

AD&I plenary Thursday 09/10

	09:00	30	Lattice release status (ILC2014a)	Mark Woodley (via FUZE)
	09:30	30	Global timing WG report	Ewan Patterson
	10:00	30	Failure modes & beam loss	Nikolay Solyak
	10:30	30	coffee	
	11:00	30	Design integration and change management	Benno List
	11:30	30	Next ADI steps	Nick Walker, Kaoru Yokoya, Mike Harrison
	12:00		lunch	

Current ADI Themes

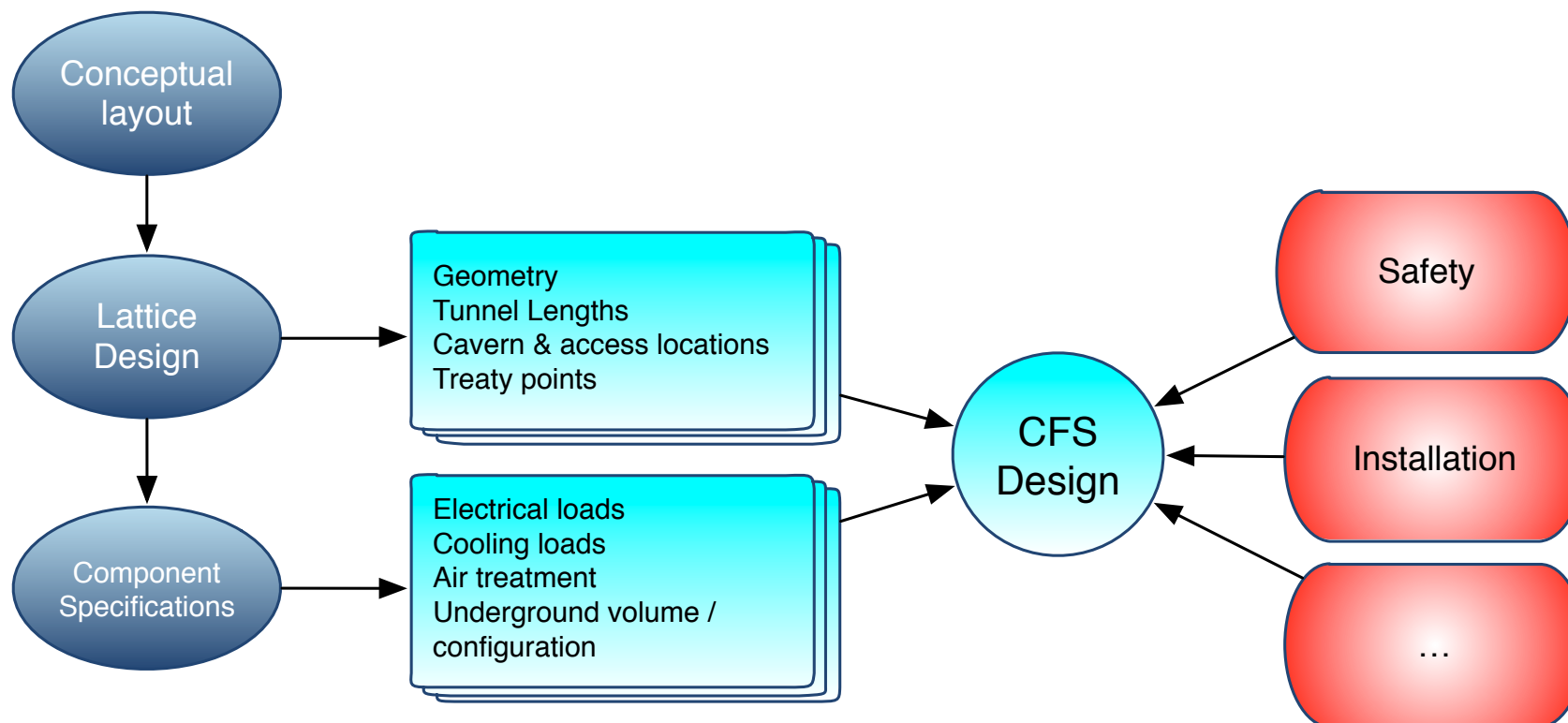
- Accelerator lengths → lattice design
 - ▶ global timing
- Radiation shielding → beam loss estimates
- Technical Design Documentation
 - ▶ Consolidating formal baseline for site-dependent design

Ideal design process (simplified)

Accelerator Design

CFS Requirements

Other constraints



AD&I mission:

Confirm/provide/update CFS requirements for site-dependent design
Make sure it is all sufficiently documented

April 2014 - Tokyo ADI-CFS meeting

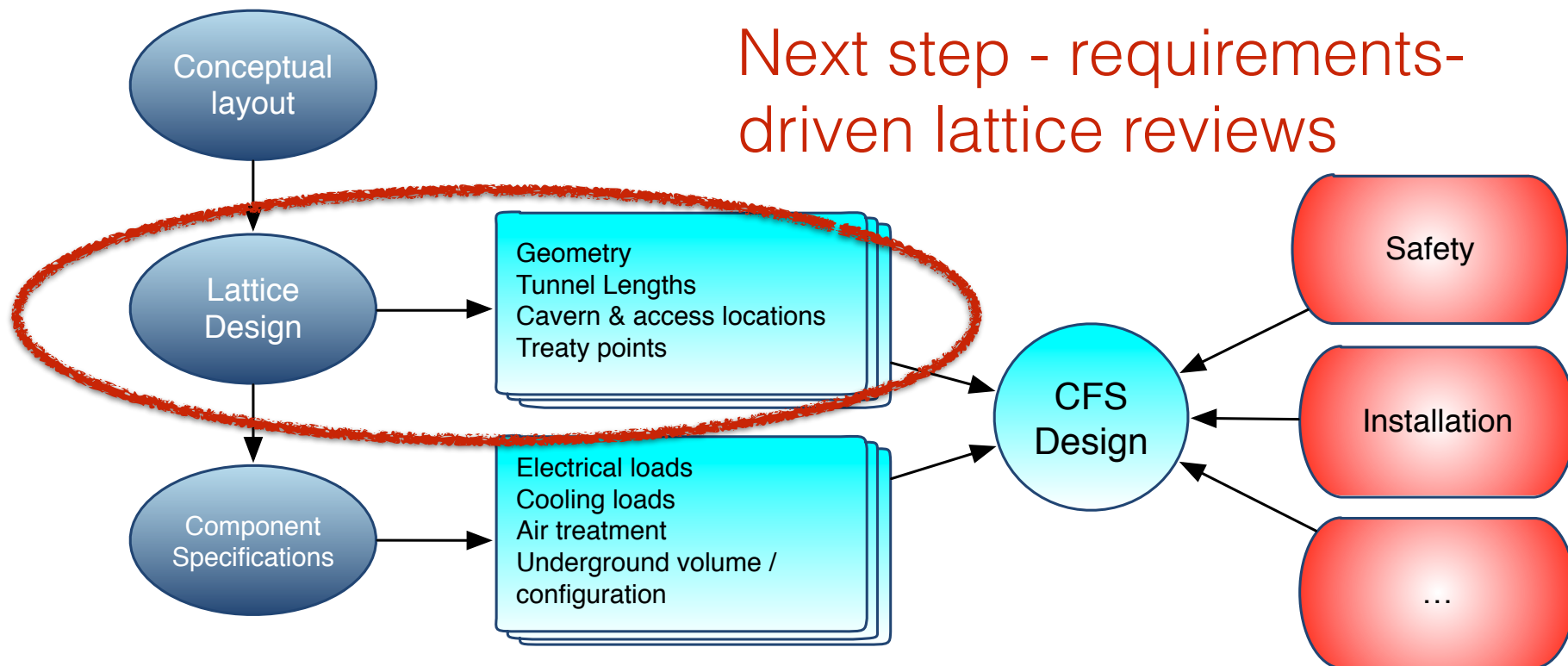
Ideal design process (simplified)

Accelerator Design

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Next step - requirements-driven lattice reviews

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Lattice review (proposal)

- **Goal:**
 - ▶ review accelerator design layout (lattice)
 - ▶ make sure they are “correct”
 - ▶ formally document and baseline
 - **Time frame**
 - ▶ Starting now and concluding Spring ILC meeting
 - **Method**
 - ▶ Review each accelerator system in turn
 - ▶ Integration-level review
 - ▶ Series of schedule remote (FUZE) meetings
 - Possible two per accelerator system
 - ▶ Special case: central region may require additional attention
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Lattice review (form)

- Lattice reviews will be “requirements driven”
 - ▶ first write down what each the functionality that each accelerator system must perform
 - ▶ Extract the technical requirements from this
 - ▶ Review the lattice (accelerator) design to make sure the requirements are fulfilled
- Easy? Special attention to be paid to
 - ▶ Instrumentation and diagnostic sections
 - ▶ Beam feedback systems
 - ▶ collimation systems
 - ▶ beam dump systems, including extraction lines
 - ▶ Special requirements for commissioning, tuning and machine protection
 - ▶ ...

More than just optics

FUZE meetings

- Two meeting per accelerator system
 - ▶ 1st: requirements review document(s)
 - ▶ 2nd: lattice review
- 6 accelerator systems = 12 meetings
- Assuming one every 2 weeks → Beg. of April 2015
- Final consolidation at Spring meeting (integration level)
- Meetings are open but only small group necessary
 - ▶ DESY "Systems Engineering" team (aka NW+BL)
 - ▶ Accelerator Systems coordinator(s)
 - ▶ Key additional people as needed

Quite aggressive
(see how far we get)

Outstanding issues

- Timing constraint
 - ▶ fix this finally at spring meeting after initial consolidation?
- Some key parameters
 - ▶ Assume $\langle G \rangle = 31.5$ MV/m?
 - ▶ Assume 500 GeV CM energy?
- Note resulting baseline can still be changed
 - ▶ that's what Change Management is for
 - ▶ Expect reviews to generate quite a few CRs

Other business

- Lattice reviews will run parallel with Normal ADI meeting
 - ▶ currently 1 per month
 - ▶ jointly chaired by NW and KY
 - ▶ Same format of status reports and special topics
- **Beam loss / failure modes still requires further work**
 - ▶ May need to consider 'task WG' as we did for timing to coordinate
- **Keep flexibility to react to requests from CFS team.**