



EAC 139-73

Procedures for changes to aerodrome infrastructure

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Revision history

Issue 1

Version	Date	Change

Introduction

1. The purpose of this document is to give guidance on the procedures to be used to notify the ECAA of changes at an aerodrome, covering both infrastructure and management system changes. Additionally, it includes guidance to help ensure that changes comply with aerodrome certification criteria and are managed safely.
2. The 4 categories of changes are defined as follows:

Development

Where new or upgraded infrastructure is to be provided. Examples include new or extensions to buildings, aerodrome infrastructure (such as taxiways and aprons), visual aids and navigation aids. Developments are classified as major or minor, details of which are provided in Chapter 3.

Changes

Where existing aerodrome infrastructure or physical characteristics are being changed, for example reconfiguration of stands, changes to the runway or declared distances. Changes include projects that involve removing or amending existing aerodrome non-conformities.

Maintenance

Where existing infrastructure is being repaired, refurbished or replaced but without changing the characteristics of the piece of infrastructure. See Chapter 8.

Management system

Significant changes to the management system, involving organizational structure changes. It is not intended that changes to personnel need prior acceptance from the ECAA, however where it is intended that an individual role takes on additional responsibility or the current structure's reporting line changes, it is likely this will need prior acceptance. This requirement applies to certificated aerodromes only.

Chapter 1 Regulation requirements

Aerodrome certification –

- 1.1 The aerodrome regulation and eac 139-66 requires that all changes to aerodrome facilities and those procedures and policies that have the potential to affect the aerodromes certification need to be notified to the ECAA. This procedure applies to changes that affect the Aerodrome Manual.
- 1.2 However, the regulation requires that some changes require prior acceptance by the ECAA. This publication defines those changes, in addition to those changes that do not require prior acceptance (see Chapter 7).

Chapter 2 Engagement with the ECAA

Submission process

- 2.1 For aerodromes, changes that require prior acceptance from the ECAA(see paragraph 5.5) should be submitted using appendix 1
- 2.2 The ECAA will assess whether the project is minor or major, using the criteria shown in Chapter 3 and inform the aerodrome accordingly. When necessary, the ECAA will involve specialists from across the ECAA.
- 2.3 For maintenance projects see Chapter 8.

Initial change meetings

- 2.4 An Initial Change Meeting (ICM) may be required to brief the ECAA on the change, when the ECAA deems it beneficial. Where possible, all aspects of the change should be covered at the ICM and a presentation, given by the aerodrome operator, often proves the most successful way to brief all participants. Notes of the meeting should be produced by the aerodrome operator and agreed by all parties.
- 2.5 Ideally, outline plans and drawings should be made available to the ECAA before the ICM, in sufficient time to ensure that the meeting achieves the maximum benefit. Further meetings may be expected both whilst preparing for and during the change.
- 2.6 The ECAA will deal directly with the aerodrome operator or his appointed representative.
- 2.7 The ICM will not be counted towards the chargeable regulatory oversight time for major developments.

Chapter 3 Aerodrome development project assessment criteria

- 3.1 The CAASS assessment team will evaluate development proposal in detail and classify it as major or minor depending on the level of regulatory oversight expected to see the project to a satisfactory conclusion. The team will ensure all development proposals are evaluated consistently, will explain the reasons for the decision reached, and may also involve the aerodrome operator in assisting with the evaluation process. The CAASS will inform the aerodrome in writing of the outcome of the evaluation process and the rationale for the decision.
- 3.2 The criteria used to determine whether a development is deemed to be major or minor may include the following, although this list is not exhaustive:
- The complexity of the development;
 - The number of site visits required;
 - The impact on aerodrome operations (level of disruption to normal operations);
 - Changes required to aerodrome operations resulting from the new facility;
 - Changes required to the Aerodrome Manual;
 - Whether the development would create a new non-conformance that would require detailed evaluation;
 - The level of internal ECAA liaison required – Air Traffic Services, Flight Operations, Airspace/Instrument Flight Procedures).
- 3.3 Typically, the projects listed in Table 1 are those that may qualify as a major development.

Table 1: Developments that might be classed as 'major'

- 3.4 This list is indicative only and projects may be excluded or included, dependent upon the complexity of the proposal and regulatory oversight required.

Project	Description
New runway	A development resulting in the construction of a 'new' runway (e.g. new construction or the change of an existing grass to hard surface).
Runway extension	A runway extension resulting in an amendment to declared distances or the provision of extra RESA.
Threshold relocation (instrument status)	A development involving relocation of the instrument runway threshold, or relocation of a non-instrument runway threshold in preparation for instrument status.
AGL installation, instrument status runways	A new lighting installation or upgrade intended to facilitate additional operations (e.g. to accommodate low visibility operations and/or night operations).
New buildings/structures	A proposal involving a new terminal or terminal extension, hangars, or any other structure that may affect aircraft operations.
Installation of aids to navigation	An installation of ILS or MLS, glide path or associated equipment, radar, or other navigation equipment.
Taxiway development	A new taxiway or significant change to the existing taxiway system.
Apron development	A new apron or apron development resulting in a substantial increase in area.
New or replacement visual control tower (VCT)	Introduction of a new or replacement VCR.
Any other development which materially affects the basis upon which the aerodrome certificate or licence has been granted.	

Chapter 4 Project planning and preparation

Items to consider

4.1 Changes often require extensive planning, and the following areas will need to be considered. However, it is stressed that this list is neither mandatory nor exhaustive and it is recognized that these elements maynot be available or fully developed at the planning stage refer to EAC 139-33and EAC 139-66:

- Aeronautical ground lighting
- Aerodrome manual changes
- Air traffic procedures during and post-development
- Wildlife hazard implications
- Building induced turbulence
- Changes to the existing aerodrome operating procedures
- Changes to magnetic field density as a result of development
- Emergency procedures
- Environmental impact
- Instrument approach and departure procedures and minima
- Project safety management procedures (outline)
- Proposed timescale
- Revised low visibility procedures
- Revised runway incursion prevention measures
- Signage
- Site access plan

4.2 Whenever a project is proposed, it is essential to establish whether it will result in a change to the established operating procedures at the aerodrome. Therefore, at an early stage, aerodrome operators should undertake a hazard appraisal and risk assessment to identify the potential hazards and associated risks surrounding any proposed changes, including the impact on stakeholders. ECAR 19 Guidance on the Conduct of Hazard Identification, Risk Assessments and the Production of Safety Cases: For Aerodrome Operators and Air Traffic Service Providers and The Management of Safety: Guidance to Aerodromes and Air Traffic Service Units on the Development of Safety Management Systems provide useful information to assist this process.

- 4.3 It is therefore imperative that the management of any change is fully integrated into the aerodrome's safety management system
- 4.4 The level of detail should be as required by the appropriate regulation and should also be commensurate with the size and complexity of the change.

Chapter 5 Change submission process

Introduction

- 5.1 The ECAA has developed a 3-stage process to assist aerodromes and ensure that aerodrome operators meet their obligations under their respective regulation. This chapter details the information required for each of the 3 stages and the process to be followed.
- 5.2 This process should be used for all changes requiring prior acceptance. It is acceptable to submit Parts 1 and 2 together.
- 5.3 The submission process consists of 3 separate parts:
- Part 1: Compliance
 - Part 2: Control
 - Part 3: Completion

Changes to infrastructure

- 5.4 The following require prior acceptance by the ECAA,
- a) changes in the characteristics of infrastructures or the equipment;
 - b) changes in the characteristics of the facilities and systems located in the movement area;
 - c) changes in runway operations (e.g. type of approach, runway infrastructure, holding positions);
 - d) changes to the aerodrome networks (e.g. electrical and telecommunication);
 - e) changes that affect conditions as specified in the aerodrome's certificate;
 - f) long-term changes related to contracted third parties;
 - g) changes to the organizational structure of the aerodrome; and
 - h) changes to the operating procedures of the aerodrome.

The 3-part process

Compliance (Part 1)

- 5.5 Each change proposal should be submitted on the appropriate form(s), providing clear evidence that the change conforms to the relevant regulation, including:

- Change overview;
- Supporting documentation (e.g. Safety Assurance Documentation or change assessment);
- Compliance matrix (to demonstrate that the project design meets regulatory requirements); and
- Scaled drawings, where applicable.

5.6 When the ECAA has assessed the Part 1 submission and is satisfied that change meets regulatory requirements, it will issue an acceptance for the change. It should be noted that where a Part 1 acceptance has been issued and a subsequent change is proposed to the design or build, the modified information shall be notified to ECAA.

Control (Part 2)

5.7 Following completion and acceptance of development design, the aerodrome operator shall demonstrate to the ECAA that the project will be managed safely. Accordingly, the ECAA will expect aerodrome operators to develop safety assurance documentation that describes how the aerodrome will manage the construction works, and operating procedures, to ensure that aerodrome operations can continue safely during the project. Aerodrome operators should develop and implement a formal system for the strict control, safety management, safeguarding and safety coordination of all airside works. Safety Assurance Documentation can take many forms but should be proportionate to the size of the project. Refer to EAC 139-33

5.8 The aerodrome operator shall ensure that systems for control and safe management extend to contractors working at the aerodrome.

5.9 All members of the project management team should have clearly defined responsibilities and accountabilities in the project programme. During construction on an aerodrome, safety levels and standards of conduct must be maintained. These are essential to promoting safety, preventing accidents and meeting the aerodrome licence requirements.

- It is important that accurate, up to date information is made available to all stakeholders involved in the project, including the ECAA, both as part of the project planning and during the work itself. Therefore, the safety assurance and project management documentation may include any or all of the following information: A clear statement of the supervision structure for the safety management and monitoring of works, including contact details of key duty

personnel concerned, for both project and aerodrome management. This should include clear responsibilities, including the person with overall accountability for the development;

- Airfield Operating Procedures during the development, including contingencies such as low visibility procedures;
- Arrangements for liaison meetings/briefings between the aerodrome management and the contractors;
- Appropriate plans and diagrams relating to the contraction process;
- Control of contractors;
- Day and night start, control and completion of work procedures;
- Communications procedures between the aerodrome operating units (e.g. ATC, Airfield Operations) and construction teams;
- Emergency procedures;
- Method of working;
- Plans of site and diagrams of works;
- Site access plan;
- Site safeguarding and marking;
- Weather minima that will affect the works;
- The general layout of the aerodrome including airside access points;
- The location and limits of works areas;
- The specific security access points to be used and the location and marking of the access routes to be used to reach airside sites;
- Methods of control and access for works sites within the Apron and Maneuvering Area including arrangements for crossing taxiways and runways (if applicable);
- The methods and equipment to be used for protecting, marking and lighting the boundaries of works sites and for protecting normal aerodrome operations in the vicinity of the site. Also the requirement to control site lighting to prevent distraction of aircraft crews, drivers and ATC;
- The strict timing for the setting up of work sites, the start of work, daily permitted working hours at the site and procedures to be followed for starting and stopping work;
- Aerodrome emergency procedures, including response times during periods of WIP, should not be compromised. This extends to ensuring compensatory arrangements are in place to cover

depletions of fire main or fire hydrants when the fire main has been deactivated due to work in progress;

- Vehicle and equipment requirements, operating rules and the requirements for staff discipline;
- Calculating and communicating amended runway declared distances;
- Maintaining appropriate pavement friction characteristics;
- Information on special safety requirements for aircraft operations in the vicinity of works and the methods of control available on the Maneuvering Area, including radio telecommunication procedures if appropriate;
- Arrangements for the special control of 'hot works';
- Requirements for the operation of cranes and other tall structures;
- Arrangements for the receipt and movement of heavy or bulky loads;
- Requirements for vehicle and area cleanliness, also the implications of Foreign Object Debris (FOD) and loose material hazards for aircraft operations;
- Arrangements for the disposal of waste;
- Information on the safety implications for the site and staff of special aircraft hazards including blast, vibration, fumes and noise;
- Information on the effects of strong winds at the aerodrome;
- Site safety, including personnel protection;
- Aerodrome operators should ensure that all stakeholders are notified of aerodrome projects in a timely manner. These communications should continue through the project and may include Safety Instructions, Aerodrome Information Circulars, NOTAMs or other local procedures.

5.10 Before contractors start work at any aerodrome/airside location, aerodrome operators should provide a comprehensive safety briefing including the results of ongoing hazard analyses, to ensure all information needed to achieve the safe completion of any works or activity is clearly understood and agreed. Additionally, aerodrome operators should hold regular progress meetings to ensure project safety and operational objectives continue to be met. There should be close monitoring of the safety of aerodrome/airside operations while the project work is in progress and, when reaching decisions, project priorities should be subordinate to the maintenance of safety standards.

5.11 When the ECAA has been assured that the aerodrome can continue to

operate safely during the project, acceptance will be given to commencework.

Completion (Part 3)

- 5.12 Transition into service is a critical phase of the project and can present complex challenges. Careful planning and robust procedures need to be established to ensure that the change is introduced safely and efficiently. This may be demonstrated by undertaking a process of operational readiness, which may include simulations, testing, audits or sample inspections, involving appropriate key stakeholders.
- 5.13 On completion of the change, the aerodrome operator should confirm to the ECAA that it meets the agreed design criteria and is fit for purpose.
- 5.14 Where the change impacts on the contents of the Aerodrome Manual, these should be incorporated and a revised version submitted to ECAA.

Chapter 6 Changes to the management system

Changes to the organizational structure

- 6.1 The ECAA has defined these as changes significantly affecting the organization chart (changes to the clearly defined lines of responsibility and accountability), policies or safety culture of the aerodrome operator's management system, including the safety management system.
- 6.2 The ECAA is looking for evidence that the aerodrome operator has appropriate resource and correct competences in the management structure and the management system can deliver safety according to the regulation. The ECAA would expect aerodrome operators to be able to demonstrate how a revised organizational structure or major change to the management system will be able to deliver the safe management of the aerodrome, as required by the regulation. Additionally we would expect that the aerodrome operator has developed safety assurance to satisfy itself that change will be managed during any transition period. We will then assess the proposed change against the management system requirements and would expect the process to be completed before the change takes effect.
- 6.3 If the aerodrome operator is unsure about whether a change to the management system requires prior acceptance please contact your allocated aerodrome inspector in the first instance.
- 6.4 The submission process for changes to the management system differs slightly from the one used for infrastructure described earlier in this document. Each proposal should include an overview of the change including supporting documentation, (e.g. Safety Assurance Documentation or change assessment), providing clear evidence that the change conforms to the relevant regulation. The ECAA forms (appendix 1) available for the changes to infrastructure are suitable for completing changes to the management system; however there is no requirement to complete the compliance matrix section of the application form.
- 6.5 All members of the change management team should have clearly defined responsibilities and accountabilities in the change programme. These are essential to meeting the aerodrome certification requirements.

- 6.6 Aerodrome operators should ensure that all stakeholders are notified of the change in a timely manner. These communications should continue through the project and may include Safety Instructions and other local procedures.
- 6.7 On completion of the change, the aerodrome operator should confirm to the ECAA that it meets any agreed criteria and is fit for purpose. The aerodrome operator should resubmit the Aerodrome Manual reflecting the change. The ECAA will sign its acceptance and forward this to the aerodrome operator.

Chapter 7 Changes not requiring prior acceptance

Understanding what changes can be made without prior acceptance

Changes requiring prior acceptance

7.1 Changes affecting the movement area (maneuvering area including the apron) require prior acceptance from the ECAA, before the change is introduced. This requirement also extends to management systems.

For example:

- Changes to the Safety Review Board (or equivalent) and Safety Services Office;
- Changes to the structure of the organisation;
- Changes to LVP procedures;
- Constructions affecting sightlines from VCR;
- Developments on or affecting the movement area;
- New, or relocation of, wind socks;
- Safety critical aerodrome equipment;
- Changes affecting the terms of the certificate;

Changes not requiring prior acceptance

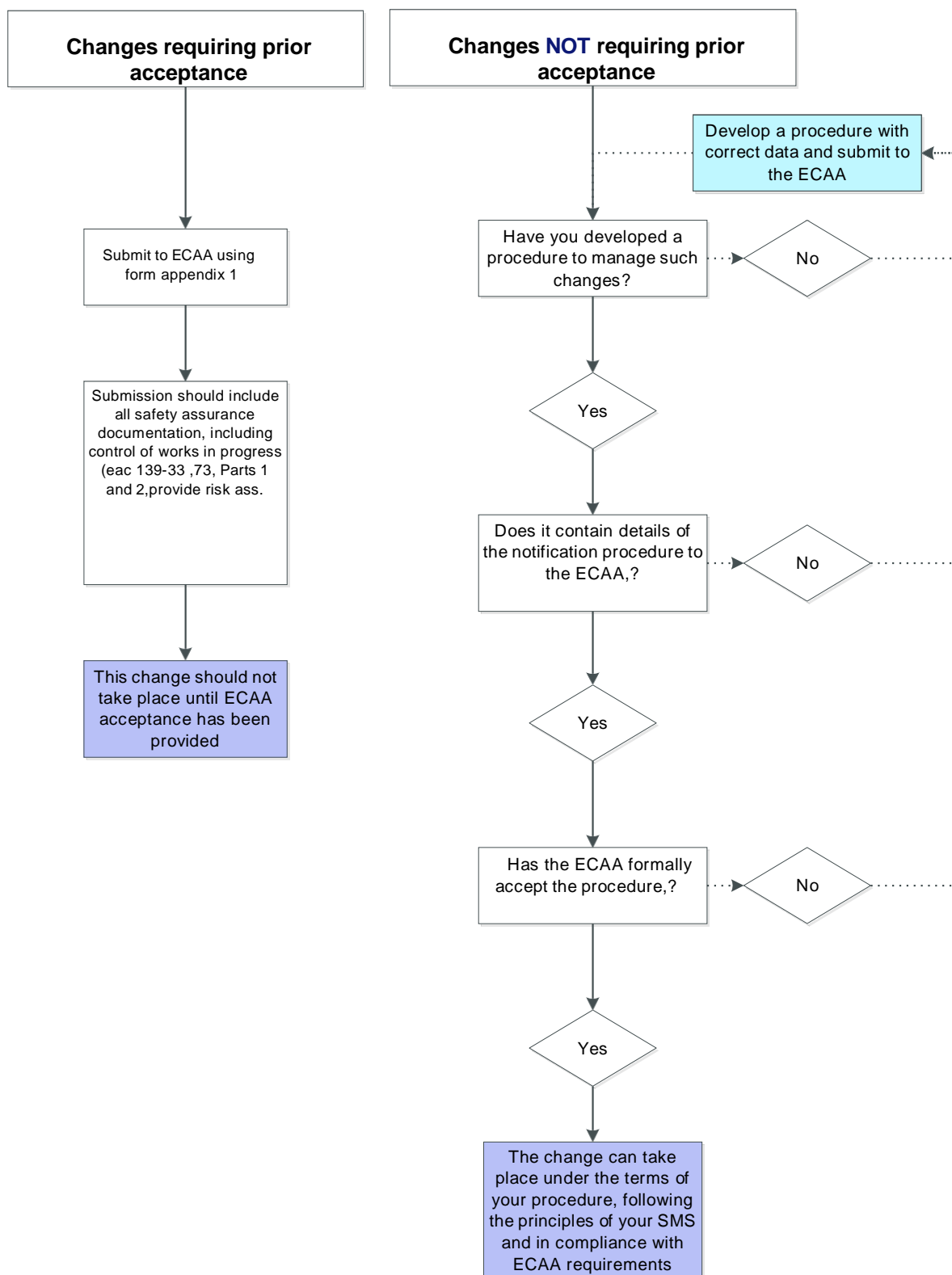
7.2 Some changes do not require prior acceptance before the change is introduced. However, for this to be available the ECAA has to accept the aerodrome's procedure to manage such changes. Therefore, it is imperative that the aerodrome operator submits its 'change management procedure' to the ECAA for Acceptance, prior to the commencement of any works, and ideally at the point of transition to its Certificate.

For example:

- Changes to the Accountable Manager post holder;
- Changes to nominated persons; except safety manager
- Passenger walkways;
- temporary reduction in RFFS;
- Pre-planned maintenance and rubber removal.

7.3 The procedure to manage these changes should be developed taking into account the aerodrome's policies and processes, but should include as a minimum:

- Accountabilities for changes;
- Inclusion in the Aerodrome Manual;
- The process for undertaking safety assessments, including hazard analysis;



Chapter 8 Maintenance projects

Maintenance works

- 8.1 Maintenance projects can vary enormously in size. Much maintenance work involves short-term minor works, such as painting, planned periodic replacements (e.g. light cleaning in accordance with a preventative maintenance schedule), refinements to systems/infrastructure and small repairs to aerodrome infrastructure, which can be completed in short timescales and with limited disruption. Smaller planned or routine maintenance works need not be notified to the ECAA, although the Aerodrome Inspector would expect to be kept informed of these activities.
- 8.2 However, maintenance may also involve large, longer-term projects (weeks/months), which may involve many key stakeholders, and which may have significant impacts on operations and so test the aerodrome's safety management system. Examples of major maintenance would include partial or complete runway rehabilitation⁵ and replacement of aerodrome ground lighting systems.
- 8.3 The ECAA has additionally included major maintenance work in the acceptance process. This decision is based on the risk the aerodrome operator is exposed to whilst undertaking major maintenance projects that normally include multiple stakeholders and complex operational procedures during the project.
- 8.4 The ECAA will evaluate the proposal and, once the evaluation is complete, and an assurance that the aerodrome can deliver the major maintenanceworks safely, the ECAA will confirm its acceptance in writing.

APPENDIX 73
ECAA FORM 2002-74
Application of Proposed Change at a Aerodrome

1) AERODROME DETAILS	
Aerodrome Name:	
Aerodrome Address:	
..... Postcode:.....	
Accountable Manager:	Name:
Tel: Email:	
Project Manager:	Name:
Tel: Email:	
2) CHANGE DETAILS	
Type of Changes: (please tick the appropriate box)	
<input type="checkbox"/>	a) changes in the characteristics of infrastructures or the equipment;
<input type="checkbox"/>	b) changes in the characteristics of the facilities and systems located in the movement area;
<input type="checkbox"/>	c) changes in runway operations (e.g. type of approach, runway infrastructure, holding positions);
<input type="checkbox"/>	d) changes to the aerodrome networks (e.g. electrical and telecommunication);
<input type="checkbox"/>	e) changes that affect conditions as specified in the aerodrome's certificate;
<input type="checkbox"/>	f) long-term changes related to contracted third parties;
<input type="checkbox"/>	g) changes to the organizational structure of the aerodrome; and
<input type="checkbox"/>	h) changes to the operating procedures of the aerodrome.
*these changes also require completion of a Compliance Matrix -	
Reason for Change:	
Title of Project:	
Brief Description:	

AERODROME COMPLIANCE MATRIX			
NAME OF AERODROME:			
Planned commencement of works: Planned duration of works: Estimated completion date:			
Aerodrome closed during work in progress? Yes <input type="checkbox"/> No <input type="checkbox"/> If 'Yes' please specify Hours of Work:			
ECAR139 item Description	ECAR139 reference no.	Compliance Statement (include reference document where appropriate)	Supporting documentation (e.g. Safety Assurance Documentation)

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