Info Tech

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(English text at the bottom)

NEW EASA FUEL/ENERGY PLANNING AND MANAGEMENT

Gentili Colleghi,

Il prossimo 30 ottobre 2022 entreranno in vigore le nuove regole EASA sul fuel planning and management, introdotte nell'ultima revisione di AirOps con Regolamento (UE) 2021/1296 e Decisione ED 2022/005/R.

Vi proponiamo un utile e ben fatto leaflet di ECA (European Cockpit Association) con le principali novità introdotte con il nuovo aggiornamento, con il relativo impatto diretto sui piloti.
La pubblicazione fornisce una panoramica dei principali cambiamenti e delle conseguenze per gli equipaggi di condotta. Include inoltre anche una serie di punti che, per rilevanza, richiedono maggior attenzione.

Per supportare l'attuazione del nuovo quadro normativo, l'Agenzia Europea ha proposto una serie di webinar, volti ad illustrare le nuove regole e a rispondere alle domande delle autorità nazionali, degli operatori, dei piloti, ecc.
Di seguito, oltre al leaflet ECA, troverai anche le slide del webinar di EASA.
Buona lettura.

ANPAC – Dipartimento Tecnico
dt@anpac.it

English Version

NEW EASA FUEL/ENERGY PLANNING AND MANAGEMENT

Dear Colleagues,

On 30 October 2022 new EASA fuel rules, implemented in the last revision of AirOps, will come into effect (Regulation (EU) 2021/1296 and ED Decision 2022/005/R).

We propose a very well-done leaflet made by ECA (European Cockpit Association) with the main changes introduced with the new update, with direct impact on the flight crew.
This publication provides you with an overview of the main changes and the consequences for the flight crew. The leaflet also includes a number of points of concerns.

To support the implementation of the new framework, EASA proposed a series of webinars, aimed at explaining the rules and answering questions from the authorities, operators, pilots etc.
Here below, in addition to the ECA leaflet, you will also find the slides of the EASA webinar.

Enjoy the reading.

ANPAC – Dipartimento Tecnico
dt@anpac.it

Fuel management

A briefing leaflet on EASA's new Fuel Management rules

ECA
European Cockpit Association

Background

2008

JAA

As a bit of history, the fuel rulemaking dates back to JAA times (Joint Aviation Authorities) and was taken over by EASA in 2008. IATA suggested to adapt the EU-OPS fuel policy in 2009, which was later used by ICAO to upgrade the existing general guidance in the Annex 6. This resulted in ICAO Doc 9976 providing guidance in prescriptive regulation and performance-based variations, becoming the new standard.

2015

EASA RULEMAKING

The new rules are the final result of EASA's Rule Making Task (RMT.0573) to include a new fuel policy, based on performance-based principles.

The main purpose of the quite elaborate revision was threefold:

» To harmonize with FAA and ICAO standards

» To incorporate a more environmentally efficient fuel planning / management concept

» To offer more flexibility to the operators on their fuel planning and management.

2022

NEW RULES

On 30th October 2022 new EASA fuel rules will come into effect. (Regulation (EU) 2021/1296 and ED Decision 2022/005/R.)

To support the implementation of the new framework, EASA proposed a series of webinars, aimed at explaining the rules and answering questions from the authorities, operators, pilots etc. First webinar took place on the 7th July 2022, and the 2nd one on 21st September 2022.

In 2022 and 2023 EASA will complement the new regulatory package on fuel/energy planning and management with relevant safety promotion material, including EASA fuel scheme manual and safety promotion leaflets, website, and video.

Main changes

THE CHANGES INTRODUCED WITH THIS UPDATE ARE NUMEROUS AND WILL HAVE A DIRECT IMPACT ON THE FLIGHT CREW. FOR EXAMPLE, FLIGHT PLANNING IS AFFECTED AS WELL AS THE FUEL MANAGEMENT DURING FLIGHT. SOME CHANGES ARE ALREADY COMMON PRACTICE (SUCH AS THE ADOPTION OF THE "MINIMUM FUEL" CALL OR THE FIXED ALTERNATE PLANNING INCREMENTS USED BY FAA AND IN ETOPS), WHILE OTHERS REQUIRE MORE ATTENTION. NEW RULES ALLOW INCREASED FLEXIBILITY (I.E. LESS FUEL USE), PROVIDING AN OPERATIONAL AND ENVIRONMENTAL BENEFIT (0.3 TO 1.8% FUEL SAVINGS). IMPORTANTLY, THEY RELY ON THE MATURITY OF THE OPERATOR'S MANAGEMENT SYSTEM AND OPERATING CAPABILITIES, AND ON THE AUTHORITY RESPONSIBLE FOR PERFORMING INSPECTIONS.

CURRENT RULES STRUCTURE

» Fuel planning / in-flight replanning policy: Prescriptive with possible variations

» In-flight fuel management policy: Prescriptive

» Selection of aerodromes & planning policy: Prescriptive

NEW POLICY STRUCTURE
as of 30 Oct 2022

» Basic fuel scheme: Prescriptive. 5% CONT fuel (no special requirements, idem current situation)

» Basic fuel scheme with variations. 3% CONT fuel or a statistical CONT fuel (some requirements for the operator e.g. ERA, fuel consumption monitoring program)

» Individual fuel scheme. Fuel can be reduced based on certain criteria (see below).

MAIN CHANGES IN SHORT

ECA COMPILED A SHORT OVERVIEW OF THE MAIN CHANGES AND ASSESSED THE CONSEQUENCES FOR THE FLIGHT CREW.

- **Discretionary fuel or "SCD" fuel,** at the discretion of the commander, will appear explicitly on the flight plan and is not part of extra or additional fuel.

- The concept of **fuel schemes** is introduced: it encompasses not only planning (-MPA-180) and alternate selection (CAT-OP-MPA-182) but also considers flight and fuel management (CAT-OP-MPA-185) and the execution.

- The inclusion of a **third pathway / scheme** which is performance-based. This will mean three basic schemes:

  1.A basic scheme with prescriptive requirements such as a fixed CONT (5 % trip fuel) – similar to the old regulation.

  2. A basic scheme with variations, for example the use of a fuel ERA (with 3% CONT) or a statistical CONT fuel.

  3. An individual fuel scheme, IFS, for 'mature operators'. This new, performance-based – scheme should be approved by the NAA as being as safe as the other options. EASA has formulated criteria for this assessment in the Acceptable Means of Compliance (AMC) on maturity and capability of operator in fuel planning, flight following and fuel data management and on the capabilities of authorities on oversight (ARO).

- The new regulations are more **in line with ICAO**. Flat weather increments are introduced (as with ETOPS and FAA) for planning minima for alternates and fuel ERAs, for both type A and B approaches which are easier to implement than the former downgrade options. Gusts must be included in the planning phase.

- The fuel management policy for **helicopter operations** is matured and more in line with fixed wing operations.

- The **minimum fuel call** is integrated in the regulations. This includes a requirement for the flight crew that they shall inform ATC in case of minimum fuel.

- **"Hot" fuelling with an engine or rotor running** is better regulated with respect to risk management and training of personnel.

- The inclusion of **non-fuel-based energy**; fuel / energy is replacing fuel to also include electric, hydrogen fuel cell and hybrid energy.

- **New planning minima will apply** – the increments for visibility and ceiling will change for easier application and in line with ICAO; wind gusts must be taken into account.

IMPROVEMENTS

CHANGES THAT MEAN AN IMPROVEMENT AGAINST THE CURRENT FRAMEWORK:

- **SCD fuel is explicitly introduced** and will be specified as discretionary fuel at the sole discretion of the commander. **Extra fuel** will be separately addressed as fuel needed for operational issues, anticipated delays, Minimum Equipment List (MEL) items, which are known beforehand. **Additional fuel** in planning is covering the legal requirements for enroute diversions in case of engine failure or decompression.

- **A safe landing** is now defined which is important for the risk assessment in the fuel schemes. A 'safe landing' means, in the context of the fuel/energy policy or fuel/energy schemes, a landing at an adequate aerodrome or operating site with no less than the final reserve fuel/energy remaining and in compliance with the applicable operational procedures and aerodrome operating minima.

- For the **basic fuel scheme and the fuel scheme with variations**, wind gusts will be included in the planning. Minima will have fixed increments for planning (similarity with Canadian/ETOPS). This makes planning simpler for type A approaches.

- **Flight monitoring, following and flight watch is explained**, as well as the required qualification and oversight of personnel involved. Flight monitoring is required for the basic fuel scheme with variations and for the IFS.

- **Approval and continued oversight of IFS** is based on competency, i.e. on authority inspector's capabilities, operator's capabilities, maintenance reliability of fleet, areas of operation, CNS capabilities, training and experience of personnel, and data collection. These items are noted in the guidance material (GM) as explanation to the rule and should be considered. The operator's requirements for an IFS are defined as "should": safety performance system and monitoring, computerized flight planning, aircraft monitoring, flight monitoring, communication etc. (see AMC 1 CAT.OP.MPA 180, Individual Fuel Scheme).

- **Every fuel scheme** (option 1, 2 or 3) **will be assessed on all three aspects separately** and **together**: planning, alt selection, execution.

- The result is more **overlap with existing ICAO** standards and recommendations.

- **Anticipated track and delays** should be covered in the actual flight plan and in the extra fuel respectively, not in CONT fuel. CONT fuel is designated for unforeseen circumstances.

- A **two-year timeframe is specified** as a proper basis for **statistical fuel consumption**, to be used in a fuel scheme with variation or IFS.

- **Data protection** is touched upon in relation to recording of fuel data/inflight fuel checks: "The operator should establish a procedure for the data to be de-identified to a level that ensures the implementation of a just culture."

- On **GNSS**: the operator should select an aerodrome as a destination **alternate aerodrome** only if an instrument approach procedure that does not rely on a GNSS, is available either at that aerodrome or at the destination aerodrome.

- **Hot fuelling regulations** (fuelling with an engine running) are introduced and address oversight, training of personnel and the inclusion of safety management principles. For both fixed wing and helicopters.

POINTS OF CONCERN

- When considering the safety outcome of a fuel scheme, it is considered safe when the flight finishes safely without fuel emergencies. Proper inflight fuel management may correct **imperfections during planning**. This is not in line with the basic principle that planning should be sufficient in itself and allow for a safe flight.

- **Fuel energy** was introduced to allow for other energy sources. This may raise concerns as electric energy has other properties and may prove to be more dependent on atmospheric circumstance and state of battery.

- Unfortunately, the **guidance for NAAs and inspectors** on how to assess the performance-based fuel scheme of individual operators, is not incorporated in a Certification Specification (CS), which was the original proposal (compare for instance with performance-based navigation, reflected in CS). The regulations are now depicted as a "soft" rule in AMC and the guidance material. This leaves more room to the individual NAA to approve and keep oversight on such a scheme (for all EU States). The GM (ARO.OPS.225) indicate a list of elements to consider. The oversight of a Certification Specification lies solely with EASA with established expertise.

- To assess the safety of the fuel scheme, **authorities and inspectors should be trained and have guidelines**. These are depicted in guidance material (GM), as explanation but could be interpreted as guidance only.

- For the IFS, an example is given to **reduce alternate fuel by leaving out go-around fuel**. A decision point may be introduced in the vicinity of the destination (but not the threshold) from where the alternate fuel is being calculated. This possibility is not supported by ECA as it could compromise safety.

- The **approval of an individual fuel scheme may be rejected or revoked** when the operator has not resolved the relevant findings, or when there are unacceptable open findings. ECA supported a stronger mandate and language.

- In case of a **"Minimum Fuel" call**, the requirements for the captain are clearly defined, but **not for ATC** (as in ICAO PANS-ATM).

- **No-alternate flight planning** is still approved. However, the new definition of a safe landing can prove to be a safeguard against further daily implementation of this option. ECA foresees safety issues on workload and in case of major disruptions when this option is used on a large scale. This existing exemption on the standard rule of having an alternate was meant for the occasional time where the aircraft range was insufficient.

To conclude, the basic fuel scheme with possibly variations may not contain too many surprises and the changes are in line with ICAO. However, for the individual fuel scheme, attention must be paid to the actual safety performance and compliance, as well as to proper oversight by the national authority.

As the person taking final responsibility for the flight – the pilot – should be more aware of and pay attention to the operator requirements, for instance on proper fuel data, fuel management and flight monitoring, to guarantee the same safety margins with less block fuel.

GLOSSARY

Additional Fuel
Amount of fuel that allows the airplane to proceed, in the event of an engine failure or loss of pressurization, from the most critical point along the route to a fuel en route alternate (fuel ERA) aerodrome in the relevant aircraft configuration, hold there for 15 minutes at 1 500 ft (450 m) above the aerodrome elevation in standard conditions, make an approach, and land.

Alternate aerodrome
(take-off, enroute, fuel ERA of destination alternate) – an aerodrome where necessary services and facilities are available, where aircraft performance requirements can be met and is operational at the expected time of use. Normally a flight shall be planned with an alternate aerodrome. ECA states in its Fuel Policy Paper (2017) that planning with no alternate shall be restricted to exceptional circumstances, i.e.that the flight cannot be planned with all traffic load and alternate fuel. In the new rules, the planning minima have been changed to include fixed increments for type A, B and circling approaches.

Contingency fuel / energy
Fuel/energy required to compensate for unforeseen factors that can have an influence on the fuel/energy consumption to the destination aerodrome (so any foreseen circumstance should be included in basic or extra flight plan fuel/energy). Unforeseen factors may differ based on the capabilities of the operator and the applicable fuel scheme.

Contingency fuel (statistical method)
These regulations are not new but have been transferred to the new GM2 CAT.OP.MPA.181 'Basic fuel scheme with variations — contingency fuel statistical method, CAT.OP.MPA.181(c)(3)'. Statistical fuel is different from the performance-based IFS, as it only captures statistical fuel data, which is to be valued by the flight crew, and does not imply a safety assessment. It is essential that pilots understand how statistical contingency fuel works through proper training and background information on the fuel statistics.

Destination Alternate fuel (non-IFS)
The amount of fuel required from the missed approach point at the destination aerodrome until landing at the alternate aerodrome.

Destination Alternate fuel (IFS)
Amount of fuel to cater for a safe flight to the alternate aerodrome (may be based for example on the fuel from the Initial Approach Fix (IAF) to the alternate), derived from a safety assessment.

Discretionary fuel (SCD fuel)
A dedicated quantity to indicate the fuel/energy required at the sole discretion of the Commander. It may not be encouraged or discouraged.

Extra fuel
Fuel for anticipated delays or specific operational constraints (e.g. MEL items).

Flight following
The most basic version of flight services: recording in real time of departure and arrival messages by operational personnel to ensure that a flight is operating and has arrived at the destination or alternate aerodrome.

Flight monitoring
Means in addition: operational monitoring by suitable qualified personnel and requires communication of all available and relevant safety information and assistance in the event of an in-flight emergency or security issue or on request by the flight crew.

Flight watch
In addition, flight watch includes the active tracking of a flight by suitably qualified operational control personnel to ensure that the flight is following its prescribed route, without unplanned deviation, diversion, or delay. Usually done by automatic position reporting (via ACARS).

Flight Operation Officer (FOO)/ flight dispatchers training
A new AMC has been added to the Air OPS rules with a training program for those FOO/flight dispatchers whose tasks and responsibilities include flight monitoring and flight watch. The training requirements are brought in line with ICAO (Doc 10106).

Fuel / Energy
Energy for propulsion, to include the future use of other energy sources for propulsion, such as electric, hybrid and hydrogen.

Fuel/Energy scheme
A fuel/energy scheme combines planning with execution (CAT.OP.MPA.180) for a holistic approach to offer flexibility to the operator and increases the importance of inflight fuel management. A fuel/energy scheme consists of:
» a fuel/energy planning and in-flight re-planning policy;
» an aerodrome selection policy;
» an in-flight fuel/energy management policy.

Individual fuel/energy scheme (IFS)
Allows for variations from the basic fuel schemes for “mature” operators, with an equal or better level of safety, and approved by the competent authority (see IFS approval). The required capabilities for operators are further explained in the new AMC3 CAT.OP.MPA.180. Opportunities are: reduction taxi-out fuel; reduction of alternate fuel, adjustment of contingency fuel calculations.

IFS approval

The individual fuel scheme and any change must be approved by the competent authority. The competent authority must have qualified staff and guidance for oversight (AMC1 ARO.OPS.225) and verify the operator's capabilities, areas of operations, communications and navigation equipment, training, maintenance and fuel data analysis and low-fuel event records.

The competent authority must, in summary:

» verify that the operator has demonstrated the baseline safety performance of the operator's current fuel/energy scheme (acc to GM2 CAT.OP.MPA.180),

» assess the operator's management system and operating capabilities (GM3)

» verify that the proposed IFS achieves an equivalent level of safety,

» and plan an oversight program.

Guidance criteria are introduced to guide the competent authorities when making operational safety risk assessments to support the application of fully performance-based fuel/energy schemes, see AMC2 ARO.OPS.225 (c).

Inflight replanning

In-flight replanning means voluntarily changing the destination aerodrome, any alternate aerodrome, or the remainder of the route after the flight commences (in line with ICAO definition). The modified flight plan should fulfill all requirements of a new flight plan. In case of replanning for other reasons than anticipated (weather, safety, passenger), the in-flight fuel management policy is applicable.

Minimum fuel

This call is now included in the regulations as part of the inflight fuel management procedures for flight crew. The commander shall advise air traffic control (ATC) of a 'minimum fuel/energy' state by declaring 'MINIMUM FUEL' (according to the existing EASA SIB2013-12 and ICAO Doc 9976 Fuel Planning Manual) when the commander has:

» committed to land at a specific aerodrome; and

» calculated that any change to the existing clearance to that aerodrome may result in landing with less than the planned final reserve fuel/energy.

Safe landing

In the context of the fuel policy/fuel schemes, a safe landing means a landing at an adequate aerodrome with no less than the final reserve fuel and in compliance with the applicable operational procedures and aerodrome operating minima. It implies that a landing on an uncontrolled military airport without sufficient RFF is not considered as a safe outcome of a flight.

Planning of flights

A flight should be planned using the most accurate information available, covering the anticipated circumstances, expected route and delay.

EASA
European Union Aviation Safety Agency

Welcome to the EASA Fuel Webinar

July 2022

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

Air Operations – Flight Standard directorate.
Safety promotion – Strategy & Safety managements directorate.
EASA Project management Fuel Regulatory framework

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Agenda

13:30 – 13:40 – **Welcome: John Franklin & Eduard Ciofu (EASA)**
13:40 – 13:50 – **ICAO background**
13:50 – 14:30 –**New Fuel Rules:**

- **Concept of Fuel schemes**
- **Operator capabilities - OCC capabilities – flight monitoring, flight watch – safety relevant information.**
- **Operators capabilities and aircraft capabilities.**

14:30 – 14:45 – **Rules Q&A: Led by EASA.**
14:45 – 15:00 – Break
15:00 – 15:15 – **Implementation Plan at an Airline: Lufthansa Group**
15:15 – 16:00 – **Panel discussion – Experts from the industry**
16:00 – 16:15 – **Safety Promotion Developments and Webinar Closing**

EASA
European Union Aviation Safety Agency

Welcome by HoD
July 2022

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

Eduard CIOFU

Head of department Air OPS & Aerodromes.
Air Operations – Flight Standard directorate.

EASA Webinar on Fuel Management Rules
July 7th, 2022

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Fuel Webinar
July 2022

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

Francisco ARENAS ALVARINO

EASA Project manager Fuel Regulatory framework
Senior OPS Expert and Air CREW expert
Air Operations – Flight Standard directorate.

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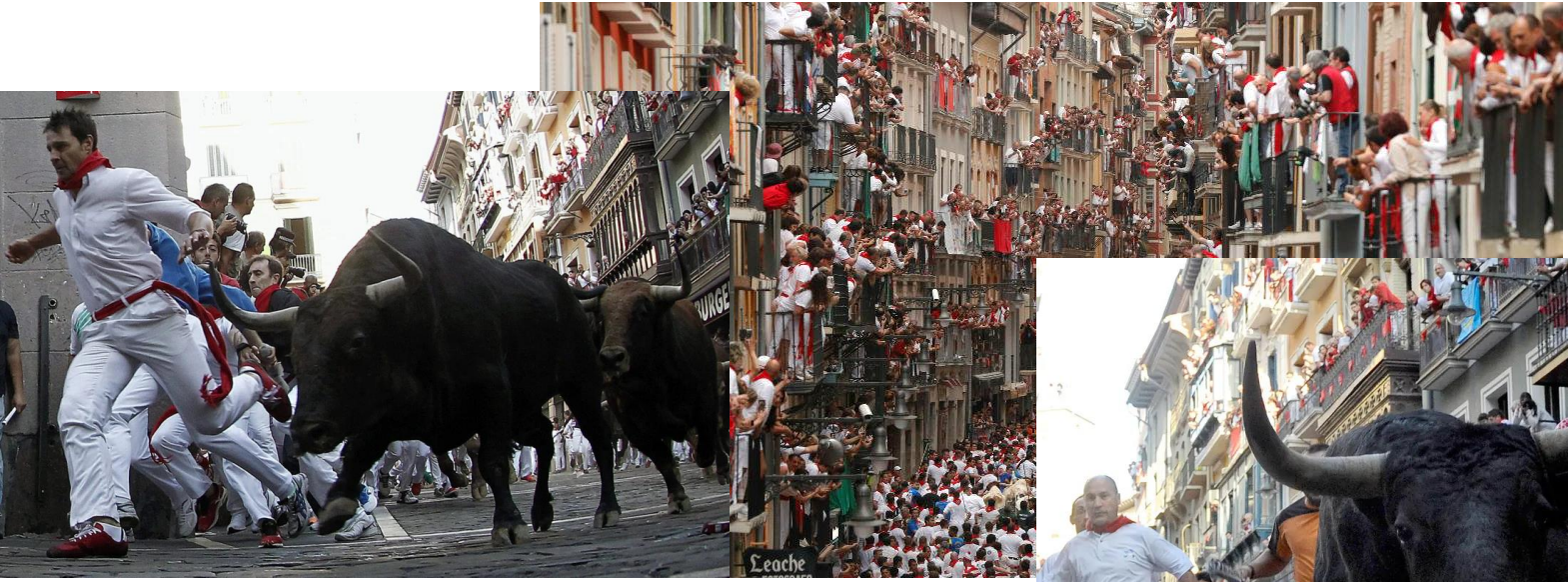
30 October 2022 Implementation date.



7 de Julio San Fermín.

EASA

Implementation support

→ 2nd Webinar 21.09.2022 (13:00 – 16:30) on Fuel – Tentative

- → **13:00 –13:10 – Welcome: John Franklin & Micaela Verissimo (EASA)**
- → **13:10 – 13:30 – Capabilities of the Competent authority. Focus on individual Fuel schemes (it should include a short introduction of the different fuel schemes – basic, basic with variations, individual).**
- → **13:30 – 14:00 – EASA Helicopters Rules and one operator Helicopters.**
- → **14:00 – 14:15 – Rules Q&A: Led by EASA.**
- → **14:15 – 14:30 – Break**
- → **14:30 – 15:00 – Implementation Plan at an Airline: Selection of aerodromes. (alternatively fuel policy). (airline to be determined)**
- → **15:00 – 15:55 – Panel discussion – Experts from the industry: All presenters and Kai Oltmann (LIDO) + Adina Szonyi (EASA)**
- → **15:55 – 16:05 – Latest Safety Promotion Developments and Webinar Closing: John Franklin (EASA)**

Implementation support

→ The New Fuel rules are available in the easy access rules

  → May 2022 Revision 18

  → See more in https://www.easa.europa.eu/document-library/easy-access-rules/easy-access-rules-air-operations-regulation-eu-no-9652012

→ AWO rules - Regulation (EU) 2021/2237 available as well in Rev 18.

→ AWO AMC&GM NOT available until Nov 2022.

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ICAO Background.
July 2022

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

Francisco ARENAS ALVARINO

EASA Project manager Fuel Regulatory framework
Senior OPS Expert and Air CREW expert
Air Operations – Flight Standard directorate.

EASA Webinar on Fuel Management Rules
July 7th, 2022

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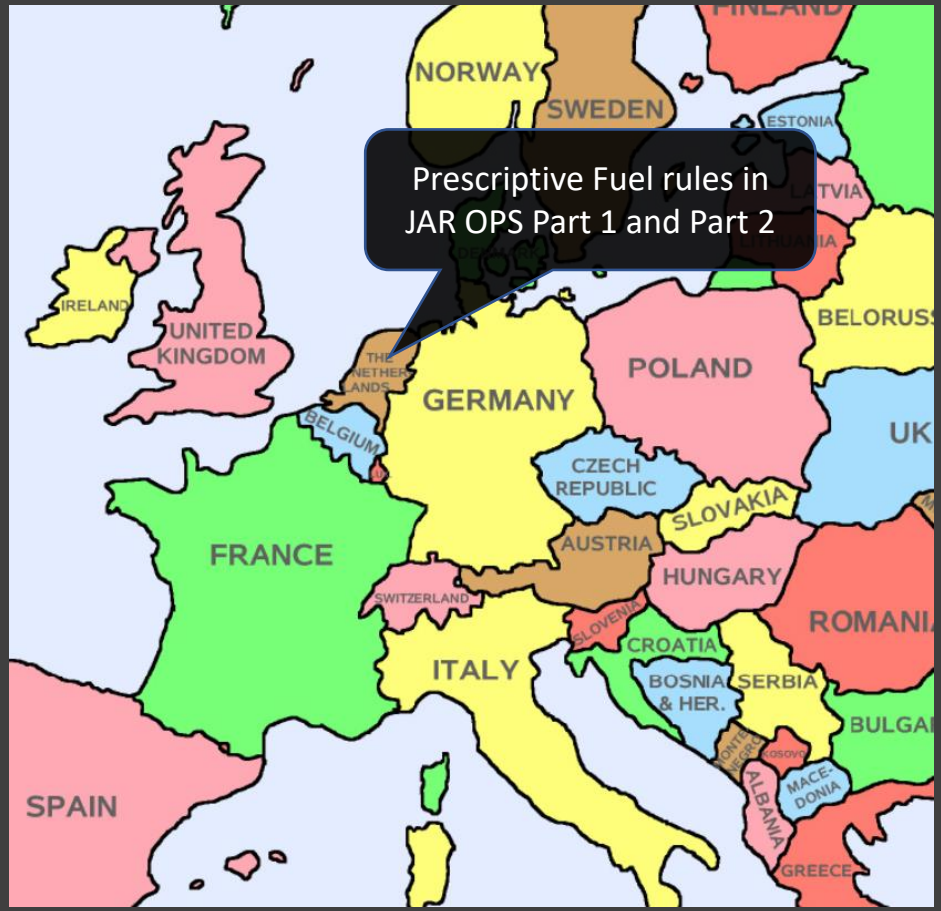
From Hoofddorp to Cologne via …Montreal

Captain Claude Godel

The development of the new European Fuel Policy

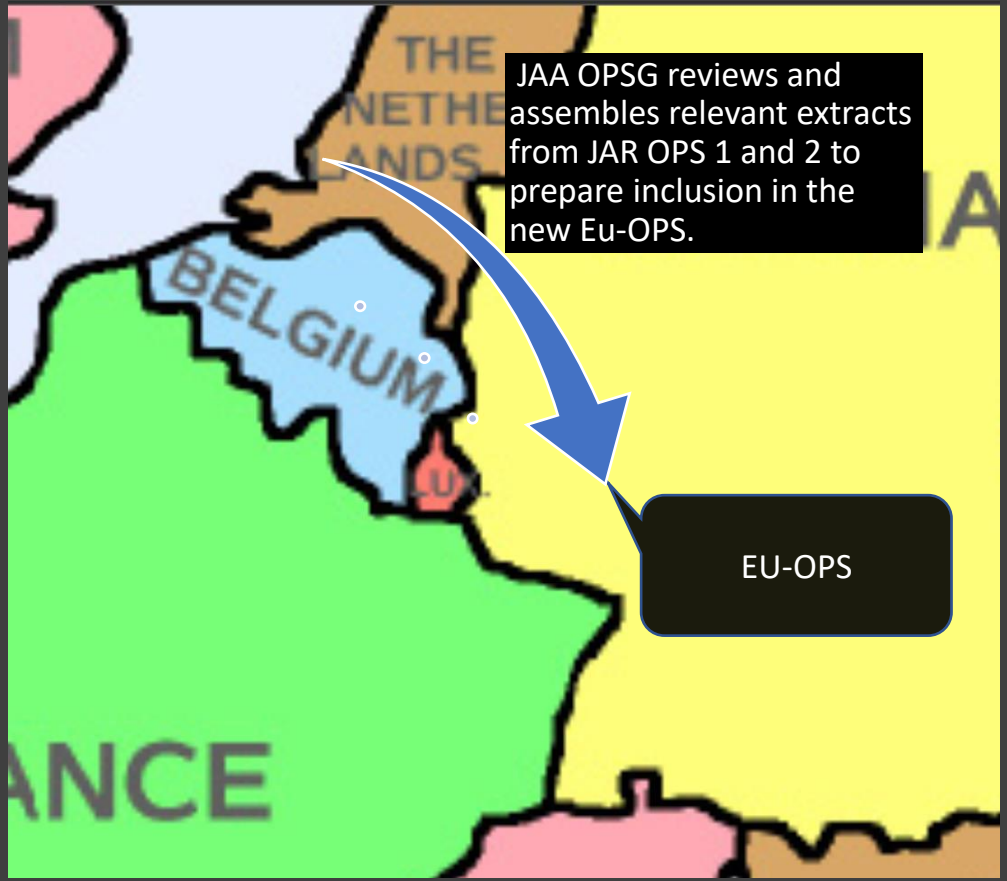
Sometime before 2008

Joint Aviation Authorities, Hoffddorp Netherland



July 2008

EU-OPS, Cologne Germany



2009

IATA, Montréal Canada

IATA, very interested, suggests to use the new EU-OPS Fuel Policy as new

November 2012

ICAO, Montréal Canada

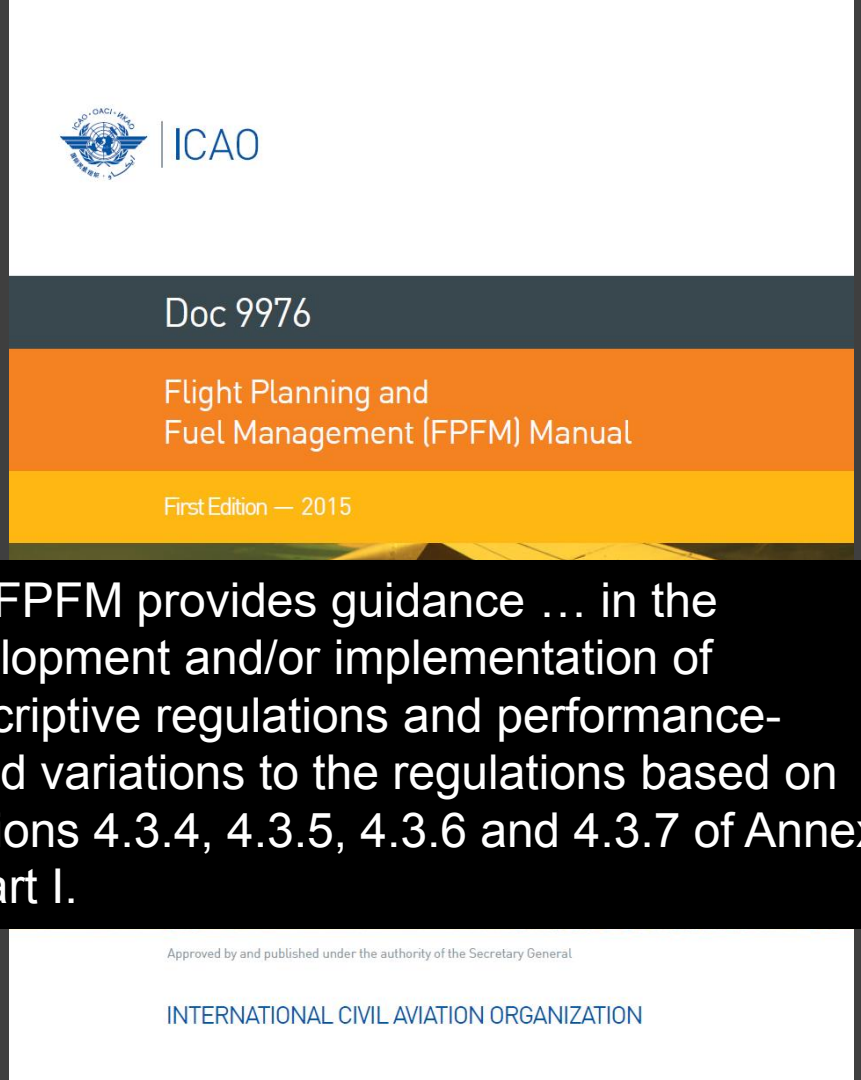
The ICAO FUSG (Authorities + IATA, IFALPA,..) writes new standards allowing performance-based variations.

Old Standards:
Annex 6, Part I, provided very general guidance for alternate aerodrome selection and fuel planning…
Alternate aerodrome selection criteria and contingency fuel requirements were not sufficiently detailed. This lack of detail in Annex 6 may have resulted in the implementation of extremely conservative and prescriptive national policies for flight planning that are not adaptable to a rapidly changing and increasingly complex operating environment.

New standards as per FUSG:
Amendment 36 to Annex 6, Part I, ushered in a new era where operators can improve overall operational efficiency and reduce emissions by implementing national regulations based on globalized prescriptive standards or operational variations from such standards based on an individual operator's ability to achieve target levels of safety performance.

ICAO, Montréal Canada

The new ICAO reference Manual, the FPFM

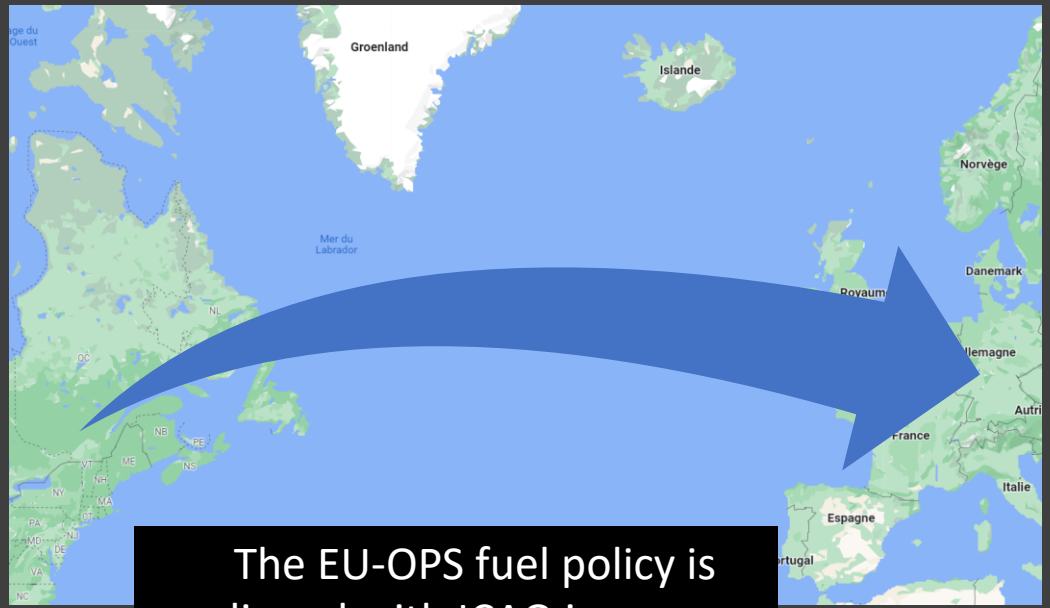


The FPFM provides guidance … in the development and/or implementation of prescriptive regulations and performance-based variations to the regulations based on Sections 4.3.4, 4.3.5, 4.3.6 and 4.3.7 of Annex 6, Part I.

2015

EASA,
Cologne Germany

RMT 573 drafts an ICAO compliant new fuel policy taking advantage of the possibility of performance-based variations.



The EU-OPS fuel policy is aligned with ICAO in a new performance-based version.

2022

EASA,
Cologne Germany

Fuel Webinar

With the approval of
your Authority,
load the
“right fuel quantity”

Thank you

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European Union Aviation Safety Agency

Concept of Fuel schemes
July 2022

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

Francesco GAETANI

Chair Rulemaking group RMT.0573 Fuel Regulatory framework
Head of Aircrew & Medical Department / Chief Pilot
Flight Standard directorate.

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July 7th, 2022

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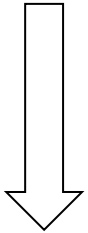
Current fuel rules structure

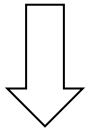
Fuel planning policy



Performance based

Prior approval required

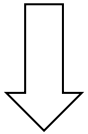
In-flight fuel management policy



Prescriptive

Prior approval not required

Selection of aerodromes & planning policy



Prescriptive

Prior approval required for some parts, however detached from fuel planning

New fuel rules for CAT

Fuel planning / in-flight replanning policy

+

Selection of aerodromes & planning policy

+

In-flight fuel management policy

Safety objective in the IR

+

Means to comply in the AMC

=

Performance-based regulation

Fuel rules for CAT - Performance-based rules

The new rules allow increased efficiency/flexibility in fuel planning, relying on two sets of competencies:

1. **Operator**: organisational and operational capabilities
2. **Authority's inspectors**: understand, monitor, and validate the proposed criteria, particularly "*the relevance and meaningfulness of the operator's SPIs, SPTs, and means by which these SPTs are achieved*"

Fuel rules for CAT – example on Cont Fuel

CAT.OP.MPA.18X series

Basic fuel scheme

Prescriptive: 5% contingency fuel

- No special requirements for the authority
- No special requirements for the operator
- Current situation for most operators

Basic fuel scheme with variations

Variations to basic fuel scheme: 3% contingency fuel

- No special requirements for the authority
- Some requirements for the operator (e.g. ERA, fuel consumption monitoring program required)
- EASA can create new variations in the future

Individual fuel scheme

Can be reduced based on criteria

- Baseline performance (2 years of data on agreed SPIs)
- Safety risk ass. (= or > LoS)
- Continuous reporting with CA
- Available infrastructure in the area of operation
- Organisational control (processes + resources)
- Operational capabilities

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THANK YOU

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Operator Control Capabilities

Flight Following / Flight Monitoring / Flight Watch
Safety Relevant Information

Regulation (EU) 2021/1296 and ED Decision 2022/005/R

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EASA Webinar on Fuel Management Rules
July 7th, 2022

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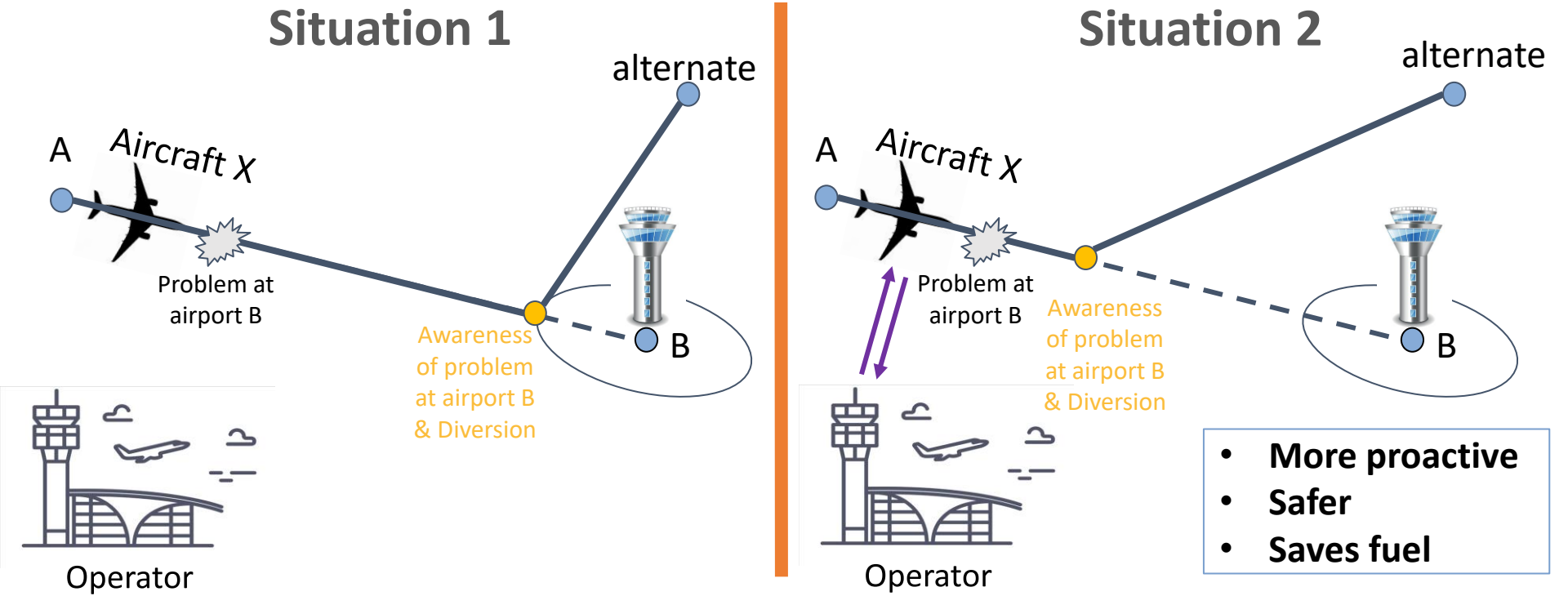
Intent of the new rules



The new regulatory framework encourages Situation 2.
This safety investment can be rewarded through a more efficient fuel policy.

Fuel Schemes vs Operator Control Capabilities

FUEL/ENERGY SCHEME

BASIC

BASIC WITH VARIATIONS

INDIVIDUAL

OPERATOR CONTROL CAPABILITIES

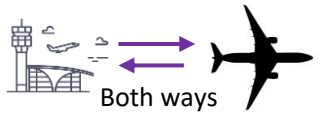
"FLIGHT FOLLOWING"
(minimum advised)

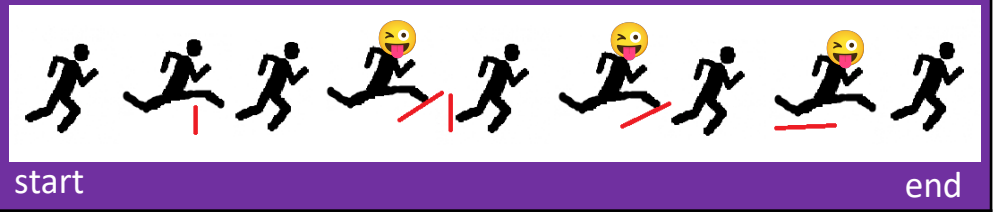
"FLIGHT MONITORING"
(minimum required)

"FLIGHT WATCH"
(recommended)

Regulation (EU) No 965/2012 → CAT.OP.MPA.180
Regulation (EU) No 965/2012 → Annex I Definitions

Flight following / Monitoring / Watch : what properties ?



Capability	Primary communication: the position
FLIGHT FOLLOWING	**Recording in real time** • of departure • of arrival messages ○ at the destination ADR ○ an alternate ADR 
FLIGHT MONITORING	**Operational monitoring** **From departure throughout all phases of the flight** ("taxi, take-off, climb, cruise, cruise steep climb, descent, approach, landing") 
Additional provisions for FLIGHT WATCH	**+ Active tracking of a flight** ⇒ *Exact aircraft position* 

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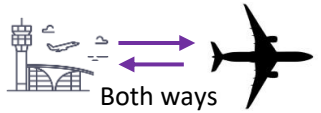

Capability	Additional communications	Operator's personnel involved
FLIGHT FOLLOWING	Not required	**"Operational personnel"** (no formal training required)

FLIGHT MONITORING	• All available and **relevant safety information**
	• **Critical assistance** to the flight crew if
	  ○ in-flight emergency
	  ○ security issue
	  ○ request of the flight crew
	2 independent airborne communication systems for individual fuel scheme
	AMC1 CAT.OP.MPA.180(e)(6)
		"Suitably qualified operational-control personnel"
		(formal training detailed by AMC1 ORO.GEN.110)
		• FOOs (Flight Operations Officers) / FDs (Flight Dispatchers)
		• Training programme (initial + operator-specific + recurrent)
		• Training provided by qualified instructor

<u>Additional</u> provisions for FLIGHT WATCH	The active tracking allows Operator's personnel to ensure that the flight is **following its prescribed route** without unplanned deviations, diversions or delays	*Same qualifications demanded as for flight monitoring*

“Relevant Safety Information”

Applicable to *Flight Monitoring* and *Flight Watch*

is any element that may affect the safety of the flight, such as:

Position Reporting	Aircraft Technical Failure	Unforeseen Hazards	Updates of the operational flight plan when they affect the fuel reserves
		  	

AND other specific risks, based on SMS → Agreement between operator & National Authority

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Operator's capabilities (continue) and Aircraft capabilities

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Basic fuel schemes

Operator capabilities

- → Same capabilities as today. However, the new rules promote:
  - → the use of the fuel consumption monitoring system

Basic fuel schemes with variations

Operator capabilities

- → Similar to today's capabilities.
- → However, the new regulatory framework mandates for some variations:
  - → the use of the fuel consumption monitoring system
  - → Computerised flight plan
  - → Additionally, in one specific variation we require: LVO capabilities in another we required multicrew, etc.

Individual fuel schemes (AMC1 CAT.OP.MPA.180)

Operator

- Stablished a baseline safety performance: at least 2 years of DATA.
- Be able to identify and monitor risks associated to the IFScheme. Report to C.Athority.
- Operational control – OCC capabilities – Flight watch or Flight monitoring.
- Operator capabilities: Computerised flight plan, Fuel CMP, LVO, RNP APCH to VNAV min.
  - collection and continuous monitoring of reliable meteorological, aerodrome, and traffic information;
- Personnel training including flight crew
- Aircraft capabilities :
  - fuel prediction system,
  - two independent communication system.
  - the status of aircraft systems that affect fuel consumption and of ground and aircraft systems that affect landing capabilities

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