



MAINTENANCE ENGINEER LICENSING (PART 66) ASAP TECHNICAL WORKING GROUP TASKING INSTRUCTIONS and **SIXTH** REPORT 7 March 2023

The Part 66 Technical Working Group (TWG) is established to operate and report to the Aviation Safety Advisory Panel (ASAP) in accordance with the Terms of Reference of the ASAP dated November 2021 (or as amended).

PURPOSE

The role of the TWG is to provide relevant technical expertise and industry sector insight for the analysis and review of Civil Aviation Safety Regulations (CASR) Part 66 and Manual of Standards (MOS) in accordance with the agreed policy principles listed below:

- 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 regulation, 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
- consider whether there are any related opportunities for improvement to CASR Part 147 (Maintenance Training Organisations) to ensure Part 147 is entirely compatible with Part 66 and provides complementary set of regulations.

TWG OUTCOMES

The project has three key components:

1. **Legislation.** Review and recommend changes to the Part 66 regulations and MOS, to achieve the policy outcomes.
2. **Licence privileges.** Review and recommend changes to clarify and improve the understanding of licence privileges to achieve the policy outcomes.
3. **Aeroskills training.** To assist, where necessary, in the development of a revised Aeroskills training package by the Aerospace Education and Training Industry Reference Committee (IRC) of the Department of Education.

TWG MEETINGS

- 6 April 2018
- 30 January and 2 December 2020
- 25 August and 19 September 2021
- 2 May, 26 July, 17 August, 19 November and 9 December 2022
- 7 March 2023



ROLES AND RESPONSIBILITIES

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

CONSENSUS

A key aim of the TWG is that a consensus be reached, wherever possible, in the finalisation and preparation of advice for the ASAP.

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 66 TWG meeting was attended by:

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| <ul style="list-style-type: none">• Mark Thompson (Chair)• Sheridan Austin• Stephen Re• Keith Blaik• Rod Tomlins• Steven Wright | <ul style="list-style-type: none">• Russell Quinn• Mark Howe*• Aaron Smith*• Darren Barnfield*• Mary Brown*• Ted Goetz* |
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The TWG CASA Lead, Ben Challender, was supported by CASA subject matter experts during the meeting.

The ASAP Secretariat was represented by Chace Eldridge.

**Denotes members not present in the meeting*



MEETING SUMMARY

- The purpose of the meeting was to review the draft summary of consultation (SOC) from the Modular Licensing Discussion paper and to seek TWG endorsement for CASA to continue drafting the Part 66 Manual of Standards (MOS) amendments to provide licensing pathways using exclusions.
- The feedback from public consultation was primarily positive. It seemed there was confusion in industry around some of the more detailed elements of the discussion paper.
- The TWG and CASA agreed that the number of exclusions available should allow maximum benefit to industry, whilst remaining practical from a licensing and theory/training delivery perspective. A TWG member felt the exclusions, as outlined in the [discussion paper](#), could be interpreted in different ways. Although the discussion paper focused on individuals coming through an initial training pathway, consideration should also be given for experienced individuals with foreign licences, military experience or expired CAR 31 licences.
- There was detailed discussion on what exclusions should be included. It was noted that there were 44 exclusions in the transition from CAR 31 to Part 66. The TWG felt hydraulics, air conditioning and pressurisation systems should be included, even if all 44 are not used.
- CASA need to provide a list of exclusions for legislative purposes; however, it was recognised that these may change over time and that the TWG will be consulted on the exact list of exclusions to be activated during the legislative drafting process. A TWG member highlighted that there must be clear and assessable standards of competency to allow exclusions to be removed. The different pathways for exclusion removal were also queried. Currently, the vocational education training (VET) pathway provides the most flexibility, depending on the maintenance training organisation, but a separate pathway for removal through self-study will soon be available (noting that regulation amendments are required for exclusion removal by self-study).
- It was noted that the model will have similarities to the former licensing system, whilst utilising Part 66 modules. The TWG felt CASA's focus and ongoing communication efforts should be to implement short term solutions as soon as practical to give industry some relief – the need for expedience was repeatedly emphasised by the TWG. The legislative process and ongoing communications should also give thought to and recognise that there will be a longer-term solution.
- To ensure suitable transparency in TWG decision making, particularly on technical issues, an issues register will be maintained (Attachment 2). This register was worked through progressively:



- Minimum maintenance experience levels were discussed. There is no immediate plan to change current practice; however, consideration will be given to amend this overtime whilst still ensuring practicality, safety and International Civil Aviation Organisation (ICAO) compliance.
 - There is no plan to change the current theoretical syllabus.
 - The TWG reiterated their desire for expired CAR 31 licence holders to have a recognition of prior learning pathway for current maths and physics knowledge requirements – this removes the deterrent to expired licence holders of needing to ‘re-school’ and would simplify their path to a current licence. They also noted has been recommended in previous TWG meetings.
 - The TWG felt propellers should be tied in with piston engine aeroplanes, but that separation may be possible for helicopters.
 - Electrical privileges were discussed extensively. Ultimately, the TWG members present agreed that fundamental electrical knowledge should be a requirement for an aircraft airframe licence. This could be facilitated by requiring Module 3 theoretical competency, without any practical requirement. CASA will further deliberate on this, recognising the TWG’s desired outcome.
- The TWG will reconvene to review the legislative draft of the Part 66 MOS amendments when they become available, likely in April. CASA understands the priority of these changes and will ensure resourcing for a suitable implementation date. The TWG members recommended greater resourcing for the maintenance sector as historically, they felt, these areas within CASA have been under resourced.

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 will discuss their views on the provided material during the meeting then address the below Outcomes.

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

SUMMARY OF OUTCOMES – Sixth TWG Report, 7 March 2023

- A. Does the TWG recommend CASA proceed with amending the Part 66 MOS to facilitate a modular licensing pathway?**

FULL CONSENSUS / GENERAL CONSENSUS / DISSENT



Comments:

The TWG fully supports CASA continuing to progress this work and begin drafting the legislative changes to the Part 66 MOS. The TWG members felt it is better to implement this system now and continue to review and revise it afterward.

The TWG members would like to review CASA's final list of exclusions as they felt this is the most likely area to require further work and revision. It was noted that to make an informed decision around which exclusions to include, accurate and up to date industry data is required. The method to achieve this will be further discussed.

B. Does the TWG endorse the SOC from the modular licensing discussion paper?

FULL CONSENSUS / GENERAL CONSENSUS / DISSENT

Comments:

The TWG, in principle, agreed that the SOC was suitable at a high level. However, it was requested that the SOC emphasise that these initiatives are designed to be quickly implemented, for a more immediate benefit to industry. CASA said it will more clearly outline that there will be a separate, longer-term approach and that this is the more immediate measure.

Some TWG members also requested to continue analysing the draft SOC in more detail to ensure that all relevant feedback from the public consultation is addressed. The SOC will be publicly available when finalised.

CASA Lead Summary

Ben Challender

Comment:

CASA thanks the TWG members for their ongoing efforts to progress this work. CASA acknowledges the issues raised by TWG members and will continue to work with the TWG to produce a comprehensive suite of legislation and advisory material that provides safe and practical outcomes for the broader industry.

CASA will progress development of a legislative draft, explanatory materials and implementation plan to provide modular licensing outcomes using exclusions as the first phase of this initiative. This will also provide more flexibility for trainees in remote areas, and holders of foreign licences and Defence authorisations to be granted a Part 66 licence with exclusions for specific systems. It is understood that the priority is to expedite these outcomes and therefore some policy elements have been deferred for future consideration in later phases of this initiative. This



package will be consulted with the TWG and the broader industry.

CASA notes the actions to incorporate TWG comments on the draft SOC, and to consider electrical requirements and provide the TWG information on the associated interfaces and practical effects.

Attachments

1. Extract from ASAP Terms of Reference
2. Issues Register



Attachment 1

ASAP and TWG Terms of Reference regarding Consensus (Extract)

- 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 reconsider 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.

MODULAR LICENCE ISSUES LIST

Resolved
 Future action
 No action

Issue No	Issue topic	Issue specifics	Resolution decision	Comments
1	Minimum maintenance experience – description	Should state the required experience in terms of working hours	No action	It is not normal practice to specify the number of working hours. Practical application requirements are supplemented with materials like the journal/log of experience.
2	Minimum maintenance experience	Minimum experience requirements inadequate	<p>For Phase 1, experience is to remain unchanged as currently set in the MOS.</p> <p>For Phase 2, options to be considered in consultation with the TWG.</p>	<p>The DP proposal was framed around the premise that experience for modular licence outcomes should be proportionate to the licence scope, which would involve some reductions from current full licence requirements.</p> <p>The requirements proposed in the DP would be minimums, and are based on ICAO Annex 1 recommendations and the standards set by like minded NAAs (FAA, NZCAA, PNG CASA, Transport Canada).</p> <p>TWG discussions considered complexity, ICAO standards EASA cross category experience requirements, and expediting outcomes. TWG position was for Phase 1 to leave experience requirements unchanged, primarily to expedite outcomes. The issue will be considered further for Phase 2.</p>

MODULAR LICENCE ISSUES LIST

3	Minimum maintenance experience – B1.4	Proposed B1.4 requirements are too short. Helicopters are not a simple machine. 3 years overall is just enough experience, 3.5 is ideal	<p>For Phase 1, experience is to remain unchanged as currently set in the MOS.</p> <p>For Phase 2, options to be considered in consultation with the TWG.</p>	<p>The DP proposal was framed around the premise that experience for modular licence outcomes should be proportionate to the licence scope, which would involve some reductions from current full licence requirements.</p> <p>The requirements proposed in the DP would be minimums, and are based on ICAO Annex 1 recommendations and the standards set by like minded NAAs (FAA, NZCAA, PNG CASA, Transport Canada).</p> <p>TWG discussions considered complexity, ICAO standards EASA cross category experience requirements, and expediting outcomes. TWG position was for Phase 1 to leave experience requirements unchanged, primarily to expedite outcomes. The issue will be considered further for Phase 2.</p>
4	Practical experience	For current B1.1 there is a requirement to do testing and troubleshooting on all the pressurization instruments. WHY! only a bench level instrument shop does that.	No action	<p>No changes to the legislative requirements proposed. Practical experience assessment and exclusions provide some flexibility.</p> <p>Potential area to consider for education and guidance.</p>
5	Maths and Physics syllabus	The subjects such as maths and physics should be reduced. The current method of examination is 35 seconds to answer a question that is a university level	No action	<p>Outside the scope of this project.</p> <p>This project is not scoped to consider changes to existing syllabus.</p> <p>Potential consideration for future work.</p>
6	Examination requirements	AME licensing exams, (regardless of what CASA choose to re-brand them as) need to remain a self-study option.	Resolved within the proposal	Self-study will remain as a licensing pathway.

MODULAR LICENCE ISSUES LIST

7	Use of exclusions	<p>Since you already issue Part 66 licenses with exclusions (E9 and E10) on nearly every new Part 66 issued under this system, I don't see why the other exclusions can't be used now etc. pressurization, air-conditioning</p> <p>Aviation Australia, RAAA and TAAAF recommend all exclusions with the Part 66 MOS Appendix VIII be utilised.</p>	<p>For Phase 1, exclusions will be used to provide modular licensing pathways. Exclusions will also be used to facilitate licensing outcomes for foreign licence conversion and defence authorisations.</p>	<p>General agreement on the following points:</p> <ul style="list-style-type: none"> • To provide modular licensing pathways using exclusions for Phase 1. • Exclusions should be available for cases where theory has been achieved but practical experience is not available for certain systems. • Exclusions should also be used to facilitate licensing outcomes for other scenarios like conversion of foreign licences and defence authorisations. • Exclusions should be used to improve flexibility and facilitate licensing outcomes, but within an established licensing framework – it is not intended to create a boutique, fully customizable licensing system. • Exclusion removal pathways will need further consideration, development and explanation. <p>CASA is working on regulation amendments to provide exclusion removal by self-study, but this is not intended to cover all 44 exclusions.</p>
8	Wood and fabric	Groups such as Wood and Fabric must be accepted as licence groups in their own right without other airframe groups	<p>For Phase 1, this outcome will not be provided.</p> <p>For Phase 2, options to be considered in consultation with the TWG.</p>	<p>This outcome is not intended to be provided in Phase 1, primarily to expedite outcomes.</p> <p>Options can be considered for future action.</p>

MODULAR LICENCE ISSUES LIST

9	Clarity and understanding	<p>The self-study pathway is currently not clearly explained by CASA and consequently not easily understood by industry, AMO's and LAME's.</p> <p>Multiple examples exist of confused messaging about Part 66 licenses and the pathways required to obtain a license outcome. Please note that there is substantial confusion within all industry about the current status.</p> <p>Any new pathway MUST be communicated in plain English with achievable results.</p> <p>There must be ability to ensure that self-study, AMO, RTO and MTO training can all lead to license outcomes and are fully interoperable.</p>	<p>CASA will:</p> <p>1) review existing guidance material and adjust as necessary</p> <p>2) develop comprehensive guidance material to support the introduction of a modular licence pathway</p>	
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MODULAR LICENCE ISSUES LIST

10	Propellers	<p>There is very little clarity around the proposal for a Propellers add-on. How can Props not be available as an initial subset? If an AME's first licence is a turboprop, surely, he/she will need to be able to attain the add-on in order to gain the licence? Or does this just mean that the individual must gain all the B1 Powerplant category modules first? I hope (and assume) that experience requirements for propellers will be built into the experience requirements for particular engines, or indeed for a B1 Category licence? Bear in mind that some propellers are highly complex, and experience should be mandated for them prior to gaining a licence for the engines themselves. For example, a B1 Licence holder of a turbine engine surely must gain experience on propellers prior to attaining a Turbo-prop engine licence.</p>	<p>For Phase 1, propellers will be a requirement tied to piston engines for aeroplanes, but not helicopters.</p> <p>For Phase 2, options to be considered in consultation with the TWG as necessary.</p>	<p>CASA is seeking to improve flexibility and facilitate licensing outcomes for industry. CASA considers providing propellers as an option would improve flexibility and avoid what could be an unnecessary burden in some cases (e.g. LAMEs engaged solely in helicopter maintenance). CASA is not fundamentally opposed to integration of power plants and propellers if that is the consensus opinion.</p> <p>TWG discussions considered complexity, potential for confusion, practical utility and expediting outcomes. TWG recommendation was for Phase 1 propellers should be a requirement tied to piston engines for aeroplanes, but not helicopters. The issue can be considered further for Phase 2 if necessary.</p>
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MODULAR LICENCE ISSUES LIST

11	Electrical module	Electrical knowledge (module 3) should be mandatory for all licenses	CASA will proceed with development including module 3 as a requirement for all licences, but noting further consideration and discussion to be had on electrical requirements in other modules.	<p>CASA is seeking to improve flexibility and facilitate licensing outcomes for industry.</p> <p>CASA considers providing electrical as an option would improve flexibility and avoid what could be an unnecessary burden in some cases (e.g. LAMEs engaged solely in airframe maintenance of small GA aircraft).</p> <p>TWG discussion considered module 3 in relation to other module requirements and practical outcomes. TWG recommendation is that electrical module 3 should be a requirement for all licences, but with flexibility to be provided through exclusions for some systems where practical experience cannot be achieved.</p> <p>CASA to provide more information to the TWG about electrical requirements across the other modules and practical effects of including or excluding module 3.</p>
12	Use of SOE	Go back to the original SOE format and have apprentices shadowing LAMEs. Anything else is a band-aid fix to a skills shortage of our own making because Qantas etc. decided it wasn't financially beneficial to have apprentices.	No action	<p>This issue is outside the scope of this project.</p> <p>CASA will review application processes to ensure appropriate flexibility is provided.</p>
13	B2 subsets - nomenclature	The three B2 subsets should be relabelled to better describe their relationship to each other and maintain the avionic understanding as it relates to the aircraft; Electrical systems, Avionic Instrument and Avionic Radio.	To be considered in consultation with the TWG	CASA will review the proposed labelling of B2 subsets

MODULAR LICENCE ISSUES LIST

14	B2 subsets - separation	Module 13 must be separated not just for this discussion paper but for all Part 66 B2 uses. Of all 17 knowledge modules in the Part 66 module 13 include the most exam questions and the longest time allowed.	To be considered in consultation with the TWG	Module 13 is intended to be split into subsets.
15	Licence categories – EASA B3 and B2L	Modular license structure – whether EASA B3 and/or B2L licence requirements and outcomes should be replicated.	<p>Phase 1 will not replicate EASA B3 and B2L.</p> <p>Phase 2 options to be considered in consultation with the TWG</p>	Responses to consultation and TWG discussions suggest EASA B3 and B2L should not be the basis of a new Australian licence category.
16	Expired CAR 31 licences	CASA should consider applying the same approach that is used for recognition of foreign licences to recognition of expired CAR 31 licences.	To be considered in consultation with the TWG	This is not a core objective of this project but is a sensible and desirable outcome. Feasibility will be examined.