



# Technical Risk Rating Criteria

Office of Engineering and Technology

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# Technical Risk Rating Criteria

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- **Four criteria comprise the Technical Risk Rating:**
  - **Technical Maturity** — A measure of maturity/availability/existence of the technology needed to address the consequences of the risk.
  - **Risk Urgency** — A measure of the relative time in the project schedule when risk consequences are expected to occur and intervention is needed.
  - **Handling Difficulty** — A measure of the complexity and/or difficulty in developing and implementing a suitable solution to technical issues.
  - **Resolution Path** — A measure of the progress made towards achieving expected results and reducing risk during implementation of the handling strategy.



# Technical Risk Rating Criteria

- **Technical Maturity\***
  - “Are the needed technologies ready for deployment?”

Technical Maturity Description	Rating
Basic process technology principles observed and reported; or equipment and process concept formulated; or TRL = 1, 2.	
Equipment and process analysis and proof of concept demonstrated in a simulated environment; or laboratory testing of similar equipment systems completed in a simulated environment; or TRL = 3, 4.	
Bench scale equipment/process system demonstrated in a relevant environment; or TRL = 5.	
Prototypical equipment/process systems demonstrated in a relevant environment; or actual equipment systems/process system successfully operated in the expected operational environment; or TRL = 6, 7.	
Actual equipment/process successfully operated in limited operational and/or operational environments; or TRL = 8, 9.	

\* Based on EM TRA/TMP Guide



**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Technical Risk Rating Criteria

- Risk Urgency

- “Are the impacts close, does the project have time to work the issues, is the critical path delayed?”

Risk Urgency Description	Rating
Performance and/or critical path impacts expected to occur within 6 months; urgent attention and increased focus required to address impact; need to work handling resolution actions aggressively.	
Performance and/or critical path impacts expected to occur within 6 to 9 months; response planning may be needed.	
Performance and/or critical path impacts expected to occur within 9 to 12 months.	
Performance and/or critical path impacts expected to occur within 12 to 18 months.	
Performance and/or critical path impacts expected to occur after 18 months; have flexibility in implementing handling actions.	



# Technical Risk Rating Criteria

- Handling Difficulty

–“How difficult is it going to be to define and perform actions that will mitigate the risk(s)?”

Handling Difficulty Description	Rating
Technical requirements incomplete; or handling strategy not defined; or handling strategy considered very complex and/or extremely challenging; or peer review rejected handling strategy.	
Some uncertainty with technical requirements; or handling strategy incomplete; or handling strategy considered complex and/or challenging; or uncertainty in completeness of handling strategy; or peer review identified problems with handling strategy.	
Technical requirements known, changes in interpretation possible; or handling strategy defined, changes possible or with some complexity/challenges; or some doubt in effectiveness of handling strategy; or peer review not conducted or no results yet.	
Technical requirements known, interpretation clear; or handling strategy defined, minimal challenges; or minor changes possible; or confidence in the expected results; or peer review supports most of handling strategy.	
Technical requirements known, interpretation clear; or handling strategy clearly defined and accepted, straightforward approach; or high confidence in the expected results; or peer review supports strategy.	



# Technical Risk Rating Criteria

- **Resolution Path**

- “Are the results from the risk handling actions mitigating the risk(s) as expected?”

Resolution Path Description	Rating
Results are contrary to expected outcomes; or negative impact on risk mitigation; or strategy not working, requires revision.	
Results are inconclusive, with doubt on effectiveness; or unknown impact on risk mitigation; or risk reduction may be in jeopardy.	
Handling strategy not started yet; or preliminary results as expected but inconclusive; or risk reduction is uncertain or somewhat less than expected; or handling strategy may need minor revision.	
Handling producing expected results; or results support risk reduction; or strategy is on track.	
Strategy has effectively reduced risk impact (confirmed by data or analysis).	



# Technical Risk Rating

- Overall Technical Risk Rating
  - Qualitative assessment by FPD based on his/her overall interpretation of the four criteria

Technical Risk Rating	Management Impact
	Project technical risk(s) require heightened attention and may require Acquisition Executive decisions on direction or resources.
	Project technical risk(s) require additional focus and may require Acquisition Executive decisions on direction or resources.
	Project technical risk(s) have concerns in several areas and may require additional focus by the Integrated Project Team.
	Project technical risk(s) are manageable. Minor concern in selected areas, but additional focus not required.
	Project technical risk(s) are manageable as planned.

