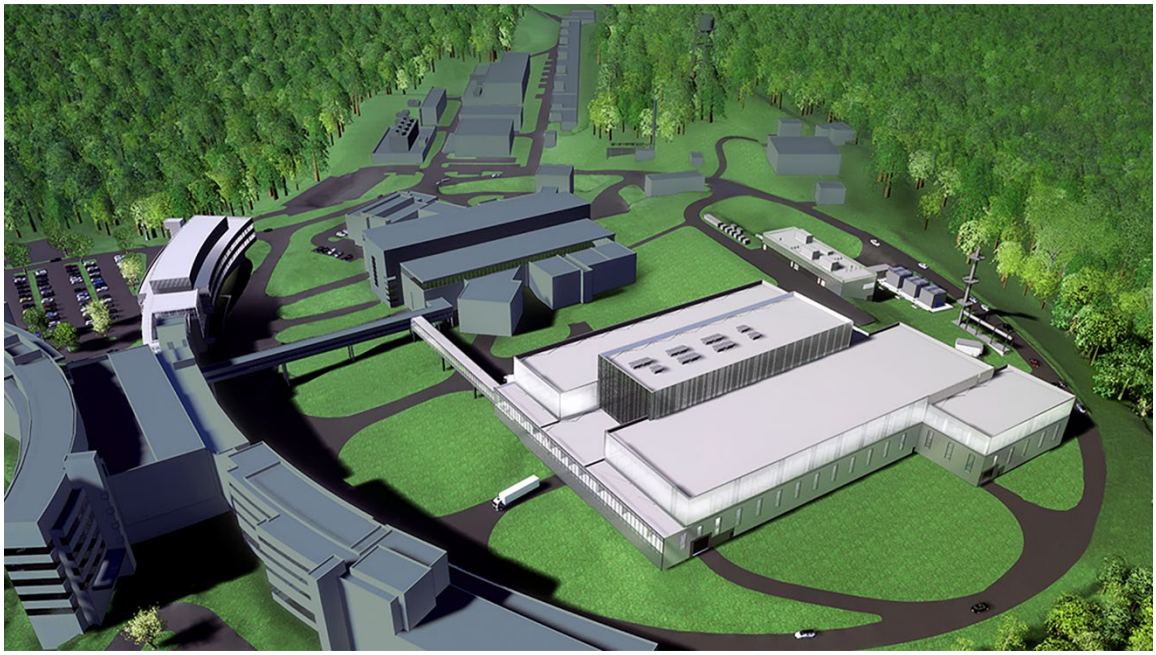
Second Target Station Project: Interface Sheet - Vessel Systems (S.03.06) to Remote Handling (S.03.10)



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March 2025

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Second Target Station Project

INTERFACE SHEET – VESSEL SYSTEMS (S.03.06) TO REMOTE HANDLING (S.03.10)

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March 2025

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UT-BATTELLE LLC
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US DEPARTMENT OF ENERGY
under contract DE-AC05-00OR22725

Approvals

Document Title: Interface Sheet – Vessel Systems (S.03.06 to Remote Handling (S.03.10)		ISSUE DATE: 03/25/2025
PREPARED BY Anton, Chris	PROJECT Second Target Station	DOCUMENT NUMBER: S03000000-IST10006 R00

	Signature / Date					
	Rev. 00	Date	Rev. 01	Date	Rev. 02	Date
Vessel Systems Lead Engineer	Christopher Anton	Digitally signed by Christopher Anton Date: 2025.03.25 10:59:08 -04'00'				
Remote Handling Lead Engineer	Steven M. Schrick	Digitally signed by Steven M. Schrick Date: 2025.04.01 08:27:32 -04'00'				
Target Systems Team Leader	Peter Rosenblad	Digitally signed by Peter Rosenblad Date: 2025.04.01 13:05:19 -04'00'				

Revision	Description
00	Initial Release

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1. LIFTING INTERFACE DETAILS

The following Vessel Systems components require removal via Remote Handling during maintenance operations:

Target segment removal hatch
Creo model name: S03060200-A10297-68.prt
Drawing number: TBD
Lifting Interface: Hoist ring
Component mass: 208 kg
Lifting device: Jib crane inside Target Drive Room
Lifting point location (Target Systems global coordinates; x,y,z; mm): (1223.4, 4939.5, 0)
Component laydown area: Target Drive Room floor, High bay
Temporary storage cask required: No
Reason for removal: Target segment replacement (normal operations)

MRA removal hatch
Creo model name: S03060200-A10297-69.prt
Drawing number: TBD
Lifting Interface: Hoist ring
Component mass: 255 kg
Lifting device: Jib crane inside Target Drive Room
Lifting point location (Target Systems global coordinates; x,y,z; mm): (-268.1, 4969.7, 0)
Component laydown area: Target Drive Room floor, High bay
Temporary storage cask required: No
Reason for removal: MRA replacement (normal operations)

North side utility hatch
Creo model name: 1_TARGET_VESSEL_LID_COVER.prt
Drawing number: TBD
Lifting Interface: Hoist Ring
Component mass: 265 kg
Lifting device: Jib crane inside Target Drive Room
Lifting point location (Target Systems global coordinates; x,y,z; mm): TBD
Component laydown area: Target Drive Room floor, High bay
Temporary storage cask required: No
Reason for removal: Utility jumper gasket replacement (uncommon)

South side utility hatch
Creo model name: 1_TARGET_VESSEL_LID_COVER_B.prt
Drawing number: TBD
Lifting Interface: Hoist Ring
Component mass: 225 kg
Lifting device: Jib crane inside Target Drive Room
Lifting point location (Target Systems global coordinates; x,y,z; mm): TBD
Component laydown area: Target Drive Room floor, High bay
Temporary storage cask required: No
Reason for removal: Utility jumper gasket replacement (uncommon)

Target Removable Shield Block
Creo model name: S03060000-CV-SLD_BLK_23A.prt
Drawing number: TBD
Lifting Interface: Ziplift stud – 1.5’’-8UN male thread
Component mass: 1230.5 kg
Lifting device: Ziplift grapple coupled to High Bay Crane or Portable hoist
Lifting point location (Target Systems global coordinates; x,y,z; mm): (1019.24, 3835.4, 0)
Component laydown area: High bay
TDR roof hatch opening dimensions: N-S = 500mm, E-W = 350 mm
Temporary storage cask required: Yes
Reason for removal: Target segment replacement (normal operations)

MRA Removable Shield Block
Creo model name: S03060300-M8U-8800-A10285.prt
Drawing number: TBD
Lifting Interface: Ziplift stud – 1.5’’-8UN male thread
Component mass: 6226.7 kg
Lifting device: Ziplift grapple coupled to High Bay Crane or Portable hoist
Lifting point location (Target Systems global coordinates; x,y,z; mm): (-178.4, 3937, 0)
Component laydown area: High bay
TDR roof hatch opening dimensions: N-S = 920mm, E-W = 700mm
Temporary storage cask required: Yes
Reason for removal: MRA replacement (normal operations)

Gamma Gate Shield Block
Creo model name: S03060200-M8U-8800-A10296_BLK1.asm
Drawing number: TBD
Lifting Interface: Ziplift stud – 1.5’’-8UN male thread
Component mass: 1105.7 kg
Lifting device: Ziplift grapple coupled to High Bay Crane or Portable hoist
Lifting point location (Target Systems global coordinates; x,y,z; mm): (993, 4520, 0)
Component laydown area: High bay
TDR roof hatch opening dimensions: N-S = 790mm, E-W = 450 mm
Temporary storage cask required: No
Reason for removal: Gamma gate malfunction/service (uncommon)

Gamma Gate Drive Assembly
Creo model name: TBD
Drawing number: TBD
Lifting Interface: Hoist rings
Component mass: TBD (<1000 kg)
Lifting device: TDR Jib Crane, high bay crane
Lifting point location (Target Systems global coordinates; x,y,z; mm): TBD
Component laydown area: TDR floor or high bay
Temporary storage cask required: No
Reason for removal: East pipe pan access (Uncommon)

2. GAMMA GATE ACTUATION INTERFACE

Horizontal translation of the gamma gate is required for target segment removal and maintenance activities. During target maintenance activities it will be necessary to remotely translate the gamma gate from outside of the Target Drive Room. The scope breakdown shall be as follows:

Vessel Systems scope:

1. Specify and procure linear actuator
2. Design and procure linear actuator to gamma gate linkage
3. Design and procure gamma gate rail system
4. Design and procure gamma gate
5. Design and procure gamma gate positional locking system

Remote Handling scope:

1. Collaborate with Integrated Control Systems to procure and install a remote control system that allows for gamma gate actuation outside of the Target Drive Room
2. Collaborate with Integrated Control Systems to procure and install a position verification system that allows for gamma gate position to be verified from outside of the Target Drive Room