



**CASR PART 145 (APPROVED MAINTENANCE ORGANISATIONS) POST IMPLEMENTATION REVIEW  
ASAP TECHNICAL WORKING GROUP (TWG)  
TASKING INSTRUCTIONS and FIRST REPORT**

*The Part 145 PIR Technical Working Group (TWG) is established and operates in accordance with the Terms of Reference of the Aviation Safety Advisory Panel (ASAP) dated September 2017 (or as amended).*

**PURPOSE**

The role of the TWG will be to provide relevant technical expertise and industry sector insight for the post implementation review (PIR) of CASR Part 145, Manual of Standards (MOS) and associated legislation in accordance with the agreed policy outcomes.

The TWG will:

- Provide industry sector insight and understanding of current needs and challenges
- Provide current, relevant technical expertise for the development, analysis and review of legislative and non-legislative solutions to the identified issues
- Assist with the development of draft regulations, guidance materials and other supporting materials
- Provide endorsement and or conditional endorsement of draft regulations, guidance materials and other supporting materials for consideration by the ASAP and CASA

**POLICY OUTCOMES**

The three primary policies for the Part 145 PIR are as follows:

- Maintain full compliance with the ICAO standards for maintenance organisations, noting that the ICAO standards include scalability for the different classifications of operations.
- Harmonisation with the corresponding European Aviation Safety Agency (EASA) regulations.
- Reduce the complexity of Part 145 and the associated legislation.

Other key objectives and policy outcomes to guide all activity on the PIR include:

- Ensure that the legislation effectively addresses any unique Australian safety risks not covered by the ICAO standards and EASA regulations.
- Resolve any residual specialist maintenance issues that remain after EASA harmonisation.
- Improve devolution of responsibility to industry.
- Improve the harmonisation between the related airworthiness legislation (i.e. CASR Parts 21, 42, 66 and 145).
- Remove ambiguities, fix anomalies and address unintended consequences presently in the legislation and advisory material.
- Improve provisions for Part 145 maintenance organisations to carry out maintenance for aircraft that remain subject to CAR (an interim measure until the remaining regulation reform projects are complete).
- Identify and provide interim measures to accelerate implementation of finalised policies.

**SPECIFIC OBJECTIVES**

The project has the following components:

1. **Legislation.** Review and recommend changes to the Part 145 regulations, Manual of Standards, associated legislation and advisory material to achieve the policy outcomes.
2. **Specialist Maintenance.** Review and recommend changes to clarify and improve the understanding of specialist maintenance requirements to achieve the policy outcomes.
3. **Complexities.** Review and recommend changes to clarify and improve the understanding of the various identified issues to achieve the policy outcomes.

4. **Interim measures.** Identify and recommend interim measures to alleviate known issues until legislation amendments and associated advisory material changes are implemented.

Timelines for specific outputs are (subject to change according to CASA's wider regulatory program):

- **TWG meeting: November 2018**
- General exemptions: March 2019
- **TWG meeting (if necessary)**
- Public consultation of legislation and guidance material: August 2019
- Regulatory package to Department: End 2019

## ROLES AND RESPONSIBILITIES

CASA	TWG Members
<ul style="list-style-type: none"> <li>• Organise meetings and workshops, and produce agendas, papers and supporting materials</li> <li>• Facilitate meetings and workshops</li> <li>• Record insights and findings</li> <li>• Communicate openly and consistently with TWG members about project status and issues</li> <li>• Respect the time of all TWG members by minimising work required to achieve outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Commit to supporting the project objectives and timeline</li> <li>• Engage and collaborate constructively at all times</li> <li>• Prepare for working group activities by reviewing agendas, papers and supporting materials</li> <li>• Provide timely and considered advice in meetings, and between meetings as required</li> <li>• Respond to requests for feedback on draft materials within agreed timeframes</li> </ul>

## CONSENSUS

A key aim of the TWG is that a consensus be reached, wherever possible, in the finalisation and preparation of advice for the Aviation Safety Advisory Panel and CASA.

The TWG will be guided by the ASAP Terms of Reference (Section 6 - attached) with respect to determining and documenting consensus.

## MEMBERSHIP

Members of the TWG have been appointed by the ASAP Chair, following ASAP processes.

The Part 145 TWG consists of the following members:

Mark Sinclair – Qantas Group	Andrew Villella – Virgin Tech
Cindy Rowley – Esso Australia	David Paynter – Brisbane Aero Engineers
Steven Re – ALAEA	Colin Hockings – National Aerospace NDT Board
Shaun Moss – ABAA	Mike Higgins – RAAA
Andrew Harris – RFDS Qld	

The TWG CASA Lead, Robert Park, was supported by Anthony Cox, Bradley Cowan and Richard Allen, during the meeting.

The ASAP Secretariat was represented by Matthew Di Toro.

**PROCESS FOR ACHIEVING CONSENSUS**

As required by the ASAP (& TWG) Terms of reference, there must be agreement by all participants on the method used for obtaining consensus.

To obtain consensus, the TWG discussed the meeting and came to an agreement on whether consensus (or otherwise) has been met on the outcomes of this TWG workshop. This result has been recorded under Outcomes A and B with additional commentary captured in C.

The CASA Lead has also provided commentary of the effectiveness of the TWG and whether it’s believed that the recorded outcomes are a fair representation of the TWG from a CASA perspective.

**SUMMARY OF OUTCOMES – TWG Meeting 19 – 20 November 2018**

This meeting of the TWG worked towards achieving the overall TWG outcomes as described in the ASAP TWG Tasking Instructions.

The two below questions seek to ascertain the views of the TWG at this time, so their advice can be provided to the ASAP. Importantly, the TWG may determine that the two outcomes are not yet met and therefore provide advice to the ASAP that this is the case. The TWG would, however, also need to qualify and outline why this is the case along with recommendations as to what needs to occur to for it to achieve the two outcomes.

In addition to the below commentary, any issues raised in the TWG meeting will be provided to the TWG members, ASAP and CASA to ensure there is a common understanding of the areas where rework or investigation is required.

- A. Was there consensus achieved among the TWG members for a way forward to solutions for the 18 identified issues currently contained within the CASR Part 145 and Part 145 Manual of Standards?**

**FULL CONSENSUS** / GENERAL CONSENSUS / DISSENT

*Comments:*  
The 18 specific issues were discussed and the high-level policy requirements to address the issues were considered and agreed.

- B. By applying solutions to the identified issues, is the TWG satisfied that CASR Part 145 and Part 145 MOS will achieve its policy intent, as outlined in the Tasking Instructions, and be implementable?**

**FULL CONSENSUS** / GENERAL CONSENSUS / DISSENT

*Comments:*  
The TWG were in full consensus that by applying the solutions to the identified issues, CASR Part 145 and Part 145 MOS will achieve the policy intent and be implementable.

**C. Does the TWG have any other feedback or advice that should be considered by the ASAP?**

*Comments:*

The TWG fully supported the use of general exemptions to alleviate immediate issues pertaining to the complexities surrounding specialist maintenance and temporary locations.

The TWG discussed the benefits of CASA conducting internal training for specific roles of responsibility within operators (e.g. Chief Pilot, AMO Responsible Manager, Head of Operations, Quality Manager etc.) This would assist in setting consistent industry standards that meet CASA requirements.

The TWG noted that in its current form, CASR Part 145 and Part 145 MOS may not be implementable to smaller operators, i.e., Part 135 operators/small charter, without further consideration and industry consultation. This would also apply to Part 91 international itinerant business operations.

**CASA Lead Summary**

**ROBERT PARK**

*Comment:*

*The 18 specific issues originally identified for the Part 145 PIR survey and included in the TWG lead discussion papers were consolidated to 7 main topics. These topics as listed below were discussed and facilitated via PowerPoint presentation material:*

- *Scope of Approval -CLASS –RATINGS –LIMITATIONS*
- *Certification of Maintenance*
- *Specialist Maintenance*
- *Contracting & Sub-contracting*
- *Maintenance at temporary locations*
- *Significant and Non-significant changes*
- *Competencies –Carry out -v-Supervision*

*The topics above were compared to the EASA regulatory scheme requirements where differences exist within various CASR legislation and associated advisory material. The comparisons were to provide understanding and consideration of alignment with the EASA requirements. The proposals did achieve full consensus at policy level that alignment / harmonisation with the EASA requirements would provide resolution to the known issues and complexities.*

*The TWG members were extremely engaging, providing great input and discussion. The 18 issues within the lead discussion paper were also briefly reviewed to ensure all issues were covered. There was a variety of further comments, notes and discussion points from this review which have been included with the meeting notes taken, see Appendix item 3 below.*

*The EASA “Easy Access Rules for Continuing Airworthiness” document format and structure were discussed and the TWG fully agreed if CASA followed the same format this would consolidate and reduce the numerous documents currently published by CASA (CASR, MOS, AMC, GM, AC) therefore providing a single point to access all associated information making its use easier for all end users. It was also stated that applicable acceptable means of compliance and guidance material should be provided with consultation of legislative changes.*

*The 1<sup>st</sup> point in block C above with respect to use of general exemptions – due to the numerous issues and legislative changes required, the TWG recognise the benefits of CASA enabling exemption provisions for two of the significant issues currently impacting industry to expedite relief of those complexities.*

*The 2<sup>nd</sup> point in block C above with respect to CASA training - this being proposed to assist both industry and CASA inspectorate to achieve standardised and consistent legislative knowledge levels for respective responsible position holders (key personnel) within industry.*

*The 3<sup>rd</sup> point in block C above with respect to Part 135 operations – due to being out of scope for this project, it was acknowledged that there was no consultation within this TWG with regards to the applicability of CASR Part 145 legislation to Part 135 and Part 91 operations.*

## **Appendix**

1. Extract from ASAP Terms of Reference
2. Part 145 TWG Agenda – 19-20 November 2018
3. Part 145 PIR TWG meeting notes – Sydney, 19-20 Nov 2018

## APPENDIX 1

### **(extract) From ASAP and TWG Terms of Reference regarding Consensus**

- 6.1** A key aim of the ASAP is that a consensus be reached, wherever possible, in the finalisation and preparation of advice to the CEO/DAS.
- 6.2** For present purposes, 'consensus' is understood to mean agreement by all parties that a specific course of action is acceptable.
- 6.3** Achieving consensus may require debate and deliberation between divergent segments of the aviation community and individual members of the ASAP or its Technical Working Groups.
- 6.4** Consensus does not mean that the 'majority rules'. Consensus can be unanimous or near unanimous. Consensual outcomes include:
  - 6.4.1 Full consensus**, where all members agree fully in context and principle and fully support the specific course of action.
  - 6.4.2 General consensus**, where there may well be disagreement, but the group has heard, recognised, acknowledged and reconciled the concerns or objections to the general acceptance of the group. Although not every member may fully agree in context and principle, all members support the overall position and agree not to object to the proposed recommendation.
  - 6.4.3 Dissent**, where differing in opinions about the specific course of action are maintained. There may be times when one, some, or all members do not agree with the recommendation or cannot reach agreement on a recommendation.

#### *Determining and Documenting Consensus*

- 6.5** The ASAP (and Technical Working Groups) should establish a process by which it determines if consensus has been reached. The way in which the level of consensus is to be measured should be determined before substantive matters are considered. This may be by way of voting or by polling members. Consensus is desirable, but where it is not possible, it is important that information and analysis that supports differing perspectives is presented.
- 6.6** Where there is full consensus, the report, recommendation or advice should expressly state that every member of the ASAP (or Technical Working Group) was in full agreement with the advice.
- 6.7** Where there is general consensus, the nature and reasons for any concern by members that do not fully agree with the majority recommendation should be included with the advice.
- 6.8** Where there is dissent, the advice should explain the issues and concerns and why an agreement was not reached. If a member does not concur with one or more of the recommendations, that person's dissenting position should be clearly reflected.
- 6.9** If there is an opportunity to do so, the ASAP (or Technical Working Group) should re-consider the report or advice, along with any dissenting views, to see if there might be scope for further reconciliation, on which basis some, if not all, disagreements may be resolved by compromise.

**ASAP Technical Working Group**  
**CASR Part 145 PIR – Approved Maintenance Organisations**  
**19-20 November 2018**  
**Sir Charles Kingsford Smith Room**  
**CASA Sydney Office, Level 2 Centennial Plaza (Tower A)**  
**260 Elizabeth St, Sydney NSW 4000**

**A G E N D A**

**Day One – Monday 19 November 2018**

<b>Time</b>	<b>Topic</b>	<b>Presenter/s</b>
8.30am – 9.00am	TWG members arrive at CASA office	TWG members
9.00am - 9.20am	Welcome, introductions, housekeeping	CASA
9.20am – 9.30am	Review and Acknowledge TWG Tasking Instructions and ASAP Terms of Reference	ASAP
9.30am – 10.00am	Explanation of the reading and reference material	CASA
10.00am – 10.20am	Morning Tea	
10.20am – 12.00pm	Interactive discussion # 1 – Contents referenced in the “Lead Paper – Issues for Discussion” <ul style="list-style-type: none"> <li>• Highlight Summary of Consultation issues and its overlap with the Original 18 Issues.</li> <li>• Review the possible solutions for the Original 18 Issues (Table 3).</li> <li>• Refer to Appendix 1 material for context and more detail for responses</li> <li>• Refer to and discuss comments/suggestions in Feedback Sheets from TWG members</li> </ul>	ALL
12.00pm – 12.45pm	Lunch Break	
12.45pm – 12.50pm	TWG Group Photo in CASA Reception area	ALL
12.50pm – 2.30pm	Continue interactive discussion #1	CASA
2.30pm – 2.45pm	Afternoon Tea	
2.45pm – 4.30pm	Continue interactive discussion #1	ALL
4.30pm – 5.00pm	Wrap up of Day One <ul style="list-style-type: none"> <li>• Confirm issues</li> </ul>	CASA

## Day Two – Tuesday 20 November 2018

Time	Topic	Presenter/s
8.30am – 10.00am	Interactive discussion #2 – <i>Continued</i> – contents referenced in “Lead Paper – Issues for Discussion” <ul style="list-style-type: none"> <li>• Continue to review the possible solutions outlined in Table 3.</li> <li>• Discuss TWG member comments or suggestions in feedback sheet</li> </ul>	ALL
10.00am – 10.15am	Morning Tea	
10.15am – 12.00pm	Continue interactive discussion #2	ALL
12.00pm – 12.45pm	Lunch Break	
12.45pm – 2.45pm	Continue interactive discussion #2	ALL
2.45pm – 3.00pm	Afternoon Tea	
3.00pm – 4.30pm	Wrap Up of Technical Working Group <ul style="list-style-type: none"> <li>• Confirm Issues</li> <li>• Prepare Draft CASR Part 145 TWG Report</li> <li>• Next Steps</li> </ul>	ALL

## **Part 145 PIR TWG Meeting Notes – Sydney 19 - 20 Nov 2018**

- Intro – Ben Chandler
- Mike Higgins wanted clarification on maintenance requirements for CASR 135 operations. Ben confirmed CASR Part 145 would be an option, but other options not decided at the moment.
- Round the room intros and expectations.
- Bob Park – introduction and commenced presentation topics.

### **Scope of Approval:**

- Question show of hands for B, C and D rated orgs to conduct onwing maintenance and issue Form 1 within the scope of the AMO rating approval. The EASA legislation permits this subject to an approved control procedure. It was emphasised this is strictly controlled by EASA for approval and activities controlled by A rated AMO and within the confines of approved engine / aeronautical product data. No disagreements on this policy. Discussion about the definition of aeronautical product / aircraft maintenance. Was discussed that for example: dropping an aircraft engine down as a part of onwing maintenance, would still fit under aircraft (onwing maintenance).

### **Certification for maintenance:**

- Onwing maintenance certification scheme EASA based for B, C & D rated orgs show of hands for proposal, understanding the current CRS system would have to change.
- Discussed EASA CRS policy document and terminology, intent of use of wording “support staff” and EASA/CASA differences. Part 145 & Part 66 language need to be consistent with changes and alignment with EASA to ensure the scheme functions.
- AGREED - Adopt EASA certification model (removal of CASA’s additional certification layer)
- AGREED - Allow a B, C & D rated org to release maintenance performed on wing – Adopt EASA policy – using a CASA form 1
- AGREED - Adopt EASA terminology for CRS

### **Specialist maintenance:**

- Why does NDT have restrictive standards specified? It was highlighted that the current Australian standards are Nationally recognised and contain a competency requirement that provides relief for the restrictive standard. It was confirmed the Australian standard AS3669 for NDT will not be renewed and the Part 145 AMC/GM will need to be reflective of the future replacement.
- Retain ratings D1 NDT & D2 Welding Specialist maintenance (SM)– remove all other SM references in the MOS.

NOTE: Question/discussion was why have NDT and Welding?

EASA has NDT D1. CASA also prescribes qualification standards for welding. Both NDT and welding qualifications are outside of the Part 66 licence requirements. Removing these ratings would mean the A, B, C ratings would need to perform these activities under their

own ratings therefore not alleviating the current issues to ensure these services (eg NDT) can be provided under their own D1 rating approval.

- Discussion about the inconsistencies of AWIs in accepting/auditing competency assessments - CASA commented that training was being improved – and would depend on our AMC/GM also.
- Confusion about Part 66 AME licence privileges about the use on NDT Fluorescent penetrants - requires clarification in guidance material as this appears to be inconsistently applied. Collaborate with the Part 66 PIR to ensure clarity of privileges and consistency between Part 145, Part 66 and the respective AMC/GM/AC.
- AGREED - An AMO can/will describe within its own quality system (approval of Exposition) anything it requires to be treated as a specialist services which may be required during the maintenance of aircraft or aeronautical product. Same as EASA scheme.
- AGREED - An AMO can use any provider, E.g.: local machine shop fitter & turner to provide a service as required, to be managed under the “A” rated AMO’s quality system (requires subcontractor control & services procedures same as the EASA scheme)

NOTE: Question was raised regards what happens to those AMO’s holding a CASA approved D3 rating if the outcome is to remove D3. This is consistent with the EASA requirements as the organisations can still perform their role, provide their service, they will just do it under the request and control of the Aircraft or Aeronautical product approved AMO quality system therefore reducing the certification burden, potential monopoly, current complexities and increasing subcontracting flexibility.

#### **Contracting – Sub Contracting:**

- Sub-contracting induction requirements such as Human Factors, can they be scaled? Does the guidance support this? If not amend guidance. Acknowledged that these types of requirements should be commensurate with the level of subcontractor provisions.

#### **Maintenance at Temporary Locations:**

- Maintenance at temporary locations to follow EASA model - full consensus on the policy to adopt the EASA terminology, however acknowledging the need of further information on event types and durations such as AMC/GM.
- Approved port – clarity around approval of a port as “an approved port” – E.g.: issue where the port is approved for maintenance of a B737 but not an A320, when an A320 lands there and has unserviceability then is a temp location assessment required?

#### **Significant and Non-Significant Changes:**

- Query raised as to why CASA approval is required to add a location, when under an AOC you can assess and add without CASA pre-approval? (Only for area AOC).  
The full consensus to align with the EASA policy will alleviate this issue for adding a temporary location, however for a permanent location this is classes as significant and currently aligned to EASA. The Part 145 approval is separate to an AOC and a Part 145 AMO may be contracted to provide services to multiple operators. The assessment of location is in relation to the intended scope of maintenance required not the AOC ground operations. Giving an AMO ability to approve /add its own locations may result in ICAO noncompliance for CASA and would need further research.

- Issues raised regarding CASA time to process a significant change such as a new maintenance location. Considerations of requirements and expectations could be considered subject to varying complexities and changes such as:  
Maturity of organisation, compliance history, quality & safety systems etc, extent of change e.g.: addition of Aircraft type to existing location approval – v – new maintenance facility where nothing already exists.

#### **Competencies – carry out vs supervision:**

- Managing external working groups e.g.: manufacturers. Request that an overseas manufacturer working group can issue a form one. For their work.  
This would require the organisation to be approved under the CASR's. Requirement of the Civil Aviation Act. Also mentioned was the future considerations of other technical arrangements between NAA's to permit release of work by participating organisations which may provide beneficial.
- Discussed supervision and competency requirements for adopting EASA description (Reg & AMC)
- Discussed and clarified the required competencies of staff would be subject to and commensurate of the persons position within the organisation such as the example discussed - mechanics used to perform drilling & reaming structures modification (wing change) task and the Part 66 LAME performing inspection / supervision prior to Part 66 certification. With the understanding if only the Part 66 LAME performed the task then they are required to be competent prior to task certification.

#### **Summary:**

- Overview of the 7 main topics highlighting the EASA –v- CASA differences to clarify in general this proposal is about a return to the original EASA scheme which would resolve the issues because when CASA altered the scheme some complexities/issues/restrictions were inadvertently introduced.

#### **Lead Paper:**

- At end of session day 2, brief review of the TWG lead papers describing all 18 issues raised from the original survey to ensure that each item had been covered in day 1/2 discussion via 7 presentation key topics as above.
- During the review / discussions of further issues / queries noted for project considerations:
  - ALAEA concern at leaving option open for an AMO to determine its own Cat A maintenance tasks rather than listing in the MOS. Bob advised EASA manage this via the AMC
  - It was stated that applicable acceptable means of compliance and guidance material should be provided with consultation of legislative changes.
  - Lead paper - item 15, highlight to indicate specific details were not covered however outline that due to current deficiency in the Part 145 MOS for CAR 1988 Maintenance, this will be addressed as part of this project to include provisions as required by the CASR transitional regulations. No objection from the group.
  - Industry – Item 16, Esso rep raised an issue about lack of guidance from CASA on how to meet manpower planning requirement. ESSO had a CASA audit and was advised they did not have enough detail, however CASA could not provide guidance. ESSO made some changes, CASA agreed to the changes.

- General discussion around lack of responsibility mandated on the CAMO, where the CAMO plans excess work knowing very well the Part 145 AMO does not have the available man hrs.
- Question raised regards potential for CASA to have in place international agreements with other NAA's for maintenance under another NAA's maintenance approval where there is no CASA approved option available.
- Fluorescent Dye Penetrant – based on the group discussion, the issue of whether a LAME can perform “Fluorescent” dye penetrant maintenance, as in use the fluorescent dye pen process under their existing Part 66 AME License privileges needs to be clarified once and for all. This has been raised many times as there is confusion as to what process a LAME can do as a license privilege, meaning Dye Penetrant (red Dye (Not Fluorescent)) or Fluorescent Dye Pen. It is clear some LAMEs are actually doing Fluorescent now under their license and without any additional training while others believe they can only use the RED DYE process and cannot do Fluorescent. Previously clarification by AWI's to CASA standards has resulted in clarification stating that a LAME cannot do Fluorescent Dye Pen under their AME license. (Noted the need for consistent information between the Part 145 MOS / AMC/GM and Part 66 MOS)
- Issues raised by the group in relation to processing times, this was part of the discussion relating to significant changes. CASA to consider internal process in relation to how CASA manage change applications i.e.: takes far too long!!!
- Question was asked how CASA will manage changes where EASA make future changes. It was asked if CASA will introduce policy to ensure EASA regulation is monitored ongoing and actioned as appropriate relevant to the future of CASA Part 145. For this project and to retain appropriate harmonisation then Bob suggested ongoing working practices of monitoring EASA regulation would be the only way to achieve that and the use of this type of forum / consultation would determine applicability for adopting.