



Lessons Learned From Project Peer Reviews

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Statement:

Through FY2013, EM conducted 60 Project Peer Reviews (PPRs): 35 in FY2012 and 25 in FY2013. The recommendations from these PPRs were analyzed for trends. The analysis below lists the top three trends (issues) identified in each of four categories: Project Management and Prior Reviews, Acquisition, Cost/Schedule/Risk/Scope, and Technical and Safety. Based on the peer reviews conducted to date, the actions below have been identified and are being addressed by EM-53 to improve EM project management activities. As findings and recommendations of subsequent PPRs are analyzed, we expect additional project management Lessons Learned (LL) will be identified.

Discussion:

PPRs are conducted in accordance with the guidance specified in the Deputy Secretary's memo dated April 12, 2011, on Project Peer Reviews. They follow the Office of Science model that fully integrates project compliance with applicable laws and practice. They are also consistent with guidance provided in the Department of Energy (DOE) Order (O) 413.3B. At the beginning of each fiscal year (FY), the schedule of planned PPRs is distributed to the field offices. Sites have been open and supportive of the reviews and chairpersons work with Federal Project Directors (FPD) in finalizing the review focus and coordinating the logistics.

EM-53 tracks the recommendations from the PPRs in a database under four high-level groups as follows:

- o Project Management and Prior Reviews
- o Acquisition
- o Cost/Schedule/Risk/Scope
- o Technical and Safety

The status for these recommendations are updated quarterly by EM-53 Site Leads with input from the Mission Unit counterparts and/or the Site until they are closed. Time sensitive and other key recommendations such as ones related to baseline changes, project documentation etc. are tracked monthly in the EM-53 Monthly Project Performance Report (MPPR).

Analysis:

Project Management and Prior Reviews:

Performance reporting not reflective of current project status: There were many instances of Contractor Performance Reports (CPR) and narratives not being reflective of actual performance on the contract. Some cases include projects being executed without a proper baseline, such as Salt Waste Processing Facility at Savannah River and the Waste Treatment and Immobilization Plant at the Office of River Protection. If reporting is inaccurate and not reflective of current project status, it may be not provide early warning signals to issues and can jeopardize EM's ability to take proactive steps to avoid setbacks that could impact project success.

Recommendations not dispositioned of in a timely manner: Several recommendations from FY 2012 PPRs have yet to be implemented. Most of them were time sensitive, and if implemented, would have helped project remain complaint with DOE O and avoided unfavorable ratings by APM. Examples include, combining or canceling projects, processing of a Baseline Change, updating project documentations, and reassessing risks, etc. It would have also avoided being called out as part of the Government Accountability Office (GAO) recommendations.

Dated project documentation: Many cases of projects executing without an updated Project Execution Plan (PEP) were noticed. PEPs had not been updated after baseline changes, IPT charter and technical approach changes etc. Also, in almost every PPR conducted to-date, observation included that risk register updates were not performed at regular intervals and the risk assessments were not current. If these documents are not kept relevant and current, it becomes difficult to understand what the project is managing to. Additionally, if current versions of important project management documents are unavailable, it becomes difficult to EM to respond to data calls from internal and external entities, such as Government Accountability Office (GAO) and Office of Acquisition and Project Management (APM).

Acquisition:

Inadequate cost controls and/or audits to prevent cost growth: Audits or reviews not performed by the Contracting Officer (CO) frequently enough on contractor's accounting, purchasing and estimating systems. This was especially noticed in projects that have breached cost baselines. Other issue that was frequently noted was prime contractors not exercising proper controls on the subcontractor's systems. Without adequate cost control efforts by way of regular audits and tracking, it will be impossible to know of issues in advance that would allow for measures to correct the course of the project, if necessary or plan for Over Target Baseline situations.

Omission of Contracting Officers in the review of Baseline Changes approved at site level: COs were left out of planning and reviewing baseline changes that were approved at the FPD levels. It appears that no contract issues have arisen because of this, but this recommendation was made in the interest of keeping a proactive approach to contract administration. Regardless of project size, project and contract management go hand in hand and if baseline changes are approved without the contract being looked into, it can cause issues down the road. At most EM sites have contractors are performing both capital asset and operations activities and Management Reserve (MR) is often accounted at the Baseline Summary level. If project baseline changes are approved without a CO's review would likely have negative implications to contract management.

No resolution of known acquisition issues: Despite repeat recommendations of creating or updating key contracts documents such as acquisition Plans and Strategy, Sites have not attempted to resolve them. Issue also includes recommendations to meet CPAR reporting requirements that have not been resolved. If documents and reporting are not keeping pace with the current situation on the project as they are tightly integrated, management of the project becomes difficult. It also becomes difficult for EM to respond to data calls from internal and external entities, such as GAO and APM.



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Analysis (cont.):**Cost/Schedule/Risk/Scope:**

No commitment from Site management to fund project at set funding profiles: Several findings related to lack of commitment from Site to fund projects at the funding profile levels. Schedule slippages and subsequently missing approved CD-4 dates were noted because of this. Schedule slippages in one project can have ripple effects on operations activities in the overall program.

Inrequent updates to the risk register and risk assessment reports: Recommendations were made on several PPRs that risk register updates and assessment of risks were not made frequently enough to assess the validity of Management Reserve and Contingency as baselined. Planning and management of risks is a key element of overall project management. Serious cost implications exist if risks spiral out of control, therefore, regular updates and assessment of risks is important for the project. Another repeat recommendation relates to lack of identification of opportunities in the risk register.

Errors in Basis of Estimates: Missed or non-KPP related scope in schedule and subsequently in cost estimates were frequently noted. This recommendation required modifications to Basis of Estimates or to the BCPs overall. If scope as it relates to CD-4 requirements are missed in estimating, the estimates behind the TPC calculations become questionable. This again calls into question the calculations behind MR and DOE Contingency.

Technical and Safety:

Utilization of technical approach from lessons learned at other sites: Multiple comments were made around not utilizing existing lesson learned from other sites on similar projects. Had the lessons learned from other sites been applied, it would have led to more accurate cost ranges and risk estimates during the planning phase of projects. It could also have provided guidance with troubleshooting many technical problems on projects already underway. Lessons learned from similar projects provide valuable insights and guidance into what to avoid doing in their projects and also how to address risks should they turn into issues. Utilizing the lessons learned can mean substantial cost savings for most projects.

No identification of alternatives for waste disposal: On many occasions, it was noted that no alternate plans were developed for disposal of waste at the sites. It appeared that there were substantial schedule loss was experienced on projects due to suspension of waste shipments to one planned waste disposal site as it worked to correct the issue around the incident that led to suspension. Alternate plans for technical approach should be part of every project's risk management plans as schedule loss can have cost implications to other projects or the program. Another consideration is that with most EM projects have regulatory drivers, any schedule setbacks can lead to milestones not being met.

Inadequate identification of site characterization gaps: Several PPRs commented that sites should focus efforts on understanding gaps with site characterization. Comments were made with respect to risks that may exist due to not identifying these characterization gaps. Not understanding gaps thoroughly that may exist in site characterization efforts opens up the possibility that the technical approach on which it is based may not be sound. We have observed projects executing several cost baseline changes due to this as part of our PPRs.

Actions:

Based on the trends noted in previous PPRs, EM-53 makes the following recommendations and takes the following actions:

- Cleanup projects in EM have proven to be risky with gaps noted in site characterization for many projects. As new projects are reviewed by EM HQ for approval, EM-53 is recommending that project be planned with a higher level of confidence to mitigate risks from insufficient characterization. Additional characterization may also be recommended, as necessary.
- EM-53 is in the process of developing a Risk Management and Assessment Tool that can be used by MU and the Sites for risk planning. The objective of this tool is to utilize risk register information from active and closed projects to help determine the adequacy of project risk planning and execution risks. Data in the tool will allow for sorting by Project type and the CD phase and is expected to be launched in FY-2015.
- Open PPR recommendations are now being tracked monthly in the EM-53's MPPR. This report is shared with EM Senior Management and tracking these periodically will ensure that they are closed out timely and properly.
- Repeat recommendations relating to key project and contracts documents not being up-to-date are tracked to closure monthly in the MPPR. Project rating is downgraded if the issue is not rectified timely. Projects with 'Red' or 'Yellow' rating have high visibility as FPDs are required to have a recovery plan in place; these projects are also reported in the Deputy Secretary Monthly Report.
- Cost increases due to scope growth have been a significant issue in EM cleanup projects, and it is being addressed by ensuring that scope for new projects is bounded; and Key Performance Parameters that signify completion of the projects are carefully defined. EM-53 is also making sure that project planning and baseline changes are complemented by appropriate stage gate project and cost reviews.

Critical Decision(s): All

Facility Type(s): All

Work Function(s): Project Reviews

Technical Discipline(s): N/A

REFERENCES:

1. U.S. Department of Energy. White Paper: Lessons Learned Based on Analysis of EM Project Peer Reviews (PPR) Recommendations. Office of Environmental Management Office of Project Assessment (EM-53). Washington, D.C., August 11, 2014.