Session #4
“How to Succeed as an IOR”

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Agenda

• **Sample IOR Exam questions**
  - How to research the code? (Hint: table of contents)
  - How to read the plans?

• **How to be a strong IOR**
  - Know the code
  - Read Approved construction drawings and specifications
  - Communicate with hospital owner
  - Encourage pre-construction meetings
    - Identify IOR responsibilities during pre-construction
  - Construction & Inspection Schedules
Agenda

• How to be a strong IOR-Cont.
  • Know your inspection schedule
    • Level of commitment per job i.e. construction with differing times (morning concrete pour)
  • Non-material changes vs. material changes
  • How to review amended construction documents

• IORs and nonperformance
  • OSHPD field monitoring
  • IOR suspension or revocation (CAC 7-214)
Sample Questions
Sample Questions
How to research the code?
(Hint: table of contents)
Sample Questions

• Sample #1-CAC Question

In accordance with Section 7-151(f), or when required by the Office, who shall submit to the Office a verified compliance report, with their signature and based on their own personal knowledge:

a) the architect(s)
b) engineers(s)
c) inspector(s) of record (IORs)
d) approved agency
e) special inspector(s)
f) contractor or owner/builder
g) all the above

• How to look for the response?
Sample #1-CAC

Where VCR reference code is?

CAC code has a TABLE OF CONTENTS
CHAPTER 7  SAFETY STANDARDS FOR HEALTH FACILITIES

• Where in this chapter there is information about VCR?
• Once in the Chapter 7, Article 4, read and find

The question is:
In accordance with Section 7-151(f), or when required by the Office, who shall submit to the Office a verified compliance report, with their signature and based on their own personal knowledge:

Response:

- (a) the architect(s)
- (b) engineers(s)
- (c) inspector(s) of record (IORs)
- (d) approved agency
- (e) special inspector(s)
- (f) contractor or owner/builder
- (g) all the above
Sample Questions

• Sample #2-CBC Architecture Question

In Hospitals, which one of the following is not required to be included within a dressing room for a nuclear medicine space?

a) nurse call station
b) seat or bench
c) mirror
d) provisions for hanging clothes

• How to look for the response?
Sample #2- The question indicates nuclear medicine space

INDEX AT THE CHAPTER 1224

1224.34.3.1.2.1 Scrub Bathing (Nuclear) Facilities. Shall include the following:
1. Scrub sink. The scrub sink shall provide a minimum clearance of 4 feet (1219 mm) at each side and the front of the tub.
2. Handwashing stations shall be provided throughout the gross mass areas at locations of patient contact and at locations where radiopharmaceutical materials are handled, prepared, or dispensed.
3. Posterior Emission Tomography (PET) Suites. Shall include the following:
   a. Scrub sink. Where radiopharmaceuticals are prepared on-site, a scrub sink shall be provided.
   b. Scrub facilities shall be located in access-controlled areas. Scrubbing requirements for surgical facilities shall comply with Section 1224.34.3.1
5. Dressing area. A central dressing area shall be provided with full width direct view of the patient entrance.
   a. Patient scrub and shower rooms. A shielded room, shall be dedicated solely to accommodate radiopharmaceuticals, and treatments shall be provided.
   b. Handwashing facilities shall be provided throughout the PET suite at locations of patient contact and at locations where radiopharmaceuticals are handled, prepared, or dispensed.
6. Preoperative patient care and recovery area. This area shall comply with Section 1224.3.4.2.
7. Computer equipment room shall be provided in support of the equipment provided.
8. Control Room. The control room shall be provided with sufficient view into the operating and associated areas.
9. Single-Photon Emission Computed Tomography (SPECT) Facilities. The SPECT facilities shall include the following:
   a. Scrub sink. A scrub sink shall provide a minimum clearance of 4 feet (1219 mm) at each side and the front of the tube.

In Hospitals, which one of the following is not required to be included within a dressing room for a nuclear medicine space?

Response:

a) nurse call station
b) seat or bench
c) mirror
d) provisions for hanging clothes
Sample Questions

• Sample #3-CMC Mechanical Question
In Fuel Gas Piping, per Pressure Testing and Inspection, The minimum test pressure and test duration for a hospital with fuel gas piping at house pressure shall be not less than:

a) 3 psi for 30 minutes
b) 5 psi for 15 minutes
c) 10 psi for 15 minutes
d) 5 psi for 30 minutes

• How to look for the response?
Sample #3 in CMC where is Fuel Gas Piping?

Response:

- 3 psi for 30 minutes
- 5 psi for 15 minutes
- 10 psi for 15 minutes
- 5 psi for 30 minutes
Sample Questions

• Sample #4-CEC Electrical Question

In ELEVATORS, DUMBWAITERS, ESCALATORS, MOVING WALKS, PLATFORM & STAIRWAY CHAIRLIFTS, A sump pump located in an elevator hoistway shall be permitted to be cord connected. The cord shall be a hard usage oil-resistant type of a length not to exceed ______ and shall be protected from physical damage.

a) 3 ft 
b) 6 ft 
c) 8 ft 
d) 10 ft

• How to look for the response?
Sample #4 - in CEC where is ELEVATORS, DUMBWAITERS, ESCALATORS, MOVING WALKS, PLATFORM & STAIRWAY CHAIRLIFTS?

• ARTICLE 620: ELEVATORS, DUMBWAITERS, ESCALATORS, MOVING WALKS, PLATFORM LIFTS, AND STAIRWAY CHAIRLIFTS.

Part VIII: Grounding

620.4 Grounding. All exposed non-current-carrying metal parts of controls, structural members, box, and accessories, including panels must be bonded or grounded by mechanical connections or bonding jumpers, wherever applicable. The system should be the ground-fault current path as permitted by Article 250. Part IV and VII.

Moving parts, other than removable components, or attachments that have metal external moving or stationary surfaces, shall be bonded or grounded to each other through bonding jumpers for grounding purposes. The metal frame and bridge shall be considered as electrically grounded through the bridge and shall be considered as electrically grounded through the bridge and the apparatus and its respective tracks. A separate bonding conductor shall be provided.

Informational Note No. 2: For further information, see CUL Rev. 5.1.16ASME. A17.1-2014, Elevator and Escalator Safety Standard for Electric Equipment.

620.6 Definitions

Informational Note No. 1: The motor controller, motor controller, and operating system are located in a single enclosure or combination of enclosures.

Informational Note No. 2: International, No. Figure 628.2, No. 2 in information note.

Control Room (for the Elevator, Dumbwaiter). An enclosed control room or space outside of the building, intended for full body entry, that contains the elevator motor controller. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electrical driving mechanism or the hydraulic machine.

Control Space (for the Elevator, Dumbwaiter). An area inside or outside the building, intended to be accessed with or without full body entry, that contains the elevator motor controller. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electrical driving mechanism or the hydraulic machine.
Response:

a) 3 ft
b) 6 ft
c) 8 ft
d) 10 ft
Sample Questions
How to read the plans
How to read the plans (applicable only for Class A and B)

Class A will have questions for:
- Architecture
- Structural
- Anchorage/Bracing
- Mechanical/Plumbing
- Electrical
- Fire and Life Safety

Class B will have questions for:
- Architecture
- Anchorage/Bracing
- Mechanical/Plumbing
- Electrical
- Fire and Life Safety
What is/are generally shown on the drawings (plans)?

- General: Symbol, legend, abbreviations, general notes
- Plans
- Elevations
- Sections
- Large Scale Drawings: plans, elevations, sections (NOT details)
- Details
- Schedules and Diagrams
Sample Questions

Sample #1 - Architectural Plan Question:
• In the OR Room, the height of SS Wainscot is ___
  a) 5’ – 0”
  b) 3’ – 2”
  c) 4’ – 6”
  d) 4’ – 0”

• How to look for the response?
Where to find internal wall height?

- In the floor plan you cannot find the height.
- Interior elevation shows the height.

Options:

- a) 5’ – 0”
- b) 3’ – 2”
- c) 4’ – 6”
- d) 4’ – 0”
Can IOR Class B inspect and approve structural elements?

- Yes
- No
Poll question

Can IOR Class B inspect and approve structural elements?

- Yes
- No
How to be a strong IOR
IOR strengths & weaknesses
• How to be a strong IOR- IOR strengths & weaknesses
  • Know the code
  • Read Approved construction drawings and specifications
  • Communicate with hospital owner
  • Encourage pre-construction meetings
    • Identify IOR responsibilities during pre-construction
  • Construction & Inspection Schedules
  • Know your inspection schedule
    • Level of commitment per job i.e. construction with differing times (morning concrete pour)
  • Non-material changes vs. material changes
  • How to review amended construction documents
• Know the code
  • How to look in the code.
  • CAC, CBC, CMC, CPC, CEC, ACI, NFPA.
  • On Site, don’t rush a response.
• Meaning of Symbols in California Code:

Symbols in the margins what indicate?

This symbol indicates that a change has been made to a California amendment.

This symbol indicates deletion of California amendment language.

This symbol indicates that a change has been made to ICC model code language.

This symbol indicates deletion of ICC model code language.

Text or table has been relocated to elsewhere in code. See pages v - vi.

Text or table has been relocated from elsewhere in the code. See pages v - vi.
Conflicting Provisions between Codes and Standards

• 102.1 Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

• 102.4 Referenced Codes and Standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 through 102.4.4.

• 102.4.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

• 102.4.2 Provisions in Referenced Codes and Standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code or the International Codes listed in Section 101.4, the provisions of this code or the International Codes listed in Section 101.4, as applicable, shall take precedence over the provisions in the referenced code or standard.
Where there is a conflict between a general requirement and a specific requirement, which requirement shall be applicable?

- General requirement
- Specific requirement
Poll question

Where there is a conflict between a general requirement and a specific requirement, which requirement shall be applicable?

- General requirement
- Specific requirement
• Read Approved construction drawings and specifications
7-115. Preparation of construction documents and reports.
(a) All construction documents or reports, except as provided in (c) below shall be prepared under an architect or engineer in responsible charge. Prior to submittal to the office, the architect or engineer in responsible charge for a project shall sign every sheet of the drawings, and the title sheet, cover sheet or signature sheet of specifications and reports.
Which is the specification’s format?

**Specifications included in the Construction Drawings**

For small projects, sheet specifications are a great alternative to the standard bound project manual.

Options:

**Option 1**: Locating all specification information in a single location within a drawing set.

**Option 2**: Locating specification information within the portion of a drawing set applicable to a particular design discipline.
Stand alone Project Manual

- Division 1: General Requirements
- Division 2: Existing Conditions
- Division 3: Concrete
- Division 4: Masonry
- Division 5: Metals
- Division 6: Wood, Plastics and Composites
- Division 7: Thermal and Moisture Protection
- Division 8: Openings
- Division 9: Finishes (interior finishes)
- Division 10: Specialties (for example, signs, toilet accessories)
- Division 11: Equipment (for example, kitchen equipment)
- Division 12: Furnishings
- Division 13: Special Construction (for example, greenhouses)
- Division 14: Conveying Equipment (elevators, escalators, lifts)
- Division 21: Fire Suppression
- Division 22: Plumbing
- Division 23: Heating, Ventilating and Air Conditioning
- Division 26: Electrical
- Division 27: Communications
- Division 28: Electronic Safety and Security
- Division 31: Earthwork
- Division 32: Exterior Improvements
- Division 33: Utilities
Poll question

What is part of the construction document?
- Construction drawings
- Specifications
- Construction drawings and Specifications
Poll question

What is part of the construction document?
- Construction drawings
- Specifications
- Construction drawings and Specifications
• Communicate with hospital owner

Who hires you? The Hospital Owner

• **7-212. Approval of hospital inspector of record for construction projects.**

• (a) It is incumbent upon the hospital governing board or authority and the architect or structural engineer, or both, in responsible charge of the work, or the engineer in responsible charge of the work, to **select the appropriate inspector(s) for a project.**

The hospital governing board or authority shall submit to the Office an application for each Hospital Inspector of Record proposed to perform construction inspection on a specified hospital construction project. The hospital governing board or authority shall obtain **Office approval** of proposed Hospital Inspector(s) of Record prior to commencement of the hospital construction project.
• Encourage pre-construction meetings

• Once Building Permit is obtained, Kickoff meeting should be scheduled. At the Kickoff meeting, design team, including OSHPD, IOR, Owner, CM (if it is part of the project) should attend the meeting
  • Review/Discuss Project Scope
  • Review/Discuss Construction Schedule,
  • Review/Discuss Inspection Schedule
  • Identify IOR responsibilities during pre-construction
  • Goals
- **Construction & Inspection Schedules**
  - Construction milestone
  - **Know your inspection schedule**
    - Level of commitment per job i.e. construction with differing times (morning concrete pour)
  - Construction phases
Poll question

Are Construction schedule and Inspection Schedule the same?
  o  Yes
  o  No
Are Construction schedule and Inspection Schedule the same?

- Yes
- No
Non-material changes vs. material changes

Architect’s Supplemental Instruction (ASI) not materially alter the work

1. Clarification of plans and specifications
2. Construction means and methods
3. Substitution of equipment, products, or materials.
4. New details that are based on other approved details
5. Final routing configurations
6. Dimensional changes to rooms that do not affect code
7. Relocation of doors, windows, electrical switches and outlets, plumbing fixtures, etc., that do not require additional changes
8. Relocation or reconfiguration of cabinetry that does not affect code required
Non-material changes vs. material changes

Amended Construction Documents (ACD) *materially alter the work*

CAC 7-153 (a) Only changes that materially alter the work shall be submitted to the Office for review and approval as amended construction documents
1. Amended construction documents. Changes or alterations of the approved construction documents

*Always compare the approved document with the ASI and ACD. See the difference*
Poll question

Which document needs to be issued for Material changes?
- Architect’s Supplemental Instruction (ASI)
- Amended Construction Documents (ACD)
Poll question

Which document needs to be issued for Material changes?
- Architect’s Supplemental Instruction (ASI)
- Amended Construction Documents (ACD)
IORs and nonperformance

- OSHPD field monitoring
- IOR suspension or revocation (CAC 7-214)
IOR Knowledge

The IOR should be thoroughly familiar with the following:
Part I, Chapter 7 of the Administrative Codes
Policy Intent Notices (PINs) appropriate for the project
Applicable Code Application Notices (CANs)
Contract Document requirements
Project schedules
Project contracts
Applicable codes and standards
Approved submittals
All instructions or clarifications issued by the design Professional of Record
Requirements for testing and inspections
Hospital procedures for notifications and special requirements
Temporary barriers and egress requirements as appropriate for the project
IOR Knowledge

Infection control policies and work practices to reduce risk of exposure to infectious organisms during demolition, remodel, and construction

The various parties involved with the project

Emergency procedures

Safety requirements for construction and the facility

All of the Authorities Having Jurisdiction (AHJs) associated with the project that require involvement through the project start-up, duration, close-out, and finalization

All associated design professionals as appropriate for the project

The geotechnical services and special testing lab for the project and how to notify and schedule required inspections and other testing as appropriate for the project

The inspection request processes

Approved program flexes

Radiology physicist report

Medical equipment

Engineering judgments
IOR Duties

7-145. Continuous inspection of the work.
The general duties of the IOR shall be as follows:

1. The IOR shall have personal knowledge
2. Continuous inspection
3. The IOR shall work under the direction DPOR…. in conformity with the approved construction documents.
4. The IOR shall maintain a file of approved construction documents on the job at all times including all reports
5. The IOR shall notify the Office:
   A. work is started or resumed
   B. At least 48 hours before completed foundation trenches
   C. At least 48 hours before the first placing of concrete.
   D. When work has been suspended for more than 2 weeks.
6. The IOR shall maintain field records
7. Keep All field records until completion
   (b) The IOR writing deviation to GC
7-147 Observation by the Office

(a) During the construction, of any health facility, the Office shall make such observation as in its judgment is necessary or proper for the enforcement of these regulations and all applicable parts of the California Building Standards Code. Whenever the Office finds a violation of these regulations and/or applicable parts of the California Building Standards Code that requires correction, the citation of the violation shall be issued to the hospital governing board or authority in writing and shall include a proper reference to the regulation or statute being violated.
7-213. Monitoring of the hospital inspector of record’s performance. When the Office determines that a Hospital Inspector of Record has violated a provision of these regulations or that the inspector is not competently or adequately providing inspection of a facility to ensure the hospital construction is in compliance with the construction documents, the Office will notify that inspector, the hospital governing board or authority, and the architect and/or engineer in responsible charge. The written notification will include the Office’s findings, reference to the statute and/or regulation being violated, and statement of the Office’s intent to issue a “stop work” order unless the violation ceases and is rectified immediately.
IORs and nonperformance

IOR suspension or revocation (CAC 7-214)

• 7-214. Suspension or revocation of certification.
  (a) A hospital inspector of record certification, issued by the Office, may be suspended or revoked...
  (b) Grounds for suspension and/or revocation.
  (c) Process for suspension and/or revocation.
  (d) Suspension
  (e) Revocation
  (f) Appeal.
IORs Good performance

- Be Responsible
- Be respectful
- Know the Code
- Know the project
- Know your duties
- Be collaborative/good communication with Owner Rep, OSHPD Field Staff, CM, GC, Designers
- Guide for Working on Projects Under OSHPD Jurisdiction
Guest IOR
David Karina
Questions