Qualification Matrix for the ADO SDE Applicant

1. The following eligibility matrix allows the candidate Senior Design Engineer (SDE) of an Acceptable Design Organization (ADO) 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, through successful completion of a TAA-recognized Aircraft Certification Course.		
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.		
6.	Where an ADO's primary role is the engineering flight test, be a graduate from a recognized flight test school or, in the opinion of the TAA, have an equivalent qualification gained through engineering flight test experience.		
7.	Demonstrate a basic understanding of the DND Airworthiness Review Board (ARB) process.		

Issued on the Authority of the TAA

Eligibility Criteria	Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
8. Demonstrate a detailed understanding of the following topics to the satisfaction of the TAA: **NOTE** *These topics may also be covered as part of the formal interview process.*		
a. the scope and depth of technical airworthiness authority assigned by the TAA to the ADO and to other organizations involved with the design and engineering support of the approved type designs involved;		
b. the airworthiness responsibilities of the ADO 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 ADO who have been assigned authority to perform technical airworthiness functions on behalf of the TAA;		
e. the Engineering Process Manual (EPM) for the ADO, including associated procedures;		
f. the inter-relationship and interfaces between Technical Airworthiness Program and Quality 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 ADO procedures for compliance with the TAA-approved EPM.		
5. Analyze specifications prepared for the development, test and/or technical support of an approved type design for an aeronautical product to ensure compliance with the applicable airworthiness rules and standards.		
6. Assess the category assigned during the development of a design change to an approved type design for an aeronautical product.		

Issued on the Authority of the TAA

	Eligibility Criteria	Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
7.	Prepare certification plans.		
8.	Prepare, review or approve Compliance Programs.		
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 ADO-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 ADO-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 Design Engineer (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.		
12.	Communicate with external agencies to:		
a.	ensure that contracts or service level agreements are developed and maintained as necessary to enable the ADO to provide the scope and depth of design and engineering support required;		

Issued on the Authority of the TAA

Eligibility Criteria	Substantiation (Do not simply refer to the résumé, provide examples)	Acceptability (DTAES use only)
b. ensure that the relationship with the Type Certificate Holder (TCH) provides a clear understanding of the ADO 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 ADO approved procedures.		
Experience:		
1. The SDE should have no less than ten (10) years of relevant aerospace engineering or flight test experience and with progressively more responsibilities.		

2.   ADO 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 understanding of their organization's 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 Design 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, DEs and applicable staff that will be providing Design Support Services (within and external to the organization).

    c.   Is able to describe the technical prerequisites for DEs and Design Support staff.

    d.   Is able to explain each Airworthiness function assigned to the ADO (i.e., Findings of Compliance (FoC), Airworthiness Approval, Technical Airworthiness Clearance (TAC) and granting of Flight Authority) and what the signature means. Explain what the SDE's scope is (i.e., engineering specialty areas).

    e.   Is able to describe how the ADO interfaces with the Weapon System Manager (WSM) and the ADO's Support Network and how to evaluate sources of approved data using the Type Design Examination (TDE) process.

    f.   Is able to describe the scope and depth of authority being assigned to the ADO and any limitations.

    g.   Is able to describe the engineering support provided by the ADO to DND (i.e., WSM).

    h.   Is able to describe how the ADO supports ATO WSM/change processes (i.e., Publication Changes, Airworthiness Monitoring Activities, Risk Management, flight authority, etc.)

    i.   Is able to discuss how design changes and Non Standard Repairs (NSRs) are approved.

    j.   Is able to describe their quality system and how it applies to the ADO activities.

Issued on the Authority of the TAA

k. Is able to describe how to enter into support arrangements and any limitations.

l. Is able to discuss the results of the last audit(s) conducted in the candidate's organization or organizations that the candidate is associated with.

m. Is able to discuss ATO type activities delegated to the ADO.

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.