

# TDR Status

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# TDR Mission Statement

The ESS TDR is **a technical document** describing in comprehensive detail the integrated design of the facility to be built Lund, in southern Scandinavia.

The TDR **does not address organisational matters, nor governance matters and less so financial matters**, although these subjects are borne in mind in arriving at the scope of ESS and hence the specification of the facility.

The TDR is being produced **together with a series of other documents that demonstrate the sound foundation of the project**, to support and enable the anticipated tollgate decision to proceed to construction of the ESS.



# ESS Design Reports

Conceptual Design Report, ESS-2012-001, Feb 6 2012

**TDR "Draft 2", Oct 2 2012**

Ch.	PDF chapters	Editor	Pages	Zip
0	Cover	Peggs		<a href="#">120812</a>
1	<a href="#">Introduction</a>	Carlile	7	<a href="#">CDR</a>
2	<a href="#">Neutron Science</a>	Kirstein	113	<a href="#">120928</a>
3	<a href="#">Target Station</a>	Lee	92	<a href="#">121002</a>
4	<a href="#">Accelerator</a>	Weisend	148	<a href="#">120928</a>
5	<a href="#">Integrated Control System</a>	Trahern (& Malovrh)	75	<a href="#">121001</a>
6	<a href="#">Cryo Sys, Vac Sys, &amp; Test Stands</a>	Weisend	26	<a href="#">120926</a>
7	<a href="#">Conventional Facilities</a>	Hedén (& Hedin)	31	<a href="#">120928</a>
8	<a href="#">Integration</a>	Lanfranco	11	<a href="#">120927</a>
9	<a href="#">Transition to Operations</a>	Carlsson	17	<a href="#">120929</a>
10	<a href="#">Upgradeability</a>	Ainalem	12	<a href="#">120929</a>
11	<a href="#">Safety</a>	Jacobsson	10	<a href="#">120929</a>
12	<a href="#">Radioactive Wastes &amp; Emissions</a>	Ene	21	<a href="#">121001</a>
13	<a href="#">Conclusions</a>	Carlile	1	<a href="#">Null</a>
	<b>TOTAL</b>		<b>572</b>	

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# ToC continued

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# In general ....

1. Draft 2 does not have an **adequate bibliography**. This is being developed, comprehensively, for **Draft 3**.
2. **“Cross-referencing”** and **“cross-reviewing”** between chapters is only partial, so far. This will be much improved – but not finished – by Draft 3.
3. Draft 2 has not been **“word-smithed”** for consistent and proper English usage. Nor has **figure placement** been optimized. **Table formatting** is mainly consistent. A complete job on these (important) cosmetic issues is only expected by Draft 4.
4. **Format consistency** has not yet been applied to figures, in particular not to **plots**. **(DISCUSS)**

# By chapter ...

	Title	Page count
1	<b>Introduction</b>	7
2	<b>Neutron Science</b>	113
	All sections are in place. 2.2 “An Instrument Suite for the ESS” describes 22 instruments, in a format that could be extracted as a stand-alone document.	
3	<b>Target Station</b>	120
	Most sections are in place. Sub-sections 3.4.2 “Gaseous cooling systems”, 3.4.3 “Water cooling systems”, and 3.6.1 “Water-cooled rotating tungsten target” will be ready for Draft 3.	
4	<b>Accelerator</b>	148
	All sections are in place. Several of the figures need updating to be consistent with the planned October release of the BLED databases describing the ESS layout baseline.	
5	<b>Integrated Control System</b>	76
	All sections are in place. Some sections, eg 5.3 “Machine Protection System”, are evolving in parallel with preparations for the internal review. Several graphics need updating.	

# .... more chapters ....

## 6 **Cryogenics, Vacuum, & Test Stands** 26

All sections are in place. Section 6.7 “Test Stands” may evolve somewhat before Draft 3.

## 7 **Conventional Facilities** 31

All sections are preliminarily in place. The winner of the “**architectural competition**” **will be decided on October 19** – this chapter will develop and expand significantly before Draft 4.

## 8 **Integration** 11

All sections are in place, and are awaiting review.

## 9 **Transition to Operations** 17

All sections are in place. Some graphics are missing. Significant evolution of the text is expected before Draft 3.

## 10 **Upgradeability** 12

Almost all sections are in place. A list is missing from section 10.1 “Introduction”. Text will be added to 10.3.4 “Irradiation ports” and 10.3.5 “Ultra-cold neutrons” for Draft 3.



# ... last chapters

## 11 **Safety**

10

All sections are in place. There is some overlap between the regulatory discussion in chapters 11 and 12.

## 12 **Radioactive Wastes & Emissions**

18

Almost all sections are in place. Additional text will be added to 12.6.4, 12.6.6 and 12.6.7 for Draft 3. There are some known bugs and formatting inconsistencies in the Tables.

## 13 **Conclusions**

0

This chapter will be in place by Draft 3.

# The future is now

**The key dates for TDR releases and reviews are:**

Oct 1	Draft 2
Oct 11-12	TDR Internal Review, Lund.
Nov 1	Draft 3
Nov 14-15	TAC
Nov 29-30	SAC
Dec 3	Draft 4
Dec 31	TDR final release

# TDR Internal Review (Oct 11 & 12)



<http://indico.esss.lu.se/indico/conferenceDisplay.py?confId=41>

Chaired by S. Näsström, assisted by B. Fredriksson.

Plus: D. Argyriou, C. Carlile, P. Carlsson, O. Kirstein, J. Lehander, Ö. Larsson, M. Lindroos, F. Mezei, S. Peggs & K. Möller.

The committee will deliver a written report to the Chapter Editors.

Chapter	Editor	Reviewer	Supporting names
1 Introduction	Carlile	Fredriksson	Näström
2 Neutron Science	Kirstein (+Jackson)	Connatser	Ainalem, Linander, Lundgren, Zanini
3 Target Station	Lee	Danared	Darve, Molander, Shea, Weisend.
4 Accelerator	Weisend	Andersen	Köttig, Lanfranco, Parker, Svedin, Wang
5 Integrated Control Sys.	Trahern (+Malovrh)	A. Johansson	Jacobsson, Kirstein
6 Cryo, Vac, Test Stands	Weisend	Seviour	Darve, Jurns, Molloy
7 Conventional Facilities	Hedén (+Hedin)	Henry	Hees, Lindroos, Rådahl, Rathsmann
8 Integration	Lanfranco	Duperrier	Ladd, Linander, Radahl
9 Transition to Operations	Carlsson	Weisend	Molloy, Nordt, Plewinski, Shea.
10 Upgradeability	Ainalem	Näström	Fredriksson, Plewinski, Trahern, Henry
11 Safety	Jacobsson	Plewinski	Darve, Linander
12 Rad. Wastes+Emissions	Ene	Carlsson	Hansson, Jacobsson, Zanini
13 Conclusions	Carlile	Fredriksson	Näström