EPC Project Excellence Solutions

DRIVEN BY NEEDS
OUTSTANDING IN SOLUTIONS

Change. **Managed.**

This EPC Project Excellence Series helps your company to develop powerful project management procedures which have a measurable impact allowing your company to avoid project losses.

Change management **challenges** in EPC contracting

When it comes to changes during the construction phase, project managers and their teams face multiple challenges. Improper administration of change can impact costs, profitability, and overall project performance.

Lack of ownership and accountability may have a ripple effect on company cash flow and yet EBIT margins.

The pre-Socratic Greek philosopher Heraclitus of Ephesus already knew that "the only thing that is constant, is change". Project changes and / or adaptions are very common and are almost unpreventable during all stages of an EPC project's life cycle. They likely to occur from different sources, by various causes, at any of the three main stages of the project.

During the project definition stage, the owner, customer or the client's architect engineer can misspell requirements, scope of project or the overall design specification.

In the design and tendering phase, engineering consultants can cause later changes due to incomplete / inconsistent drawings, design errors, or omissions of site conditions and buildability. Tender engineering might cause modifications by a rushed preparation of tender documents, or tender-winning prices are unrealistic and too low (so-called suicide tendering).

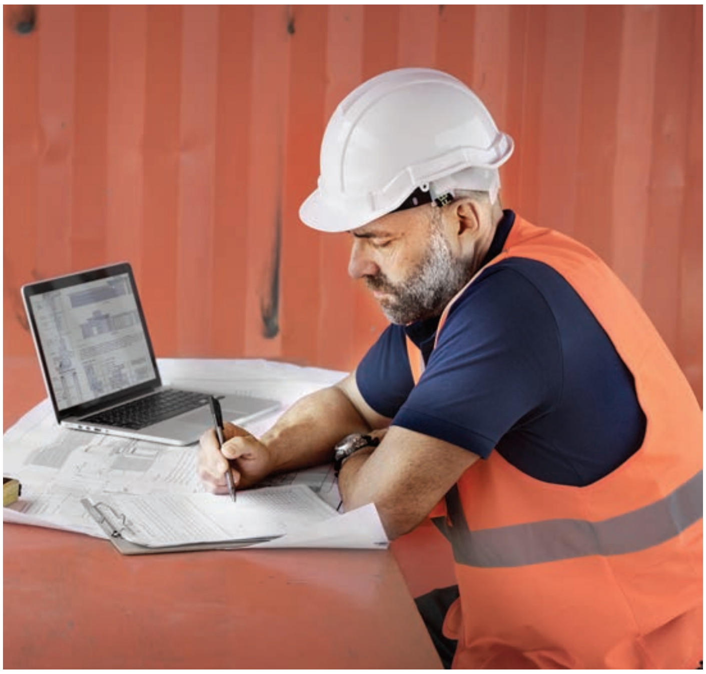
When the project team and the contractors / sub-contractors are taking over and the construction phase of the project begins, typically changes like as-built does not confirm with as-design, quality defects, unpredicted site conditions, value engineering, or materials / equipment not available may occur.

The following sections describe the change management process during that construction (or execution) phase an how it falls into the project manager's responsibility. How the process can be defined and handled in the first two phases will be explained in another EPC Project Excellence handout.

Project manager's **responsibility** - managing the change

Managing the change properly throughout the construction phase is crucial to the success of an EPC project. A change may cause consecutive delays in project schedule, re-estimation of work statement, and extra demands of equipment, materials, labor, and overtime. A failure on the project manager's part to develop and control change would be an indication of a deficient change management process.

Changes, if not resolved through a formalized change management process, can become the major source of contract disputes, which is a severe risk contributing to project failure. Typically these issues result in disputes between the contractor and owner and typically in the contractor's inability to recover costs and time impacts related with the change.



As the project owner, the project manager plays a key role in ensuring the project meets its results on time and on budget. One of the primary responsibilities will be creating and implementing change management plans and strategies that ensure to avoid or at least minimize project delays and / or additional costs for the construction company.

A strategy can be either ”defensive” - where claims will be raised only on clear facts and with a in general accommodating behavior - or ”aggressive” - where claiming will be applied on all suspicious occasions. The decision for a claim strategy is not least influenced by the contractor's own company culture. The same applies for partners like sub-contractors, but also the owner, client, and client's architect engineers and needs to be considered in the own strategy.

Although being the assigned project owner, the project manager is not the only person responsible for the application of the change plan. To understand the dimension of responsibilities for an applied change management procedure the following listing showcases the typical stakeholders which can be involved in change management on the contractors site (those in brackets only in extreme hardship cases):

- Project Management
- Construction
- Site Management
- Procurement
- Risk Management
- Project Planning
- Contracts & Claims
- Logistics
- Engineering
- Technical Department
- Quality Management
- EPC Realisation
- Operations Department
- Global Projects
- Investment
- Purchasing and Supply Management
- Business development
- Lawyers
- Compliance
- (Sales)
- (Management)
- (Corporate Executives)

Project managers spend a lot of time producing plans and establishing objectives, involving stakeholders, and leading teams; then spend a lot of time for controlling and making changes to the scope of work, the rollout, and execution process. Having a clear and easy measurable change management process in place and creating a culture of accountability and ownership within and to include the internal responsibles and experts involved in this project, goes a straight way toward keeping the project moving forward successfully.

Change - **simplified** with clear and easy processes

It is generally expected that most of the adjustments or changes in the project will be due to requests for change from the client or owner. These inquiries go through a defined process whereby the customer requests a cost analysis followed by an official offer from the contractor. Once the customer‘s change order has been received and the additional are costs clarified, the team can make the desired change.

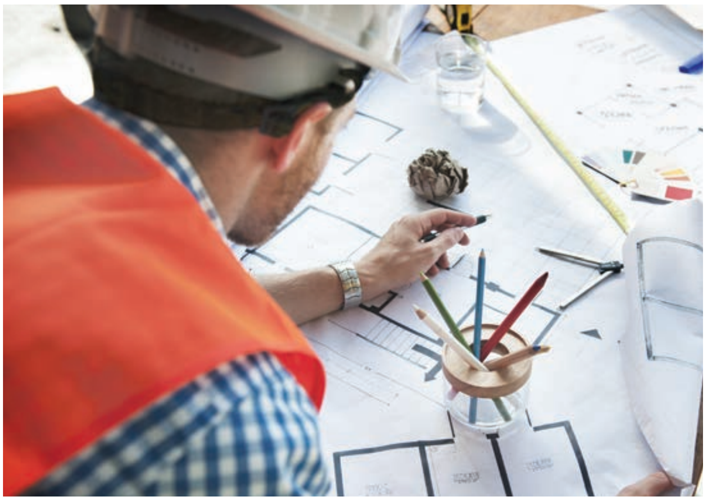
In reality, EPC contractors are faced with far more complex challenges during execution. Changes are not following a pattern and from time to time, when changes start occurring throughout a project, they can begin come in quickly from all different directions and many times it will be hard for the project manager to keep track of them all. Change requests do not always go through the predefined process, and project members make necessary changes even before the customer‘s order is received. In addition, many small modification events can lead to further adjustments in the project. The employees often do not communicate these in the daily project business and the project manager therefore recognizes their effects too late.

Events may be also defects in delivered materials or services of third parties, but also incorrect or late deliveries, missing or late approvals or miscalculations. In addition, lack of knowledge about what is contractually agreed can contribute to necessary adjustments in the project - these occurrences are usually not covered by a customer change order.

Applying three **straightforward** steps

Step **1** Teamwork
Step **2** Defining and standardizing process sequences
Step **3** Recognizing changes and demands in time

1 The project participants must document every event that could lead to a deviation or change in the project. To do so, the entire team should be involved in the change process. Prior the project start the team members have to addressed in advance with important contract points, plans, and execution procedures. In addition make the team aware of all deviations. A team prepared in this way is able to identify incidents that could have a negative impact on the project‘s success and to initiate necessary follow-up measures immediately.



2 After identification of the deviations it is important to evaluate necessary changes from a finance and time perspective and propose these changes to the client (or other stakeholder involved) before the implementation goes on. This step is essential and the changes can only be made after approval by the partner. In many cases time is money, but the team should not only implement the physical changes but also spend the time on formal documentation. This can be helpful in case of disputes but also for lessons learned to avoid in future projects. It should be clear that a change order is an amendment to the existing contract. Once signed it becomes part of the original contract and either changes the scope (decreases or increases it), the price or changes the time. And time shouldn’t ignored at all. A deviation will have an impact on the overall project schedule. And if not considered and addressed in the change order, the contractor might have challenges towards the end of the project, following the contract schedule.

3 If deviations are detected too late, it is possible that a creeping implementation will take place without being approved in advance, resulting in non-reimbursable costs. Some contracts also include a clause that defines exactly when changes should be reported. The team must be informed about this clause so that there are no „collections of changes" will pile up that are declared too late. Continuous transparency and the timely identification of externally incurred changes (including costs and time) during the course of the project execution sets a basis for continuously monitoring all modifications, their effects and any subsequent claims. This can help to avoid an unexpected cost increase or time delay.

businessexcellence.eu can help **lower margin erosion** while improving your change reporting.

Other Services we offer for SMB, Startups and Corporates:

Enhancing efficency: We help you to view your costs from a new perspective and shift your business from just managing expenses towards analyzing what really drives the costs.

Enabling innovation: With our support you can inspire an innovative culture in your business where strategic alliances can be forged and employee engagement is encouraged.

Driving Organization: Together with your team we analyze the performance of your organization offering solutions that fortify your strengths and diminish your weaknesses.

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