Protocol for University Supervisors and Undergraduate Students Utilising the CSIR, ASC Wind Tunnels

Date : 2014-10-28

Version : 1.0

Nomenclature

ASC	Aeronautic Systems Competency
CPL	CSIR Project Liaison
CSIR	Council for Scientific and Industrial Research
EARGL	Experimental Aerodynamics Research Group Leader
OHS	Occupational, Health and Safety
PFE	Project Furnished Equipment
SC	Scheduling Coordinator

Introduction

The CSIR, Aeronautic Systems Competency (ASC) has made available the use of a limited number of wind tunnels to undergraduate students to help foster a council-university relationship and collaboration for the synergistic achievement of common research goals. In order to facilitate this relationship to the benefit of all parties (CSIR, supervisors and students) at undergraduate level, a protocol has been instituted so that both the objectives of the supervisors, students and the CSIR can be met. It should be remembered that the facilities are kept open by the selling of wind tunnel time to paying clients and as such, these paying projects take precedence over research projects, which includes undergraduate level projects.

Protocol

1. Each student research project is viewed by the CSIR as a self-standing project of which the student is a team member. The university supervisor is regarded by the CSIR as the project supervisor/manager and the formal university project liaison.
2. Intention to use a facility shall be initiated only by the university supervisor, informing the facilities and experimental aerodynamics research group leader (EARGL) at least 7 months before tunnel entry with, at minimum, the project outline given the student. The CSIR does reserve the right to reject projects which are deemed unsuitable for wind tunnel testing.
3. A plan of the project shall be drafted and presented to the EARGL for suitability, relevance and scheduling at least 6 months prior to tunnel entry. Included in this plan shall be the following:-
    a. Scheduling for both air-on time and setup time
    b. Facility requirements eg. data acquisition systems. These requirements shall have already been discussed with the EARGL

4. The project shall be assigned a slot in the tunnel schedule depending on external paying clients, maintenance and availability of personnel to operate the facilities. Because of the deadlines imposed by the university on students to hand in their projects by a certain date, projects shall be scheduled through the scheduling coordinator (SC) who is assigned by the EARGL. It should be noted that projects will most probably be scheduled differently to the requested slot – on either side of the slot. This is inevitable since most projects would like to enter the tunnel in their last week – and only one or two projects will have the luxury of this slot. The project can expect that a slot may possibly be assigned up to one and half months before the requested slot.
5. No testing shall be scheduled for the month of October and onwards i.e. all testing shall be completed by the end of September.
6. Once a project is accepted by the EARGL, project discussions and interactions with CSIR personnel shall formally take place through the CSIR project liaison or CPL. Because the facility team eg. technicians and support staff have other responsibilities to the CSIR, they report directly to the CPL throughout the project duration and not the university supervisors and/or students.
7. Projects shall ordinarily require four primary interactions with the CSIR. These are (with their typical budgeted time):-
    a. Initial, conceptual and design (half a day)
    b. Model fitment (half a day)
    c. Facility and model setup (half a day)
    d. Testing and clean-up (one day)

    These phases should be scheduled into the project planning, otherwise no time shall be assigned by the CSIR to execute any particular phase. Before tunnel entry a test readiness review shall be performed where the PFE safety analysis and risk analysis shall be presented. No testing shall commence without acceptance by the CPL.

8. Models entering the facility shall conform the safety requirements as defined by the facility model systems standards/criteria so the test programme may not cause damage to the facility. Additionally, a risk assessment of PFE and their operation, and the facility with PFE shall be performed by the project, and project in conjunction with the CPL, respectively. No testing shall commence without the necessary documentation being presented to and accepted by the CPL.
9. Testing or discussions/interactions with projects shall be limited to four days per week due to the facility personnel executing other facility related duties.
10. Projects need to ensure that all the necessary preparation work be performed before tunnel entry.
11. The CSIR only endeavours to support the project by operating the tunnel, ensuring that the interfaces to the facility are appropriate and suitable, and providing data that is a normal deliverable of the facility (unless otherwise negotiated with the EARGL by the university supervisor). No assistance with project furnished equipment (PFE) such as manufacture, dedicated equipment, dedicated data acquisition systems and so forth shall be provided by the CSIR. It is expected that the project bring along the tools and spares for the PFE. No manufacturing facilities on the CSIR campus/site are available for projects. Installation of PFE shall be performed by the project.

12. It is highly recommended that model fitment be performed prior to tunnel entry to allow for modifications to be made. The slot for this activity needs to be scheduled if it is separate from the setup and testing slot.
13. During testing the project will need to provide direction to the tunnel operators with regards to the test matrix, tunnel conditions and so forth. A plan for this shall be presented to and accepted by the CPL so that the safety of the facility can ensured. It behoves the project to ensure that the execution plan be drafted due to the allocated tunnel slot. The CPL is available to assist in this regard. Furthermore, processing of the data immediately after a sweep/test is highly recommended so that testing can be stopped or adjustments made as quickly as possible to limit wasted tunnel and personnel time. It should be noted that if the facility is providing data, the setting up of facility systems for the project shall be included in the allocated time budget. It is recommended that this aspect be discussed with the CPL.
14. CSIR personnel are only available for project work during CSIR working hours.
15. Projects that are part of the same broad programme eg. two or more students working on the same concept/model but with different projects and requiring the same facility, shall be scheduled consecutively so that resources are utilised in the most effective manner. Projects, and especially students, are expected to ensure that all preparations are performed timeously for these tests, and that sufficient communication between the various programme members occur. The CSIR shall not take responsibility for this to happen.
16. As with all facilities, problems to arise with the facility, which may render the facility inoperable for a short period. Project team members are expected to be available within half an hour when testing recommences after corrective maintenance. Similarly, test slots may change and the original test slot may be moved due to unforeseen circumstances. Projects and their members are expected to accommodate such changes. The CSIR endeavours to assist projects as effectively as possible with a view to ensuring all projects received fair treatment.
17. Health and safety of students is the responsibility of the university where the university is expected to ensure that students are covered in the OHS Act when working at the CSIR. No facility may be operated by students due to OHS Act requirements.

A Note to Students

For the CSIR, poor planning or your part does not constitute an emergency on ours. Every student thinks their project is important and warrants special treatment over another project. From our perspective, unfortunately it doesn't warrant special treatment because you are not the only student. **If it is that important to you, help us to help you.** Remember this is your project and your degree – not ours.