

Commissioning – The difference between a successful project and a string of call backs.

Every firm has had the project that just won't die. It must be built over an Indian burial ground! The project budget is long since in the red, the call backs are endless, and the Owner is having a sense of humor failure with the whole team. How did we get into this mess? If any of that sounds familiar, read on. What if ... The commissioning process is



the silver bullet that dispatches all of those headaches like a couple of ibuprofen tablets? It could be. The commissioning process, when administered correctly and embraced by the project team, results in a much smoother transition from design through construction to final occupancy . In the absence of a commissioning process, the individual team members are left to coordinate systems design, construction and start-up and finalize operation. The 'co-ordination' required in this process is not always consistently crisp or uniform. Some members of the team are better at it than others. If there is no consistent orchestration of all of this 'co-ordination, the result is likely the scenario described above. The key to a smooth process includes four procedural elements, a behavioral element and a qualification element.

Owner's Project Requirements

Perhaps the most important part of the commissioning process is the Owner's Project Requirements (OPR) document. It is developed by the Owner, often in consultation with a Commissioning Authority (C.A.), and codifies the expectations for systems performance, environmental performance, special project considerations and process expectations. The C.A.'s role is also to help reconcile expectations with budget in order to produce an OPR that is fair and achievable. As corny as it sounds, the OPR should be reviewed at every team design meeting, at every OAC meeting during construction

and during the field commissioning tests. Leave the OPR out at your own peril, but think back on the times that you wished that you had one in place.

Basis of Design Narrative

The C.A. works with the design team to develop a basis of design narrative that addresses the items in the OPR. It obviously addresses much more, but be sure that it touches on all of the expectations in the OPR. It is the design team's chance to challenge the validity of assumptions, expectations and budget reality in a setting that has a referee and is not a courtroom. Put as much effort into developing this narrative as in finalizing drawings. Once it has been reviewed and accepted by the Owner, the final product better be reflected or the potential for conflict increases exponentially. Periodic reviews during development of construction documents will keep the design and the OPR in synch.

Commissioning Plan

This is the document that informs all team members of their role in the successful delivery of the project. The C.A. puts this document together and it is his/her list of expectations and requirements of all of the participants as well as a description of how success will be defined. A good plan, published in advance of the project bid, heads off the grouching and background noise which crops up among the participants when somebody feels that a scope increase was handed to them without compensation consideration. The Owner should not expect everybody to participate in the process out of the goodness of their heart. A smooth process is not free.

Important Note: The definition of success is key. If the yard stick against which the project will be measured is not defined in the commissioning plan, the process is useless.

Commissioning Report

This is obviously the documentation of the systems performance and how it was tested. The C.A. will conduct pre-functional tests as well as periodic construction site observations to ensure that the process is proceeding as planned. The final tests may be on a representative sample of system elements or on all of the system elements.

The key is that the C.A. must be convinced that the installation demonstrates success as defined in the commissioning plan and that the OPR document is satisfied. This is documented to the Owner. When all of this is done correctly, the call backs and the frustrations are minimized.

Qualifications

The popularity of the LEED movement has certainly put commissioning in the lime light. Basic commissioning is required as a prerequisite for LEED certification. Practitioners and would be practitioners are scrambling to fill the need that the LEED movement has created for commissioning. As a result, not all commissioning agents have the same level of experience nor are they all created equal. While there is no universally recognized commissioning license, the Owner should look for certification by a recognized organization such as ASHRAE, NIBS or AABC. Those organizations have certification programs that ensure a baseline level of experience and knowledge.

Behavioral Personality

For those of you with a few years under your belt, you might remember a song from the 60's by Allen Sherman, Camp Granada. The song paraphrases a letter from a camper to his parents, begging them to come take him home. One of his arguments is, 'all the counselors hate the waiters and the lake has alligators'. With the wrong C.A., the commissioning process can be much like Camp Granada. In my humble opinion, the most important attribute of the C.A. is the ability to manage the entire commissioning process in a non-adversarial, but effective fashion. This requires a balance of technical knowledge, behavioral traits and managerial skills that makes an effective commissioning authority a unique individual. A good C.A. is much appreciated by all members of the team. We all hope for the same result that Sherman's camper recognizes at the song's conclusion. I'll leave that for you to find. From a design team perspective, the commissioning process does require additional time and effort. The benefit is the decrease in post construction call backs and Owner frustration. At Dunlap & Partners we are all for that!