

**ANNEX A
TO TAA ADVISORY 2013-04
DATED 1 NOVEMBER 2013
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Qualification Matrix for ATO SDE Applicant

1. The following eligibility matrix allows the candidate Senior Design Engineer (SDE) of an Acceptable Technical Organization (ATO) to provide evidence that the minimum requirements of the TAM are met.

Name:	Date:
Organization:	

Eligibility Criteria		Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
Knowledge:			
1.	Be a graduate of an applicable engineering discipline from a university recognized by the TAA, or in the opinion of the TAA, have equivalent knowledge gained through other forms of education and training.		
2.	In the opinion of the TAA, have detailed knowledge of the organization's Airworthiness Process Manual and applicable core procedures and/or work instructions.		
3.	Have detailed knowledge, gained by formal training and/or work experience, of the DND technical airworthiness rules and standards:		
a.	through successful completion of a DND SDE course or having equivalent, relevant experience;		
b.	pertaining to the TAM chapters on design change certification, technical airworthiness clearance, type design examination, risk management, approved maintenance program, and airworthiness monitoring.		
4.	In the opinion of the TAA, have detailed knowledge gained by formal training and/or work experience of the specific aeronautical products involved.		
5.	Have a detailed understanding of the Statement of Operating Intent (SOI) document or applicable operational requirements and environment of the specific aeronautical products involved.		

Eligibility Criteria		Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
6.	Where the SDE is the Type Certificate Holder (TCH), he shall have a detailed understanding of all TCH responsibilities, including the DND Airworthiness Review Board (ARB) process.		
7.	Demonstrate a detailed understanding of the following topics to the satisfaction of the TAA: NOTE <i>These topics may also be covered as part of the formal interview process.</i>		
a.	the scope and depth of technical airworthiness authority assigned by the TAA to the ATO and to other organizations involved with the design and engineering support of the approved type designs involved;		
b.	the airworthiness responsibilities of the ATO for work that is accomplished by both the organization and external agencies through support arrangements;		
c.	the responsibilities of the airworthiness management role of SDE;		
d.	the responsibilities of the persons in the ATO who have been assigned authority to perform technical airworthiness functions on behalf of the TAA;		
e.	the Engineering Process Manual (EPM) for the ATO including associated procedures;		
f.	the inter-relationship and interfaces between Technical Airworthiness Program and Quality Management System requirements.		
Skills:			
As applicable for the scope and depth of technical airworthiness authority of the organization, skilled in the following and able to demonstrate or provide current and/or past examples regarding the ability to:			
1.	Correctly interpret airworthiness standards.		
2.	Correctly apply airworthiness processes.		
3.	Develop processes for inclusion in the EPM that are in compliance with the applicable airworthiness rules and standards.		
4.	Evaluate ATO procedures for compliance with the TAA-approved EPM.		
5.	Prepare risk assessments.		

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6.	Assess the category assigned during the development of a design change to an approved type design for an aeronautical product.		
7.	Prepare Technical Airworthiness Clearance (TAC) plans.		
8.	Approve deviations to the Approved Maintenance Program.		
9.	Provide guidance on the use of independent airworthiness reviews to personnel within the organization.		
10.	Apply management principles to:		
a.	ensure that airworthiness-related activities are conducted in accordance with the TAA-approved EPM and the ATO-approved procedures;		
b.	ensure that the authorization of personnel performing airworthiness-related tasks and technical airworthiness functions is accomplished in accordance with the TAA-approved EPM and the ATO-approved procedures;		
c.	monitor the competencies of individuals to whom technical airworthiness authority has been assigned and of the organization as a whole;		
d.	monitor the development and progress of DE candidates;		
e.	evaluate the capabilities of personnel for the assignment of technical airworthiness authority;		
f.	ensure adequate engineering competence is applied in the engineering decisions that may affect the airworthiness of an approved type design for an aeronautical product;		
g.	ensure that appropriate action is taken to correct any practice or procedure which may compromise the airworthiness of an aeronautical product and/or that the matter is brought to the attention of the TAA.		
11.	Issue airworthiness instructions when a non-compliance with airworthiness rules and standards or a non-conformance with the approved type design is discovered.		

Eligibility Criteria		Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
12.	Communicate with external agencies to:		
a.	ensure that contracts or service level agreements are developed and maintained as necessary to enable the ATO to provide the scope and depth of design and engineering support required;		
b.	ensure that the relationship with the TCH provides a clear understanding of the ATO and TCH relative responsibilities and roles in the conduct of engineering support;		
c.	ensure work performed by an external agency that is not accredited or recognized as a TAA acceptable organization is conducted in accordance with ATO approved procedures.		
Experience:			
1.	The SDE should have no less than six (6) years of relevant aerospace engineering experience and with progressively more responsibilities.		
2.	Where the SDE is the TCH, the SDE shall have relevant aerospace engineering and maintenance experience for the aircraft type being supported.		

2. ATO SDE Interview Questions

- 2.1. During the interview, the expectation is that the candidate relates the topic areas to their own organization. The candidate is expected to demonstrate their understanding of their organizations engineering policy requirements and core enabling procedures. For the interviews it is acceptable for the candidate to have access to any supporting policy, procedures or work instructions that they feel are needed to facilitate the discussion. The following is a list of typical areas that are discussed during the interview with a nominated SDE within an Acceptable Technical Organization.
- a. Has a general understanding of the airworthiness program. For example: the flow of authority from the Minister to the SDE, what are the three levels of assignment of authority, principles of the technical airworthiness program (4 As).
 - b. Is able to explain the responsibilities of the SDE, Design Engineers (DEs) and applicable staff that will be providing Technical Support Services (within and external to the organization).
 - c. Is able to describe the technical prerequisites for DEs and Technical Support staff.
 - d. Is able to explain each Airworthiness function assigned to your ATO (i.e., Airworthiness approval, Technical Airworthiness Clearance, Flight Permits) and what the signature means.
 - e. Is able to describe how the candidate's organization's engineering support Matrix interfaces with their ATO.
 - f. Is able to describe the scope and depth of authority being assigned to the candidate's ATO and any limitations.

- g. Is able to describe the engineering support provided by the candidate's ATO to DND (i.e., WSM).
 - h. Is able to describe their processes and ATO involvement in managing the applicable aircraft type record including configuration management.
 - i. Is able to describe their processes and ATO involvement in airworthiness monitoring of service data (Service Bulletins (SBs), Airworthiness Directives (ADs), etc.) for the aircraft and installed aeronautical products.
 - j. Is able to describe the candidate's ATO involvement in the maintenance program management and change processes.
 - k. Is able to describe the processes and activities that involve mandatory TAA approvals.
 - l. Is able to describe the candidate's ATO involvement in flight permits in support of the WSM.
 - m. Is able to discuss their Aircraft Structural Integrity Program (ASIP) (if applicable).
 - n. Is able to discuss how design changes and Non Standard Repairs (NSRs) are approved by the candidate's ATO.
 - o. Is able to describe their quality system and how it applies to the ATO activities.
 - p. Is able to describe how the candidate's organization enters into support arrangements and any limitations.
 - q. Is able to describe the type design examination process and sources of approved data.
 - r. Is able to discuss the results of the last audit(s) conducted in the candidate's organization or the AMOs that they are associated with.
- 2.2 The interview will also be used to review any known issues affecting the candidate's organization and discuss the progress and planned activities.