



Proposal for executive approval, 19 July Brisbane executive meeting

The AFAP S&T proposes that executive agree at the 19 July Brisbane meeting that flight duty period (FDP) extensions should only be used for genuinely unforeseen operational circumstances (UOC), arising after sign-on, in the interests of crew safety and regulatory compliance.

Included in this proposal:

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| Proposed resolution and accompanying position statement | Page 2 |
| Background to resolution | Pages 3-7 |
| Attachments – | |
| (A) CASA letter in response to an Operators UOC/FDP questions. | Pages 8-10 |
| (B) CASA Freedom of information (FOI) UOC regulatory responses. | Pages 11-20 |

The AFAP recommends that a pilot does not extend their FDP unless they genuinely consider a delay unforeseen, the extension may then occur with fatigue/extension reports required for the SMS/FRMS.



The AFAP executive resolved at the 19 July Brisbane executive meeting that flight duty period (FDP) extensions should only be used for genuinely unforeseen operational circumstances (UOC), arising after sign-on, in the interests of crew safety and regulatory compliance. With CASA's clarification and guidance on defining UOCs, operators should develop appropriate policies minimizing reliance on extensions. While flexibility is important, routine reliance on extensions contradicts regulatory intent and raises fatigue risks.

Key points:

- Local and international regulations define "unforeseen" as events happening after FDP commencement, implying foreseeable delays cannot qualify for extensions
- Guidelines recommend building buffers into schedules and augmenting crews to minimize reliance on extensions
- CASA guidance states extensions should occur in under 5% of identified duties and policies must be reviewed if higher. This implies extensions should remain exceptional.
- Foreseeable delays that necessitate an extension after take-off would likely breach regulations. Crews must ensure they remain fit to fly the full FDP safely
- Proactive fatigue management strategies like clear guidance, data analysis and crew involvement can help ensure extensions remain truly unforeseen

Crew representatives on flight safety action groups, or equivalent, can help facilitate good data collection, analysis and crew participation in fatigue management

The AFAP recommends that a pilot does not extend their FDP unless they genuinely consider a delay unforeseen, the extension may then occur with fatigue/extension reports required for the SMS/FRMS.

Background to the use of UOC:

Foreseen or Unforeseen? Clarifying 'Unforeseen Circumstances' Allowing FDP Extensions, when Should it Be Allowed?

Pilot members have asked the AFAP when it is appropriate to extend flight duty periods (FDPs) under rules allowing for unforeseen operational circumstances (UOC's). While regulations permit extensions in some situations, they are meant to remain exceptional. International guidelines aim to minimize reliance on extensions by scheduling sufficient buffers and crew augmentation. Operators must carefully monitor extension rates and amend policies if needed to ensure crew safety.

Most international regulations define unforeseen circumstances as delays that occur after the FDP has commenced - implying that foreseeable delays do not qualify. ICAO recommends operators build "buffer periods" into schedules rather than rely on extensions for foreseeable delays. EASA and the FAA also discourage routine use of extensions, restricting them to truly unforeseen circumstances.

Australian regulations are aligned with this intent. CAO 48.1 defines unforeseen circumstances as events becoming evident after FDP commencement. CAAP 48.01 states extensions should occur in under 5% of duties and not routinely, implying foreseeable delays should be factored into schedules. The CAAP also recommends hazard identification to predict likely disruptions.

While CASA does not require adding forecast delays to schedules, international guidelines recommend sufficient buffers and crew augmentation to minimize reliance on extensions. Monitoring extension rates and amending policies based on data analysis can ensure adherence to the 5% guidance.

Extending an FDP due to a foreseeable delay, even after take-off, would likely breach regulations. In such cases, operators must assess if the assigned FDP can still be completed safely. If not, the last sector may need to be cancelled or diverted.

At all times, flight crew members must ensure they are fit to fly. Excessive fatigue raises safety risks and legal non-compliance. Operators must balance operational flexibility with proper fatigue management.

Ultimately, to promote a culture of compliance, operators should provide clear guidance to crews on using extensions exceptionally. Engaging pilot representatives in developing and reviewing policies helps ensure practical and effective fatigue mitigation. A data driven FRMS can identify "hot spots" requiring adjustments to minimize extension risks.

Together, these strategies can help ensure extensions remain truly unforeseen and crews operate flights safely throughout their assigned duty periods. Contact the AFAP Safety and Technical department and your flight safety action group representatives for further assistance.

Background and examples:

The FAA limits extensions to:

- Only truly unforeseen circumstances
- Prohibits exceeding total FDP limits
- “Unforeseen” means beyond operator control, implying foreseeable delays do not qualify

ICAO recommends operators implement buffer periods into rosters instead of relying on extensions for foreseeable delays. EASA recommends performance indicators identify fatigue risks from FDP changes post sign-on. Targeted monitoring should highlight problem pairings/routes.

While available, CASA guidance lacks specifics on:

- when unforeseen should actually be assessed, e.g. at sign on
- on predicted weather/air traffic holding being factored into FDP calculations
- on whether full predicted holding times must be accounted for, this should also extend to the widespread use of TIBA
- on weather conditions that often produce unpredicted phenomena i.e. seasonal
- on crews departing knowing an extension is needed to complete duties

CAAP 48.01 guidance on FDP extensions:

- Should occur in under 5% of similar duty periods
- Should not occur routinely
- Hazard identification can predict likely disruptions requiring extensions.
- Reviews are required if rates exceed 5%.

Some Australian operators proactively minimize extensions, others selectively implement rules or maintain the "status quo".

While one Operator cites only needing rates under 5%, disregarding forecasts, that Operator would need revised policies if rates exceeded guidance. However:

- Foreseeable delays after departure could disrupt operations if final sectors cannot operate normally.
- If a foreseeable delay after take-off necessitates an extension, it would breach regulations by both the Operator and the pilot.

Routine reliance on extensions contradicts the regulatory intent. An Operators FRMS should identify problem pairings/routes with targeted monitoring.

Schedules including buffers and crew augmentation can minimize reliance on extensions. Though not requiring forecast consideration, an Operator should monitor rates and revise policies to ensure extensions remain exceptional and fatigue managed properly.

After the AFAP ran a fatigue summit last November, we proposed an industry working group with CASA and operators to ensure consistent FRMS application. CASA ultimately regulates CAO 48.1 and must clarify FRMS rules in writing. Until then, members must rely on CASA guidance like CAAP 48-01 v3.2, clause 4.5.7. Extensions due to unforeseen operational circumstances.

In order to gauge CASA's perspective in 'unforeseen circumstances', the AFAP submitted a Freedom of Information Application for correspondence regarding this issue. The FOI application returned X documents which confirm our position is consistent with CASA's regulatory guidance. We have attached the released documents to this update to enhance members understanding.

Here are some examples of unforeseen circumstances that could allow for an FDP extension:

- Unforecast severe weather that causes significant delays, such as thunderstorms forming unexpectedly after sign-on. This delays departure, cruising or arrival beyond what was planned for and factored into the scheduled FDP
- Equipment malfunctions that arise after sign-on and require unplanned maintenance, disproportionately extending transit or turnaround times beyond standard allowances
- Air traffic control delays that occur after sign-on due to unplanned issues like staffing shortages, system outages or other emergency situations. These cause holding patterns or rerouting that adds significant, unplanned time onto the FDP. The recent AFAP survey on undocumented airborne delays reinforces a strong argument that the likelihood of ATC holding, as promulgated by notam/ERSA ,will be as long or longer is very high at the moment
- Medical emergencies with crew or passengers that arise after sign-on and require diversions, unscheduled stops or return to the gate. These extend ground times beyond normal procedures
- Security alerts or threats that cause airports or airspace to close after sign-on, requiring deviations from the planned flight plan and extended transit
- Other unexpected operational issues that arise after sign-on, like bird strikes, cabin pressurization problems, cabin fire alarms, etc. which delay departure or extend in-flight times beyond normal allowances

The key is that for an extension to be allowed, the delaying event or circumstance must genuinely be unforeseen and arise after sign-on, not being reasonably predictable or factored into scheduled FDPs beforehand. These examples illustrate the types of

unexpected events after sign-on that could qualify as unforeseen circumstances permitting an FDP extension, as long as the crew is still fit to fly.

There are several potential consequences of exceeding FDP limits:

- Safety risks - Extended FDPs beyond recommended limits increase fatigue risks for crews. This can impair their performance and potentially jeopardize flight safety if crews make errors due to excessive fatigue.
- Legal and regulatory non-compliance - Exceeding FDP limits without a valid reason constitutes a breach of regulations like CAO 48.1. This could result in enforcement action from the regulator (CASA) against the operator and individuals involved.
- Financial penalties - CASA has the power to impose substantial financial penalties on operators and individuals found to be breaching FDP limits. This could run into the hundreds of thousands of dollars for serious or repeat offenses.
- Reputational damage - Exceeding FDP limits and fatigue management failures could generate negative publicity for the operator. This could damage the company's reputation and brand in the eyes of customers, the public and regulators.
- Increased insurance costs - Insurance companies may raise premiums or decline claims for operators with a history of exceeding FDP limits, due to the perceived higher safety risks involved.
- Loss of operational approvals - In serious or multiple cases of non-compliance, CASA has the power to suspend or revoke an operator's Air Operator's Certificate (AOC) or other approvals e.g an FRMS approval. This could essentially ground the operator until issues are rectified.
- Industry blacklisting - For the most severe cases of widespread FDP limit exceedances and fatigue management failures, an operator could be blacklisted by industry groups and face restrictions from business partners like airports and alliances. This has happened in the past with certain Asian operators being banned from operating in EASA or FAA airspace.
- Individual licensing action - Licenses for individuals found to be repeatedly exceeding FDP limits through willful or gross negligence could potentially face suspension or revocation by CASA.

So as you can see, the consequences of regularly exceeding FDP limits - from both a regulatory non-compliance and safety perspective - are significant for operators, individuals and the broader industry. Hence the importance of only permitting extensions for genuine unforeseen circumstances as defined by the relevant regulations and guidelines.

Here are some ways operators can help prevent FDP limit exceedances:

- Provide clear and explicit guidance to crew on FDP limits and the rules for extensions due to unforeseen circumstances. Clarify exactly what counts as unforeseen and ensure crew understand they cannot push FDPs to the limit on a regular basis.
- Build sufficient buffers into scheduled FDPs to account for reasonable and foreseeable delay contingencies. This reduces reliance on extensions for delays that should have been anticipated.
- Monitor FDP extension rates and identify 'problem' pairings or routes with high exceedance rates. Amend policies, rosters or operations as needed to reduce extension risks in these areas.
- Use data analysis through an SMS or FRMS to identify fatigue risks from FDP changes after sign-on. Implement targeted monitoring for 'hot spots' and potential improvements.
- Consider crew augmentation for longer patterns and flights where delays are more likely or impactful. The extra crew members allow for more flexibility to avoid extensions.
- Provide fatigue management and CRM/NTS training to raise crew awareness of fatigue risks from extended FDPs and how to identify their own fitness to fly. This helps crews make better go/no-go decisions.
- Ensure a 'just culture' (now termed “positive safety culture”) environment where crew feel comfortable reporting safety issues and fatigue without fear of punishment. This improves the quality of data available to manage fatigue risks.
- Engage with pilot representatives and involve them in developing and reviewing fatigue policies. Incorporating pilot input helps ensure policies are practical, effective and safely implemented.
- Conduct periodic reviews of FDP limit exceedance reports, investigations and safety cases to identify systemic issues that require policy changes or operational adjustments.
- Ensure that a Fatigue Risk Management System (FRMS) provides a systemic and data-driven approach to managing fatigue risks. This allows tailored fatigue mitigations based on actual operations.

With a combination of these proactive strategies, operators can better promote a culture of compliance with FDP limits and help ensure extensions only occur for genuine unforeseen circumstances.

Contact AFAP staff or your FSAG representatives for assistance if you have any further questions.

Attachment A: Letter excerpts from CASA letter in response to an Operators UOC/FDP questions:

(Other examples from freedom of information documents are attached.)

Re: Unforeseen Operational Circumstances and the use of Flight Crew Discretion

You wrote to CASA on 4 April 2023 posing two questions seeking CASA policy position on FDP extension regulatory requirements and their application during operations.

The CASA responses as follows:

QUESTION 1: Whether a crew member may depart on the final sector of their FDP knowing they will enter into discretion (assuming the pilot in command is satisfied that each flight crew member considers themselves fit for the extension)?

ANSWER 1: Section 4.5.7 of the CAAP 48-01 - Fatigue management for flight crew members refers to extensions due to unforeseen operational circumstances. The intention behind the use of the term 'unforeseen circumstances', that includes the impact of weather patterns, is to prevent operators continually rostering flight and duty times to their maximum limits and regularly relying on extensions to achieve their operational goals.

Consequently, CAAP 48-01 states; 'Extensions should only occur under 5% of any sample of similar flight duty period (FDP) or similar operations'. Therefore, if the operator experiences extensions greater than 5% of the sample the operator should consider revising their practices. Extensions beyond FDP limits should not be made on a regular basis.

Section 6 of the Civil Aviation Order 48.1 (CAO 48.1) defines an unforeseen operational circumstance, as a "means an unplanned exceptional event that becomes evident after the commencement of the FDP, such as unforecast weather, equipment malfunction, or air traffic delay."

For all operations, a circumstance is only unforeseen if it occurs after the FDP has commenced. - see definition

- If an unforeseen circumstance occurs after the FDP commencement, then an FDP can be extended but all other limitations must be respected.
- If an unforeseen circumstance occurs after the take-off of the final sector, an FDP can be extended, and other limitations may be breached (Appendix 2 subsection 7.7 of CAO 48.1).

If a traffic or weather condition existed that could affect the crew's ability to complete the final sector within the allotted duty period, and this event was forecast prior to the FDP the intent is for the extension not to be utilised.

In addition to the above, at all times the FCM must ensure that they are fit to fly as per regulation

91.520 of the CASR and do not operate the aircraft in a manner that creates a hazard refer regulation 91.055 of the CASR.

QUESTION 2: Whether traffic and weather holding are to be added to the scheduled block time for the purposes of assessing whether crew are likely to extend beyond the maximum permissible flight duty period?

ANSWER 2: Forecast weather and ATC delays need not be added to the scheduled block time - because these may or may not occur and any delays may not be as extensive as forecast (experiencing 60 minutes of holding at four ports in one FDP is considered operationally unlikely) however there is a commercial risk that the assigned FDP and sectors will not be able to be completed as planned.

Section 4.3.4 of CAAP 48-01 notes that rosters should be designed to cater for reasonably foreseeable delays such as taxi requirements, holding requirements without the need for operational extensions. Thusly, many operators plan to complete an FCMs FDP at a time sooner the maximum FDP sign-off time as a buffer for typical or known delay inducing circumstances. Operators who do not roster in this manner run a risk that the FDP tasking will not be able to be completed as assigned.

This does not necessarily equate to adding weather and traffic holding to scheduled block times.

The utilising of the extension function by the FCM allows a mechanism to achieve a desirable operational outcome in the instance of unforeseen operational circumstances. If the condition was forecast BEFORE the time the FDP commences, it would not be 'unforeseen'.

SCENARIOS

The operational application of the rules regarding extensions is perhaps best illustrated by some hypothetical scenarios:

An FCM is assigned an FDP, in a two-pilot operation, with a sign-on at 0530 and four sectors resulting in a maximum rostered FDP for 10.5 hours - if operating under the limits of CAO

48.1 Appendix 2. FDP limits may differ when operating to another appendix or in accordance with an approved FRMS.

SCENARIO 1

At sign-on the weather forecast included the carriage of 60 minutes holding fuel due to forecast TEMPO conditions at each of the ports. Since the TEMPO conditions are forecasted, they are not unforeseen in which case the FDP cannot be extended.

As the forecast actual holding at each port may, or may not occur, the FDP and flight sectors can commence as normal. If some amount of holding time does occur, then the operator and FCM must assess whether the four sectors can be completed within the assigned FDP

period. If the four sectors cannot be completed within the assigned FDP an extension is not available to the FCM or operator.

SCENARIO 2

At sign-on there is no forecast weather holding or NOTAM of ATC holding. If after sign-on (that is, the FDP has commenced) weather or ATC delay or equipment malfunction occurs (unforeseen at sign-on) then an FDP extension is available within the extension limits of either the CAO 48.1 Appendices or approved FRMS.

In this scenario, the FCM can depart on the final sector of an FDP knowing that they will be exercising the extension provisions of either the relevant CAO 48.1 Appendix or approved FRMS.

Please do not hesitate to contact me for any further information.

Yours sincerely,

Manager, Human Performance Team,

Civil Aviation Safety Authority

Phengrasmy, Keeley

From: Regulatory Guidance
Sent: Thursday, 14 April 2022 3:11 PM
To: s 22
Subject: CASE ENQ-22-137106 - Response to Guidance Query - Extending duty period[SEC=OFFICIAL]
 CRM:000549000988

Dear s 22,

The CASA Guidance Delivery Centre has been experiencing a very high volume of enquiries and as a result enquiry processing times have been significantly longer than usual. Please find the response to your query below:

Question: Work rules enquiry. When extending a duty period beyond the roster limits due to disruption and prior to departure. Are the requirements of traffic/weather holding to be included and added to the flight time to determine the potential length of the extension. Where can I find this reference.

Answer: The Flight and Duty limits published in [Civil Aviation Order \(CAO\) 48.1](#) include provisions for extension of flight duty periods (FDP) due to disruption. You will find the information in the relevant appendix of CAO 48.1 used by your company and also in the company operations manual, which may impose further requirements.

Using Appendix 3 of CAO 48.1 as an example, paragraph 5.7 (b) allows for exceeding an FDP or flight time limit due to unforeseen operational circumstances after take-off. It follows that any *foreseen* operational circumstances such as the weather or traffic holding you refer to should be taken into account *before take-off* to determine the worst-case sector length for the purposes of any FDP and flight time extension authorised under the same appendix.

In all decisions, [regulation 91.215 of the Civil Aviation Safety Regulations 1998 \(CASR\)](#) reminds that the pilot in command of an aircraft is responsible for the conduct and safety of members of the crew on the aircraft and, therefore, has a discretion not to permit an extension to occur even if otherwise permissible under this CAO. Section 4.5.7 of [CAAP 48-01](#) has some more general information.

This guidance is current and accurate at the time of receiving this notification, and is subject to change over time at the discretion of the policy holder which may impact the accuracy of this information.

If you require further clarification relating to this matter, please reply to this email and quote the reference number CASE ENQ-22-137106.

Best regards,
 Guidance Delivery Centre

CASA\Aviation Group
 e: regguidance@casa.gov.au
www.casa.gov.au

We welcome any improvement feedback addressed to guidance.feedback@casa.gov.au

----- Original Message -----

From: <project-name.noreply@govcms.gov.au>;
Received: Thu Mar 03 2022 13:55:06 GMT+1100 (Australian Eastern Daylight Time)
To: Guidance <regguidance@casa.gov.au>; Guidance Delivery Queue <regguidance@casa.gov.au>;
Subject: Webform submission from: Flight operations rules enquiries > Page components - 21678

| | | |
|------------|-------|------------------|
| First Name | s 22 | SingleLineOfText |
| Last Name | s 22 | SingleLineOfText |
| casa_arn | | SingleLineOfText |
| Email | s 47F | SingleLineOfText |
| Phone | | SingleLineOfText |

Phengrasmy, Keeley

From: Regulatory Guidance
Sent: Friday, 26 May 2023 4:11 PM
To: s 22
Subject: CASE ENQ-22-153668 - Response to Guidance Query - Unforeseen operational circumstances [SEC=OFFICIAL] CRM:000247001583

Dear s 22

This response was scheduled to be sent on the 18 November 2022. A system error was discovered and the response below is being sent today as a precaution in case it was not received. The Guidance Delivery Centre apologises for any inconvenience this may have caused.

Please find the response to your query below:

Question: CAAP 48-01 v3.2 4.5.7 references weather patterns to be utilised to foresee potential disruptions or delays. Airnorth mainly operates along the northern parts of Australia with the wet season producing TEMPO or INTER requirements in weather forecasts (TAF).

It is our understanding as an operator that these requirements should not be used when assessing the need for an extension prior to or during the last planned sector.

Example: -

Sign on 07:30, depart 08:30, 4 sectors = allowable duty 12.5 hours

last flight lands 19:10, Sign off 19:25. allowable end time 20:00

If the weather forecast (TAF) has a TEMPO appended for the arrival time for the last flight, this is a flight fuel planning requirement, and should not be used by the crew to assume that they need to make a decision to extend the duty past the allowable end time of 20:00 because of a TEMPO referring to the requirement to carry 60 minutes of holding fuel?

Request CASA's guidance and thoughts on this and the definition of "Weather patterns" as mentioned in the CAAP

Answer: Section 4.5.7 of the [CAAP 48.1](#) refers to extensions due to unforeseen operational circumstances. The intention behind the use of the term 'unforeseen circumstances' that include weather patterns is to prevent operators continually rostering flight and duty times to their maximum limits and regularly relying on extensions to achieve their operational goals.

CASA acknowledges the operational environment being discussed. In the case of the above scenario ("Wet Season" in Northern Australia).

Chapter 6 of the [Civil Aviation Order 48.1](#) (CAO) offers a definition of unforeseen operational circumstance, "*means an unplanned exceptional event that becomes evident after the commencement of the FDP, such as unforecast weather, equipment malfunction, or air traffic delay.*"

For Appendix 2 operations, a circumstance is only unforeseen if it occurs after the FDP has commenced. - see definition

- If an unforeseen circumstance occurs after the FDP commencement, then an FDP can be extended but all other limitations must be respected.
- If an unforeseen circumstance occurs after the commencement of the final sector, an FDP can be extended and other limitations may be breached (Appendix 2 sub-clause 7.7 of CAO 48.1).

If a TEMP (WX) condition existed that could affect the crew's ability to complete the final sector with-in the allotted duty period, and this weather event was forecast prior to the FDP the intent is for the extension **not** to be utilised.

In the same way that a TEMPO would attract a fuel penalty, the operational planning would also have to consider the associated time penalty for the purposes of Flight and Duty considerations. Rostering practices should take this into account with the rostered duty. Section 4.3.4 of the CAAP notes that rosters should be designed to cater for reasonably foreseeable delays such taxi requirements, holding requirements without the need for operational

extensions.

The utilising of the extension function by the FCM allows a mechanism to achieve a desirable operational outcome in the instance of unforeseen operational circumstances. If the TEMPO was forecast BEFORE the Flight Duty Period, it would not be 'unforeseen'.

Note: Extensions should only occur under 5% of any sample of similar flight duty period (FDP). If the operator experiences extensions greater than 5% of the sample the operator should consider revising their practices. Extensions beyond FDP limits should not be made on a regular basis.

This guidance is current and accurate at the time of receiving this notification, and is subject to change over time at the discretion of the policy holder which may impact the accuracy of this information.

If you require further clarification relating to this matter, please reply to this email.

Best regards,

Guidance Delivery Centre

CASA\Guidance, Transformation & Safety Systems

e: regguidance@casa.gov.au

www.casa.gov.au

----- Original Message -----

From: Civil Aviation Safety Authority <project-name.noreply@govcms.gov.au>;

Received: Thu Oct 27 2022 16:53:38 GMT+1000 (Australian Eastern Standard Time)

To: Guidance <regguidance@casa.gov.au>; Guidance Delivery Queue <regguidance@casa.gov.au>;

Subject: Webform submission from: Flight operations rules enquiries > Page components - 50785

First Name s 22

Last Name s 22

casa_arn s 47F

Email

Phone

Representing organisation Yes

Organisation Name s 47F

Organisation ARN s 47G

Enquiry type Other

Case number

Enquiry number

CAO 48.1 Extensions

CAAP 48-01 v3.2 4.5.7 references weather patterns to be utilised to foresee potential disruptions or delays. Airnorth mainly operates along the northern parts of Australia with the wet season producing TEMPO or INTER requirements in weather forecasts (TAF).

Query It is our understanding as an operator that these requirements should not be used when assessing the need for an extension prior to or during the last planned sector.

Example: -

Sign on 07:30, depart 08:30, 4 sectors = allowable duty 12.5 hours
last flight lands 19:10, Sign off 19:25. allowable end time 20:00

If the weather forecast (TAF) has a TEMPO appended for the arrival time for the last flight, this is a flight fuel planning requirement, and should not be used by the crew to assume that they need to make a decision to extend the duty past the allowable end time of 20:00 because of a TEMPO referring to the requirement to carry 60 minutes of holding fuel?

Request CASA's guidance and thoughts on this and the definition of "Weather patterns" as mentioned in the CAAP.

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Released nd

Phengrasmy, Keeley

From: Regulatory Guidance
Sent: Saturday, 20 May 2023 9:54 AM
To: Camero, Justine
Subject: CS0001703 - Fatigue - URGENT - Flight Duty Period [SEC=OFFICIAL]

OFFICIAL

[CS0001703 | Case | ServiceNow \(service-now.com\)](#)

om of Information

Released nd

✉ Email sent
Subject: Enquiry CS0001703 has been resolved
From: Regulatory Guidance<casaprod@service-now.com>
To: Mark.Ayrey@casa.gov.au
[Hide email details](#)

Thank you for contacting us with your enquiry.

Enquiry number CS0001703

Recently, some flight crew and operators have queried with CASA the application of this definition in day of operations. The queries relate to:

QUESTION 1: Whether a crew member may depart on the final sector of their FDP knowing they will enter into discretion (assuming the pilot in command is satisfied the flight crew member considers themselves fit for the extension)?

ANSWER 1: Section 4.5.7 of the [CAAP 48-01 - Fatigue management for flight crew members](#) refers to extensions due to unforeseen operational circumstances behind the use of the term 'unforeseen circumstances', that includes the impact of weather patterns, is to prevent operators continually rostering flight and duty maximum limits and regularly relying on extensions to achieve their operational goals.

Consequently, CAAP 48-01 states: 'Extensions should only occur under 5% of any sample of similar flight duty period (FDP) or similar operations'. Therefore, if experiences extensions greater than 5% of the sample the operator should consider revising their practices. Extensions beyond FDP limits should not be made.

Section 6 of the [Civil Aviation Order 48.1](#) (CAO 48.1) defines an unforeseen operational circumstance, as a "means an unplanned exceptional event that becomes evident after the commencement of the FDP, such as **unforecast weather**, equipment malfunction, or air traffic delay."

For all operations, a circumstance is only unforeseen if it occurs after the FDP has commenced. - see definition.

- If an unforeseen circumstance occurs after the FDP commencement, then an FDP can be extended but all other limitations must be respected.
- If an unforeseen circumstance occurs after the take-off of the final sector, an FDP can be extended, and other limitations may be breached (Appendix of CAO 48.1).

If a traffic or weather condition existed that could affect the crew's ability to complete the final sector within the allotted duty period, and this event was forecast the intent is for the extension not to be utilised.

In addition to the above, at all times the FCM must ensure that they are fit to fly as per [regulation 91.520 of the CASR](#) and do not operate the aircraft in a manner that refers to [regulation 91.055 of the CASR](#).

QUESTION 2: Whether traffic and weather holding are to be added to the scheduled block time for the purposes of assessing whether crew are likely to exceed maximum permissible flight duty period?

ANSWER 2: Forecast weather and ATC delays need not be added to the scheduled block time - because these may or may not occur and any delays may not be forecast (experiencing 60 minutes of holding at four ports in one FDP is considered operationally unlikely) however there is a commercial risk that the assigned flight will not be able to be completed as planned.

Section 4.3.4 of CAAP 48-01 notes that rosters should be designed to cater for reasonably foreseeable delays such as taxi requirements, holding requirements for operational extensions. Thusly, many operators plan to complete an FCM's FDP at a time sooner than the maximum FDP sign-off time as a buffer for typical or known inducing circumstances. Operators who do not roster in this manner run a risk that the FDP tasking will not be able to be completed as assigned.

This does not necessarily equate to adding weather and traffic holding to scheduled block times.

The utilising of the extension function by the FCM allows a mechanism to achieve a desirable operational outcome in the instance of unforeseen operational circumstances. If the condition was forecast BEFORE the time the FDP commences, it would not be 'unforeseen'.

SCENARIOS

The operational application of the rules regarding extensions is perhaps best illustrated by some hypothetical scenarios:

An FCM is assigned an FDP in a two-pilot operation, with a sign-on at 0530 and four sectors resulting in a maximum rostered FDP for 10.5 hours - if operating in accordance with CAO 48.1 Appendix 2. FDP limits may differ when operating in accordance with another appendix or in accordance with an approved FRMS.

SCENARIO 1

At sign-on the weather forecast included the carriage of 60 minutes holding fuel due to forecast TEMPO conditions at each of the ports. Since the TEMPO conditions were forecast, they are not unforeseen in which case the FDP cannot be extended. As the forecast actual holding at each port may, or may not occur, the FDP commences as normal. If some amount of holding time does occur, then the operator and FCM must assess whether the four sectors can be completed within the assigned FDP. If the four sectors cannot be completed within the assigned FDP an extension is not available to the FCM or operator.

SCENARIO 2

At sign-on there is no forecast weather holding or NOTAM of ATC holding. If after sign-on (that is, the FDP has commenced) weather or ATC delay or equipment failure occurs (unforeseen at sign-on) then an FDP extension is available within the extension limits of either the CAO 48.1 Appendices or approved FRMS. In this scenario the FCM can depart on the final sector of an FDP knowing that they will be exercising the extension provisions of either the relevant CAO 48.1 Appendix or approved FRMS.

Your enquiry will close automatically after 5 days. If you have any follow-up questions or have been asked to provide more information, you can access your enquiry via a message [here](#).

If you have more questions after your enquiry has closed, please send us a new enquiry [here](#).

Regards,

CASA\Guidance Delivery Centre

From: Regulatory Guidance casaproduct@service-now.com
Sent: Monday, April 17, 2023 1:33 PM
To: Mark.Ayrey@casa.gov.au
Subject: Enquiry CS0001703 has been resolved

Thank you for contacting us with your enquiry.

Enquiry number CS0001703

Recently, some flight crew and operators have queried with CASA the application of this definition in day of operations. The queries relate to:

QUESTION 1: Whether a crew member may depart on the final sector of their FDP knowing they will enter into discretion (assuming the pilot in command is satisfied that each flight crew member considers themselves fit for the extension)?

ANSWER 1: Section 4.5.7 of the [CAAP 48-01 - Fatigue management for flight crew members](#) refers to extensions due to unforeseen operational circumstances. The intention behind the use of the term 'unforeseen circumstances', that includes the impact of weather patterns, is to prevent operators continually rostering flight and duty times to their maximum limits and regularly relying on extensions to achieve their operational goals.

Consequently, CAAP 48-01 states; 'Extensions should only occur under 5% of any sample of similar flight duty period (FDP) or similar operations'. Therefore, if the operator experiences extensions greater than 5% of the sample the operator should consider revising their practices. Extensions beyond FDP limits should not be made on a regular basis.

Section 6 of the [Civil Aviation Order 48.1](#) (CAO 48.1) defines an unforeseen operational circumstance, as a *"means an unplanned exceptional event that becomes evident after the commencement of the FDP, such as **unforecast weather**, equipment malfunction, or air traffic delay."*

For all operations, a circumstance is only unforeseen if it occurs after the FDP has commenced. - see definition

- If an unforeseen circumstance occurs after the FDP commencement, then an FDP can be extended but all other limitations must be respected.
- If an unforeseen circumstance occurs after the take-off of the final sector, an FDP can be extended, and other limitations may be breached (Appendix 2 subsection 7.7 of CAO 48.1).

If a traffic or weather condition existed that could affect the crew's ability to complete the final sector within the allotted duty period, and this event was forecast prior to the FDP the intent is for the extension **not** to be utilised.

In addition to the above, at all times the FCM must ensure that they are fit to fly as per [regulation 91.520 of the CASR](#) and do not operate the aircraft in a manner that creates a hazard refer [regulation 91.055 of the CASR](#).

QUESTION 2: Whether traffic and weather holding are to be added to the scheduled block time for the purposes of assessing whether crew are likely to extend beyond the maximum permissible flight duty period?

ANSWER 2: Forecast weather and ATC delays need not be added to the scheduled block time - because these may or may not occur and any delays may not be as extensive as forecast (experiencing 60 minutes of holding at four ports in one FDP is considered operationally unlikely) however there is a commercial risk that the assigned FDP and sectors will not be able to be completed as planned.

Section 4.3.4 of CAAP 48-01 notes that rosters should be designed to cater for reasonably foreseeable delays such as taxi requirements, holding requirements without the need for operational extensions. Thusly, many operators plan to complete an FCM's FDP at a time sooner than the maximum FDP sign-off time as a buffer for typical or known delay inducing circumstances. Operators who do not roster in this manner run a risk that the FDP tasking will not be able to be completed as assigned.

This does not necessarily equate to adding weather and traffic holding to scheduled block times.

The utilising of the extension function by the FCM allows a mechanism to achieve a desirable operational outcome in the instance of unforeseen operational circumstances. If the condition was forecast BEFORE the time the FDP commences, it would not be 'unforeseen'.

SCENARIOS

The operational application of the rules regarding extensions is perhaps best illustrated by some hypothetical scenarios:

An FCM is assigned an FDP, in a two-pilot operation, with a sign-on at 0530 and four sectors resulting in a maximum rostered FDP for 10.5 hours - if operating under the limits of CAO 48.1 Appendix 2. FDP limits may differ when operating to another appendix or in accordance with an approved FRMS.

SCENARIO 1

At sign-on the weather forecast included the carriage of 60 minutes holding fuel due to forecast TEMPO conditions at each of the ports. Since the TEMPO conditions are forecasted, they are not unforeseen in which case the FDP cannot be extended. As the forecast actual holding at each port may, or may not occur, the FDP and flight sectors can commence as normal. If some amount of holding time does occur, then the operator and FCM must assess whether the four sectors can be completed within the assigned FDP period. If the four sectors cannot be completed within the assigned FDP an extension is not available to the FCM or operator.

SCENARIO 2

At sign-on there is no forecast weather holding or NOTAM of ATC holding. If after sign-on (that is, the FDP has commenced) weather or ATC delay or equipment malfunction occurs (unforeseen at sign-on) then an FDP extension is available within the extension limits of either the CAO 48.1 Appendices or approved FRMS. In this scenario, the FCM can depart on the final sector of an FDP knowing that they will be exercising the extension provisions of either the relevant CAO 48.1 Appendix or approved FRMS.

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