

Engineering Risk Assessment

Project:

Lead Engineer:

Department:

Date: January 1, 2011

Score

2 - Low to Medium Risk

Technology

This defines the degree of technical complexity the Lead Engineer or engineering team will face in executing the project.

- 1 The project will use off-the-shelf technology.
- 3 Engineers will purchase and modify off-the-shelf technology.
- 5 The project will require the development of new technology.

Environmental Impact

2 - Low to Medium Risk

This defines the potential level of environmental impact.

- 1 There will be no environmental impact.
- 3 The project may have some environmental impact but will not require an environmental assessment, as determined by FESHM.
- 5 The project will require an environmental impact statement.

Vendor Issues

5 - High Risk

This defines the degree of complexity to be expected with vendors. Complicating factors may include long-lead-t items and issues with vendor qualification and reliability.

- 1 Vendors could cause minor issues.
- 3 Vendors could cause manageable complications.
- 5 Vendor issues could result in significant schedule delays or cost overruns or could otherwise jeopardize the successful completion of the project.

Resource Availability

4 - Medium to High Risk

This defines the availability of internal and external resources to plan and execute the project.

- 1 Resources will be readily available.
- 3 Resources could be somewhat restricted.
- 5 The difficulty of obtaining resources puts the project schedule at high risk.

Quality Requirements

3 - Medium Risk

This determines the effort required to achieve the quality level the customer assigns to the final product.

- 1 The quality requirements can be met easily with existing infrastructure.
- 3 The quality requirements are challenging but can be met with existing infrastructure.
- 5 The quality requirements are beyond the capability of existing infrastructure.

Safety

3 - Medium Risk

This defines the safety issues the project team will encounter while completing the project.

- 1 The project will require standard safety considerations.
- 3 The project will require increased diligence due to its location, the configuration of the product or the type of work required. This includes work requiring review according to FESHM.
- 5 The project will require very restrictive safety considerations. This includes work requiring review and personal safety systems.

Manufacturing Complexity

4 - Medium to High Risk

This defines the degree of complexity to be expected when combining the elements of technology, operations and schedule in product manufacturing.

- 1 The manufacturing processes will be routine.
- 3 The project will require an existing technology that the manufacturer has not previously used.
- 5 The project will require new or complex manufacturing methods.

Schedule

3 - Medium Risk

This defines how much time the Lead Engineer or engineering team will have to complete the schedule.

- 1 Time will be unlimited.
- 3 The schedule will be somewhat constrained.
- 5 The subproject will be on the overall project critical path and has no schedule contingency.

Interfaces

3 - Medium Risk

This defines the risk associated with the complexity of integrating multiple subprojects.

- 1 One department at Fermilab will be involved with a standalone project.
- 3 Project success depends upon contributions from multiple departments at Fermilab.
- 5 Project success depends upon contributions from multiple institutions.

Experience/Capability

4 - Medium to High Risk

This defines the level of experience and capability project team members will have.

- 1 Only experts will participate.
- 3 A blend of experts and inexperienced personnel will participate.
- 5 Only inexperienced personnel will participate.

Regulatory Requirements

2 - Low to Medium Risk

This identifies the degree to which oversight by governmental or other regulatory agencies will impact the project.

- 1 Regulatory agencies will have minor to no involvement.
- 3 The Department of Energy, DOE, will have direct regulatory involvement.
- 5 DOE, as well as state or federal government, will have regulatory involvement.

Project Funding

2 - Low to Medium Risk

This defines the availability and approval status of project planning and execution funds.

- 1 A single source within Fermilab will fund the project.
- 3 A source outside of Fermilab will fund the project.
- 5 Multiple sources outside of Fermilab will fund the project.

Project Reporting Requirements

2 - Low to Medium Risk

This indicates the level of reporting to the senior management the project requires.

- 1 Reports to senior management about the project will not be required.
- 3 The project will require quarterly performance reports.
- 5 The project will be highly visible. Top management or outside agencies will schedule visits and issue monthly performance reports.

Public Impact

1 - Low Risk

This indicates how much the project will affect the public or public opinion.

- 1 The public will not be affected.
- 3 The public may be somewhat affected and should be informed with news releases.
- 5 The project may have an impact on the public. The public should be involved through public forums and may participate in advisory councils.

Project Cost

3 - Medium Risk

This defines how much the project is projected to cost.

- 1 The project will be within the department operating budget.
- 3 The project will require divisional budget planning.
- 5 The project will require laboratory or DOE budget tracking and reporting.

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