

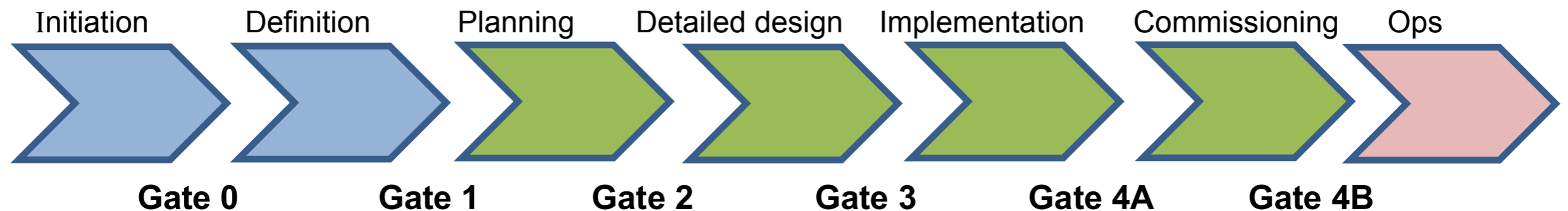
# Reviews, milestones, and general schedule

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Kate Pachal

# TRIUMF gate approvals

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- Project entered “planning” stage (passed Gate 1) last spring
- Before we can technically put anything into the beam line, we need to have passed Gate 4A
- Therefore we should get through 2 & 3 as soon as we can. These are not the only things that affect our schedule, but they will be part of it, and help guide the rest of our tasks
- Recall we are moving forward with 30 MeV experiment ONLY for now and will hold separate gate approvals for the 50 MeV upgrade if we get the funding

# Gate 2 needs

<b>Gate 2 review checklist</b> Gate 2 = End of Planning / Ready for Detailed Design	Yes	No
Actions from previous review addressed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All released documents up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>
Budget finalized, by fiscal year, ready to be baselined? Note 1: Cost estimates should include considerations for inflation, currency fluctuations, taxes, shipping, customs. Note 2: The budget should also include contingency based on analyzing similar projects (size/complexity) or based on an assessment of the risks (impact/likelihood)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has external funding for this project (to Gate 4B) been confirmed with granting agency/partner?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has TRIUMF funding for this project (to Gate 4B) been confirmed by ALD and/or Finance?	<input type="checkbox"/>	<input type="checkbox"/>
Account(s) created, including clarifying spending rules for TRIUMF cost centres?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has the technical concept been reviewed by experts and stakeholders? See note below for more details	<input checked="" type="checkbox"/>	<input type="checkbox"/>

None

No update to requirements; need design review document

Yes - our budget for 30 MeV is well defined  
Yes

TBC (personnel)

Yes

Yes

# Gate 2 needs

Yes - done  
for Gate 1

Hazard analysis done?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microsoft Project resource-loaded schedule, using TRIUMF project template and resource pool? Note: For projects that are managed by a vendor (for example, a major construction project or a major software project), has the vendor produced an acceptable equivalent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the schedule critical path understood?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Do you have major items (>\$50k), with long lead time, that should be procured before Gate 3? If so, do you have your project sponsor's authorization to do so?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your project have one or engineering designs that requires professional engineer sign-off, per TSOP-06?	<input type="checkbox"/>	<input type="checkbox"/>
Will your project result in a change to TRIUMF's physical security? If so, have you notified Facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there a risk to TRUMF's cyber-security? If so, have you notified IS&T?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Can make the case this isn't needed here; show existing schedule

Yes (I think)

Easy to get permission

Probably yes. Do not need to be signed off at this point but need to ensure we know how to proceed

Only radiation safety changes; Rick is aware

No risk

# Gate 3 needs

<b>Gate 3 review checklist</b> Gate 3 = End of Detailed Design / Ready for Implementation	Yes	No
Actions from previous review addressed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Did you receive a letter from the Director/CEO in support of your project, after your successful Gate 2? <small>Note: This is applicable for projects who received Gate 2 after November 2021</small>	<input type="checkbox"/>	<input type="checkbox"/>
All released documents <u>up-to-date</u> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Commissioning plan <u>drafted</u> ? <small>Note: Different types of projects have different criteria and terminology for 'commissioning'</small>	<input type="checkbox"/>	<input type="checkbox"/>
Drawings, <u>diagrams</u> or schematics released by ECO?	<input type="checkbox"/>	<input type="checkbox"/>
All Requirements Specification documents released to Docushare?	<input type="checkbox"/>	<input type="checkbox"/>
Schedule critical path understood?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Yes - done

Not done but easy

This is the hard one. I think we need everything in the design ~finalised: experiment, shielding, integration with the beamline, ...

# Gate 3 needs

Budget by fiscal year is updated and remaining funds enough to cover projected costs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have you sent to the Procurement Department a list of all major items (>\$50k) to be purchased, with a timeframe, and agree with them on a procurement strategy for each?	<input type="checkbox"/>	<input type="checkbox"/>
Top risks identified, with credible mitigation actions?	<input type="checkbox"/>	<input type="checkbox"/>
Will any installation work happen during a shutdown? If so, have you notified the SAS team (sas@lists.triumf.ca)?	<input type="checkbox"/>	<input type="checkbox"/>
<i>Optional, for more complex projects</i>	Yes	No
De-commissioning plan drafted? Proponent should ensure that all hazardous materials have a plan for disposal, plus check with EH&S to determine if decommissioning for the facility or equipment is already covered in the site Preliminary Decommissioning Plan (Document-8810) or whether the PDP will need to be updated	<input type="checkbox"/>	<input type="checkbox"/>
Controls (EPICS, data acquisition, MPS, etc...) specified?	<input type="checkbox"/>	<input type="checkbox"/>

Yes - done

Not done but easy

These might also be required. Not a bad idea to work out controls specifications now anyway.

# Gates summary

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- Groups often do Gate 2 and 3 simultaneously - I think the advantage is it means one less meeting to coordinate a review panel for, but we could also do them separately if we see an advantage there
- Nearly ready for Gate 2; I think we could do it anytime
- Not ready for Gate 3. Need to have engineering drawings finalised, plus probably a firmer plan for controls/DAQ. I think this includes shielding.
- Should we wait and do both together once we have the design finalised, or go ahead with Gate 2 now in order to keep the upcoming project needs more firmly in peoples' minds?

# Other documentation and approvals we will need

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- As discussed in yesterday's session, we need the shielding design and updated safety analysis report
- Following this, as soon as possible, we must start on the update of the CNSC license - this will take an unknown amount of time
- Everyone at the lab whose assistance we will require needs to be made aware of our schedule
- Need Petr to keep us high in the priority ranking so we can actually access person power
- Determine with the lab if we will need non-TRIUMF collaboration help for installation, and what training they'll require



# Overall schedule

	A	B	C	D	E	F	G	H	I	J	K
		Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Optics design note		█									
30 MeV program concept review			█								
Collimator design			█	█	█						
Collimator fabrication						█	█	█	█	█	█
Shielding design				█	█	█					
Update the SAR							█				
Update CNSC license								█	█		
magnet procurement				█	█	█	█				
design chamber, stands, etc				█	█	█	█				
beamline comp. fabrication								█	█	█	█
test new target chamber										█	
installation											█
commissioning											
Beam test											

- We are slipping. TRIUMF is responsible for collimator design and shielding design - bottleneck is person power but we are doing our best
- Design for chamber and stands etc under way, not concerned there. Need to finalise angles, but given in-house construction of chamber, not nearly as big a rush.
- Magnet procurement: is bottleneck knowing that lowered acceptance is OK? If so we need to converge on that as fast as possible (or decide we will simply have to live with whatever it is). Other bottlenecks?

# Milestones (reviews + large timeline items)

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- In a rough guess of order:
  - Order magnets
  - Complete collimator requirements and start design
  - Gate 2
  - Complete shielding design and finalise experiment design. Start on CNSC license update
  - Gate 3
  - Construct everything, etc
  - Gate 4a -> ready to begin installation

Discussion?