



# Advisory Circular

**AC 139-09(0)**

**APRIL 2007**

## **AERODROME SAFETY INSPECTIONS AT REGISTERED AND CERTAIN OTHER AERODROMES**

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### **1. REFERENCES**

- 1 This Advisory Circular (AC) should be read
- 2 in conjunction with:
  - ICAO Annex 14
  - ICAO Airport Services Manuals 1 - 9
  - Civil Aviation Safety Regulation 1998 CASR Part 139
  - Manual of Standards MOS Part 139 Aerodromes
  - Advisory Circular 139-03(0) Application for Approval to conduct Safety Inspections at Registered and Certain Other Aerodromes

*Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.*

*Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material. ACs should always be read in conjunction with the referenced regulations.*

## **2. PURPOSE**

**2.1** Under the Civil Aviation Safety Regulations certain aerodromes, which are not certified and subject to CASA regular surveillance, may be used by aircraft engaged in regular public transport (RPT) and charter operations. A regulatory requirement is that these aerodromes have an annual Aerodrome Safety Inspection (ASI).

**2.2** The purpose of this AC is to provide guidance on the intent and desired outcome of the ASI, how the ASI should be conducted, and how the ASI should be reported.

## **3. STATUS OF THIS ADVISORY CIRCULAR**

**3.1** This is the first AC to be written on the subject of Aerodrome Safety Inspections at registered and other non-certified or non-registered aerodromes.

## **4. WHAT IS AN AERODROME SAFETY INSPECTION?**

**4.1** The ASI should not be confused with the daily serviceability inspection of the aerodrome carried out by the aerodrome operator's staff employed at the aerodrome. The ASI is a quality assurance system, carried out through periodic technical assessment of the condition of the aerodrome, by an external CASA approved aerodrome technical inspector.

**4.2** Aerodromes in the certification system are subject to regular CASA surveillance to monitor their continued soundness for safe aircraft operations. The ASI is an industry based scheme to monitor the soundness of aerodromes not covered by routine CASA surveillance.

**4.3** Aerodromes are an integral part of the aviation infrastructure for the travelling public. The ASI is an important safety measure to allow early detection of any deterioration of the aerodrome, examination of the causes, and most importantly, the undertaking of timely remedial action.

## **5. HOW TO ENSURE THE AERODROME SAFETY INSPECTION IS EFFECTIVE**

**5.1** For the ASI to be effective, it is important that parties concerned act correctly and allow the ASI report to present an honest and true state of the aerodrome. This means that:

- (a) the aerodrome operator should provide adequate resources for the task, and not unduly influence the ASI report; and
- (b) the person carrying out the ASI should report without fear or favour and display a high level of professionalism.

**5.2** CASA requires a copy of the ASI report, firstly to ensure that the ASI has been carried out; secondly to ensure that it has been carried out in the prescribed period and finally to see if there is any matter that needs to be followed up.

**5.3** It should be noted that whilst a favourable ASI report may make the aerodrome look good, and allow the CASA Aerodrome Inspector to focus their attention elsewhere, a report that does not reflect the true state of the aerodrome can carry liability considerations.

## **6. WHICH AERODROMES REQUIRE AN AERODROME SAFETY INSPECTION?**

**6.1** Under the Civil Aviation Safety Regulations CASR Part 139, operators of the following aerodromes need to have an annual aerodrome safety inspection (ASI) and submit a report of the inspection to CASA.

- (a) registered aerodromes used by aircraft with more than nine passenger seats engaged in regular public transport (RPT) or charter operations, and
- (b) non certified and non registered aerodromes used by aircraft with more than nine passenger seats engaged in RPT or charter operations at least once a week. (For ease of reference, CASR refers to these aerodromes as ‘certain other’ aerodromes.)

**6.2** A major difference between “registered aerodromes” and “certain other aerodromes” is that for “registered aerodromes”, the aerodrome information is published in ERSA and changes of aerodrome information (or condition) can be reported through the NOTAM system. For those aerodromes that fit into the “certain other” category, the aerodrome operator provides aerodrome information directly to aircraft operators, including any changes to the aerodrome information or condition.

**6.3** Operators of aerodromes that are not subject to the ASI requirement may also avail themselves to the ASI scheme to get technical feedback on the state of their aerodromes, for themselves, and existing or potential aircraft operators who use the aerodromes. Where the ASI scheme is adopted, we recommend that the ASI is conducted by a CASA approved person and the contents of this AC be followed.

## **7. WHEN IS AN AERODROME SAFETY INSPECTION TO BE CARRIED OUT?**

**7.1** For an aerodrome that is being newly “registered”, an ASI and report is required as part of the initial registration process.

**7.2** For an aerodrome that is being identified and classified as a “certain other” aerodrome, an ASI and report is required when requested by a CASA Aerodrome Inspector.

**7.3** For an existing Licensed Aerodrome that becomes a “registered” aerodrome, the next ASI and report is required 12 months from the date of registration.

**7.4** For an existing licensed aerodrome that is transferred to the “certain other” category, the next ASI and report is required 12 months from the date of classification as a “Certain Other” aerodrome.

**7.5** For all aerodromes that are required to conduct an ASI, subsequent ASI reports are required on an annual basis, i.e. within 12 months of the previous ASI report.

## **8. WHO MAY CONDUCT AN AERODROME SAFETY INSPECTION?**

**8.1** The ASI is an important safety function and CASA has established an approval scheme to ensure that only qualified persons carry out this function. Accordingly, it is necessary to select a CASA approved person to conduct the ASI and prepare the subsequent report.

**8.2** The approved person will be in possession of a CASA issued Letter of Competency. For list of approved persons to conduct the ASI function, please see: [www.casa.gov.au/aerodromes/app\\_persons.htm](http://www.casa.gov.au/aerodromes/app_persons.htm)).

**8.3** Information on application for approval to conduct ASI's, including who may apply is contained in Advisory Circular 139-03(0). See: <http://www.casa.gov.au/rules/1998casr/139/139c03.pdf>.

## **9. WHAT NEEDS TO BE CHECKED AND VERIFIED AS PART OF THE AERODROME SAFETY INSPECTION**

**9.1** The intent of the Aerodrome Safety Inspection is to provide the aerodrome operator, users of the aerodrome, and CASA, with an assurance that all of the issues critical to the safe operation of the aerodrome have been checked, assessed and any deficiencies have been detected, reported on and a process put in place to rectify these deficiencies.

**9.2** CASR 139.315 prescribed the matters that need to be covered in the ASI. An aerodrome consists of many facets and it is important that the ASI is conducted in a structured manner so that all relevant matters are covered. In planning the ASI, the approved person should first make a background study on known or recurring problems, such as those highlighted in previous ASI reports, aerodrome operator's internal communications on concerns raised out of daily serviceability inspections, external pilot comments, and any relevant accident or incident reports concerning the aerodrome.

**9.3** In general, the following matters need particular attention:

- (a) accuracy of aerodrome information provided to pilots
- (b) matters of a volatile nature, e.g. new obstacles or tree growth, changes in the movement area or the marking and lighting of the movement area, as a result of new aerodrome development
- (c) matters which are subject to damage or deterioration
- (d) competency of aerodrome personnel, particularly appointed reporting officers, involved in safety functions, and whether they are clear of their duties and responsibilities
- (e) any concerns raised by airlines and pilots
- (f) whether there is any deficiency in the day to day operation of the aerodrome

**9.4** After a deficiency is identified, the approved person needs to determine and recommend to the aerodrome operator an appropriate course of remedial action. Where possible, a long term fix is preferable to a short term solution.

**9.5** It is not envisaged that the approved person would possess the technical knowledge to address in depth, all the facets of an aerodrome. Where there is an engineering or environmental problem that requires specialist input that the approved person may not be able to provide, the matter should be brought to the attention of the aerodrome operator.

**9.6** If the ASI identified a non-compliance with an applicable standard and the matter will not be rectified by the remedial action, the aerodrome operator should advise the relevant CASA aerodrome inspector separately and ahead of the ASI report. A non-compliance with applicable standards may affect the usage of the facility.

**9.7** For reference purposes, a checklist of matters to be addressed in an ASI is provided in Appendix “A”.

## **10. PREPARATION OF THE AERODROME SAFETY INSPECTION REPORT**

**10.1** The ASI report should not be a plain statement that the aerodrome is fine or otherwise. It should describe the areas and matters that the ASI have actually covered, setting out what have been inspected, checked or tested, and the findings thereof. Basically a reader should be able to glean from the report a broad picture of the condition of the aerodrome.

**10.2** It is important that the ASI report presents a true picture of the aerodrome. Diagrams and photographs can be used to illustrate written comments.

**10.3** The ASI report should include a section on non-compliance with applicable standards, if any is identified. The following approaches are suggested:

- (a) For an existing facility where the non-compliance is known and accepted, provide an assessment whether there is a change in the risk profile due to factors such as increased aircraft activities at the aerodrome, or change of aircraft type using the aerodrome
- (b) For a newly identified non-compliant facility, recommend appropriate remedial action, including possible need to refer the matter to CASA
- (c) For an existing aerodrome operating procedure, recommend how to amend the current in-field practice to align with the standard or produce a better outcome. The need for staff training should not be overlooked

**10.4** To complete the ASI report process, the aerodrome operator needs to confirm how the recommended corrective actions will be addressed. That information should be included as an integral part of the ASI report.

**10.5** The ASI report should not be an exercise in ticking boxes. The approved person should ensure that the ASI report adequately represents what has been checked and the findings thereof. Where the ASI report is voluminous, an executive summary should be provided.

## **11. CERTIFICATION OF THE AERODROME SAFETY INSPECTION REPORT**

**11.1** The certification should clearly state that the ASI has been carried out by the “approved person”.

**11.2** The certification should confirm that the ASI Inspection was conducted in accordance with the requirements set by the Civil Aviation Safety Authority and that the report was an accurate record of the proceedings and findings of the ASI.

**11.3** The certification should confirm the following:

- that the published or distributed aerodrome data is correct (or will be correct when the identified changes are made)
- that the aerodrome operating procedures are appropriate (or will be appropriate when the identified changes are made)

- that the Aerodrome Reporting Officer is competent (or should be competent when the identified measures are undertaken)
- that the aerodrome facilities and equipment meet the applicable safety standards (or will meet the applicable standards when the identified corrective actions are undertaken)

**11.4** For an ASI report prepared for a registered aerodrome (or an aerodrome applying for registration), the report should include a statement by the approved person that the Aerodrome is considered to meet the standards and, subject to identified remedial actions, should remain (or be added to), the CASA Aerodrome Register.

**11.5** The certification should state the date or dates of the ASI and should be signed by the approved person who conducted the ASI. The name of the approved person and the CASA allocated approval number should be attested below the signature.

## **12. DISTRIBUTION OF THE AERODROME SAFETY INSPECTION REPORT**

**12.1** The regulatory requirement is that the aerodrome operator must send a copy of the ASI report, including the plans to address the recommended corrective actions, to CASA not more than 30 days after he or she has received the ASI report from the approved person.

**12.2** As a proactive safety measure, the aerodrome operator could consider giving a copy of the report to the RPT and Charter operators using the aerodrome.

**12.3** The ASI report should be made available for subsequent ASI's. It is recommended that the ASI report and all the relevant records and findings be retained for a minimum of three years.

## **13. FURTHER INFORMATION**

**13.1** Further information on the conduct of the Aerodrome Safety Inspection and Report can be obtained from your local CASA Aerodrome Inspector. You can contact them on 131 757.

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Patrick Murray  
Group General Manager  
Air Transport Operations Group

**APPENDIX A****CHECKLIST OF MATTERS TO BE COVERED IN THE AERODROME SAFETY INSPECTION AND REPORT**

There are many matters to consider in the planning and execution of an aerodrome safety inspection that it is easy to overlook certain matters. The purpose of this checklist is to provide a comprehensive list of matters that an approved person conducting the inspection may use to systematically double check that nothing is overlooked. This checklist is general in nature and will not address the unique situation at all aerodromes. It may also contain matters not relevant to some aerodromes.

**Documents that should be checked before or during the ASI, where available.**

- ASI reports of previous years – at least two years
- the Aerodrome Reporting Officer logbook
- existing aerodrome serviceability inspection checklists
- aerodrome accident and incident reports
- works/maintenance logbooks
- reports on emergencies
- specialist pavement reports
- bird strike reports
- NOTAM's issued (and their equivalent, in the case of certain other aerodromes)
- letters sent to AIS
- correspondence with CASA
- concerns of the aerodrome raised by aircraft operators, pilots or members of the public
- Exemptions issued by CASA

**How is the aerodrome managed?**

- Find out from the management how the aerodrome is supposed to be managed, the resources provided, and the responsibilities of relevant staff. Check whether the roles are clear and in writing, and that there are adequate human and material resources to operate the aerodrome.
- Ascertain management commitment to in the aerodrome, including frequency of dialogue with staff and opportunity for, and handling of, staff feedback.

- Ascertain general aerodrome staff morale and interest in the work.
- Ascertain current usage of the aerodrome:
  - type and frequency of aircraft activities
  - maximum size of aircraft using the aerodrome
  - level of night operations
- Aerodrome operating procedures – find out if there is a set of written aerodrome operating procedures. If no, ensure that this is remedied. If yes, assess its adequacy. Check on site that the procedures are understood and being followed and are readily available to aerodrome staff.
- Daily serviceability inspections – check the following:
  - the adequacy of the staffing arrangements
  - the adequacy and suitability of resources
  - the adequacy of the inspection checklist
  - adequacy of inspection method
  - correctness of radio calls made
  - adequacy of inspection frequency
  - adequacy of call out arrangements
  - adequacy of records

The regulations require the following to be examined as part of the ASI:

## 1. Details of the Aerodrome:

- 1.1 Check the accuracy of aerodrome information provided via ERSA or directly to aircraft operators, this should be accompanied by physical on-site checks where appropriate.
- **Aerodrome diagram** - make sure that the diagram in ERSA accurately represents the layout of the aerodrome, particularly if there have been changes made to the movement area.
  - **Aerodrome location** - the published geographical co-ordinates should only need checking if there has been pilot complaint of inaccuracy, except for the first ASI.
  - **Name and contact details** - of the aerodrome operator, both during and after business hours. Also the contact arrangements for the Aerodrome Reporting Officers.
  - **Remarks** - check that the information is still pertinent and if there is any new matter that needs to be included.
  - **Handling services and facilities** - check that the information is still accurate and if there is any new information that needs to be included.
  - **Passenger facilities** - check that the information is accurate.
  - **Aerodrome obstacles** - check that the critical obstacle has not been affected by changes to its height, new obstacles or removal of existing obstacles and that the

obstacle information is correct. Actual site survey may be required. At an aerodrome listed in AIP-DAP with an instrument runway, check that the PANS-OPS areas, as per details of the monitored areas supplied by the instrument procedure designer, are not infringed by new obstacles.

- **Physical characteristics (Runway information)** - normally only if there has been runway development work, but the strength rating of the runway may need to be assessed if there is evidence of significant pavement distress.
- **Aerodrome and approach lighting** - check that any new additions or decommissioned lighting systems are accounted for. Where standby lighting is provided, check that the lighting is actually available and can be deployed within 15 minutes.
- **Local traffic regulations** - check that the information is accurate.
- **Aerodrome frequency response unit** - if this is provided at an aerodrome, check that it is working properly.
- **Additional information** - check that the items under this heading are still pertinent. Also check if any new matter needs to be included.

1.2 Check the accuracy of aerodrome information provided via the Runway Distance Supplement or directly to aircraft operators, this should be accompanied by physical on-site checks where appropriate.

- **Declared distances** - check that the declared distances have accounted for any recent runway changes and any newly identified obstacles.
- **Runway width and runway strip width** - check that the information is still accurate.
- **Approach and take-off obstacle surveyed area** - if the surveyed obstacle coverage area is different to the standard, check that the reasons for that is still valid and that the information provided is still accurate.
- **Supplementary take-off distances** - check that the supplementary distances have accounted for any newly identified obstacles.

## 2. Aerodrome operating Procedures

2.1 Recording of aerodrome inspections. Checking the process for recording of aerodrome serviceability inspections.

- Check that the process is clearly documented, understood and followed by the reporting officers.
- Ascertain whether the number of reporting officers and their span of duty are adequate.

2.2 Recording of Notices and NOTAM's. Checking the process for initiating and recording the issue of NOTAM's or the notices of change information given directly to RPT or charter operators

- Check that the reporting format allows accurate presentation of information.

- Check that the addresses used for dispatch of information are up to date.
- Ascertain from record of or direct dispatches whether there are any particular problem areas at the aerodrome.
- Find out if there have been any adverse comments from recipients.
- Check that the process is clearly documented, understood and followed by the reporting officers.
- Check that the recording format allows accurate presentation of information.

2.3 Recording of aerodrome works. Checking the process for recording of development and routine maintenance works.

- Find out the processes in the planning and execution of aerodrome works and assess their adequacy.
- Find out the development planning of the aerodrome and assess whether the planned aerodrome works program would adequately arrest the deterioration of the aerodrome.
- Examine records of previous work and the method of working plans, to assess whether aerodrome work has been performed in a safe and well co-ordinated manner.
- Ascertain availability of staff trained to perform work safety officer functions.
- Check that there are adequate supply of cones and markers to support aerodrome works.
- Ascertain that the routine aerodrome maintenance works are conducted in accordance with the standard procedures of time-limited works.
- Confirm adequate maintenance spare parts are held, or supply arrangements are in place.

**3. Reporting officer**

3.1 Checking the competency of staff engaged in aerodrome functions.

- Check that all reporting officers have been trained and know their duties and responsibilities – carry out tests where appropriate.
- Check that reporting officers know and are provided with the information of the relevant standards for matters which they have to monitor.
- Names of the reporting officers should be included in the ASI report.

**4. Details relating to the movement area, etc**

**4.1 Physical inspection of the movement area**

**Runways**

- The surface condition of the runways, shoulders, stopways and runway end safety areas , including:

- pavement texture and sign of distress
- surface friction or slipperiness
- roughness
- cleanliness
- natural surface grass height
- other faults (cracks, holes, oversized stones, rutting, etc)
- ponding and drainage
- are runway shoulders flush with the runway surface.
- The surface condition of the runway strips, including:
  - any subsidence, depressions, loose stones, grass height
  - drainage (drains, ponding)
  - obstructions
- Any new obstructions on the clearways or runway end safety areas

#### **Taxiways**

- the surface condition of the taxiway, and shoulders if provided, including:
  - texture and sign of distress
  - roughness (slopes, bird baths, undulations)
  - cleanliness (loose aggregate, loose stone, debris)
  - maintenance of grassed areas
  - drainage
  - cracks, holes, rutting
- adequacy of the width for aircraft using each taxiway
- any infringement of the taxiway strip by obstructions

#### **Aprons**

- the surface condition of the apron areas:
  - texture and sign of distress
  - roughness (slopes, bird baths, undulations)
  - cleanliness (loose aggregate, loose stone, debris)
  - maintenance of grassed areas
  - drainage
  - cracks, holes, rutting
- any obstruction in the vicinity of the apron that may infringe the wing tip clearances of turning aircraft

### **4.2 Aerodrome lighting**

- runway lighting:
  - correctness of lighting
  - are they all working
  - check for broken fittings, cleanliness of light transmitting surfaces, and long grass not obscuring lights
  - check the working of the PAL and the flashing warning before the lights are extinguished
  - check the availability and timing of deployment of standby power and emergency lights -- are portable lights kept ready for deployment, i.e. fuelled or fresh batteries available, as appropriate.
- taxiway lighting
  - ◇ are they all working
- apron lighting
  - are they all working
- availability of spares for runway and taxiway lights

#### **4.3 Wind direction indicators (WDI) and signal circle**

- check whether the WDI is working properly and whether the sleeve needs replacement
- is the location of the WDI properly marked
- check that the WDI lighting is working properly
- check that the signal circle is correctly marked
- check that the ground signals used are correct
- availability of spares

#### **4.4 Obstacle Limitation Surfaces**

- check the obstacle limitation surface for the aerodrome
- check the critical obstacle has not been affected by changes to its height, new obstacles or removal of existing obstacles.
- identify structures in the vicinity of the aerodrome provided with obstacle lighting
  - observe or ascertain that the lights are all working

#### **4.5 Aerodrome markers and markings**

- runway markings and markers
  - correctness of marking
  - does any marking need repainting
  - correctness of placement of markers
- taxiway markings, markers and signs

- correctness of marking
- does any marking need repainting
- correctness of placement of markers and signs
- apron markings and markers
  - are they of the correct colour and clearly visible
  - check if the type of aircraft using the apron has changed and if so, that the lead-in lines still provide wing tip clearances that meet the applicable standards
  - correctness of placement of markers
- availability of spares

#### **4.6 Use of two-way radios (whether hand-held or installed in vehicles) by the aerodrome operator on the movement area**

- check that the radios are using the appropriate frequencies
- check that the Aerodrome Reporting Officers possess the appropriate certificate of proficiency
- check that the Aerodrome Reporting Officers understand the use and possible abuse of the radio system

#### **4.7 Equipment used for dispersing birds and animals**

- check that the firearms used to harass birds and animals are properly stored
- check that ammunition used to harass birds and animals are properly stored
- check that staff have the appropriate licences

#### **4.8 Aerodrome fencing**

- check the conditions of the aerodrome fences and gates
- ascertain from aerodrome staff whether the fences and gates are adequate to prevent the entry of unauthorised persons, vehicles and animals.
- Are there adequate signs to reinforce the no entry message

#### **4.9 Other Services**

- fuelling facilities
  - check cleanliness of the storage arrangements
  - check possibility of fuel spillage onto the apron
- aircraft tie-down cables, pegs, or rings
  - check that they are serviceable
  - observe whether aeroplanes are parked in accordance with the tie-down parking arrangements
- ground earthing points

- checked when they have been tested for serviceability
- are the unserviceable ones appropriately marked

**5. Recommendations for remedial action.**

- 5.1 The main objective of the Aerodrome Safety Inspection is to identify what remedial actions are required by the aerodrome operator. For instance:
- what aerodrome information is out of date?
  - what aerodrome operating procedures need to be modified?
  - where is the competency of the Aerodrome Reporting Officer lacking?
  - what part of the physical condition of the aerodrome movement needs to be brought up to standard?
- 5.2 Where the remedial actions require phased implementation, the recommended priorities of implementation should be based on minimising the risk and hazards to aircraft operations.
- 5.3 If remedial actions recommended in previous ASI reports are still outstanding, they should be highlighted in the ASI report.
- 5.4 Identify aerodrome deficiencies or matters that should be brought to the attention of airlines and CASA.
- 5.5 If photographs can illustrate particular of issues more clearly, ensure that they are included in the ASI report.