The Top Six Common Mistakes in Creating an OPR

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AIA Quality Assurance

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Learning Objectives

Objective 1	Define all topics that should be covered in an Owners Project Requirement (OPR)
Objective 2	Describe how to build a commissioning plan that matches the OPR
Objective 3	List the Owner's important potential stakeholders
Objective 4	Name two of the programs that require an OPR

OPR ≠ Obscure & Passive Recommendations

- Why are OPRs important?
- Commissioning is a ***quality*** focused process.
- What is Quality?
  - A trait, property, or condition
  - Being free from defects, deficiencies and variations
  - A degree of excellence
- Who defines Quality?
  - The O in OPR
- Where is Quality defined?

OPR = Owner's Project Requirements

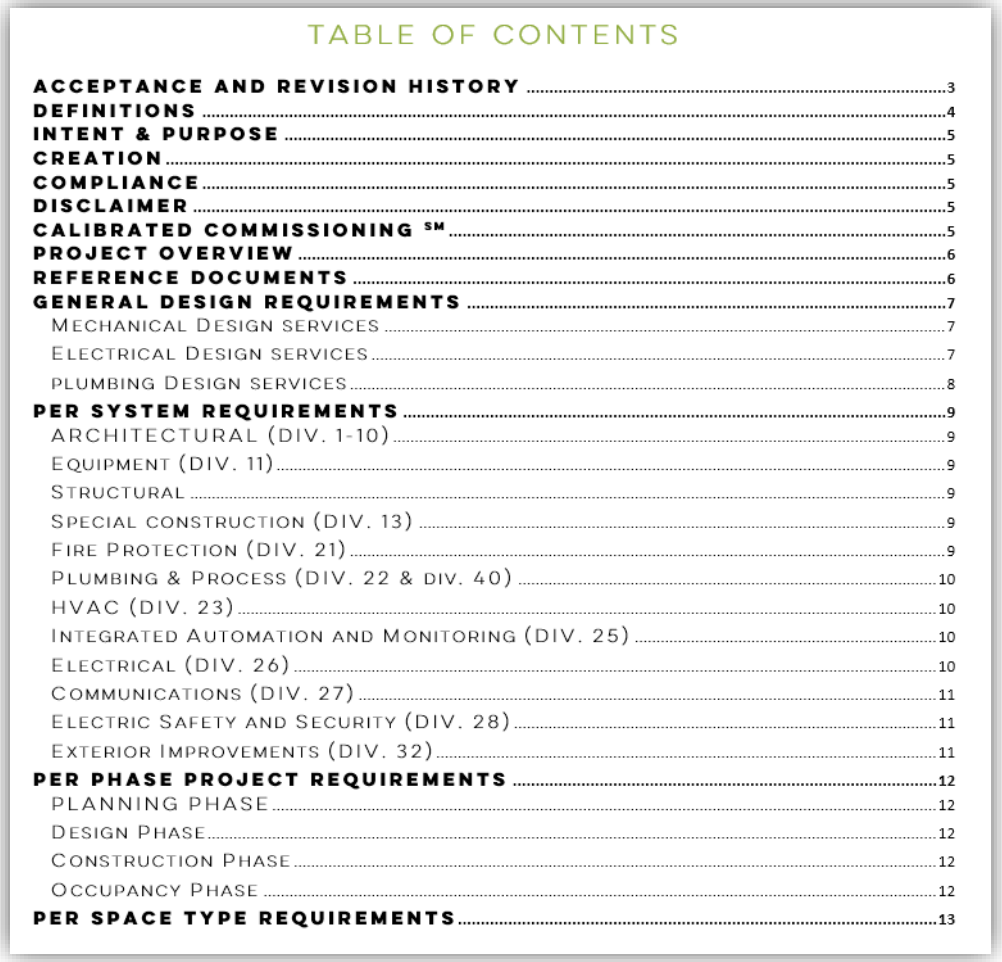
- Quality is defined by the OPR.
  - The OPR specifies what constitutes a successful project
    - Quantifies Quality
    - Records expectations, goals, benchmarks.
  - End results must be verifiable
    - Each requirement needs a success criteria
- Commissioning is focused on Quality.
- Quality is meeting or exceeding the expectations of the Owner.
- Expectations are requirements defined in the OPR.

Building a Commissioning Plan that Matches the OPR

- Cx Plan outlines the organization, schedule, allocation of resources and documentation requirements of the commissioning process.
- Cx Plan comes first and must include directions to the team on how to create, manage, change, verify and enforce the OPR.
  - Creating the OPR takes several meetings with multiple groups, not just one meeting with the PM.
  - Managing the OPR includes open sharing, distribution and referencing.
  - A change management process must be included for updates to the OPR throughout the project as requirements change.
  - Verification through reviews, inspections and testing.
  - Enforcement with consistent compliance feedback and clear consequences.

Topics Covered in the Owner's Project Requirements

- Project Overview
- Reference Documents
- General Design Requirements
  - Design Service Requirements
- Per System Requirements
- Per Phase Requirements
- Per Space Type Requirements



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6 Common Mistakes

Common Mistake #6

- **Not including Stakeholders**
  - Project planning phase usually only includes a PM.
  - It is important to get through the gatekeeper to talk to stakeholders directly.
    - Equipment Operators
    - Space Users
    - IT & AV
    - EH&S
    - Facilities Management
    - Security
    - Maintenance
    - Finance

Common Mistake #5

- **Letting someone else do it**
  - Per ASHRAE, the OPR is created by the owner or owner's representative (CxP), not the Architect or Contractor.
  - Operational requirements are heavy MEP design driven.
    - CxP's have the design and operational knowledge to translate user descriptions into engineering terms.
  - There is a continuity benefit if the CxP is the coordinator and verifier of project requirements.

Common Mistake #4

- **Throwing it away**
  - OPRs created to just “check the box” are a waste of time.
  - OPRs are live documents.
    - Updated with design changes
    - Updated with construction changes
    - Updated with owner changes
  - A good OPR can become the CFR and can be the OPR for the next project.

Common Mistake #3

- **Creating the OPR too late**
  - The OPR must be documented before the BOD.
    - The BOD records concepts, calculations, decisions and product selections used to meet the OPR and to satisfy regulatory requirements.
    - The BOD must be the design team's response to the OPR, not the design team’s best guess at what the Owner wants.
  - If the OPR is created during DD or CD, it can result in changes which add cost and delay.

Common Mistake #2

- **Not asking the right questions**
  - Treat the OPR creation process like an interview
  - Start with open ended questions
  - Focus on operations
  - Listen for key words or phases
  - Use How questions to dive deeper and get more specific
  - Answers of “I don’t know” or “I don’t care” add more value than you think
  - Ask what the Owner ***doesn’t*** want
  - Don’t ask rhetorical questions

Common Mistake #1

- **Not doing one at all**
  - OPRs are required by some State Energy Codes and LEED
  - Commissioning is a ***quality*** focused process.
    - CxPs verify the project system's quality.
    - Quality is defined by meeting or exceeding the expectations of the owner.
    - To verify quality CxPs must know the owner's requirements.
    - Otherwise, who's definition of quality are you using?

Example – Project Requirements

ITEM	REQUIREMENT	BOD	DESIGN	TESTING	TURNOVER
Construction Cost per SF	$182	X	X		
Design Drawing Packages	SD/DD/CD/IFP/IFC/R	X	X		
Specification (Sheet) Packages	Sheet specs	X	X		
Design Duration	January 2019 – June 2019 (5 months) (est.)	X	X		
Construction Duration	July 2019 – March 2020 (7 Months) (est.)	X	X		
Substantial Completion	March 2020 (est.)	X	X		
Move in (FF&E) Date	March 2020 (est.)	X	X		
Sustainability Certification Goals	LEED Silver	X	X		
Accredidations	No specific requirements	X	X		
Incentive Programs	No specific requirements	X	X		

Example – Per Space Requirements

SPACE	SCHEDULE	PLUG LOAD	NOISE DBA LIMIT	OCC. TEMP	UN-OCC. TEMP	RH	IAQ FILTRATION	OA ACH	TOTAL ACH	SINGLE PASS AIR	RELATIVE PRESSURE	HVAC SYSTEM	ZONE	N+1	2 N	POWER DIST.
Lobby	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Corridors/Circulation	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Positive	Centralized	Shared	No	No	Shared
Private Office	7AM-7PM	2 w/sf	35	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Open Office	7AM-7PM	2 w/sf	35	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Conference / Training	7AM-7PM	2 w/sf	35	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Dedicated	No	No	Shared
Wellness Room	7AM-7PM	2 w/sf	35	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
General Laboratory	24/7	7 w/sf	40	70±2F	N/A	30%-60%	95%	N/A	N/A	Yes	Negative	Independent	Dedicated	Yes	Yes	Dedicated
IDF	24/7	15 w/sf	45	68±2F	N/A	30%-60%	95%	N/A	N/A	No	Positive	Independent	Dedicated	Yes	Yes	Dedicated
MDF	24/7	20 kW	45	68±2F	N/A	30%-60%	95%	N/A	N/A	No	Positive	Independent	Dedicated	Yes	Yes	Dedicated
Break Room	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Restroom	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Storage Room	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Service Room	7AM-7PM	2 w/sf	40	72±2F	N/A	30%-60%	95%	N/A	N/A	No	Neutral	Centralized	Shared	No	No	Shared
Chemical Laboratory & support	7AM-7PM	10 w/sf	40	72±2F	N/A	30%-60%	95%	6	N/A	Yes	Negative	Centralized	Dedicated	Yes	No	Dedicated
Vivarium Holding	7AM-7PM	2 w/sf	40	72±2F	N/A	50%+/- 10%	95%	20	N/A	Yes	Positive	Centralized	Dedicated	Yes	No	Dedicated
Cage Wash / Dirty Wash	7AM-7PM	2 w/sf	40	65±2F	N/A	30%-60%	95%	N/A	N/A	No	Negative	Centralized	Dedicated	Yes	No	Dedicated
Procedure / Surgery	7AM-7PM	5 w/sf	40	68±2F	N/A	30%-60%	95%	15	N/A	Yes	Positive	Centralized	Dedicated	Yes	No	Dedicated

Final Notes on OPRs

- The OPR is a written document that details the requirements of a project and the expectations of how it will function. These include project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- The OPR is not a contract document; it is not meant to alter any existing agreements or intended to significantly increase anyone's existing workload.
- The OPR is a high level, but flexible document which can get into any detail the owner wants.
- The OPR is not a substitute for standard architectural programming and a program document is not an OPR. Programming is the research and decision-making process that identifies the scope of work to be designed. Both establish goals and objectives, but the OPR focuses on the operational life of the building versus the day one turnover functionality of the building.

Questions & Answers

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