NYTT I 2012/965 del NCO.OP

- VFR & AWO

TRANSPORT STYRELSEN

Nytt i 2012/965 del NCO.OP

Regelverk som gäller alla inkl. VFR

NCO.OP.101 – Ny regel!

(a) The pilot-in-command **shall check** the proper operation of the **altimeter** before each departure.

(b) The pilot-in-command shall use appropriate **altimeter settings for all phases of flight,** taking into account any procedure prescribed by the State of the aerodrome or the State of the airspace.

NCO.OP.160

Bytt ut “weather” conditions till “meteorological”

NCO.OP.175

Before commencing take-off, the pilot-in-command shall be satisfied that:

~~(b) applicable aerodrome operating minima will be complied with.~~ ← *Gamla regeln*

(b) the selected aerodrome operating minima **are consistent with all of the following**:

(1) the operative ground equipment;

(2) the operative aircraft systems;

(3) the aircraft performance;

(4) flight crew qualifications

TRANSPORT STYRELSEN

Bränsleplanering NCO.OP.125

Gamla regelverket:

(a) The pilot-in-command shall only commence a flight if the aeroplane carries sufficient fuel and oil for the following:
(1) for **visual flight rules (VFR) flights**:
(i) by day, taking-off and landing at the same aerodrome/landing site and always remaining in sight of that aerodrome/landing site, to fly the intended route and thereafter for at least **10 minutes** at normal cruising altitude;
(ii) by day, to fly to the aerodrome of intended landing and thereafter to fly for at least
30 minutes at normal cruising altitude; or
(iii) by night, to fly to the aerodrome of intended landing and thereafter to fly for at least **45 minutes** at normal cruising altitude;

Nya regelverket:

(a) The pilot-in-command shall ensure that the quantity of **fuel/energy and oil** that is carried on board is **sufficient,** taking into account the meteorological conditions, any element affecting the performance of the aircraft, any delays that are expected in flight, and any **contingencies that may reasonably be expected** to affect the flight.

(b) The pilot-in-command shall **plan a quantity of fuel/energy to be protected as final reserve fuel/energy to ensure a safe landing**. The pilot-in-command shall take into account all of the following, and in the following order of priority, to determine the quantity of the final reserve fuel/energy:
(1) the severity of the hazard to persons or property that may result from an emergency landing after fuel/energy starvation; and
(2) the likelihood of unexpected circumstances that the final reserve fuel/energy may no longer be protected.

TRANSPORT STYRELSEN

Bränslehantering NCO.OP.185

Gamla regelverket:

~~The pilot-in-command shall check at regular intervals that the amount of usable fuel remaining in flight is not less than the fuel required to proceed to a weather-permissible aerodrome or operating site and the planned reserve fuel as required by points NCO.OP.125 or NCO.OP.126.~~

Nya regelverket:

(a) The pilot-in-command shall monitor the amount of usable fuel/energy remaining on board to ensure that it is protected and not less than the fuel/energy that is required to proceed to an **aerodrome or operating site where a safe landing can be made**.

(b) The pilot-in-command of a controlled flight shall advise air traffic control (ATC) of a 'minimum fuel/energy' state by declaring **'MINIMUM FUEL'** when the pilot-in-command has:
(1) committed to land at a specific aerodrome or operating site; and
(2) calculated that any change to the existing clearance to that aerodrome or operating site, or other air traffic delays**, may result in landing with less than the planned final reserve fuel/energy.**

(c) The pilot-in-command of a controlled flight shall declare a situation of 'fuel/energy emergency' by broadcasting **'MAYDAY MAYDAY MAYDAY FUEL'** when the usable fuel/energy estimated to be available upon landing at the nearest aerodrome or operating site where a safe landing can be made **is less than the planned final reserve fuel/energy.**

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Nytt i 2012/965 del NCO.OP

Fokus: All Weather Operations (AWO)

SCENARIO

- Rutt: ESGG – ESOW (IFR)
- Flygplan: C172
- Utrustning: ILS, GNSS/SBAS/PBN, LPV
- Bränsleförbrukning: 40L/h

TRANSPORT STYRELSEN

Bränsleplanering NCO.OP.125

Gamla regelverket:

(2) for IFR flights:
(i) when no destination alternate is required, to fly to the aerodrome of intended landing and thereafter to ~~fly for at least 45 minutes~~ at normal cruising altitude; or
(ii) when a destination alternate is required, to fly to the aerodrome of intended landing, to an alternate aerodrome and thereafter to fly for at ~~least 45 minutes~~ at normal cruising altitude.

(b) In computing the fuel required including to provide for contingency, the following shall be taken into consideration:
(1) forecast meteorological conditions;
(2) anticipated ATC routings and traffic delays;
(3) procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and
(4) any other condition that may delay the landing of the aeroplane or increase fuel and/or oil consumption.

Nya regelverket:

(a) The pilot-in-command shall ensure that the quantity of **fuel/energy and oil** that is carried on board is **sufficient,** taking into account the meteorological conditions, any element affecting the performance of the aircraft, any delays that are expected in flight, and any **contingencies that may reasonably be expected** to affect the flight.

(b) The pilot-in-command shall **plan a quantity of fuel/energy to be protected as final reserve fuel/energy to ensure a safe landing**. The pilot-in-command shall take into account all of the following, and in the following order of priority, to determine the quantity of the final reserve fuel/energy:
(1) the severity of the hazard to persons or property that may result from an emergency landing after fuel/energy starvation; and
(2) the likelihood of unexpected circumstances that the final reserve fuel/energy may no longer be protected.

(c) The pilot-in-command shall commence a flight only if the aircraft carries **sufficient fuel/energy and oil:**
(1) when no destination alternate is required, **to fly to the aerodrome or operating site of intended landing, plus the final reserve fuel/energy**; or
(2) when a destination alternate is required, **to fly to the aerodrome or operating site of intended landing, and thereafter, to an alternate aerodrome, plus the final reserve fuel/energy.**

TRANSPORT STYRELSEN

Bränslehantering NCO.OP.185

Gamla regelverket:

~~The pilot-in-command shall check at regular intervals that the amount of usable fuel remaining in flight is not less than the fuel required to proceed to a weather-permissible aerodrome or operating site and the planned reserve fuel as required by points NCO.OP.125 or NCO.OP.126.~~

Nya regelverket:

(a) The pilot-in-command shall monitor the amount of usable fuel/energy remaining on board to ensure that it is protected and not less than the fuel/energy that is required to proceed to an **aerodrome or operating site where a safe landing can be made**.

(b) The pilot-in-command of a controlled flight shall advise air traffic control (ATC) of a 'minimum fuel/energy' state by declaring **'MINIMUM FUEL'** when the pilot-in-command has:
(1) committed to land at a specific aerodrome or operating site; and
(2) calculated that any change to the existing clearance to that aerodrome or operating site, or other air traffic delays**, may result in landing with less than the planned final reserve fuel/energy.**

(c) The pilot-in-command of a controlled flight shall declare a situation of 'fuel/energy emergency' by broadcasting **'MAYDAY MAYDAY MAYDAY FUEL'** when the usable fuel/energy estimated to be available upon landing at the nearest aerodrome or operating site where a safe landing can be made **is less than the planned final reserve fuel/energy.**

TRANSPORT STYRELSEN

Alternateplanering NCO.OP.140

Gamla regelverket:

For IFR flights, the pilot-in-command shall specify at least one weather-permissible destination alternate aerodrome in the flight plan, unless:

(a) the available current meteorological information indicates that, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, ~~the approach and landing may be made under visual meteorological conditions (VMC~~); or

~~(b) the place of intended landing is isolated and:~~
~~(1) an instrument approach procedure is prescribed for the aerodrome of intended landing; and~~
~~(2) available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival:~~
~~(i) a cloud base of at least 300 m (1 000 ft) above the minimum associated with the instrument approach procedure; and~~
~~(ii) visibility of at least 5,5 km or of 4 km more than the minimum associated with the procedure~~

Nya regelverket:

For IFR flights, the pilot-in-command shall specify at least one destination alternate aerodrome in the flight plan, unless the available current meteorological information for the destination indicates, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, **a ceiling of at least 1 000ft above the DH/MDH for an available instrument approach procedure (IAP) and a visibility of at least 5 000m.**

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Bränsleplanering & alternativ

SCENARIO

ESOW TAF: 060530Z 0606/0615 19008KT 9999 BKN012 PROB40 0612/0615 4000 RADZ BKN008=
→ Vi måste ha ett alternativ (NCO.OP.140)

Enligt gamla regelverket:
Bränsle att flyga till destinationen, till ett alternativ sedan ytterligare 45 min
plus hänsyn till andra faktorer som kan spela in

Enligt nya regelverket:
Hur allvarligt är det om vi får slut på bränsle? Vad kan konsekvenserna bli?
Hur troligt är det att något oförutsett händer?

Vi måste ha bränsle att flyga till destinationen, ett alternativ och final reserve.
Inga regelkrav, dock i AMC, på final reserve (vad är lämpligt?).

Om vi planerat fel: ”minimum fuel” eller ”mayday mayday mayday fuel”

TRANSPORT STYRELSEN

Alternateplanering NCO.OP.142

Gamla regelverket:

~~The pilot-in-command shall ensure that sufficient means are available to navigate and land at the destination aerodrome or at any destination alternate aerodrome in the case of loss of capability for the intended approach and landing operation.~~

Nya regelverket:

The pilot-in-command shall only select an aerodrome as a destination alternate aerodrome if either:

(a) **an IAP that does not rely on GNSS is available either at the destination aerodrome or at a destination alternate aerodrome, or**

(b) **all of the following conditions are met:**
(1) the onboard GNSS equipment is SBAS-capable;
(2) the destination aerodrome, any destination alternate aerodrome, and the route between them are within SBAS service area;
(3) ABAS is predicted to be available in the event of the unexpected unavailability of SBAS;
(4) an IAP is selected (either at destination or destination alternate aerodrome) that does not rely on the availability of SBAS;
(5) an appropriate contingency action allows the flight to be completed safely in the event of unavailability of GNSS.

TRANSPORT STYRELSEN

Alternateplanering NCO.OP.143

Nya regelverket:

An **aerodrome shall not be specified as a destination alternate aerodrome unless** the available current meteorological information indicates, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, **whichever is the shorter period:**

(a) for an alternate aerodrome with an available instrument approach operation with **DH less than 250 ft,**
(1) a ceiling of at least 200 ft above the decision height (DH) or minimum descent height (MDH) associated with the instrument approach operation; and
(2) a visibility of at least 1 500m; or

(b) for an alternate aerodrome with an instrument approach operation with **DH or MDH 250 ft or more,**
(1) a ceiling of at least 400 ft above the DH or MDH associated with the instrument approach
operation; and
(2) a visibility of at least 3 000m; or

(c) for an alternate aerodrome **without an IAP,**
(1) a ceiling of at least the higher of 2 000ft and the minimum safe IFR height; and
(2) a visibility of at least 5 000m

TRANSPORT STYRELSEN

Val av alternativ

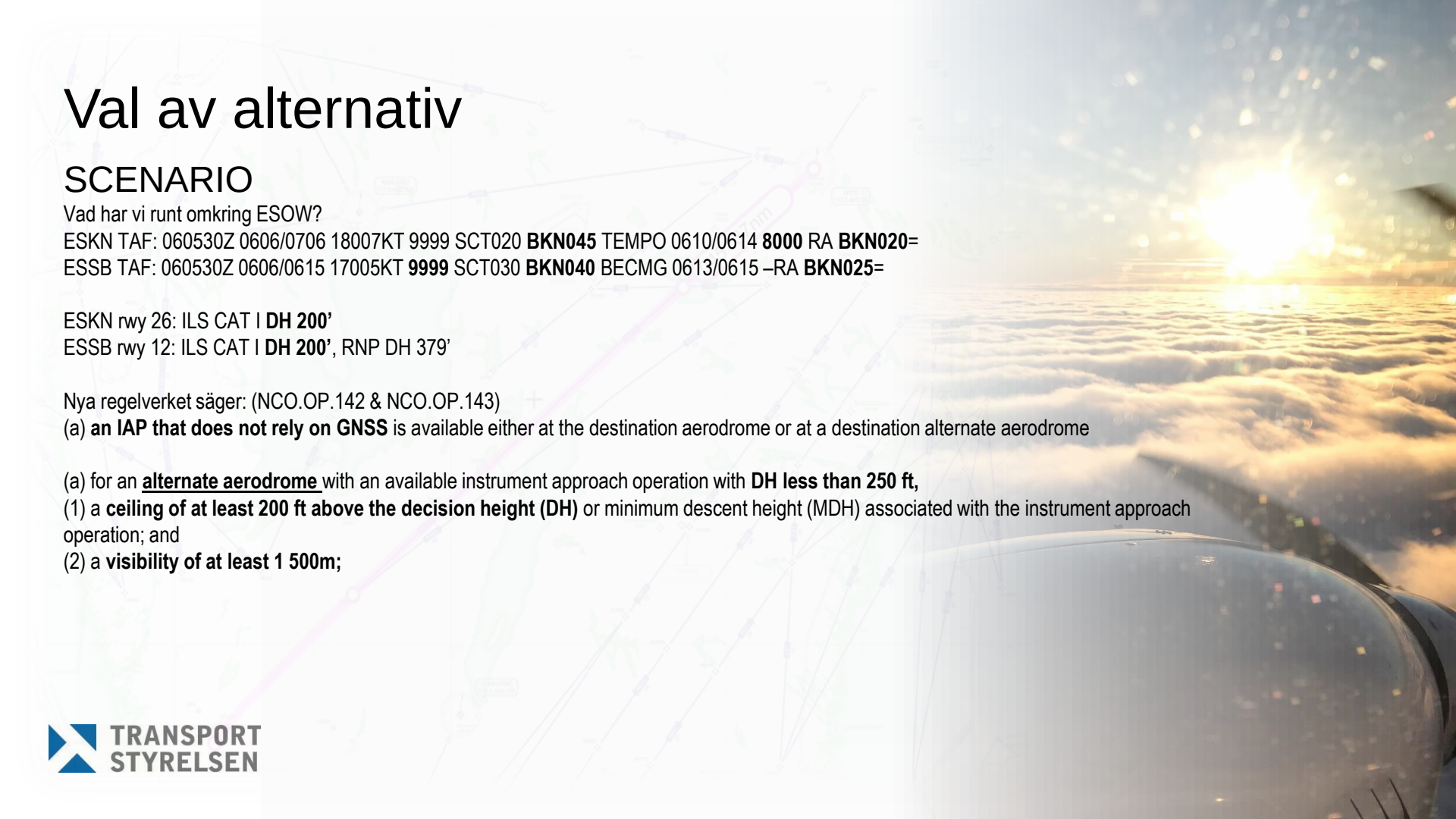
SCENARIO

Vad har vi runt omkring ESOW?
ESKN TAF: 060530Z 0606/0706 18007KT 9999 SCT020 **BKN045** TEMPO 0610/0614 **8000** RA **BKN020**=
ESSB TAF: 060530Z 0606/0615 17005KT **9999** SCT030 **BKN040** BECMG 0613/0615 –RA **BKN025**=

ESKN rwy 26: ILS CAT I **DH 200'**
ESSB rwy 12: ILS CAT I **DH 200'**, RNP DH 379'

Nya regelverket säger: (NCO.OP.142 & NCO.OP.143)
(a) **an IAP that does not rely on GNSS** is available either at the destination aerodrome or at a destination alternate aerodrome

(a) for an **alternate aerodrome** with an available instrument approach operation with **DH less than 250 ft,**
(1) a **ceiling of at least 200 ft above the decision height (DH)** or minimum descent height (MDH) associated with the instrument approach operation; and
(2) a **visibility of at least 1 500m;**



TRANSPORT STYRELSEN

Approachkrav NCO.OP.205

Gamla regelverket:

Before commencing an approach to land, the pilot-in-command shall be satisfied that, according to the information available, the weather at the aerodrome or the operating site and the condition of the runway intended to be used do not prevent a safe approach, landing or missed approach.

Nya regelverket:

Before commencing an approach to land, the pilot-in-command shall be satisfied that:

(a) according to the information available, the meteorological conditions at the aerodrome or the operating site, and the condition of the runway intended to be used will not prevent a safe approach, landing, or missed approach; and

(b) the selected aerodrome operating minima are consistent with **all of the following**:
(1) the operative ground equipment;
(2) the operative aircraft systems;
(3) the aircraft performance, and
(4) flight crew qualifications.

TRANSPORT STYRELSEN

Approachkrav NCO.OP.210

Gamla regelverket:

~~(a) The pilot-in-command may commence an instrument approach regardless of the reported runway visual range/visibility (RVR/VIS).~~

(b) If the reported RVR/VIS ~~is less than the applicable minimum~~, the approach shall not be continued:
(1) below 1 000 ft above the aerodrome; or
(2) into the final approach segment in the case where the decision altitude/height (DA/H) or minimum descent altitude/height (MDA/H) is more than 1 000 ft above the aerodrome.

~~(c) Where the RVR is not available, RVR values may be derived by converting the reported visibility.~~

~~(d) If, after passing 1 000 ft above the aerodrome, the reported RVR/VIS falls below the applicable minimum, the approach may be continued to DA/H or MDA/H.~~

(e) The approach may be continued below DA/H or MDA/H and the landing may be completed provided that the visual reference adequate for the type of approach operation and for the intended runway is established at the DA/H or MDA/H and is maintained.

(f) The touchdown zone RVR shall always be controlling.

Nya regelverket:

(a) If the controlling RVR for the runway to be used for landing **is less than 550 m** (or any lower value established in accordance with an approval under SPA.LVO), then an instrument approach operation shall not be continued:
(1) past a point at which the aircraft is 1 000 ft above the aerodrome elevation; or
(2) into the final approach segment if the DH or MDH is higher than 1 000 ft.

(b) If the required visual reference is not established, a missed approach shall be executed at or before the DA/H or the MDA/H.

(c) If the required visual reference is not maintained after DA/H or MDA/H, a go-around shall be executed promptly.

TRANSPORT STYRELSEN

Kan vi flyga vår tänkta approach?

SCENARIO

ESOW METAR: 061420Z 18008KT 5000 –RA BKN007 06/05 Q0996=

RVR? Över 550m
Ceiling? 700ft
DH? ILS CAT I 200’

Om RVR sjunker under 550m innan vi nått 1000ft AGL? Missed approach.
Om vi inte ser någon visuell referens på DH? Missed approach.
Om vi tappar vår visuella referens efter DH? Go around.

TRANSPORT STYRELSEN