

# Tender and Technical Specification for the Particle Test Facility of the European Spallation Source

## Document Change Record

Version	Date	Section/Sheet	Comment
1.0	4/3/2015		Draft specification
1.1	5/3/2015		Updated draft specification

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## 1. Summary

As ESS will be a 'particle free' accelerator the purpose of the particle test facility will be to provide ESS with the capability to assess accelerator components for the number of particles they generate. This is a critical requirement as it will allow ESS to make informed choices on the components they use and allow them to create dedicated procedures necessary for a 'particle free' accelerator.

Below are images of the area at ESS for the bespoke cleanroom.



**Picture 1:** highlighting the access door which is to be taken into consideration for installation of modular panels and apparatus.



**Picture 2:** showing a view from the access door. All light fittings will be removed to ensure the required working height of 2.1m can be achieved within the cleanroom.



**Picture 3:** Showing a view from the window side of the room towards the access door

Pictures 1-3 above show the room where the particle test facility will be located. The dimensions of the room are as follows:

Access Door – 2.02 metres high and 0.80 metres wide

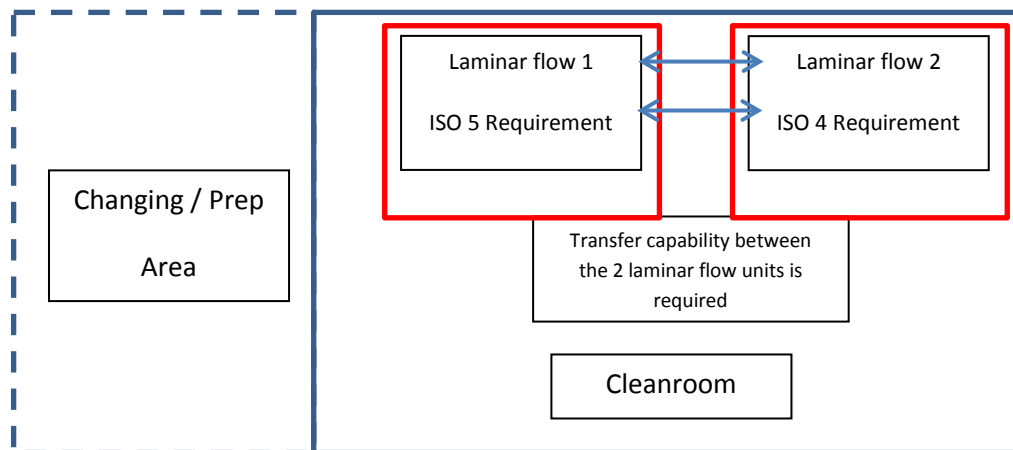
Length – 4.0 metres (from door to white air conditioning cabinet – see picture 2)

Width – 3.0 metres (from left hand wall to the blackboard – see picture 2)

Height – 2.84 metres

## **2. Customer Requirements**

A bespoke cleanroom is required that can be assembled within the constraints of a standard laboratory room – with a maximum footprint of 4 x 3m. The cleanroom must have the facility for changing into cleanroom clothing, storage for clean processed components and two laminar flow units with transfer capabilities between the two. One of the laminar flow units will require an ISO 4 specification that should not be completely open to the surrounding area. Also the bench of this unit requires a hole in it of 100 mm in diameter that will house a vacuum manifold that should be able to accommodate a maximum weight of 100 Kg. Further details can be provided upon request. A basic schematic for reference is shown in Figure 1 with further details listed below to allow manufacturer's to propose designs.



**Figure 1:** Basic schematic of the cleanroom for reference

**The cleanroom should have the following requirements that shall all be housed within the 4 x 3 metre room:**

- A bespoke cleanroom of hardwall construction. Softwall will be allowed within the cleanroom for separating different areas
- 304 Stainless steel is required for all the cleanroom and laminar flow supports and any bench worktops
- ISO 6 (Changing Area) with wipe and blow down capabilities to prepare components
- Bench worktop within the ISO 6 changing area
- ISO 5 (Main Cleanroom Area)
- ISO 5 Laminar flow unit
- ISO 4 Laminar flow unit that should not be completely open to the surrounding area
- Transfer capability between both laminar flow units
- ISO 5 Storage area for tools and cleanroom components
- Appropriate lighting installed within the cleanroom
- Appropriate HEPA filter units to meet the ISO requirements listed above
- Appropriate cleanroom flooring shall be installed

### **3. Terms and Conditions**

- The supplier is required to propose a suitable design to meet all the criteria listed above, any drawings or solutions should be included in the tender response.

- The supplier that is successful with their bid will be required to do a full site survey to ensure their proposed design is suitable for the room and its constraints.
- The supplier will be required to build and validate the cleanroom at their premises prior to shipment.
- The supplier shall state the warranty included and onsite support available including the option to extend the warranty stating annual charges.
- The supplier will be responsible for dedicated shipment to ESS in Lund, Sweden where they shall install and validate the cleanroom to the above specifications.
- The supplier shall provide an appropriate cleanroom maintenance manual and some basic instructions for its use.
- ESS and STFC will have responsibility for sign off at ESS once they are satisfied that all of the above has been completed.
- A guaranteed delivery time (including manufacture and on-site installation in Sweden) must be stated from receipt of purchase order.