

NEXT-III Project

Received CD-0 approval in Sept. 2022

Received CD-1 approval in Sept. 2024

Goal:

- Build 8-12 new beamlines
- Upgrade infrastructure as needed for the new beamlines

Estimate Total Project Cost : \$500 M
including 31% contingency

- Plan to execute in phased subprojects.
- Each subproject ~ 2-4 beamlines
- Subprojects ~ 1-2 years apart



U.S. DEPARTMENT OF
ENERGY

Office of
Science

MISSION NEED STATEMENT

for the

NSLS-II EXPERIMENTAL TOOLS-III (NEXT-III)

Non-Major Acquisition

Office of Basic Energy Sciences

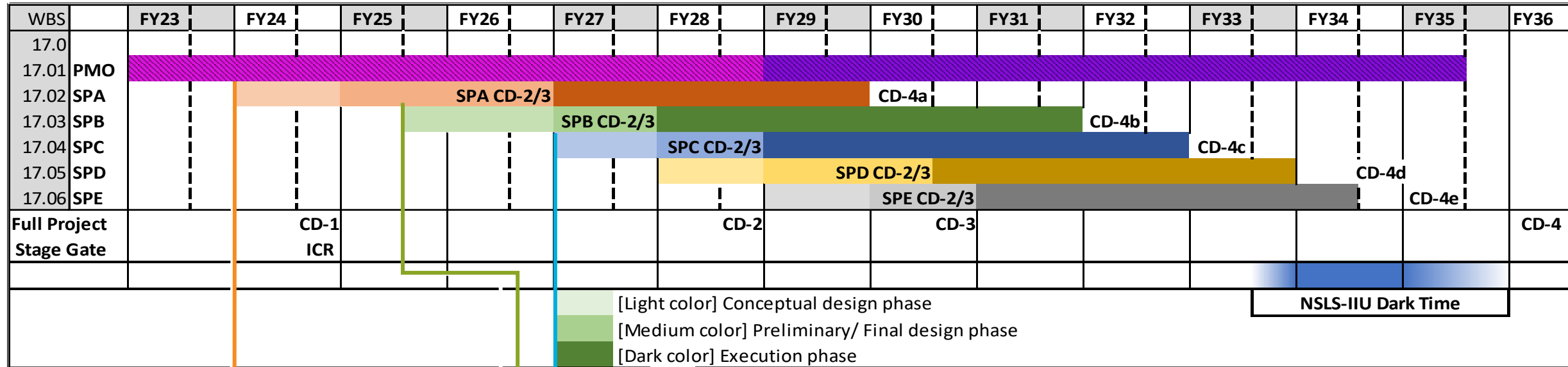
Office of Science

U.S. Department of Energy

Approved:

September 2022

NEXT-III Phasing and Subprojects (subject to funding)



Subproject A (SPA)

Scope:

- Design and build High Resolution X-Ray Diffraction ([HRD](#)) beamline
- Design and build Quantitative Cellular Tomography ([QCT](#)) beamline
- Design Advanced Nanoscale Imaging ([ANI](#)) and Tender X-ray Nanoprobe ([TXN](#)) beamlines
- N3XTware (software infrastructure for experiment orchestration)

Subproject B (SPB)

Scope:

- Build ANI & TXN
- Design and build Advanced Materials Processes (AMP) beamline
- Water utility upgrade to facilitate NEXT-III beamlines

Subproject C (SPC): Starts ~ Oct 2026

Subproject C beamline selection process

- Call for 1-pager beamline proposals (pre-proposals)
- Subset of 1-pagers selected for development into full proposals
- External panels review these full proposals
- Science Advisory Committee (SAC) prioritizes proposals based on review reports and their insights
- Management, in consultation with DOE, makes decisions
- The beamlines for Subproject D will likely be based on this round of proposal reviews since its start is only a year after the start of Subproject C.

Timeline for NEXT-III Subproject C (SPC)

Fall 2025	Scientific Strategic Planning workshops
Dec 2025	One-pager beamline proposals due. Proposals from current pool must submit an updated one-pager. Updated template will be provided.
Dec 2025	Subset of one-pagers selected to be developed into full proposals
March 2026	Full beamline proposals due. Updated template will be provided.
April 2026	External panel reviews – presentations, Q&A
June 2026	SAC prioritizes proposals based on review reports and their insights
July - Aug 2026	Management converges on SPC scope
Oct 2026	Official start of Subproject C