

Untangling a failed energy startup

The commissioning and startup phase of any energy project—liquefied natural gas, power, renewables, petrochemical—represents an important, and potentially perilous, transitional period during the construction process.



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Health and safety risks are always a primary concern when hydrocarbons or other precursors are initially introduced into a facility. The actions or inactions of operations personnel—nearly all of whom are undergoing facility-specific training during this period—can also result in substantial damage and significant delays. If that occurs, the contractual allocation of responsibility between owners and contractors will play a crucial role in determining the rights and remedies of the parties.

“Commissioning” generally spans completed construction with commercial operations and is generally recognized as beginning after the completion of all or the majority of construction activities—a completion milestone often referred to as “mechanical completion.” Commissioning includes energization and testing to check that each system or subsystem is fabricated, installed, cleaned, and ready for operation in accordance with the facility’s design.

Once these steps are successfully completed, the facility is typically considered ready for startup. This stage includes the introduction of feedstock, performance testing and the gradual escalation from the operation of individual subsystems to system and facility-wide operation.

Leaving aside the health, safety, and damage concerns intrinsic to commissioning and startup, this period represents an anxious time for both the owner and contractor since they will find out whether the facility—as designed and built—is operational and capable of meeting the performance guarantees for the project.

If a contractor’s guaranteed completion date is tied to the completion of commissioning and startup, which is typically the case if the contractor is responsible for these activities, there is rarely

sufficient schedule float to account for any scheduling delays that arise due to unexpected performance or construction issues. Any such delays generally result in delay-liquidated damages becoming due from the contractor and offtake-related headaches for the owner.

Who is responsible?

Given these sensitivities, the ultimate responsibility for commissioning and startup is frequently a contentious point of negotiation between owners and contractors. Sophisticated owners with experienced teams will often demand that the contractor turn over care, custody and control of the facility at mechanical completion to allow the owner to conduct commissioning and startup with unfettered control and decision-making.

Less experienced owners, however, will likely look to the contractor to provide a “turnkey” solution by having the contractor retain custody and control over the facility until commissioning and startup is complete. Even experienced owners may request that the contractor provide these services when the facility contains new, complex or proprietary technology that the owner is unfamiliar with.

Insurance coverage can also play a role in determining who will conduct commissioning and startup, since the insurer will want to be sure that the party responsible for this critical phase can perform safely and without undue risk to the facility.

Even if a contractor agrees to commission and start up a facility, the owner’s staff are nearly always involved in some capacity. Owners must be ready to assume control and operate the plant upon completion of start-up, and contractors are typically requested to provide training to and

incorporate the owner's operations personnel into the contractor's commissioning and start-up teams. Mixed teams of contractor and owner personnel, however, can result in difficult questions of liability if a facility is damaged.

For example, during the commissioning phase for a large power generation facility utilizing a mixed team of owner and contractor personnel, damage occurred after the contractor's control room supervisor instructed the owner's operations trainee to perform a task using the facility's distributed control system. The trainee failed to carry out the task correctly and this failure, together with other facility problems, resulted in substantial damage and delay.

The contractor alleged that the trainee's failure to properly carry out the supervisor's instructions excused its delay in completing the facility. The owner argued that the parties' contract required the contractor to both train and supervise the owner's personnel. Ultimately, an arbitration panel determined that the contractor's duty to train and supervise imposed

some measure of liability on the contractor for the error committed by the owner's operators.

As a result, owners and contractors should be aware of the potential liabilities associated with mixed commissioning and start-up teams so that these risks can be appropriately allocated by the parties. Common discussion points include the contractor's right to require that certain owner staff are removed, and what the owner's responsibility is for certain types of operator failures, including gross negligence or wilful misconduct.

Commissioning and start-up are integral for most major construction projects. Both owners and contractors should carefully consider who is the best party to assume the overall risk of commissioning and start-up; if the contractor agrees to assume these risks, further thought needs to be given on how to allocate responsibility for the owner's operations staff.

Thinking ahead in these situations can prevent much bigger headaches down the line.



Owners and contractors should be aware of the potential liabilities associated with mixed commissioning and start-up teams so that risks can be appropriately allocated by the parties ahead of the time



