# Second Target Station Project: Interface Sheet – Target Station Shielding (S.03.07) to Integrated Control Systems (S.06.03)



Chris Anton Dana Humphreys

March 2025



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#### S01020500-IST10220 R00

Second Target Station Project

# INTERFACE SHEET – TARGET STATION SHIELDING (S.03.07) TO INTEGRADED CONTROL SYSTEMS (S.06.03)

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March 2025

Prepared by OAK RIDGE NATIONAL LABORATORY Oak Ridge, TN 37831 managed by UT-BATTELLE LLC for the US DEPARTMENT OF ENERGY under contract DE-AC05-00OR22725

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00	Initial Re	lease				

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#### 1. PURPOSE

This document defines the interface between Target System's Target Station Shielding (TSS) and Integrated Control Systems (ICS). Requirements derived from this document will be included in the System Design Requirements for TSS and ICS.

#### 2. SCOPE

The scope of this document is the complete definition for the interface between TSS and ICS.

#### 1. INTERFACING PARTS OR COMPONENTS

No.	Components (ICS)		Components (TSS)		
	Name	Functional reference Number	Name	Functional reference Number	
1	Target Systems Instrumentation Cable Outside Core Vessel		Target Station Shielding	S03070000-M8U-8800- A10000.asm	
2					
3					
4					

### 3. ACRONYMS AND DEFINITIONS

- ICS Integrated Control Systems
- ICD Interface Control Document
- IS Interface Sheet
- MRA Moderator Reflector Assembly
- SSC Structure, System or Component
- STS Second Target Station
- TDR Target Drive Room
- TSS Target Station Shielding
- WBS Work Breakdown Structure
- VS Vessel Systems
- CV Core Vessel

### 4. DOCUMENTS APPLICABLE TO THE INTERFACING SSCS

Ref	Document Titles	Document Control System Location
[1]	Interface Control Document for Integrated	S01020500-IC0009
	Control Systems and Target Systems	

# 5. INTERFACE DEFINITION

#### 5.1 TECHNICAL DESCRIPTION OF THE INTERFACE

TSS and ICS share an interface for instrumentation cable routing. TSS does not have any active monitoring or controls associated with its hardware, however it will be necessary to accommodate cable routing coming out of the pipe pan. Thermocouples located inside the CV are connected to ICS cabling inside the pipe pan. These cables need to safely pass through the monolith structure to reach signal processing cabinets located outside of the monolith. The cable will pass through conduit that will be run thru the side wall of the pipe pan and underneath the target drive room (TDR) floor level to route these cables.

### 5.2 INTERFACE DATA

TSS will provide the following features to accommodate signal cable routing through the TDR:

- Conduit clearance holes in the side wall of the pipe pans
- Clearance in the bulk shielding to accommodate signal cable conduit (if necessary)

ICS will provide the following:

- Desired final location of signal line conduit exiting the monolith
- Size of the conduit runs through the TDR
- Installation of the conduit in the concrete falls within the scope of Conventional Facilities (CF). Communication of the size and locations of the conduit runs through the concrete will be provided to CF by ICS.