Effective risk mitigation strategies for Projects

A modern day project manager has to always juggle between the 4 key project objectives of safety , quality, cost and schedule. To manage these objectives one of the key tools is risk management.

Project risks are internal and external and as with any type of risks the key to their management is early identification and effective mitigation.

In this digital age , with so many tools available to the project management team to manage risks , it is seen that inspite of the best laid plans, projects go off track and fail in achieving one or more of their key objectives.

Below we shall examine some key pitfalls in projects where risks are missed out and could lead to possible project derailment.

1. Stakeholder identification/ engagement
   One of the prime reasons for projects going off track is inadequate involvement of key stakeholders. A classic case is to bring in the Production manager into the project close to commissioning. Very often production in charge has a very different outlook compared to the design team and can lead to last minute changes in the plant.
   All the key stakeholders need to be identified right at the start of the project and their roles defined very clearly. Involve production engineers as well as Site HSE in early model reviews to avoid last minute changes.
   Another pitfall is to give too much or the wrong category of information to stakeholders. A common example is to feed the project steering committee with too much technical details. The role of the Steering committee is to guide the project team in key decisions on costs and schedule and not to provide technical solutions to issues. With too much technical information, the key project cost issues might get drowned in data or some member of the steering committee might start interfering in technical details for which they are not responsible for. Both situations can have damaging effect on the project.

2. Contracting strategy
   Contracting strategies can make or break a project. A lot of companies go with a one strategy fit all approach. But unfortunately there is nothing like a perfect contracting strategy. Below are just broad guidelines on selection of a appropriate contracting strategy
   EPC Lumpsum: Go in for a lumpsum EPC contract only if the scope of the project is well defined and contractors are available who have experience in similar plants. Going in for a Lumpsum contract for a new Process or a plant which has a lot of specialised equipment can be a recipe for disaster.
   EPC Reimbursable : This strategy can be very effective where the project owner has little or no regional experience where the project is being set up. The risks associated with less knowledge of local conditions can be mitigated to a large extent by passing them on to a good local contractor.
   EPCm model : Probably the safest contracting strategy. But EPCM model can easily lead to large cost escalation as the EPCM contractor has very little stake in the project. Also this model can easily turn out to be a sparring game between the Engineering and Construction contractors.

   It is essential that each project be assessed on specific requirements and then the contracting strategy be finalised very early in the project.

3. Vendor selection

   The general attitude towards vendors is that there is a prequalified approved vendor list so it is just a matter of following the approved list for the project, Since all the vendors are prequalified, no risk is foreseen for vendors. But this is far from reality. Even vendors with whom clients are working for decades can be the source of major risk to the project.

   The first check required is whether the key vendors have adequate spare capacity at present to handle the load posed by the project. In absence of this it is possible that the vendor will supply the items required but with substantially longer delivery times.

   For critical suppliers, it is worthwhile to do a financial due diligence especially if the client has not worked with the vendors for a substantial period of time. There are multiple cases globally where the vendor collapsed financially in the middle of the execution phase and disrupted the project as the order had to be diverted to alternate vendors. This risk is especially high for Single Source vendors.

4. Permitting

   Getting local permits brings in the uncertainty associated with dealing with a variety of Government authorities. Delays in obtaining permits can not only jeopardise the project schedule but sometimes even bring about design changes which would throw the project cost out of bounds.

   Many of times some of the requirements of local authorities are unwritten. So the best solution to handle this is to have a Engineering contractor well versed with preparing and submitting statutory approval drawings. In addition it is advisable to submit the approval drawings quite early in the project.

   It is worthwhile to submit revised drawings when the final versions are available so that major modifications especially to the building layouts due to authority feedback is avoided.

5. Design change

   Design changes in a project are inevitable and these are normally covered in the project estimates as design creep allowances. But the design changes if not properly managed can easily go beyond the creep allowance and bloat up the project cost.

   A few simple steps can easily ensure that design changes are minimised.

   Focus on getting major design reviews done pretty early in the project. These include HAZOP, SIL Assessment and Constructability reviews. These reviews can bring in maximum changes in the design leading to cost increases. But for carrying out the reviews early, it has to be planned that all the deliverables required for these reviews be completed early. Ideally these reviews (at least HAZOP and preliminary constructability review) should be completed before the sign off of the FEL3 (Front End Loading) package.

   The rest is up to rigorous project control that every change after the design signoff is properly recorded and measured. While this does not minimise the changes but at least keeps track of the variations and genuine scope changes can be identified.

Managing risk register

Project risks are identified at the start of the project through a risk workshop and recorded in the project risk register. But many a times the risk register is not updated on a regular basis and the risks though clearly identified at the start of the project actually start affecting the project just because no one bothered to monitor them. In such a case the entire project risk assessment exercise is futile.

It is one of the key responsibilities of the project management team to manage risks to the project and ensure minimum monthly reviews of the risk register are done.

Last but not the least remember that Risks are never eliminated, they are always mitigated.Manage risks effectively and meet the project goals of safety, quality, costs and schedule.