

## Annex A

Consolidated Summary of Comments / Responses  
Received, CASA's Response and  
Disposition Actions to Notice of Proposed Rule Making  
(NPRM) 0906AS –  
IFR Minima and Low Visibility Operations

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# Comments relating to the Key Proposals made in Notice of Proposed Rule Making (NPRM) 0906AS – IFR Minima and Low Visibility Operations

## Introduction

The format of the summary is comment received, followed by the CASA response and a summary of the disposition of that comment.

## Comment 1 – General

A respondent asked if it would be acceptable to install different approach light systems (Calvert or ALSF2) on each end of a runway.

### *CASA Response*

*There is no CASA standard that requires identical types of approach light systems for an aerodrome. While it is preferable for an aerodrome to have a standardised lighting system, aerodrome operators will be able to install different approach light systems at each end of a runway. However, aerodrome operators will need to ensure there is clear information about the different approach light systems in the AIP.*

## Disposition

No change to the original proposals.

## Comment 2 – General

A respondent asked if it is intended that foreign aircraft operators be permitted to use Autoland on basis of an approval given by their own regulatory authorities.

### *CASA Response*

*Foreign aircraft operators will be granted local approval to use Autoland on the basis of the operator's home regulatory approval.*

## Disposition

No effect on the original proposals.

## Comment 3 – Key Proposal GEN1: Change to definitions

Two respondents said the Visibility Condition definitions are confusing and asked how they would be implemented. The operator suggested they be aligned with ILS categories.

Another respondent sought clarification as to whether Low Visibility Operations (LVOs) would ever take place at an aerodrome that only supports ILS Category (CAT) I operations (Runway Visual Range [RVR]  $\geq$  550 m), given that an LVO is defined as a takeoff or landing with a visibility of less than 550 m.

The operator sought clarification as to why Low Visibility Procedures (LVPs) need to be in effect above the limit for an LVO. The operator also asked for an explanation as to why CASA selected trigger points for infrastructure and approvals of 350, 550 and 800 m when the proposed ILS CAT II minimum is 300 m.

A respondent said implementing LVPs at 800 m visibility is restrictive and not based on international practice.

### **CASA Response**

*The definitions for Visibility Conditions 1 – 4 are taken directly from the ICAO Manual of Surface Movement Guidance and Control Systems [Doc 9476] and the Advanced Surface Movement Guidance and Control Systems Manual [Doc 9830]. In essence, Condition 1 is non-restricting visibility, Condition 2 is reduced visibility but not yet low enough for LVOs (i.e. Condition 2 is the commencement visibility for aerodrome safeguarding), Condition 3 is full LVOs (visibility less than 550 m) and Condition 4 is visibility below minimums for LVOs.*

*CASA intends aerodrome operators to progressively adopt this taxonomy for LVP planning and documentation.*

*Regarding the response about LVOs and CAT I-only aerodromes, it is possible that LVO would never take place at such locations. However, this is rarely the case at Australian controlled aerodromes, because several aircraft operators have been authorised to carry out low visibility take-offs – despite the aerodromes only being able to support ILS CAT I arrivals. One of the conditions for such take-offs is that ATC is in operation and that LVPs are declared in effect. Therefore, LVPs are still required at these aerodromes.*

*The requirement for LVPs to be in effect before the onset of LVOs is an existing practice in Australia and other parts of the world. This overlap is intended to ensure that aerodrome safety measures are in place before the weather deteriorates to the point that LVOs come into effect.*

*Regarding the trigger points, the original proposals were developed when the ICAO definition for an ILS CAT II approach had a minimum RVR value of 350 m. The original RVR value coincided with a number of ICAO Annex 14 Volume I break points for aerodrome infrastructure (Runway/taxiway centreline light spacing etc). In changing the RVR value in the definition to 300 m, ICAO did not make any changes or provide any advice about the resultant effect on the existing break points in Annex 14.*

*Unfortunately this left a number of unanswered questions such as: If a runway has centreline lighting spaced at 30 metre intervals (the standard for 350 m RVR operations or better), what would be the resultant RVR minimum for an ILS CAT II approach – 300 or 350 m? In addition, the ICAO Annex 14 Volume I break point for installation of runway centreline lighting is ‘RVR of the order of 400 m’. For the purposes of standardisation, CASA proposed 350 m RVR as a reasonable interpretation of ‘of the order of 400 m’. 300 m RVR is not a reasonable interpretation of ‘of the order of 400 m’.*

*Therefore, CASA has elected to retain the 350 metre breakpoint.*

*CASA addresses any issues with selecting an appropriate RVR for ILS CAT II approaches by promulgating different instrument approach minima according to the capability of the runway. An aerodrome equipped with lighting that meets the standard for 350 metre operations would have CAT II approaches with a 350 metre RVR minimum; while an aerodrome with lighting that meets the standard for operations with less than 350 metre RVR (for example a CAT III-capable aerodrome like Melbourne) would have CAT II approaches with a 300 metre RVR minimum.*

*Regarding the comment about the LVO/LVP confusion, an LVO is taken to be an approach carried out with minima less than CAT I or a takeoff conducted in a visibility of less than 550 m. In other words, an LVO is an aircraft operation. LVP refers to the procedures implemented by ATC and the aerodrome operator to support LVOs. In other words, an LVP is an ATC/aerodrome operator's procedure.*

*Regarding the comment about implementation of LVPs being restrictive, many countries incrementally implement LVPs as the weather deteriorates. The point of commencement of incremental procedures is normally well above the limits for an LVO. For example: Heathrow Airport begins to implement measures when the Instrumented Runway Visual Range is 1000 m and expected to fall below 600 m,<sup>1</sup> and Melbourne airport commences low visibility measures when the visibility reduces below 2000 m. The existing MOS Part 139 [Aerodromes] requirement in this regard and the proposed future standards are consistent with the existing practice, i.e. requiring LVPs to be in place before the visibility reduces below 800 m.*

## **Disposition**

No change to the original proposal.

## **Comment 4 – Key Proposal FLTOPS2: Landing minima and AIP information on low visibility operational aspects**

A respondent said proposed para 4.6.3 contradicts proposed 4.6.3c. With respect to the proposed changes to ILS critical area protection thresholds, the operator also said that the proposal could have an adverse impact on capacity at aerodromes. Given that there is no evidence that the existing threshold of 600 ft and 2000 m has caused any particular problems, several respondents suggested that CASA first assesses the safety risk before making any changes.

Another respondent sought clarification as to the minimum visibility before electronic RVR equipment is required.

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[http://www.heathrowairport.com/assets/Internet/Heathrow\\_Airside\\_and\\_Baggage/Downloads/Static\\_files/OSI\\_31\\_09.pdf](http://www.heathrowairport.com/assets/Internet/Heathrow_Airside_and_Baggage/Downloads/Static_files/OSI_31_09.pdf)

### **CASA Response**

*The contradiction between 4.6.3 and 4.6.3c is noted – para 4.6.3 says partial sensitive area protection will be provided whereas 4.6.3c says no sensitive area protection is provided. This anomaly will be corrected in the final changes.*

*The ICAO standard is that vehicles, including aircraft, must be excluded from an ILS critical area **at all times** that the ILS operations are being conducted (ICAO Annex 10 Volume I Attachment C para 2.1.9.1c refers). One way of achieving this exclusion requirement is to site the ILS installation far enough from the runway that aircraft using the full length of the runway or the taxiway system never penetrate the critical area.*

*However, in Australia, most ILS facilities are positioned so close to runways or taxiways that the critical area extends over significant portions of the runway or taxiway systems. This means the only practical way to guarantee protection of the critical area during ILS operations is for ATC to adjust the spacing between arriving flights so that aircraft do not use the ILS until preceding aircraft are landed and confirmed clear of the critical area. The extra spacing required to achieve critical area protection would have a severe impact on aerodrome operating capacity.*

*In order to minimise this impact, Australia adopted the elements of the FAA standards for ILS protection. The FAA standards only require protection when the cloud ceiling or visibility is less than defined values. The standards also permit momentary intrusion of the ILS protection areas by aircraft landing, vacating the runway or taking off. The FAA standards maximise operational benefits of the good weather conditions generally prevalent in Australia. However, for reasons unknown, only parts of the FAA standard were adopted, and an existing meteorological minimum for implementation of critical area protection, which is lower than the FAA standard, was retained. This means Australian standards for ILS critical area protection are unique.*

*CASA's proposal to adjust the existing threshold from 600 ft to 800 ft and 2000 m to 3000 m was intended to establish some consistency with practice in other countries (the USA), rather than to perpetuate a unique local standard. However, there is no evidence that the threshold values have been responsible for incidents, or that a change of values will reduce the incidence of problems with ILS critical area protection. To date, all reported incidents involving perturbations of the ILS beams have occurred in good weather conditions where aircraft have elected to fly coupled approaches. CASA is also aware that the FAA is not satisfied with its existing ILS protection area practices<sup>2</sup>. As result, CASA will not proceed with the change the existing critical area protection threshold values.*

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<sup>2</sup> Presentation made by the FAA at WG-1/Conventional Nav aids and Testing Sub Group (CN&TSG) of the ICAO NAVIGATION SYSTEMS PANEL (NSP). 12-21 October 2005. Montreal, Canada

*However, to address the signal disturbance issues resulting from aircraft entering the critical area after landing, CASA will amend the current procedures governing the presence of aircraft within a critical area while the ILS is in use. In effect, when the visibility is 2000 m or less, or the cloud ceiling is at or below 600 ft, ATC will generally not be permitted to allow aircraft within an ILS critical area if an approaching aircraft is within 4 NM of touchdown (or inside the outer marker). However an aircraft that enters a critical area in the process of landing is allowable on condition that ATC issues a specific warning to aircraft on approach.*

*Regarding the question about electronic RVR equipment, provision is required in the following circumstances:*

- *For ILS CAT I approaches, if a reduction of visibility minimum from 800 m (visibility/Runway Visibility) to 550 m RVR is to be supported.*
- *For any approaches with minima less than CAT I (for example, CAT II or CAT III approaches); and*
- *For take-off operations with a visibility of less than 350 m is to be supported.*

## **Disposition**

The AIP information on ILS critical area protection will use the existing threshold values of 600 ft and 2000 m. Within these parameters, ATC will generally not be permitted to allow aircraft within an ILS critical area if an approaching aircraft is within 4 NM of touchdown (or inside the outer marker). However an aircraft that enters a critical area in the process of landing is allowable on condition that ATC issues a specific warning to aircraft on approach. The contradictory reference to sensitive area protection will be revised.

## **Comment 5 – Key Proposal CASR 139-1: Aerodromes to require approval to support low visibility operations**

The proposal included a requirement for provision of RVR equipment acceptable to the Bureau of Meteorology (where appropriate) to the proposed operations. A respondent suggested that CASA should provide information to aerodrome operators about the circumstances in which RVR equipment is required for aircraft operations.

Another respondent asked, if RVR equipment is not installed and RV assessments are provided, what would be the operating limits imposed on an aerodrome.

### ***CASA Response***

*There are special requirements for aircraft operators, aerodrome operators and air traffic controllers when the visibility is reduced, the aim of which is to ensure that the aircraft operations can be conducted in safety. These requirements include special operating procedures and standards, and high levels of aerodrome infrastructure and facilities, according to the particular visibility conditions in which flying operations are to be conducted.*

*These special requirements demand that CASA pays particular attention to the capability and compliance levels of an aerodrome wishing to equip to support low visibility operations. CASA originally intended to introduce a specific regulatory approval requirement. In other words, an aerodrome operator would have to submit an application to CASA, CASA would have to assess the application (for a fee) and then produce a certificate of approval. Having reassessed the existing CASR Part 139 regulatory arrangement, it is apparent that CASA already has all the necessary authority to set the standard of low visibility compliance and then to enforce these standards, where required. A new requirement for a certificate of approval for low visibility operations would not add to the overall safety outcome when compared with the existing system.*

*Accordingly, CASA will not proceed with Key Proposal CASR 139-1.*

*Regarding the question about limits without electronic RVR but with RV assessments, the operating limits of that aerodrome would be:*

- *For ILS CAT I approaches with a visibility minimum from 800 m (visibility/Runway Visibility); and*
- *For approved aircraft operators, take-off operations with an RVR of not less than 350 m.*

## **Disposition**

Key Proposal CASR 139-1 ‘Aerodromes to require approval to support low visibility operations’ will not be implemented.

## **Comment 6 – Proposal MOS 139-1: Aerodrome information for AIP**

A respondent said the MOS should include a requirement for aerodrome operators to provide:

- a written statement of Part 139 Low Visibility Operations compliance to a Certified Designer to allow promulgation of a LVP.
- Type A and B charts on request to aircraft operators/certified designers.

The respondent also asked if it is CASA's intention to promulgate Aerodromes with LVO runways data on an Aerodrome Chart or solely in an En-Route Supplement.

## ***CASA Response***

*As discussed in the sections on Proposal CASR Part 139-1 and MOS Part 173-3, CASA will not proceed with formally approving aerodrome operators for low visibility operations or to require specific exchange of letters on low visibility operational capability. It is CASA's intention that an aerodrome's capability for low visibility operations will be determined by assessment, on upgrade or on a routine basis, of compliance with the standards relevant to the proposed operations, and that information on aerodrome infrastructure necessary for low visibility operations would be detailed in the AIP. Therefore, obligations for written statements in this respect are not required.*

*An aerodrome operator's obligation to provide Type A and Type B charts is already covered in MOS Part 139. If an aerodrome operator wishes to support low visibility operations and the development of associate instrument flight procedures depends on the procedures designer having access to Type A and Type B charts, then it is incumbent on the aerodrome operator to make these charts available.*

*Regarding promulgation of information about LVO runway data, CASA's expectation is that low visibility information should appear both as text (in the En-route Supplement Australia/AIP) and pictorially on charts. Aerodrome operators would have flexibility to adopt the most appropriate method for delivering the information based on the particular circumstances of the aerodrome's operations.*

### **Disposition**

No change to the original proposal.

### **Comment 7 – Key Proposal MOS 139-3: Holding Bays, Runway-holding Positions, Intermediate Holding Positions and Road-holding Positions**

A respondent said that the proposed additional requirement for provision of runway-holding positions would have extreme impacts on airport capacity because many holding points would have to be relocated much further from the runway than is currently required. Several respondents sought clarification on the intent of the proposed requirement with regard to penetration of obstacle limitation surfaces.

### **CASA Response**

*The intent of the proposal was to address a perceived omission of an ICAO Annex 14 Volume 1 requirement aimed at preventing interference with operation of radio navigation aids by taxiing aircraft. It was not CASA's intention to amend existing obstacle limitation surface/obstacle free zone requirements. Having reviewed the operator feedback and reassessed the existing standards in the MOS, it is apparent that this proposal is not necessary for the safety of low visibility operations. In particular, the requirement for avoid interference with the operation of radio navigation aids is already covered by MOS Part 139 paragraph 6.4.3.1. Accordingly, CASA will not proceed with the proposed subparagraph 6.4.2.2 (c).*

*Further review of the existing MOS Part 139 standards for operations within a runway strip has shown that there are no standards for operation of mobile obstacles (such as vehicles and aircraft) in proximity to a precision approach runway – as required by ICAO Annex 14 Volume 1, para 3.4.7. Essentially, the ICAO standards requires mobile obstacles (vehicles etc.) to be kept outside of a distance of between 45 and 77.5 m from the runway centreline (depending on runway code number or letter) when a precision approach runway is in use. This standard is an essential safety requirement for precision approach operations and thus has been included in subsection 6.2.24 of MOS Part 139.*

## Disposition

The proposed subparagraph 6.4.2.2 (c) will not be included in MOS Part 139. However the other proposed changes to MOS Part 139 Section 6.4, as well as a standard for presence of mobile obstacles (vehicles etc.) in a runway strip, will be implemented.

### **Comment 8 – Key Proposal MOS 139-4: Aiming point marking**

A respondent asked if it would be acceptable for aiming point marking to be established at an aerodrome at a date in advance of the implementation date for the new standard.

#### *CASA Response*

*The wording of the standards pertaining to the proposed aiming point marking will be such that an aerodrome operator will be able to provide such markings at any time prior to the date they become mandated.*

## Disposition

No change to the original proposal.

### **Comment 9 – Key Proposal MOS 139-5: Touchdown zone marking**

A respondent asked if it would be acceptable for touchdown zone marking to be established at an aerodrome at a date in advance of the implementation date for the new standard.

#### *CASA Response*

*The wording of the standards pertaining to the proposed touchdown zone marking will be such that an aerodrome operator will be able to provide such markings at any time prior to the date they become mandated.*

## Disposition

No change to the original proposal.

### **Comment 10 – Key Proposal MOS 139-6: Target date for compliance with MOS Part 139 lighting requirements**

A respondent sought confirmation that the target date for compliance of lighting systems for low visibility operations was 3 years after the commencement of the new standards or 2 years as per other proposals.

Another respondent asked if there is scope for an aerodrome to achieve compliance prior to the date of effective rule change.

#### *CASA Response*

*CASA deliberately selected a three-year implementation period for lighting requirements to allow aerodrome operators to budget for the relatively greater expense of lighting compared to the cost of other changes proposed under the low visibility operations project.*

*The wording of the standards will be such that an aerodrome operator will be able to achieve compliance prior to the cut-off date. In fact, CASA welcomes and encourages early compliance.*

**Disposition**

No change to the original proposal.

**Comment 11 – Key Proposal MOS 139-7: Switchover time for secondary power**

A respondent noted that CASA had not specified a particular method for switching from primary to secondary power sources and said this was a valid decision given the different methods that can be used to achieve the outcome.

***CASA Response***

*Noted. CASA considers it cannot prescribe the method for switching from primary to secondary power sources.*

**Disposition**

No change to the original proposal.

**Comment 12 – Key Proposal MOS 139-15: Monitoring of lighting systems**

A respondent said that the proposed standard needs to provide more detail on the type and level of monitoring that required, because individual lamp monitoring would be very expensive.

***CASA Response***

*CASA is aware of the expense of automated light monitoring. Accordingly, a deliberate decision was made to keep the specification as generic as possible ('a suitable system') as well as to make monitoring a recommended practice for runways intended for operations in visibilities of less than 550 m.*

*The generic nature of the specification gives flexibility to aerodrome operators in this regard. The 'Reasons' column in the NPRM mentions some methods: an automatic monitoring system or a system of preventative maintenance and inspection. CASA would expect aerodrome operators to establish a system appropriate to the operating environment at the aerodrome. In other words, an aerodrome with low traffic levels during low visibility conditions would not need as complex a monitoring system as an aerodrome that supports busy traffic during low visibility conditions.*

**Disposition**

No change to the original proposal.

## **Comment 13 – Key Proposal MOS 139-16: Aerodrome Low Visibility Procedures**

Another respondent sought clarification as to the minimum visibility before electronic RVR equipment is required, and said that the definition for LVP (Procedures applied at an aerodrome for the purpose of ensuring safe operations during LVOs) is ambiguous because LVPs are implemented in visibility conditions well above those that require the use of LVOs.

A respondent suggested the following changes to the original proposals:

- For all instances where term ‘LVPs’ is used, replace with ‘LVP’.
- Section 10.17: Aerodrome safety procedures during conditions of reduced visibility or low cloud.
- 10.17.2.2 The aerodrome operator must consult with all relevant parties, including ATC and aerodrome service providers, in the development of an LVP.
- Add: 10.17.3.3 The aerodrome operator must inform the Certified Designer (in writing) when the aerodrome operator’s component of LVP is fully in place.

### ***CASA Response***

*As discussed earlier, the minimum visibility before RVR equipment is required for continued operations is:*

- *For approaches: 800 m; and*
- *For take-off operations: 350 m.*

*The ambiguity of the LVO and LVP definitions is acknowledged and will be corrected so that LVPs are not exclusively aimed at supporting low visibility operations.*

*The respondent’s suggested amendments to the MOS wording are noted, and will be incorporated where appropriate. Readers should note that the wording in an NPRM will not necessarily be reflected in final rules because the latter have to be written to meet legislative drafting standards.*

### **Disposition**

In the final changes to the AIP, LVP will be defined as procedures applied at an aerodrome for protecting aircraft operations during conditions of reduced visibility or low cloud.

## **Comment 14 – Key Proposal MOS 139-17: Runway visibility assessments by ground personnel**

A respondent said that ATC are trained Met Observers and are better qualified than aerodrome ground personnel for calculating runway visibility. The operator also said ATC should calculate the visibility at aerodromes equipped with electronic RVR. Another operator said that its staff do not provide RV assessments, but facilitates pilots making their own assessments.

The operator said that the standards should allow for this option. A third respondent asked for clarification about the approval process for appointing personnel to conduct RV assessments.

A respondent pointed out an apparent contradiction with the requirements for authorising RV assessors, with the FLTOPS4 proposal saying an RV assessor is to be authorised by the aerodrome operator, while proposal says that an RV assessor is to be approved by CASA. The provider also said the meanings 'approved' and 'authorised' need to be made clear and that the Bureau of Meteorology should also be able to approve RV assessors as per paragraph 120 of the Civil Aviation Regulations 1988 (CAR 120).

Another respondent suggested the following changes to the proposed wording of the section:

- 10.X.1.2 The appointed RVA assessor must...
- 10.X.4.2 (d) Notes Point 2: “Where the runway visibility is above 2000 m feet, it is reported that the runway visibility is greater than 2000 m.”

### ***CASA Response***

*At locations where RVR was traditionally determined by counting of runway lights, the only ATC input to the determination of RVR was to ‘do the maths’, in other words to multiply the number of lights reported in sight by the spacing between the lights. This multiplication does not require any special qualification. The intention of the RV system is for the operator to provide a ready reference chart with the calculations already done. In other words, the observer would count the lights, look up on relevant value from the table and then report the figure to ATC. This system can actually reduce the potential for error.*

*In regard to the comments on RVR values, this rule will confirm it is the responsibility of ATC to report electronic RVR values.*

*The proposed standards do not oblige aerodrome operators to provide RV assessments. However they do make the provision of these assessments easier because specific licensing or training by the Bureau of Meteorology would not be required. The intent of the new standards is to encourage provision of RV assessments at more aerodromes than is currently the case.*

*However, regardless of whether RV assessments are provided or not, the pilot will always be able to make his/her own assessment as to whether prevailing visibility is sufficient.*

*Regarding the query about approving personnel to conduct RV assessments, it is CASA’s intention that training and ‘appointment’ will be conducted in-house – that is by the aerodrome operator. CASA does not intend to become involved in approving RV assessors, but will assess the operator’s procedures during safety surveillance. The Bureau of Meteorology will also have the right to review an operator’s RV practices.*

*The contradiction of the requirements for authorising RV assessors is acknowledged. CASA's intention is for aerodrome operators to 'appoint' RV assessors and that any RV assessors so appointed are 'approved' by CASA under CAR 120 (1)(b) for an operator or pilot-in-command of an aircraft to use the person's RV assessment to determine if the required visual reference for a landing, or the minimum take-off visibility, is likely to exist. CASA does not believe the Bureau of Meteorology needs to be specifically mentioned in the MOS reference because there is no change the Bureau's existing powers in CAR 120.*

### **Disposition**

In the final rules and standards, the approach ban requirements will be worded to the effect that an RV assessment by a person appointed by an aerodrome operator is a valid source of information for approach ban purposes.

### **Comment 15 – Key Proposal MOS 139-19: ILS installations on aerodromes**

A respondent said, for para 11.1.10.3, warning signage around an ILS installation should be the responsibility of the navigation aid owner/provider and, for proposed regulation 11.1.10.5, the aerodrome operator should arrange ILS shutdowns through the navigation aid owner/provider.

#### ***CASA Response***

*Proposed regulation 11.1.10.3 is an editorial amendment only of the existing requirement on signage at MOS Part 139 paragraph 11.1.8.9. While the aid owner/provider needs to provide advice about the required location and type of signage, only the aerodrome operator has the authority to place signs on an aerodrome and require compliance with the signage.*

*Regarding proposed regulation 11.1.10.5, there are a variety of ways to arrange for a navigation aid to be taken out of service. Therefore it is inappropriate to specifically direct this action through the navigation aid owner/provider.*

### **Disposition**

No change to the original proposal.

### **Comment 16 – Key Proposal MOS172-1: ATC Low visibility procedures and protection of ILS critical and sensitive areas**

A respondent made the following comments or suggestions:

- Annex B Para 4.6.3 (a) conflicts with Para 11.1.10.
  - Para 4.6.3 (a) is aligned with current FAA practise and in effect does not require the localiser critical area to be protected due to the exemption on the preceding aircraft.
  - However 11.1.10 states that the critical area needs to be established and shall be protected during all ILS operations. This definition is aligned with European practise.

- In regards to Annex B 4.6.3 (a), the FAA practice to which CASA are aligning has been documented by the FAA as being inadequate and requiring change to that used in Europe i.e. they recommend "Prohibit any vehicles or aircraft in the critical area, during any (e.g., to include good visibility) ILS operation".
- Annex B Para 11.1.10.2. As grass dies during dry conditions (common in Australia) the use of weed killer is not practical. Suggest this be changed to placement of bollards/signage every 30m.
- Annex B 11.1.11.1. Suggest change to both the words "must" and "shall" to "should", as these requirements will not be met always in every part of the ILS critical area.
- Annex B 10.3.3 (b) "for aerodromes at which ILS approaches will be conducted, procedures are in place to safeguard ILS protection areas in accordance with section 10.3.4(e)"
- Annex B 10.3.5.1 "If an aircraft advises that a "CAT III", "autoland", "coupled", "guided take-off" or similar type operation will be conducted, ATC must inform an aircraft that the relevant ILS critical or sensitive area is not being protected if:
  - (a) ATC is not required to ~~protect~~ **provide** ILS critical or sensitive area **protection** according to paragraph 10.3.4.3, or
  - (b) ATC is not able to provide ILS critical or sensitive area **protection** according to sub-paragraphs 10.3.4.3 (a) to (c) in other circumstances."
- Annex B 4.6.3 "When the cloud ceiling **is** below 800 FT, but not less than 200 FT; or visibility less than 3 000 m..."

### ***CASA Response***

*CASA acknowledges the comments and suggested corrections.*

*Regarding the comment about marking the perimeter of a critical area, the proposal was in the form of a suggestion rather than a requirement. This means aerodrome operators would be free to use alternative marking systems. Nevertheless the final version has been changed to be more generic in nature.*

*Regarding the comment about proposed regulation 11.1.11.1, CASA has been advised that the surface area specifications are not required. Therefore this reference will be omitted from the final document*

*Regarding the comments on the efficacy of the FAA-based critical area protection requirements, please see the CASA response and disposition at Comment 4 on page A5 of this Annex.*

### **Disposition**

Regarding the signage/markings of the perimeter of an ILS critical area, the final MOS will reflect a more generic signage/markings requirement. In addition, the proposed regulation 11.1.11.1 will be omitted.

## **Comment 17 – Key Proposal MOS173-1: Minimum values for instrument approach minima**

Several respondents said that the proposed state minima for APV and Non-precision approaches (NPA) were unnecessarily restrictive and did not provide appropriate credit for the availability of ALS. The respondents said the table should be reviewed in light of comprehensive approach designs and enhanced aircraft capabilities.

A respondent said there is no mention of RVR for the mid and end zones for landing using CAT IIIA. The 175m RVR should only apply to the touchdown zone and 125m for the mid and end zones.

### ***CASA Response***

*CASA proposed State minima for NPA and APV in NPRM 0906AS because the NPRM provided an opportunity for addressing some existing gaps in State minima requirements. However, from the industry feedback, it is apparent that further work is necessary before standards for these minima can be finalised. Therefore, CASA has decided to omit the NPA and APV State minima from the final amendments to MOS Part 173.*

*Regarding the comment about multiple RVR zone values, the requirement for the required RVR value for each zone is specified in the proposed CAAP LVO-1(0) as well as in individual aircraft operator approval for low visibility operations. The minima for MID and END zones are consistent with European Union standards. The purpose of the CASR Part 173 proposal is to detail the primary state minimum for the purpose of designing instrument approach charts.*

### **Disposition**

The final amendments to MOS Part 173TBA will not include State minima for APV and NPA.

## **Comment 18 – Key Proposal MOS173-3: Confirmation of aerodrome capability**

A respondent said that the proposal seems to imply approach designers will have to police or take responsibility for ensuring that an aerodrome meets the requirements for a particular state minimum. CASA should, in all cases, be responsible for ensuring that aerodrome meets or continues to meet a particular infrastructure requirement.

### ***CASA Response***

*Upon review, CASA agrees the current proposal unintentionally implies some responsibility for procedures designers, particularly if the capability of an aerodrome changes and the aerodrome operator does not provide revised written advice to the procedures designer. It is appropriate that CASA should be responsible for ensuring a procedure is fit for purpose. Accordingly, the proposal will not be implemented.*

## Disposition

Key proposal MOS Part 173-3 will not be implemented.

### Comment 19 – Key Proposal CAAP LVO-1(0): Low visibility operations

A respondent made the following comments on the proposed CAAP:

- For the table at paragraph 4.1, the visibility value of 350 m should be amended to 300 m because 300 m visibility is the break point in MOS Part 139 paragraph 9.10.24.2 (b) for the different specifications for runway centreline lighting.
- In paragraph 4.4.1, the minimum RVR value for ILS CAT IIIB of 75m contradicts the AIP definition for ILS CAT IIIB which specifies a minimum RVR of 50m.
- In paragraph 5.2.1, the statement that LVO can only be conducted at an aerodrome within Australia approved or certified by CASA for that purpose contradicts advice from CASA that low visibility operational capability would only require demonstration of compliance with the relevant regulations.

Another respondent requested clarification about the requirements for electronic RVR and stop bar lighting to support take-offs in visibility conditions of 350m.

#### **CASA Response**

*Concerning the table in paragraph 4.1 of the CAAP, the MOS reference was recently amended to a breakpoint value of 350 m to comply with ICAO Annex 14 Volume 1 requirements.*

*There is no contradiction between the CAAP and the AIP definition for ILS CAT IIIB. By definition, an ILS CAT IIIB approach cannot have an RVR of less than 50m; however, no country including Australia has authorised ILS CAT IIIB approaches with an RVR of less than 75m.*

*Regarding proposed paragraph 5.2.1, CASA had originally contemplated a formal aerodrome low visibility approval requirement, however CASA is not proceeding with this proposal. Instead, capability for low visibility operations will be assessed by demonstration of compliance with the standards relevant to the proposed operations.*

*Regarding requirement for electronic RVR and stop bar lighting to support take-offs in visibility conditions of 350m. Both RV and RVR assessments are acceptable sources of visibility data to support **take-offs** with a visibility of not less than 350m. However, only electronic RVR is acceptable for **approaches** with a visibility of less than 800m.*

*According to a recent change to MOS Part 139, stop bar lighting is required for runways used in visibility conditions of less than 550 m. However, stop bar lighting may not be required if, among other things, aircraft movements are restricted to one at a time, or appropriate aids and procedures are implemented to prevent runway incursions. Therefore it is conceivable for take-off operations to occur with visibility less than 550 m and without the provision of stop bars.*

**Disposition**

The final version of CAAP LVO-1(0) will include advice to the effect that low visibility operations may only take place to the limits specified in the AIP for a particular aerodrome.