OPERATIONS ADVISORY NOTICE (OAN)		tm
		Transport Malta
OAN Number: 03/22 <mark>Rev 1</mark>	Issue Date: 19 August 2022	Civil Aviation Directorate
Subject: Fuel/Energy Scheme Reg EU 2021/1296		Flight Operations Inspectorate Transport Malta Centre Triq Pantar Lija LJA 2021 Malta

1.0 INTRODUCTION

Decision 2022/005/R related to reference scheme and regulation has been published on 25thMarch 2022 and issues amendments to the AMC and GM to Commission Regulation (EU) No 965/2012.

This Decision issues acceptable means of compliance (AMC) and guidance material (GM) to support the implementation of all the amendments introduced by Commission Implementing Regulation (EU) 2021/1296, particularly those regarding the development and oversight of the air operators' fuel schemes. The new AMC and GM on fuel schemes consider the robustness of the operators' management system and are structured around three levels of performance, allowing operators to increase operational efficiency, with both cost-efficiency and environmental benefits.

The revised OAN provides more information and guidance to operators and clarifies the procedure that will be used to have the new fuel/energy schemes and OM approved.

2.0 SUMMARY OF CHANGES

The requirements are performance-based with the intention to improve energy efficiency. They include fuel/energy planning, aerodrome selection and in-flight fuel/energy management.

The fuel/energy scheme is a new concept introduced by the Reg. (EU) 2021/1296 which supersedes the current fuel policy for AOC and NCC. This scheme introduces the concept "energy" to reflect the advances in aircraft engine technology and includes aerodrome selection and in-flight fuel/energy management. It consists of the following three policies.

- 1. Fuel/energy planning and in-flight replanning policy.
- 2. Aerodrome selection policy
- 3. In-flight fuel/energy management policy

Changes to the existing fuel policy and isolated aerodrome procedures require prior approval by TM-CAD.



2.1 TYPE OF FUEL/ENERGY SCHEMES (AEROPLANES)

The fuel/energy scheme for commercial air transport with aeroplanes is divided into three types.

- 1. <u>The basic fuel/energy scheme</u>. This derives from a large-scale analysis of safety and operational data from previous performance and experience of the industry, applying scientific principles. This scheme shall ensure, in this order, a safe, effective, and efficient aircraft operation.
- 2. <u>The basic fuel/energy scheme with variations.</u> This is the above scheme with variations enhancing its efficiency.
- 3. <u>The individual fuel/energy scheme.</u> This is derived from a comparative analysis of the operator's safety and operational data with applied scientific principles. The analysis establishes a scheme with a higher or equivalent level of safety to that of the plan previously approved.

TM-CAD will evaluate compliance of the three policies of the fuel/energy scheme, before granting approval.

- The fuel/energy planning and in-flight replanning policy ensures that the aeroplane has enough fuel for a safe landing.
- The aerodrome selection policy must ensure the availability of an aerodrome where it will be able to land safely.
- The in-flight fuel/energy management policy includes verification of the amount of fuel available for the rest of the flight and how this is managed to accomplish a safe landing.

2.1.1 The basic fuel/energy scheme

This includes all operators that comply with the current Regulation. Operators shall review the concepts defined in each of the policies comprising the scheme to adapt to the text of the new requirements.

> Fuel/energy planning and in-flight replanning policy.

The procedures that outline this policy must be included in the Ops Manual. This must include the procedures when it is necessary to modify the plan during the flight, to calculate the fuel needed to complete the flight safely.

The calculations to determine how much fuel is needed shall be based on the data from a consumption monitoring system, or alternatively from data provided by the manufacturer. If possible, consumption monitoring systems should collect data automatically.

The fuel/energy concepts must outline:

- **Contingency:** the basic scheme includes as contingency fuel/energy 5% of the trip fuel or 5 minutes at holding speed at 1500ft.
- Alternate: check that the description matches the text of AMC1 CAT.OP.MPA.181.
- Additional: check that the description matches the text of AMC1 CAT.OP.MPA.181.



- **Extra:** this definition has changed, with a new concept being introduced. This is fuel/energy to consider anticipated delays or specific operational constraints.
- **Discretionary:** this is a new name for an existing concept. It is fuel/energy carried if required by the commander. This is what was formerly called extra fuel.

The Ops Manual should include the amounts, rounded upwards of trip, contingency, extra and discretionary fuel/energy, and alternate fuel/energy if the latter is used.

Aerodrome selection policy

The aerodrome selection policy in a basic scheme shall address the following (CAT.OP.MPA.182 together with its AMCs and GMs):

- The conditions determining whether an aerodrome is selectable as alternate for take-off or landing; the cases in which flying without an alternate is permitted.
- The mandatory requirement, in all cases, for alternates to be included in the ATS flight plan for instrument flights.
- How weather forecasts should be applied in terms of the use made of the aerodrome.
- What reaching the destination is understood to mean.
- What the safety margins applied with respect to meteorological conditions are, both at the destination and take-off alternate aerodromes.
- What the meteorological minima at destination aerodromes are, in terms of the type of approach made.
- The limitation of the PBN if based on GNSS, or if there are operational credits.
- Confirmation that the aerodrome selected for landing possesses the equipment necessary for instrument approaches.
- > In-flight fuel/energy management policy
- An in-flight fuel/energy management policy compliant with the existing requirements would be compliant with the basic scheme, provided that the fuel policy does not include reduced contingency fuel (RCF) or flights to isolated destinations.
- In the in-flight fuel/energy management policy, the remaining fuel shall be compared with how much the aeroplane should have now, according to pre-flight planning. The policy shall indicate how the flight should be managed to accomplish a safe landing in the event the planning changes.
- The conditions for the rest of the trip, such as delays and meteorological changes at the destination aerodrome, shall be verified to ensure that the flight can be completed without consuming the final reserve.
- Consumption records must be retained and be de-identified to make sure that they are used only for safety purposes. The consumption parameters to be recorded shall be agreed with TM-CAD.
- Procedures must be established for using the "MINIMUM FUEL" and "MAYDAY MAYDAY MAYDAY MAYDAY FUEL" declarations with regards to the consumption of final reserve fuel/energy.

2.1.2 Basic fuel/energy scheme with variations

Starting with the basic scheme and optionally, the following elements can be developed with the variations described in the AMC's and GMs cited for each case.



Fuel/energy planning policy

Operators intending to use the following concepts in their previously approved fuel policy shall be using the basic scheme with variations.

- Statistical calculation for taxi fuel, AMC5 CAT.OP.MPA.181.
- Contingency fuel of 3% of the trip fuel with an en-route alternate (ERA), 20 minutes of calculated consumption, a calculation of statistical contingency fuel (SCF) or reduced contingency fuel (RCF), AMC6 CAT.OP.MPA.181 and AMC7 CAT.OP.MPA.181.

Regarding the SCF, operators must verify that the changes of text in AMC6 CAT.OP.MPA.181 and GM2 CAT.OP.MPA.181 are incorporated.

Aerodrome selection policy

Operators considering any of the following concepts in aerodrome selection will be using the basic scheme with variations:

- Not using alternate aerodrome fuel, AMC7 CAT.OP.MPA.182.
- Flying to an isolated destination, AMC7 CAT.OP.MPA.182.
- Using planning minima with reduced margins, AMC8 CAT.OP.MPA.182 and AMC9 CAT.OP.MPA.182

Please note that isolated aerodromes used as destinations must be approved by TM-CAD.

In-flight fuel/energy management policy

<u>If the approved fuel policy includes RCF procedures or flights to isolated destinations</u>, this would be a basic scheme with variations and regarding in-flight fuel/energy management, the considerations of AMC2 CAT.OP.MPA.185 (a) also shall be ensured.

2.1.3 Individual fuel/energy scheme

For an individual fuel/energy scheme to be approved, the operator must demonstrate that the level of operational safety attained is at least as high as in the previously approved plan.

Operators that intend to apply these types of schemes must establish an operational safety plan with risk control and mitigation, by defining a series of indicators that need to be monitored together with statistical data for a period of at *least two years*, always provided that a significant number of flights are included.

2.2 HELICOPTERS

To grant approval of a fuel/energy scheme for operators of commercial helicopter air transport, TM-CAD will evaluate the fuel/energy planning and in-flight replanning policy, together with the processes to support their implementation.

The fuel/energy scheme must be appropriate to the types of operations performed and correspond to the capability of the operator.



Fuel/energy planning and in-flight replanning policy

The fuel/energy planning policy must ensure that the helicopter has sufficient fuel to complete the planned flight safely. The calculations to determine how much fuel is needed shall be based on statistical data or, alternatively, from data provided by the manufacturer.

The procedure associated to this policy must be included in the Operations Manual. During the period of flight planning, the amount of fuel necessary for different purposes, such as the trip fuel, contingency, final reserve, etc., shall be determined.

The policy shall include the procedures to calculate the fuel necessary for the flight to be completed safely if it is necessary to modify the existing plan.

In the case of helicopters with MCTOM of 3175 kg or less on daytime visual flights or local flights, alleviations are envisaged for calculating the final reserve fuel, in accordance with CAT.OP.MPA.191(e)

In-flight fuel/energy management policy

The in-flight fuel/energy management policy shall indicate how the amount of fuel available for the rest of the flight is calculated.

This data must be compared with how much the helicopter should have at that moment according to the flight planning, as well as how the flight should be managed to land safely in the event the planning changes.

Procedures must be established for using the "MINIMUM FUEL" and "MAYDAY MAYDAY MAYDAY FUEL" declarations regarding the consumption of final reserve fuel/energy.

Selection of aerodromes and operating sites

In the case of helicopters, aerodrome selection <u>does not form part of the fuel/energy scheme</u> and does not require prior approval.

Take-off and landing alternate aerodromes or operating sites must be selected, as determined by the type of flight. The operator must also apply safety margins to allow for possible changes in weather and make sure that the selected aerodrome facilities include those necessary to perform instrument approaches and landings etc.

2.3 SPECIAL REFUELLING OR DEFUELLING

Special refuelling or defuelling may only be performed if a risk assessment has been conducted, procedures for the same have been developed, and a training programme for the personnel who participate in those operations has been established.



2.3.1 Aeroplanes

Outlined below are the types of special refuelling or defuelling for aeroplanes. <u>All of them require</u> prior approval.

In the current requirements, prior approval is only demanded when wide-cut fuel is used.

Refuelling with an engine running

To refuel with an engine running, the conditions set out in AMC1 CAT.OP.MPA.200 must be satisfied, the risk assessment must have been performed and the procedures for all the personnel involved have been developed in the Operations Manual, including training.

This task must be avoided whenever possible. To accomplish this, dispatching conditions should be introduced in the MEL to ensure that aeroplanes with inoperative APU avoid destinations without appropriate supporting ground equipment.

The procedures for refuelling with an engine running must be consistent with those defined by the manufacturer. In case there are no specific procedures for refuelling with an engine running available in the AFM, the operator and the manufacturer may wish to cooperate to establish them.

Refuelling/defuelling with passengers embarking on board, or disembarking

Refuelling or defuelling with aviation gasoline or wide-cut fuel must never be conducted in the presence of passengers. For the remaining fuels, qualified personnel must always oversee the aeroplane to perform an evacuation as rapidly as possible, and the task must be accomplished in accordance with the precautions set out in AMC6 CAT.OP.MPA.200.

Refuelling or defuelling with wide-cut fuel

Using these fuels should be avoided whenever possible.

Refuelling or defuelling wide-cut fuel may only be performed if appropriate procedures have been established which consider the high risk posed using these fuels and observe the indications in GM3 CAT.OP.MPA.200.

2.3.2 Helicopters

Refuelling with rotors turning

For helicopters, this is the only special refuelling or defuelling for which prior approval is required.

To refuel with rotors turning, the risk assessment must have been performed and developed the procedures for all the personnel involved in the Operations Manual, including training.

Refuelling with an engine running or rotors turning shall only take place if the conditions in AMC3 CAT.OP.MPA.200 are met.

The procedures must incorporate the precautions set out in AMC3 CAT.OP.MPA.200, as well as in AMC4 CAT.OP.MPA.200 in the case it takes place with passengers on board.



The risk assessment must always be carried out, including the reasons for which it is not practical to refuel with rotors stopped. The additional risks and how these are to be controlled must be identified. HEMS and HOFO operations are examples in which the benefits offset the risks, always if measures to mitigate the latter are taken.

To perform the risk assessment, at least the mitigation measures indicated in GM2 CAT.OP.MPA.200 must be considered.

> Refuelling/defuelling with passengers embarking or disembarking

In the case of helicopters, refuelling/defuelling in the presence of passengers is not subject to approval.

Refuelling or defuelling with aviation gasoline or wide-cut fuel must never be conducted in the presence of passengers. For the remaining fuels, qualified personnel must always oversee the helicopter to perform an evacuation as rapidly as possible, and the task must be accomplished in accordance with the precautions set out in AMC7 CAT.OP.MPA.200.

Refuelling or defueling with wide-cut fuel

In the case of helicopters, refuelling or defueling with wide-cut fuel is not subject to approval. Using these fuels should be avoided whenever possible.

Refuelling or defueling wide-cut fuel may only be performed if appropriate procedures have been established which consider the high risk posed using these fuels and observe the indications in GM3 CAT.OP.MPA.200.

2.3.3 HEMS approval

Regarding the fuel/energy policy, in cases of HEMS operations under VFR within a local area, in defining the final reserve fuel/energy, SPA.HEMS.150, the term for normal cruising speed is replaced by the best-range speed.

With regard to refuelling with passengers on board, SPA.HEMS.155, reference is made directly to the conditions set out in CAT.OP.MPA.200 which, in AMC7 CAT.OP.MPA.200, states that the general practice shall be to disembark passengers before refuelling or embark passengers after refuelling, except for HEMS missions, where in addition it is stated that the provisions for refuelling with rotors turning in the procedures described in the Operations Manual must be observed.



3.0 OTHER CHANGES

Training for dispatchers

It is the responsibility of the CAT operator to train dispatchers/flight operations officers who do not hold licenses. The training plan is set out in AMC1 ORO.GEN.110(c)&(e) and must be included in the Operations Manual Part D.

> Briefing between dispatchers/flight operations officers

As part of the operator's responsibilities regarding personnel procedures, including ground personnel, ORO.GEN.110(f), when there is a handover of flight surveillance activities, a prior briefing must be given by the outgoing personnel to the incoming personnel, as set out in AMC2 ORO.GEN.110(f) and GM2 ORO.GEN.110(f).

Among the information which must be shared is weather, NOTAMs, operational restrictions, flights in the air and those which have not yet started, the flight schedule, etc.

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4.0 REQUIRED ACTION(S)

The amended AMC and GM shall apply from 30 October 2022. These pose significant changes to both our procedures and operator processes alike and as such operators are requested to start their processes to comply with the above-mentioned regulation.

Operators are required to submit Fuel/Energy Scheme Submission checklist together with all the relative attachments as required. This checklist is available on Centrik / Documents / Ops Documents / Forms.



Submission shall be made through Centrik application portal. From the drop-down selection choose Fuel/Energy Scheme Submission as shown below.

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Transport Malta - Civil Aviation Di	irectorate 1
Application Name	Su
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Submissions shall be made to TM-CAD by not later than 30 September 2022.

Useful Links –

EASA Webinar on Fuel Management Rules

FLIGHT OPERATIONS INSPECTORATE