

Commissioning Communications

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Synopsis

This paper describes the importance of communication in the commissioning process as well as basic commissioning language and communication tools and how they are most effectively used in different areas of the commissioning process.

About the Author

Jim Bochat is the Vice President of Pro Services, a Linc Service Company in the State of Arizona. Pro Services has provided Commissioning and Retro Commissioning services for the past 12 years. Jim Bochat has extensive experience in HVAC design, construction, test & balance and control system design and commissioning. Jim is the immediate past president of NEBB and has been a member of the NEBB commissioning committee and has been instrumental in development of the NEBB commissioning program.

Communication is the basis of all effective commissioning activities

For a commissioning project to be successful, effective commissioning must be incorporated into the basic structure of the commissioning process. Lack of effective communication will lead to conflicts and will result in a poorly commissioned building. Effective communication is the responsibility of the commissioning provider. He or she must organize the project in such a way that all parties understand and implement the communication protocols presented. Many times your project may be the first opportunity an owner, contractor, or subcontractor may have had to be associated with a commissioned project and they will be wary of the process. It is important that you educate them, through your communication, in the basics of commissioning and what responsibilities they have in the process.

Methods of Communication

A commissioning project will utilize all forms of communication during the process. Verbal communication is the most effective method of establishing trust and cooperation between the commissioning team members. It is important that the Commissioning Provider establishes a good working relationship with all other commissioning team members. This can only be achieved if the other team members believe he or she is truly committed to a quality process in a fair and collaborative manner. If a totalitarian inspector approach to commissioning is projected, effectiveness will be limited by the other team members' lack of cooperation.

The Commissioning Plan

The commissioning plan is a document that the commissioning provider uses to communicate to the other team members what the commissioning process entails; what is required of each team member; as well as, who is going to do it and when. The commissioning plan should also include sample copies of all commissioning check sheets utilized for the project. The commissioning plan should describe who has signature authority for all commissioning inspections and tests. It should also describe the contractor's responsibility for owner's training activities.

Verbal Communication

Verbal communication, used during meetings and during face to face discussion of commissioning issues, is the best way to build rapport and gain acceptance of the team members for the commissioning process. Any verbal communication that requires documentation must be followed up with written documentation.

The Commissioning Issue Log

The commissioning issue log is the preferred method of written communication on a project. The log is issued periodically to all commissioning team members and is an action item log. The log normally contains every discovered issue from design review issues to final functional test issues. The log contains date of discovery, description of issue, final response to the issue and date of its completion. The log is very effective for disseminating all commissioning communication to all members of the commissioning team. The total commissioning issues log will be reproduced as part of the final commissioning report (see the attached sample copy of the issues log.)

E-Mail

Email is the most effective means to accomplish short communication tasks, such as schedule requests. This allows communication between the whole team at one time and allows an easy channel to schedule meetings and commissioning events.

Commissioning Correspondence

Letters are most effective at delivering specific communication between any two parties of the commissioning team and will normally be utilized to communicate more difficult or important issues, such as non-performance or non-cooperation between commissioning team members. Letters may also be used to document issue responses that will not provide a true solution to the issue.

Commissioning Report

The final commissioning report is intended to provide all communication utilized for the project for future reference of the owner. At a minimum, the final report should include the commissioning plan, the issues log, and all correspondence; all check sheets and forms, all training documentation and the results of all functional tests.

Key Communication Areas

The commissioning process has different phases where communications of various types are applicable. It is important to utilize the appropriate communication for each commissioning phase.

Design Phase Commissioning Communication: When a commissioning provider has the responsibility of performing Design Phase Commissioning, the scope of the commissioning should be clearly explained. Design Phase Commissioning is not intended to be a Design Peer Review but rather a commissioning activity where Constructability, Maintainability, Operability and Functionality are the main focus of the design review. We have found the best method of communication for design review is to document all issues on the Commissioning Issue log and to present them to the design team during a

review meeting. This face to face meeting allows questions to be answered directly about any found issues.

Specifications: As a part of the Design Review it is important to include a thorough review of the commissioning specification to make sure the scope of commissioning assistance is clearly defined for each contractor, subcontractor and equipment vendor. If this is not done, extra costs will be incurred for the commissioning assistance later in the project. The best way to communicate this issue is on the Commissioning Issue Log.

Contractor scope description for pricing: Prior to receiving construction bids it is important to meet with the contractors to make sure they fully understand their commissioning responsibility. Experience has shown that most contractors assume more expense for commissioning assistance than is really required. A pre-bid meeting where the commissioning provider clearly explains the required work scope for each contractor and subcontractor will help the contractors correctly price their commissioning work scope and keep the total price of commissioning down.

Commissioning Plan: The commissioning plan is the most important communication document in the commissioning process. The plan should clearly communicate who the commissioning team members are, their responsibility, and their contact information. The plan should also include sample copies of all commissioning check sheets and forms to be used on the project. The plan also defines who has witness authority for which tests. Normally the commissioning plan is issued in draft form at the beginning of the commissioning project and finalized later in the project when all contractors are identified and all systems are clearly defined.

Kick-off Meeting: this meeting is usually the first meeting with all contractors and is where the draft plan is presented and reviewed. The kick-off meeting is also the best place to begin to build rapport and gain acceptance of the commissioning process with the contractors.

Commissioning Meetings: commissioning meetings are required during the project to discuss deficiency log issues and commissioning schedules. We have found that it is most convenient to incorporate the commissioning meeting on the tail end of the general contractor's subcontractor meetings. This is easier than trying to schedule separate meetings; all required parties will already be in attendance.

Commissioning Field Inspection Comments: to maintain a uniform process it has been found most useful to use the Commissioning Issue Log for all commissioning comments on field deficiencies, quality concerns or questions. This allows all team members to see the concerns and their respective answers. It also provides a permanent log of all concerns and solutions. The issue log is reviewed in each commissioning meeting or can be e-mailed to all team members for review.

Commissioning Check Sheets and Forms: Checksheets and forms must be customized for the exact equipment and systems for project. It is appropriate to allow each contractor involved in the test or inspection to review the check sheets and forms to see if any items cause them concerns of added difficulty or added expense above normal start up and testing criteria. Sometimes, the contractors may suggest alternate tests or activities that may provide the same quality results with less stress or effort. Again, it is important that the commissioning provider build rapport with the commissioning team and one of the best ways to do this is by communicating your interest in finding the most productive method of commissioning as possible and still provide a high quality project.

Commissioning Schedules: Near the end of a construction project, when most of the systems are started up and tested it is easy to loose control of the commissioning schedule. The commissioning provider must take special care to not allow the schedule to deteriorate and allow contractors to start up systems without inspection. This will cause extra inspections or cause work to be repeated so it can be properly observed. It is best to communicate to the contractors that startup tests need to be coordinated between all commissioning team members so all required parties can be at the test at the same time to minimize time and schedule overlap. This is one of the hardest communication tasks for the commissioning provider.

Owner Training: One of the responsibilities of the commissioning provider is to coordinate the owner training activities. These activities may seem trivial but they are extremely important to the owner and operators of the facility. The more focus placed upon the quality of the communication to the operators will reflect on the quality of the commissioning efforts. Normally, the commissioning provider will provide a sample teaching agenda to the contractors and ask to review the final training agendas before any training is conducted. Owner training can also be documented by video taping the sessions for future use by the owner. These tapes provide a superior way to communicate the system operation to future operators of the facility.

Final Commissioning Report: The final commissioning report is where all commissioning communication documents are provided to the owner for future reference and use. At a minimum, the commissioning report should contain the plan, the complete issue log, all correspondence, all completed check sheets and forms, all training documentation and the results of all functional tests. The commissioning report is your last chance to communicate the quality of your commissioning activities. Make the commissioning report as complete and high-quality as possible.

Warranty Commissioning Communication: As part of the commissioning process it is recommended to provide a follow up review of the project ten months after the certificate of occupancy. This allows the commissioning provider to review the operation of the facility with its operators and occupants to determine if any additional issues have been discovered since the end of commissioning activities. This allows you to validate the effectiveness of your commissioning process and it allows the owner to communicate with you the results of the commissioning process.

At the end of the review an addendum to the commissioning report is provided to document the warranty review.

Summary

In summary, communication is important to the success of a commissioning project. The commissioning provider must be aware of the importance of communication and must strive to provide adequate communication to each team member and for each phase of the commissioning process.

