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**Second Target Station (STS) Project Interface Sheet for Moderator Reflector Assembly
and Accelerator Interface Components**

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SECOND TARGET STATION (STS) PROJECT

Interface Sheet for Moderator Reflector Assembly and Accelerator Interface Components



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October 2024

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MANAGED BY UT-BATTELLE FOR THE US DEPARTMENT OF ENERGY

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**Interface Sheet for Moderator Reflector Assembly and
Accelerator Interface Components**

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1. PURPOSE

This document defines the interface between Target System's Moderator Reflector Assembly (MRA) and Accelerator Interface components (AIC). Requirements derived from this document will be included in the System Design Requirements for MRA and AIC.

2. SCOPE

The scope of this document is the complete definition for the interface between MRA and AIC.

2.1 INTERFACING PARTS OR COMPONENTS

No.	Components (MRA)		Components (AIC)	
	Name	Functional reference Number	Name	Functional reference Number
1	Moderator Reflector Assembly	S03040000-M8U-8800-A10000.asm	Accelerator Interface Components	S03050000-M8U-8800-A10000.asm
2			TVP Optical Path	S03050230_L-M8U-8800-A001-SKEL.PRT
3				
4				

3. ACRONYMS AND DEFINITIONS

ICD	Interface Control Document
IS	Interface Sheet
SSC	Structure, System or Component
STS	Second Target Station
WBS	Work Breakdown Structure
MRA	Moderator Reflector Assembly
AIC	Accelerator Interface Components

4. REFERENCES

4.1 DOCUMENTS APPLICABLE TO THE INTERFACING SSCS

Ref	Document Titles	Document Control System Location
[1]		

5. INTERFACE DEFINITION

5.1 TECHNICAL DESCRIPTION OF THE INTERFACE

The AIC consists of the Proton Beam Window (PBW), Proton Beam Window Shielding, Target Viewing Periscope (TVP) and Proton Beam Tube assembly (PBTA). The AIC component with interface with MRA was identified to be the TVP. The TVP needs an opening in the MRA that enables the TVP to view the Target front face without the TVP being in the path of the proton beam.

5.2 INTERFACE DATA

The MRA needs to allow an unobstructed view from the TVP first mirror to the Target face. The TVP mirror is offset from the beam path to ensure that the proton beam is not interrupted by the mirror and to protect the first mirror.

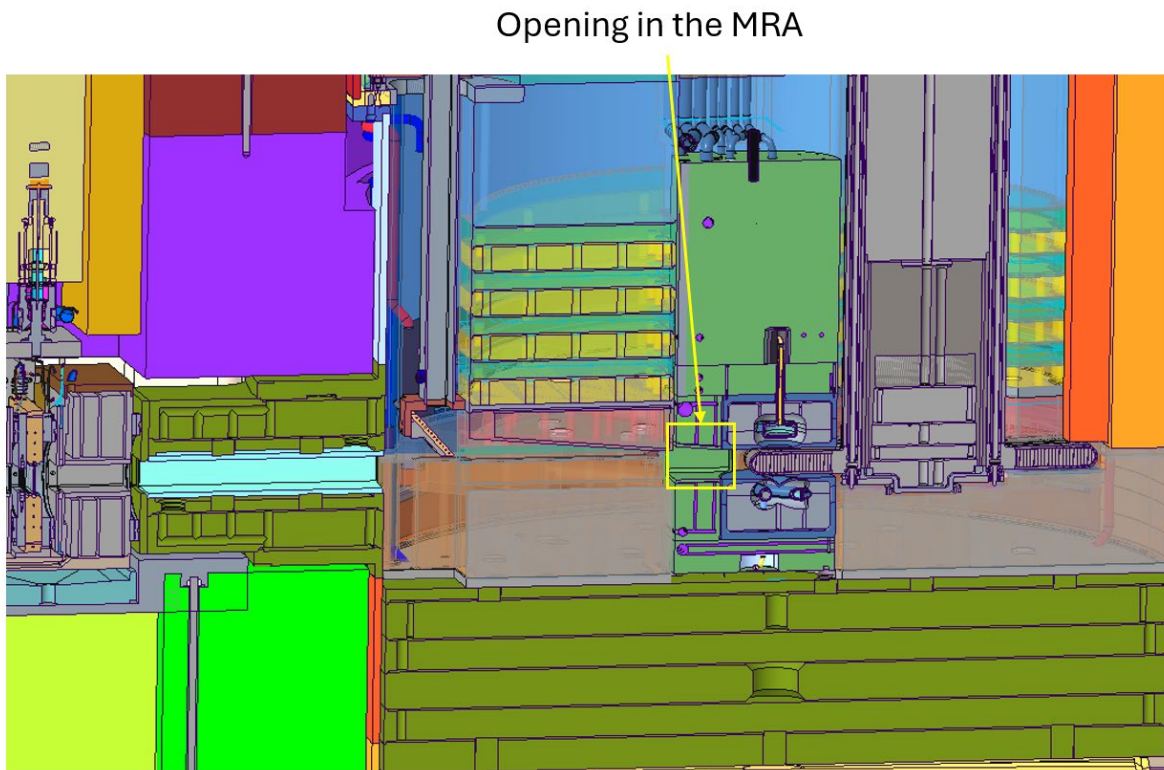


Figure 1: Opening in the MRA and TVP Lower section from CREO

Figure 1 above shows the opening in the MRA that allows the TVP to view the target front face unobstructed, as described geometrically by the optical path model S03050230_L-M8U-8800-A001-SKEL.PRT. Figure 2 shows the optical path for the TVP in blue to view the Target front face that defines the opening in the MRA that is needed.

Optical path for
the TVP

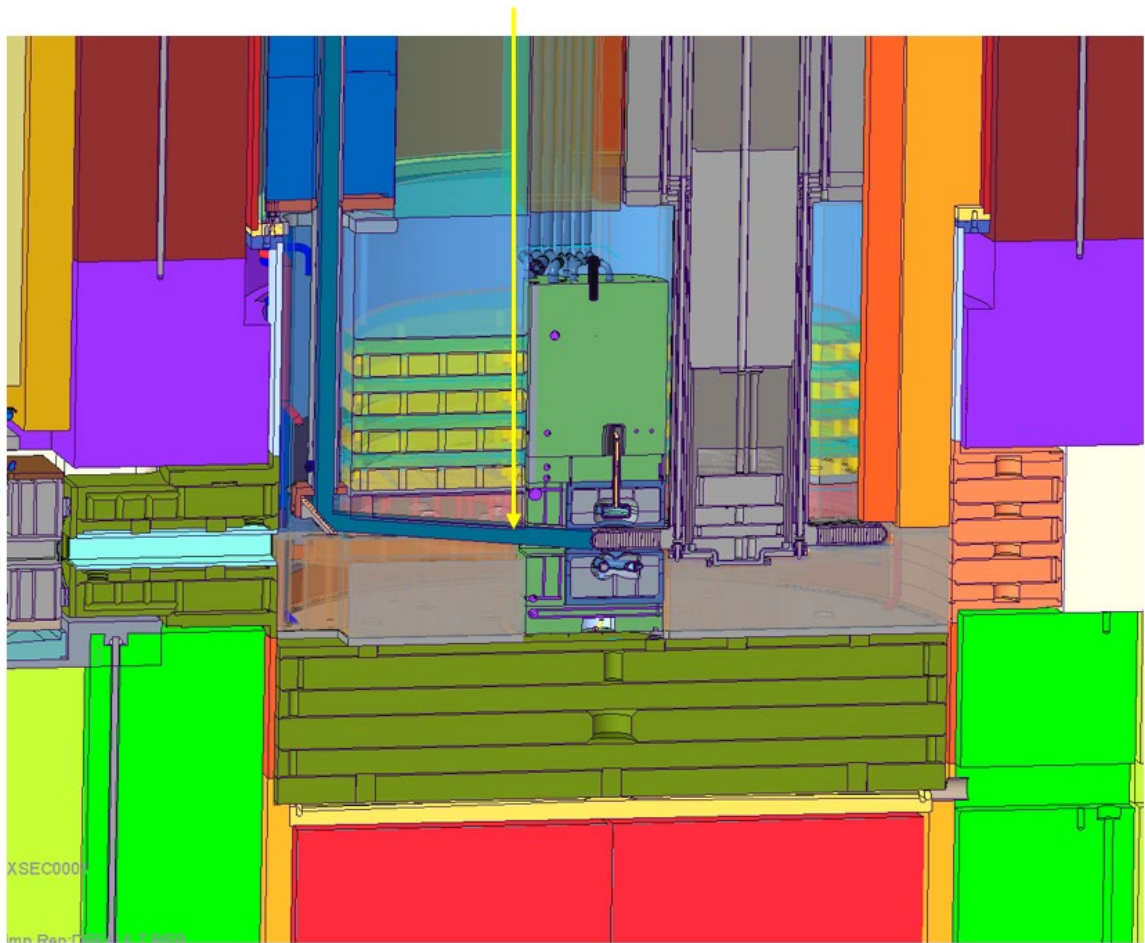


Figure 2: Optical path for the TVP shown in blue.