



# Shielding and Safety SAR

## Configuration Management Status

PRESENTED BY ENGINEERING MANAGEMENT GROUP | TECHNICAL CONTENT MANAGEMENT | RUJI SHIRAKAWA

2025-10-01

# Agenda



1 Introduction

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2 ESS Baseline Status for TBL

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3 TBL Scope

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# 1 Introduction

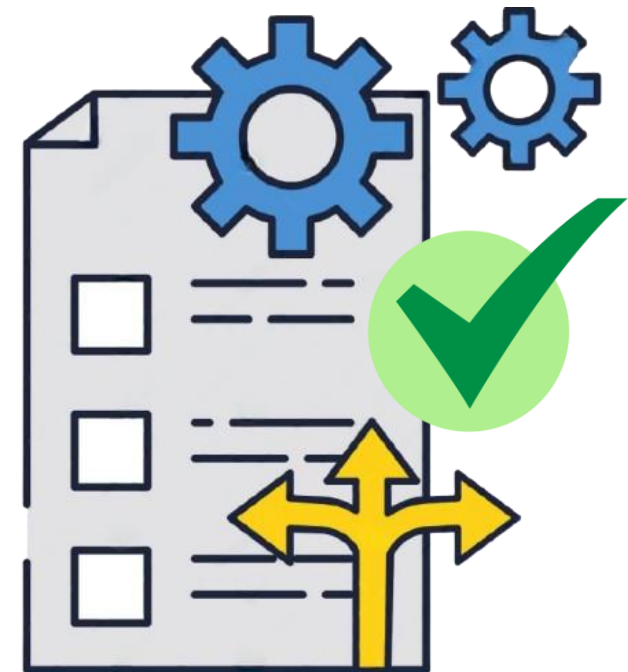
# Configuration Management

## In a Nutshell

### 1. Purpose

To ensure that, throughout the lifecycle, **information and configuration status** are:

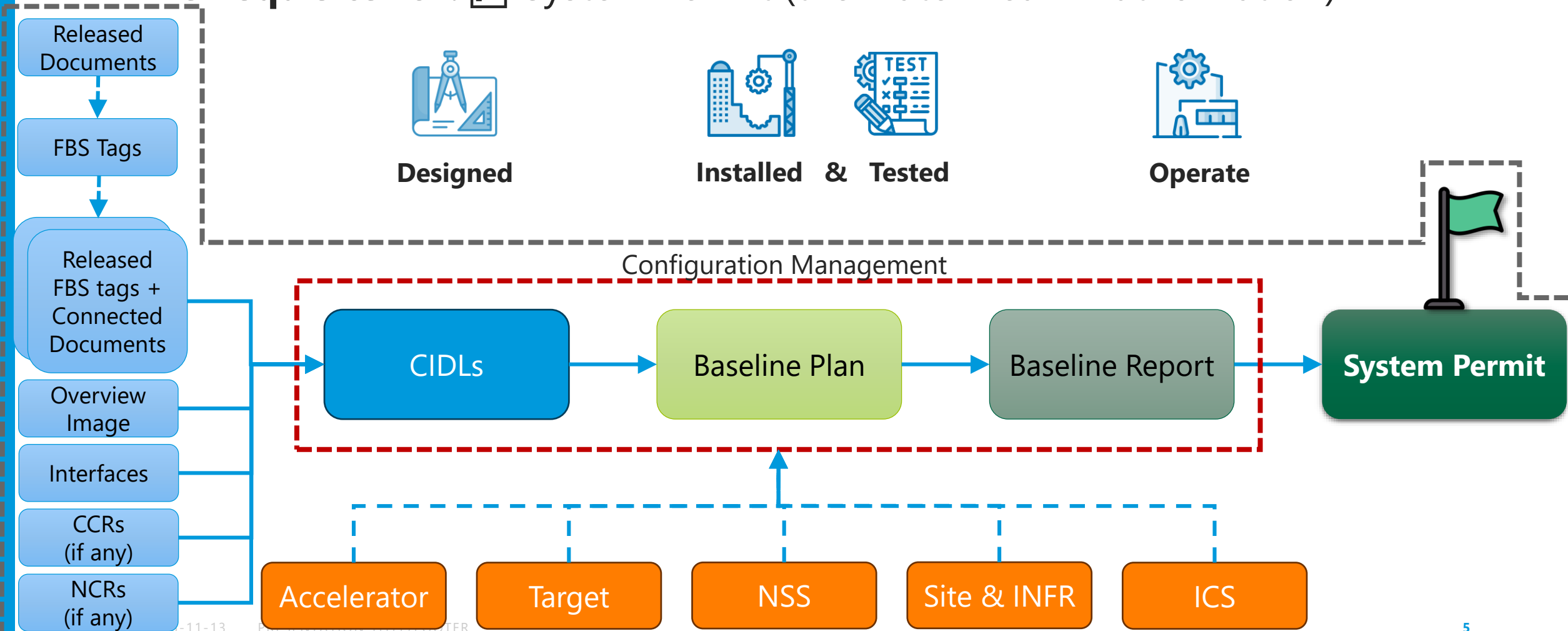
- ✓ known at all times
- ✓ agreed upon by related parties
- ✓ complete
- ✓ correct
- ✓ consistent



# Introduction

## Configuration Management In a Nutshell

**Pre-requisite for:**  System Permit (then later Beam Authorization)





# 2 ESS Baseline Status for Shielding and Safety SAR

# ESS Baseline Status for Shielding and Safety (4AN-2/2)

Scope from a CIDL perspective

## **The systems involved are**

- NSS Shielding and Safety over all
- Bunker
- Temporary beam stops
- Relevant Shutters, instrument NBOA/NBPI  
Except for TBL, LOKI, BIFROST and ODIN that are managed through their CIDLs
- Link to CIDLs  
[Shielding and Safety System CIDL](#),  
[Shielding and Safety System PSS CIDL](#)



# ESS Baseline Status for Shielding and Safety (4AN-2/2)

Facility Baseline Plan (rev 16)

FIRST SCIENCE																			
NSS baselines																			
F (c-25)		TBL (13-Oct-25)		Shielding & Safety Systems (17-Nov-25)		BIFROST (18-Nov-25)		LOKI (19-Nov-25)		ODIN (19-Dec-25)		NSS RBOT (13-Jan-26) (Finish iSRR)		DREAM (30-Jan-26)		NMX (16-Jun-26)		ESTIA (16-Jun-26)	
		4AN-1/2		4AN-2/2		4AN-3/2		4AN-4/2		4AN-5/2		4AN/2		4AN-6/2		4AN-7/2		4AN-8/2	
3/2																			
id		2025-10-08		2025-11-13		tbd		tbd		tbd		tbd		tbd		tbd		tbd	
XX		ESS-5 398		ESS-5 582															





# ESS Baseline Status for Status for Shielding and Safety (4AN-2/2)

## Baseline Conditions

### Not in a released and correct state:

- **ESS CIDL** – Work ongoing; will be done before global SAR5

### Not in the correct state:

- **NSS Shielding and Safety System PSS CIDLs ([OS-0000148](#))** – As-Verified state will be baselined after the global integrated tests are performed.
- **NSS CIDL ([OS-0000061](#))** – Not currently baselined a CIDL revision 1 exists but will be baselined at 4AN/2.
- **Instrument CIDL**

OS-0000105	BIFROST CIDL	2025-12-03
OS-0000111	LoKI CIDL	2025-12-03
OS-0000061	NSS CIDL	2025-12-15
OS-0000115	ODIN CIDL	2025-12-19
OS-0000107	DRAM CIDL	2026-03-30
OS-0000108	ESTIA CIDL	2026-06-16
OS-0000114	NMX CIDL	2026-06-16
OS-0000116	SKADI CIDL	2026-11-25
OS-0000104	BEER CIDL	2027-03-18
OS-0000112	MAGIC CIDL	2027-05-17
OS-0000109	FREIA CIDL	2027-05-28
OS-0000113	MIRACLES CIDL	2027-07-08
OS-0000110	HEIMDAL CIDL	2027-07-13
OS-0000106	C-SPEC CIDL	2027-09-29
OS-0000117	T-REX CIDL	2027-12-08
OS-0000119	VESPA CIDL	2029-04-13

Dates are a snapshot from October lockdown 2025

# ESS Baseline Status for Status for Shielding and Safety (4AN-2/2)



## Configuration Management Deliverables

### [ESS-0482562](#) **ESS Facility Configuration Baseline Plan** Rev.16

- Defines scope, relevant CIs, and corresponding configuration

### ESS-5866827 Facility Configuration Baseline Report for ***NSS Shielding and Safety System baseline release report*** Rev.1 *Preliminary*

- baseline scope
- any changes, and
- corresponding quality assurance records;
- comments and observations as pre/post-start items;



# Status of NIT/NCRs and CCRs

## **One active NCRs**

10626 NCR for the inclination of Bunker's R6 pillars (ESS-5878227)

**NITs has been raised that should be completed before SAR and is still in progress and one**

21 open for ISAR

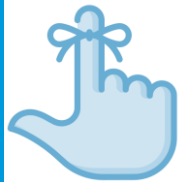
1 open for ISRR

2 open for SAR 5

# Status of NIT/NCRs and CCRs

## four active CCRs

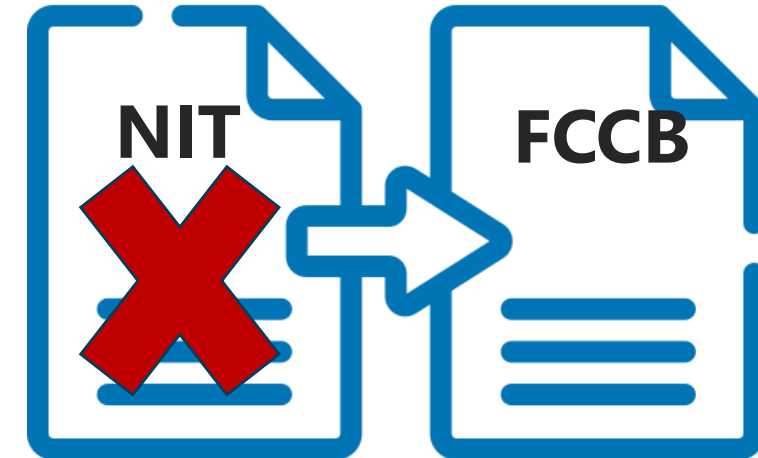
- ESS-5657065 Additional card readers bunker staircases CFPRO-1680
- ESS-5290838 Sealing between D02 basement and bunker
- ESS-5876282 Change the UPS units and settings in the PSS and GDS cabinets
- ESS-5628912 Monolith Insert in the position E5, opening new beamline (replace the plug with a NBPI)



## A Configuration Change Request (CCR) must:

- be **raised** prior to implementing any configuration change
- be **registered** in the Facility Change Log
- be **communicated to** and **analysed** by the relevant parties
- be **incorporated** into all affected deliverables
- be **formally closed** upon successful implementation

Change to a system

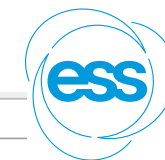


# Reflection on Documentation



- The evaluation of documentation is a bit trickier since some parts of the System are for instruments that will be ready much later.
- There are some missing documents that are not released, that I believe should be addressed before NSS SAR 5
- The relevant document types appear to be largely covered in the current documentation:
  - **Scope and Requirements**
  - **Specification and Design**
  - **Operation and maintenance**
  - **Verification and Validation**

# Reflection on Documentation



FBS/LBS Tag	Name	Title	State	CI Type	Revisi	Versi	Release Date	Owner	Planned Completion	Planned to be completed by which Milestone	Project	REMARKS
	OS-0000122	NSS Shielding and Safety System CIDL	Preliminary	Object Selection CI	2			Robert Connatser				
=ESS.NSS.F01	ESS-0059230	Shielding & Safety Systems	Released	Sub-Item	2		Nov 10, 2025	Robert Connatser	-	-	-	
	ESS-0108886	System Requirements Specification - Shielding and Safety Systems	Preliminary	Document	1	7		Mark Ridgley (Inactive)	2027-01-01		NSS	Not urgent to complete since all design etc are done. But they should be updated to give a clear view of the
	ESS-1104056	System Verification Plan - Shielding and Safety Systems	Preliminary	Document	1	2		Mark Ridgley (Inactive)	2027-01-01		NSS	Not urgent to complete since all design etc are done. But they should be updated to give a clear view of the
	ESS-0108883	Concept of Operations - Shielding and Safety Systems	Preliminary	Document	1	7		Mark Ridgley (Inactive)	2027-01-01		NSS	Not urgent to complete since all design etc are done. But they should be updated to give a clear view of the
=ESS.NSS.H01.BEER.A01.F01	ESS-5866644	Shielding	Released	Sub-Item	1		Oct 29, 2025	Premek Beran	-	-	-	
	ESS-5866644	SAT BEER Guide Shielding	Review	Document	1	7		Senad Kudumovic	2025-12-01	4AN-2/2, before SAR Report	NSS	
=ESS.NSS.H01.BEER.A01.W02.WH01	ESS-5765694	NBQA - Neutron Beam Optics Assembly	Released	Sub-Item	1		Nov 10, 2025	Premek Beran	-	-	-	
	ESS-5765694	Local Test Report (SAT) BEER Beam Extraction System	Preliminary	Document	1	8		Fredrik Stjärnqvist	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.CSPEC.A01.F01	ESS-5866642	Neutron Guide Shielding	Released	Sub-Item	2		Nov 10, 2025	Daria Noferini	-	-	-	
	ESS-5866642	SAT CSPEC Guide Shielding	Review	Document	1	4		Senad Kudumovic	2025-12-01	4AN-2/2, before SAR Report	NSS	
	ESS-0511527	C-SPEC - Radiation Safety Analysis	Preliminary	Document	1	1		Fernando Yamil Moreira	2027-09-29	CSPEC: i-SRR	NSS	
=ESS.NSS.H01.CSPEC.A01.W02.WH01	ESS-5765743	NBQA - Neutron Beam Optics Assembly	Released	Sub-Item	1		Nov 11, 2025	Daria Noferini	-	-	-	
	ESS-5765743	Local Test Report (SAT) C-SPEC Beam Extraction System	Preliminary	Document	1	12		Fredrik Stjärnqvist	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.DREAM.A01.W02.WH01	ESS-5765758	NBQA - Neutron Beam Optics Assembly	Released	Sub-Item	1		Nov 11, 2025	Florence	-	-	-	
	ESS-5765758	Local Test Report (SAT) DREAM Beam Extraction System	Preliminary	Document	1	8		Fredrik Stjärnqvist	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.ESTIA.A01.W01.WH01	ESS-5314270	Bunker Wall Feedthrough	Released	Sub-Item	1		Nov 11, 2025	Joshaniel Cooper	-	-	-	
	ESS-3886057	SAT BWI	Preliminary	Document	1	1		Felix Villacorta	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.ESTIA.A01.W02.WH01	ESS-5765755	NBQA - Neutron Beam Optics Assembly	Released	Sub-Item	1		Nov 11, 2025	Joshaniel Cooper	-	-	-	
	ESS-5765755	Local Test Report ESTIA Beam Extraction System	Preliminary	Document	1	3		Fredrik Stjärnqvist	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.FREIA.A01.F01	ESS-5765755	Neutron Guide Shielding	Released	Sub-Item	2		Nov 10, 2025	Thomas	-	-	-	
	ESS-5765755	FREIA - Radiation Safety Analysis	Preliminary	Document	1	3		Thomas	2027-05-28	FREIA: i-SRR	NSS	
=ESS.NSS.H01.FREIA.A01.R03.R01	ESS-5765755	INSTRUMENT Safety Shutter	Released	Sub-Item	2		Nov 10, 2025	Thomas	-	-	-	
	ESS-5765755	Freia Heavy Shutter Drawings	Preliminary	Document	1	3		Jon Elmer	2025-12-01	4AN-2/2	NSS	
=ESS.NSS.H01.FREIA.A01.W01.W01	ESS-3864660	BWI - Bunker Wall Insert	Released	Sub-Item	1		Nov 11, 2025	Thomas	-	-	-	
	ESS-3864660	Freia: Sub-System Design Description for 13.6.11.1.2 Beam Delivery System	Preliminary	Document	1	8		Clara Ines Lopez	2027-05-28	FREIA: i-SRR	NSS	
	ESS-3864660	SAT BWI	Preliminary	Document	1	1		Clara Ines	2025-12-15	4AN2	NSS	
=ESS.NSS.H01.FREIA.A01.W02.WH01	ESS-3864660	NBQA - Neutron Beam Optics Assembly	Released	Sub-Item	1		Nov 11, 2025	Thomas	-	-	-	
	ESS-3864660	Freia: Sub-System Design Description	Preliminary	Document	1	8		Clara Ines				

# 3 Shielding and Safety SAR Scope

AS-OPERATED

Fire Safety  
Systems

AS-VERIFIED

TBL

Shielding and  
Safety System

As-designed

Shielding and  
Safety System  
PSS

**\*\*ESS Facility\*\***

Not Baselined

NSS

ODIN

FREIA

BEER

NMX

LoKI

DREAM

MAGIC

HEIMDAL

T-REX

MIRACLES

SKADI

BIFROST

C-SPEC

VESPA

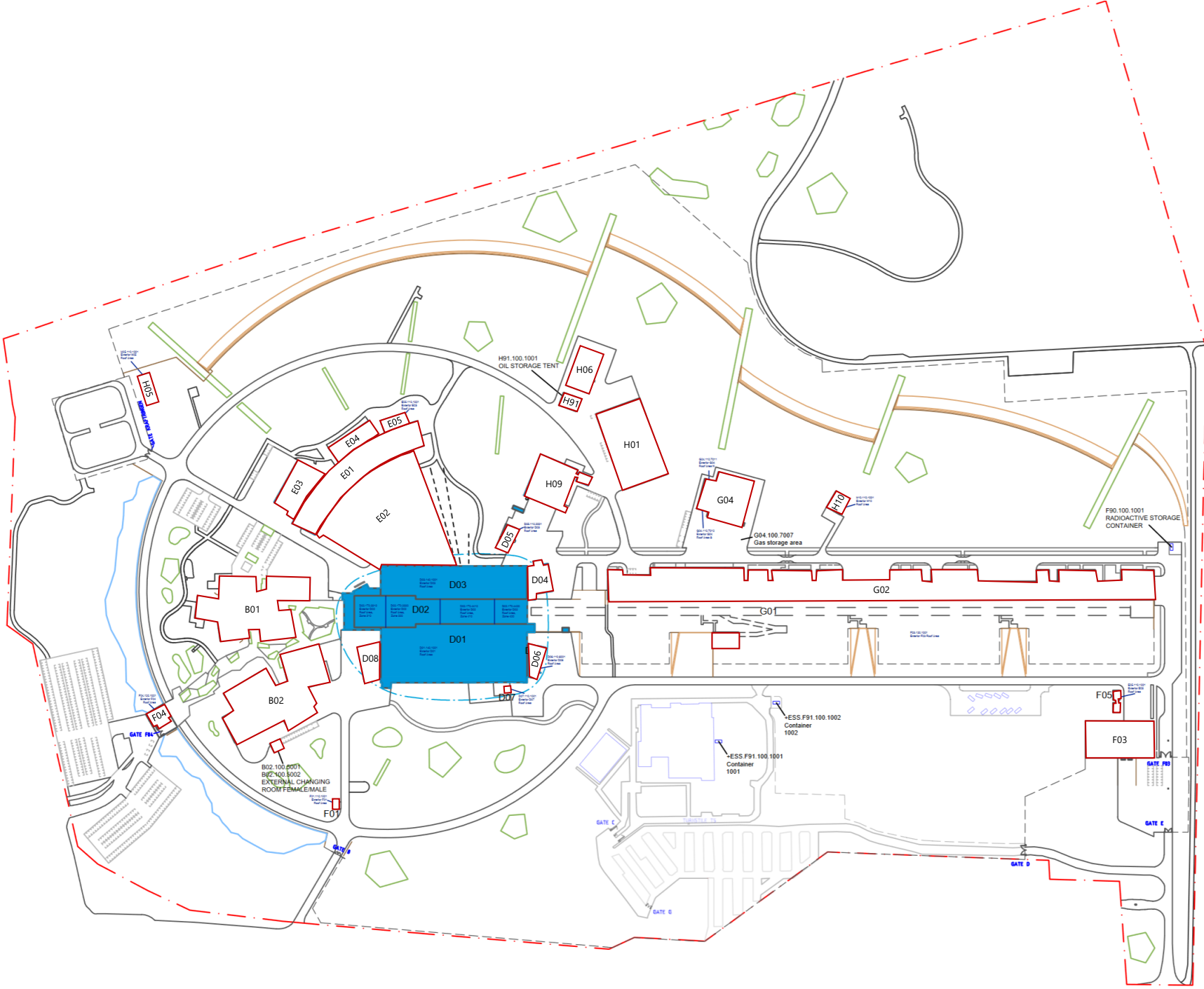
ESTIA



AS-BUILT

As-Built and Relevant to TBL

As-Built but not Relevant to TBL





# Finish presentation