

**Director's Review of the Project X  
Cost Range Estimate:  
Project Management (1.1)**

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Project X Director's Review  
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- Scope of Estimated Work
  - Boundary Conditions /Assumptions
  - Basis of Estimate
  - Technical Risks/Associated Cost Exposure
  - Potential Technical Revisions
  - Role of Outside Collaborators
  - Summary



- The Project Management task includes labor and associated materials and supplies for the Project X Office
- Functions
  - High level technical and financial management
  - Scope definition and control
  - Work planning and authorization
  - Project Documentation
  - Reporting/EVMS
  - ES&H
  - QA
  - Collaboration coordination
- The period covered is from CD-0 through CD-4

# Boundary Conditions & Assumptions



- The managers of the major subsystems are supported within the subsystems categories, not from within the Project Management task
- Procurement, HR, business services, facilities management, and legal resources are supplied by the laboratory
  - Included in the overhead rates
- Any staff provided by contractors and collaborators are costed as Fermilab labor in this estimate. In reality they will appear as M&S
- Funds supporting work at collaborating institutions will flow through Fermilab and be distributed via Inter-entity Work Order (IWO)



- Staffing projections are developed based on a strawman organization and review of the NSLSII staffing levels:
    - Project Management (7)
      - Project Manager and Deputy
      - Associate Project Managers:
        - Accelerator Systems
        - Conventional Facilities
        - Systems Integration
        - ESH/QA
        - Reporting and Planning
    - Project Controls (5)
    - Project Finance (2)
    - Project Support (5)
    - Project IT (2)
    - Project Admin (4)
  - Profile builds up to the full complement at the time of CD-3
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- Materials & Service are based on a model of supporting needs
  - Travel \$336K/year
    - Support for reviews (24 trips) \$48K/year
    - Collaborator visits by Project Managers (36 trips) \$108K/year
    - Collaborator visits by sub-project managers (60) \$180K/year
      - Intention to assign this to subprojects on next round
  - Personal Computers \$17K/year
    - Assumes three year useful lifetime
  - Training \$30K/year
    - 3 × NOvA project
  - Printers \$2K/year
    - 3 × NOvA project
  - Supplies and software licenses \$30K/year
    - 3 × NOvA project
- Profile builds up to the full complement at the time of CD-1

# Basis of Estimate Summary



- The Project Management resource profile:

Project Management Resource Profile											
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
M&S	\$83,000	\$415,000	\$415,000	\$415,000	\$415,000	\$415,000	\$415,000	\$415,000	\$415,000	\$194,000	\$3,597,000
ProjMan	2	3	6	6	6	6	6	6	6	6	
ProjCont	0.5	2	3	5	5	5	5	5	5	5	
ProjFin	0.25	1	2	2	2	2	2	2	2	2	
ProjSupp	1	1	2	3	6	6	6	6	6	4	
ProjIT		0.5	1	1	2	2	2	2	2	2	
ProjAdmin		0.5	1	2	4	4	4	4	4	4	
FTE (Total)	3.8	8.0	15.0	19.0	25.0	25.0	25.0	25.0	23.0		168.8



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- The primary risks associated with this task are costs, not technical
    - We could conclude that we would be better off with dedicated procurement, HR, and business services within the project.
    - This would add to the Project Management costs, but would lower overall project overhead.
  - Risk Mitigation
    - 40% contingency on Project Management
    - Analyze and develop an overhead strategy with the lab.

# Potential Technical Revisions

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- Possible different strategy on lab provided services and overheads (see previous slide)



- The Project Management task will include the creation and management of the inter-institutional MOUs controlling work at the outside lab.
  - Establish scopes of work and deliverables
  - Monitor progress
  - Incorporate into the reporting system
- We are retaining the possibility of having staff from the collaborating institutions fill one or more of the senior management positions.



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- The Project Management task provides the management, control, and reporting functions for Project X.
  - The estimate is based on experience with the NSLSII and NOvA projects, augmented by a model of the Project X management organization.
  - We are leaving open the possibility of adjusting the organization as the project becomes more formalized.