shall be included according to the following decoding table:

ASE.BL.type	Text to be inserted in Item E
P	"Prohibited Area"
R	"Restricted Area"
D	"Danger Area"
TSA	"Temporary Segregated Area"
TRA	"Temporary Reserved Area"
W	"Warning Area"
A	"Alert Area"
PROTECT	"Protection Area"

(3)	activity	The activity code shall be translated into readable text, as indicated below.

The activity code shall be translated into readable text, as indicated below.

- ACCIDENT => "flight accident site"
- AD_TFC => "aerodrome traffic"
- AERIAL_WORK => "aerial work"
- AEROBATICS => "aerobatics"
- AIR_DROP* => "air dropping"
- AIR_GUN => "firing"
- AIRSHOW => "air display"
- ANTI_HAIL* => "anti hail missiles launch"
- ARTILLERY => "artillery firing"
- ATS* => "Air traffic services"
- BALLOON => "ascent of balloon"
- BIRD => "bird presence"
- BIRD_MIGRATION* => "bird migration"
- BLASTING => "explosives blasting"
- CHEMICAL => "chemical hazard"
- CROP_DUSTING => "crop spraying"
- EXERCISE => "military exercise"
- FAUNA* => "fauna protection"
- FIRE_FIGHTING => "fire fighting"
- FIREWORK => "fireworks"
- GAS => "gas hazard"
- GLIDING => "glider flying"
- HANGGLIDING => "hang gliding"
- HELI_TFC => "helicopter traffic"
- HI_LIGHT "non-navigational lights with high visibility"
- HI_RADIO => "high power radio transmissions"
- JET_CLIMBING* => "jet climbing"
- LASER => "laser hazard"
- MILOPS => "military operations"
- MISSILES => "missile firing"
- NATURE* => "nature protection"
- NAVAL_EXER => "naval exercise"
- NO_NOISE* => "noise prevention reasons"
- NUCLEAR => "nuclear hazard"
- OIL* => "oil hazard"
- OTHER => "unspecified hazard"
- OTHER:ACFT_FORMATION => "formation flight"
- OTHER:ACFT_MASS_MOVEMENT => "mass movement of acft"
- OTHER:CAPTIVE_BALLOON => "captive balloon"
- OTHER:DEMOLITION => "demolition with explosives"
- OTHER:KITE => "kite activities"
- OTHER:MODEL "model flying"
- OTHER:SAR "SAR"
- OTHER:SKY_LANTERN "ascent of sky lanterns"
- OTHER:VOLCANO => "significant volcanic activity"
- PARACHUTE => "parachute jumping exercise"
- PARAGLIDER => "paragliding"
- POPULATION* => "population protection"
- PROCEDURE* => "special flight procedure"
- RADIOSONDE* => "radiosonde launching"
- REFINERY* => "refinery hazard"
- REFUEL => "air refueling"
- SHOOTING* => "firing"
- SPACE_FLIGHT => "space flight"
- SPORT => "sport flights"
- TECHNICAL* => "technical activities"
- TOWING => "banner/target towing"
- TRAINING => "training activities"
- UAV => "unmanned acft system activities"
- ULM => "ultralight motorized acft activities"
- VIP => "VIP protection"
- VIP_PRES* => "head of state protection"
- VIP_VICE* => "vice-head of state protection"
- WATER_BLASTING* => "water blasting"

Note: The values marked with an asterisk * are unlikely to occur in practice, they are provided for completeness sake and to prevent undefined situations for the automatic creation of NOTAM.

| (4) | activation status | If **ASE.TD.AirspaceActivation.status** = 'INTERMITTENT', then insert "(intermittent use)" |
| (5) | location note | If specified, insert here only the **ASE.BL.annotation** that has **propertyName**='geometryComponent'. Annotations shall be translated into free text according to the decoding rules for annotations. |

(6)	horizontal limit (corridor width)	If the geometry is in the form of a polygon or circle, provided as **AirspaceVolume.horizontalProjection** (**gml:Surface**), then it shall be translated into human readable text, using latitude/longitude values, as detailed in Item E - Geometrical and geographical data.

If the geometry is in the form of a corridor, provided as **AirspaceVolume,corridor** (**gml:Curve**) and **AirspaceVolume.width**, then the following template shall be used:

template_corridor

→ area of → ASE.BL.AirspaceVolume.width(6.1) → either side of a line: → ASE.BL.AirspaceVolume.corridor.gml:Curve(6.2) →

EBNF Code

```
template_corridor = "area of" "ASE.BL.AirspaceVolume.width(6.1)" "either side of a
line:" "ASE.BL.AirspaceVolume.corridor.gml:Curve(6.2)".
```

reference	rule
(6.1)	Insert the **width** value divided by 2 and followed by the **width@uom** value (for example: "2.5NM")
(6.2)	Translate the **gml:Curve** data into human readable text, using latitude/longitude values, as detailed in Item E - Geometrical and geographical data.

(7)	excluded airspace	If specified as a ASE.BL.geometryComponent with operation="SUBTR", insert here the designator and the type of the ASE.BL.geometryComponent.contributorAirspace. This requires interpreting the xlink:href value in order to recuperate the relevant data from the contributorAirspace BASELINE. If more than one airspace is excluded from the preceding horizontalProjection, then the word "and" shall be included before the second, third, etc. exclusion.
(8)	lower limit upper limit	**Only for NOTAM with scope = A** As a pure aerodrome NOTAM (scope A) does not allow the use of items F and G, information about the vertical extend is added in Item E.
(9)	note	Annotations shall be translated into free text according to the common rules for annotations decoding.

Note: *The objective is to full automatic generation, without human intervention. However, the implementers of the specification might consider reducing the cost of a fully automated generation by allowing the operator to fine-tune the text in order to improve its readability (with the inherent risk for human error, when re-typing is allowed).*

Items F & G

Only for NOTAM with scope "W" or "AW"

The values in items F and G shall be formatted according to decoding rules for Item E, F, G - vertical limits:

- insert in item F the value (including its reference and unit of measurement) of the ASE.BL.geometryComponent.lowerLimit;
- insert in item G the value (including its reference and unit of measurement) of the ASE.BL.geometryComponent.upperLimit.
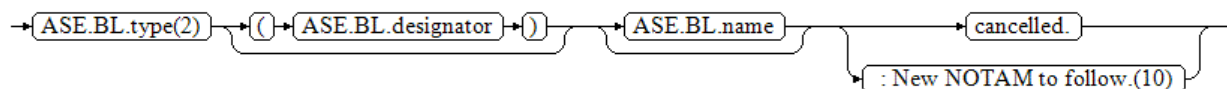
Event Update

The eventual update of this type of event shall be encoded following the general rules for [archived] Event update or cancellation, which provide instructions for all NOTAM fields, except for item E and the condition part of the Q code, in the case of a NOTAM C

If a NOTAM C is produced, then the 4th and 5th letters (the "condition") of the Q code shall be "CN", except for the situation of a "new NOTAM to follow", in which case "XX" shall be used.

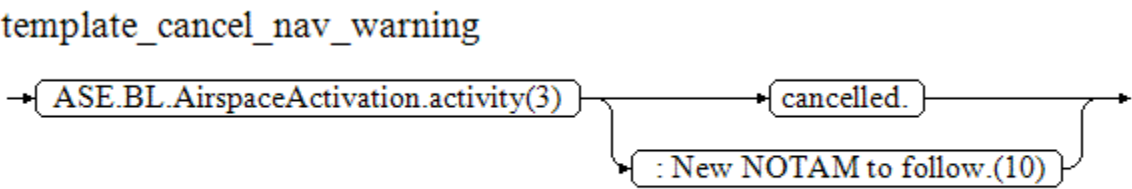Two patterns are possible for automatically generating the item E text from the AIXM data.

Cancellation of ad-hoc PRD, TSA area

template_cancel_area

→ ASE.BL.type(2) → (→ ASE.BL.designator →) → ASE.BL.name → cancelled.
: New NOTAM to follow.(10)

EBNF Code

```
template_cancel_area = "ASE.BL.type(2)" ["(" "ASE.BL.designator" ")"] ["ASE.BL.name"] ("cancelled." | " :
New NOTAM to follow.(10)").
```

Cancellation of ad-hoc navigation warning

template_cancel_nav_warning

EBNF Code

```
template_cancel_nav_warning = "ASE.BL.AirspaceActivation.activity(3)" ("cancelled." | " : New NOTAM to
follow.(10)").
```

Reference	Rule
(10)	If the NOTAM will be followed by a new NOTAM concerning the same situation, then the operator shall have the possibility to choose the "New NOTAM to follow" branch. This branch cannot be selected automatically because this information is only known by the operator. Note: in this case, the 4th and 5th letters of the Q code shall also be changed into "XX".