IFALPA
The Global Voice of Pilots

Position

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Mixed Fleet Flying

POSITION

IFALPA does not support the use of pilots for flight operations which require Cross Crew Qualification (CCQ), Crew Qualification for Operation of one or more Type or Variant (CQOTV), or Mixed Fleet Flying (MFF). These operations present the pilot with variations in flight characteristics, cockpit layout, technology and procedures. Maintaining a high level of pilot competency under these circumstances becomes very challenging and can put an undesirable strain on the margin of safety.

IFALPA recognizes that some operators utilize CCQ/CQOTV/MFF to staff their cockpits. In such cases, specific considerations and restrictions should be applied with regard to training, operation and recency.

Explanation

The demand from the industry to strive for an MFF operation is logistics and cost-driven. Regulations do not prohibit MFF operations, but merely set a number of minimum requirements, specified as acceptable means of compliance, including a safety analysis. In particular, MFF and license endorsement are two separate topics. A single license endorsement shall not eliminate the need for a thorough risk assessment with appropriate mitigations.

IFALPA is more specific in its provisions.

Definitions:

Mixed Fleet Flying is defined as concurrent operations of different aircraft manufacturer, type, variant or modification as specified below.

Manufacturer Level:

Aircraft of different manufacturers have some different design philosophies.

Type Level:

Different types of aircraft flown on either the same Type Rating or a common Type Rating.

An aircraft Type is a specific basic model of aircraft. Developments with major system- and/or design changes or a different minimum flight crew complement according to the Aircraft Flight Manual creates a new aircraft type.

Common type Rating: A number of aircraft, approved by the governing authority, to fly after completion of a (shortened) type rating course. e.g. A330 – A340, B777 -B787, A-330 – A350.

Variant Level:

Aircraft with different equipment installation or minor system- and/or design modifications to the basic design create variants of the same type. This includes non glass cockpit and glass cockpit within the same type.

Variants of one type show differences in flight and handling characteristics, and/or require different or additional flight crew knowledge, skills, and/or abilities.

License endorsement: e.g. A318, A319, A320 and A321 and B737-700, -800, -900 or ATR 200, 300, 500 and 600 (example of glass and non-glass variants)

Modification Level:
The same aircraft in one fleet but having different standards of modification.

Note: Variants or common types may be categorized differently by the licensing authority and may refer to type or mark level.

Mixed Fleet Flying can only be safely conducted if the following conditions are met:

Explicit consent of the regulatory authority.
This may seem obvious, but it is possible that future legislation (e.g. EASA) allows this choice to be left entirely to the operator. Since this assessment is critical in a complex operation, verification and approval shall be the responsibility of the regulatory authority. The regulator and operator shall ensure adequate supervision during MFF operations.

Execute a risk analysis.
A risk analysis shall not only be conducted by the operator but also by the regulatory authorities. It must be demonstrated that the additional risk of Mixed Fleet Flying is acceptable. For a proper safety assessment, it is important that potential hazards are identified and risks are quantified, weighed and monitored in an unbiased way. This analysis together with the definition of an acceptable risk level forms the basis for responsible MFF operations. Differences in cockpit design, procedures and flight characteristics on one hand and complexity of operation, experience level of pilots, training, recency and daily operational variation on the other hand must be considered.

A representative risk model.
Such a model provides insight into the relevant risk factors. When a risk threshold is exceeded, effective mitigation is needed. Elements in this risk model that must be taken into account are at minimum: exposure ratio, fatigue, crew composition, complexity of operation and the destination airport category. This risk model shall constantly be maintained, monitored and applied. Experiences from practice and training shall be considered, as well, to analyse and mitigate the risks.

Monitor risk analysis.
Continuously, the risk must indicate to be at or below the acceptable level. This requires a careful, continuous and deliberate independent risk analysis, not only before but also during the operation. It should be clear that the operator is responsible for the weighing and balancing of the additional risk.

Related aircraft types.
The different types have strong similarities in design and operation. These types and variations are regarded as “related aircraft” in certification and are eligible for a “Common” type rating.

Note: a “reference aircraft” may be established if deemed necessary.

Manuals / Training / Procedures.
The manuals and procedures shall be adjusted to enable safe MFF operation. The pilot shall receive sufficient

additional training on both types or variants to clearly indicate operational and technical differences. The manuals and procedures shall be aligned as much as possible. When flying a mix of different types/variants, the training and checks shall be completely separated.

Based on experience. Flight experience is of importance for the safe implementation of MFF.
The pilot shall have a minimum level of experience on type (minimum 12 months and 500 hours of flight) in the relevant crew position as commander or co-pilot, before being assigned to operate on more than one type or variant.

Minimum number of sectors / hours after conversion. Research shows that a period of consolidation is important during which the pilot is only assigned to the new type/variant. After the initial line check on the new type 50 hours or 20 route sectors shall be flown exclusively on the new type.

Recency. The principle is that only the legal minimum of three take-offs and landings every 90 days in a mixed fleet operation provides insufficient currency and exposure. For the purpose of recency of the pilot, the possible types/variants shall be flown in a proportionate ratio in take-offs and landings. A minimum of 1 take-off and landing on each type/variant every 90 days shall be achieved.

Limitations regarding crew rostering. It shall be avoided that two pilots with minimal experience on the aircraft type/variant are scheduled together.

No two types in a duty period. Changing type (not variants) is only allowed after a statutory minimum rest together with adequate preparation time. This is to prevent that in one and the same duty period the two types are flown by the same pilots. The crew shall always be given the opportunity to prepare themselves adequately for the other type. This also implies that the minimum rest shall be complemented by sufficient (study) time to prepare for the other type.

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