

PIN 62: OSHPD Preapproval of Manufacturer's Certification (OPM)

Office of
Statewide Health Planning and Development **OSHPD**

Facilities Development Division
The Building Department for California's Hospitals

HBSB APCC Committee Meeting



April 27, 2016

PIN 62: OSHPD Preapproval of Manufacturer's Certification (OPM)

- PIN 62 formalize existing OSHPD policy related to OSHPD Preapproval of Manufacturer's Certification (OPM)
- PIN does not change any current policy related to OPM Program
- PIN is needed to keep OPM program transparent and accessible
- PIN may ensure uniformity in enforcement.

Objective/Agenda

- Discuss code requirements related to OPM program.
- Review the text of PIN 62.

Statutory Mandate

Health & Safety Code §129895:

Manufacturers, designers, or suppliers of equipment anchorages may submit data sufficient for the office to evaluate equipment anchorages' seismic safety prior to the selection of equipment anchorages for any specific hospital building.

CBC 2016: Manufacturer's Certification Requirements (Section 1705A.13.2)

- Non-structural components' supports or attachments requirements may be satisfied by the *manufacturer's certification* in accordance with ASCE 7 Section 13.2.1 Item # 2.
- *Certificates of compliance* for the *manufacturer's certification* shall be submitted to the *building official* as specified in Section 1704A.5.

ASCE 7-10 Section 13.2.1: Requirements for Supports and Attachments

Supports and Attachments requirements may be satisfied by **submittal of the manufacturer's certification** by at least one of the following:

- a. Analysis, or
- b. Testing in accordance with the alternative set forth in Section 13.2.5, or
- c. Experience data in accordance with the alternative set forth in Section 13.2.6.

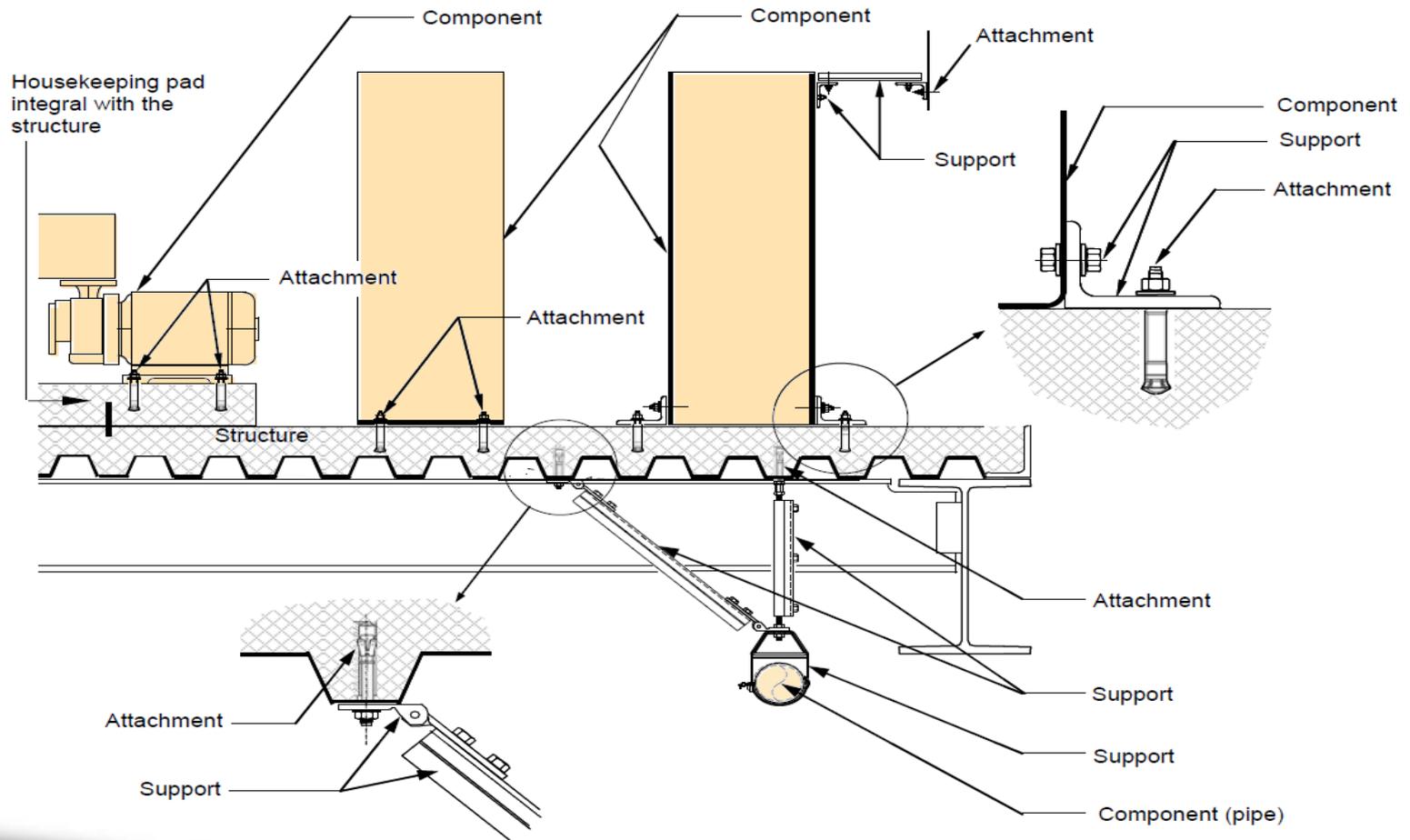
Certificate of Compliance (Section 1704A.5)

“**Certificate of Compliance**” shall be submitted to the building official for **Manufacturer’s Certification** of non-structural components, supports and attachments.

When is Certificate of Compliance for Supports and Attachments Required?

- Certificate of Compliance for Supports and Attachments shall **ONLY** be required when:
 1. Manufacturer's Certification is used for seismic design of supports and attachments;
and
 2. Fabricator approval is used for manufacturing.

What are Components, Supports, and Attachments?



Position Retention vs. Special Seismic Certification

General Seismic Design Requirements for Nonstructural Components ASCE/SEI 7-10 Section 13.2 and CBC 2013 Section 1613A/1616A

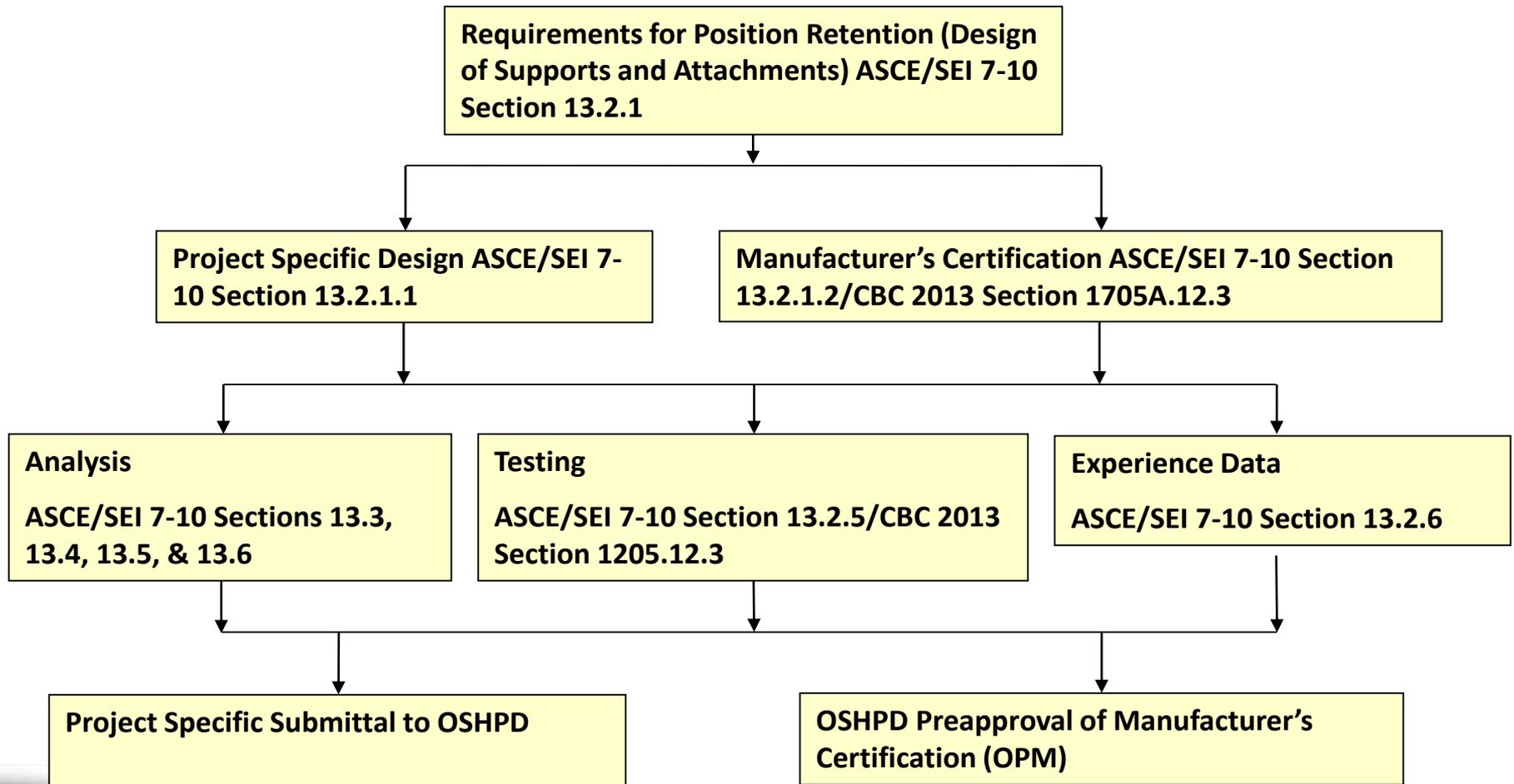
**Requirements for Position Retention
(Design of Supports and Attachments)**
ASCE/SEI 13.2.1 and CBC 2013 Section 1705A.12.3

OSHPD Preapproval of Manufacturer's Certification (OPM) Program

Special Seismic Certification of Designated Seismic System ASCE/SEI 7-10 Section 13.2.2 and CBC 2013 Section 1705A.12.4

OSHPD Special Seismic Certification Preapproval (OSP) Program

Position Retention/Manufacturer's Certification



ASCE 7-10 Section 13.6.5: Component Supports

Mechanical and electrical component supports and the means by which they are attached to the component shall be designed for the forces and displacements determined in Sections 13.3.1 and 13.3.2. Such supports include structural members, braces, frames, skirts, legs, saddles, pedestals, cables, guys, stays, snubbers, and tethers, as well as elements forged or cast as a part of the mechanical or electrical component.

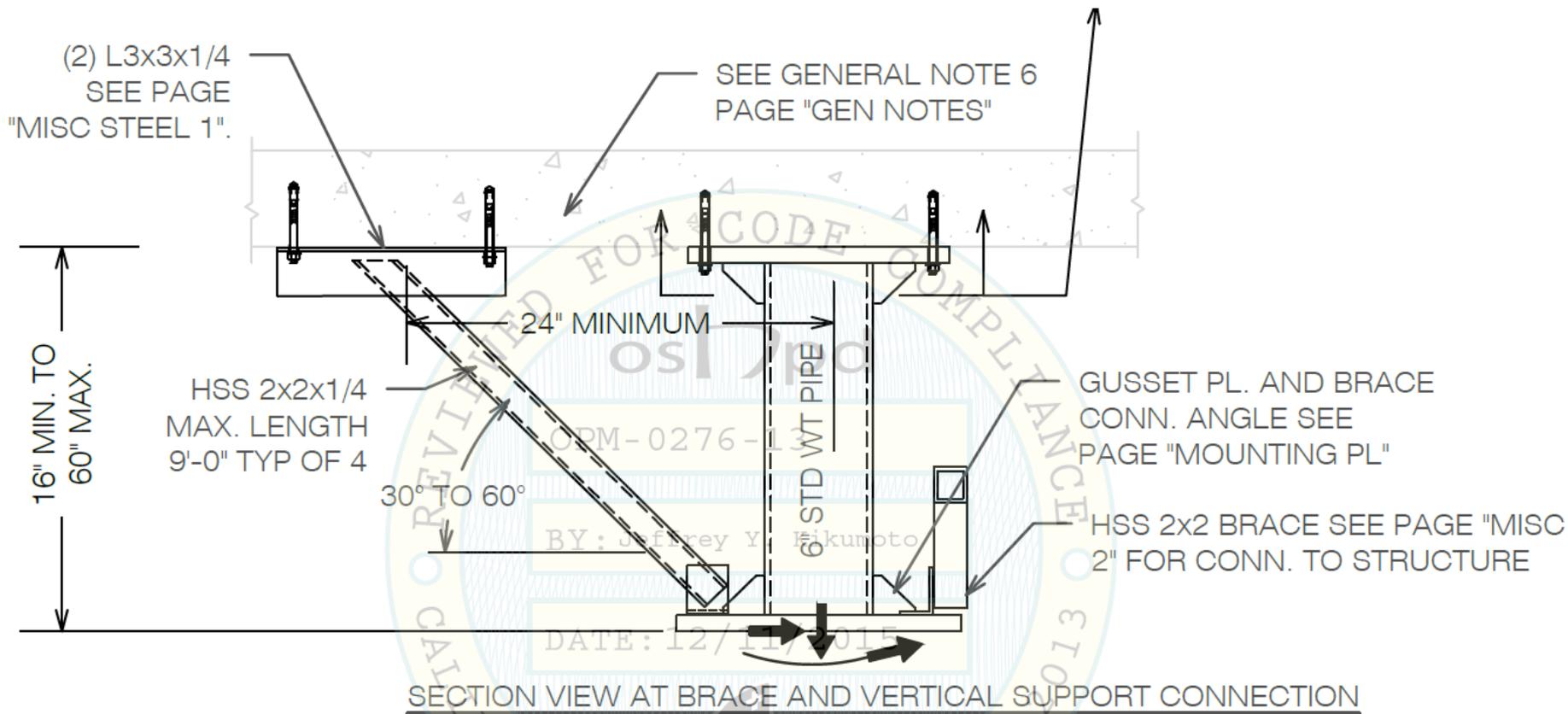
What are Supports?

SUPPORTS: Those members, assemblies of members, or manufactured elements, including braces, frames, legs, lugs, snubbers, hangers, saddles, or struts, and associated fasteners **that transmit loads between nonstructural components and their attachments to the structure.**

What are Attachments?

ATTACHMENTS: Means by which components or supports of nonstructural components are secured or connected to the seismic force-resisting system of the structure. Such **attachments include anchor bolts, welded connections, and mechanical fasteners.**

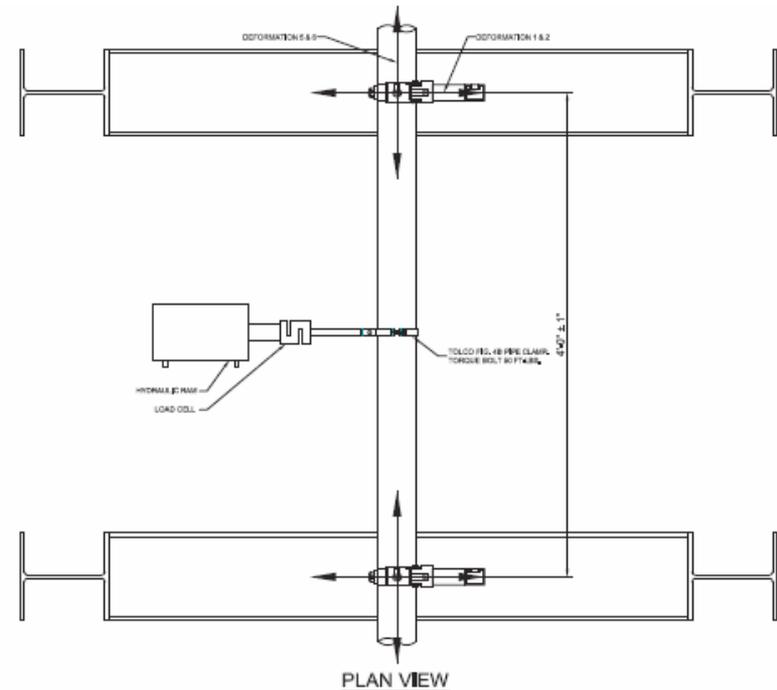
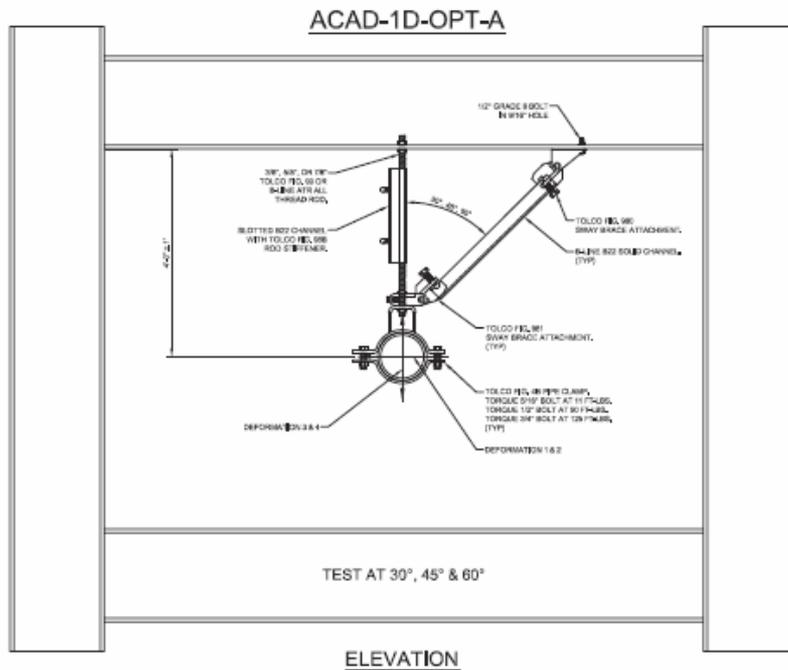
Supports & Attachments Preapproval



Do we Need to Submit Anything to OSHPD for Review when OPM's are Used?

- **Yes!** OSHPD review is required:
 - To ensure that the appropriate detail has been selected/applied for each condition and for the actual substrate that it will be connected/attached to.
 - To ensure that supporting structure that are not part of the OPM's have adequate capacity.
 - For supports/attachments and supporting calculations that are not part of a pre-approved system. Many OPM's require the RDP to design certain elements in the load path.
 - **OSHPD will not re-review what is already approved in the OPM, if it was approved for the code for which it is being used.**

Distribution Systems Bracings



Distribution System Seismic Bracing based on Capacities Established by **Cyclic Tests** in Accordance with FM 1950-16

OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: Policy

OPM is Voluntary

1. The OPM is a **voluntary program** for non-structural component manufacturers, designers or suppliers.

OPM Scope

2. The OPM program is limited to:
- a. Seismic design of supports and attachments for nonstructural components;
 - b. Seismic bracing of distribution systems (pipes, HVAC ducts and electrical raceways); and
 - c. Interior partition walls and suspended ceilings seismic bracing equivalent to those approved through OSHPD Preapproved Details (OPDs).

OPM Does NOT Approve Products

3. The OPM is **not** a product/components approval program.

Can I Get an OPM for Vibration Isolators, Roof Curbs, or Concrete Anchors?

- **No!**

- OPM is **NOT** a product approval program, hence vibration isolators, roof curbs, and concrete anchors cannot be approved as stand-alone items. They can, however, be approved as part of the supports for a specific component or as part of the bracing for a distribution system.

OPM Does Not Cover Primary Structure

4. The OPM **does not** verify the adequacy of the supporting structure.

OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: Certification Basis

OPM Certification Basis

5. An OPM is issued on the basis of analysis or tests in accordance with the CBC or its reference standards or approved equivalent.

OPM shall include Entire Load Path

6. An OPM shall include entire (continuous) load path or paths with adequate strength and stiffness to transfer all the forces from nonstructural components to primary structural framing (final point of resistance).

Testing shall be in Approved Labs

7. All tests shall be performed by an independent approved laboratory/testing agency having accreditation to the ISO accreditation standard 17025 or shall be under the responsible charge of an independent California licensed engineer in accordance with CBC Section 1703.4 or 1703A.4. Test reports shall be reviewed and accepted by an independent California licensed structural engineer.

Analysis shall be by RDP

8. All analysis shall be performed by a Registered Design Professional in accordance with the 2016 California Administrative Code (CAC) Section 7-115.

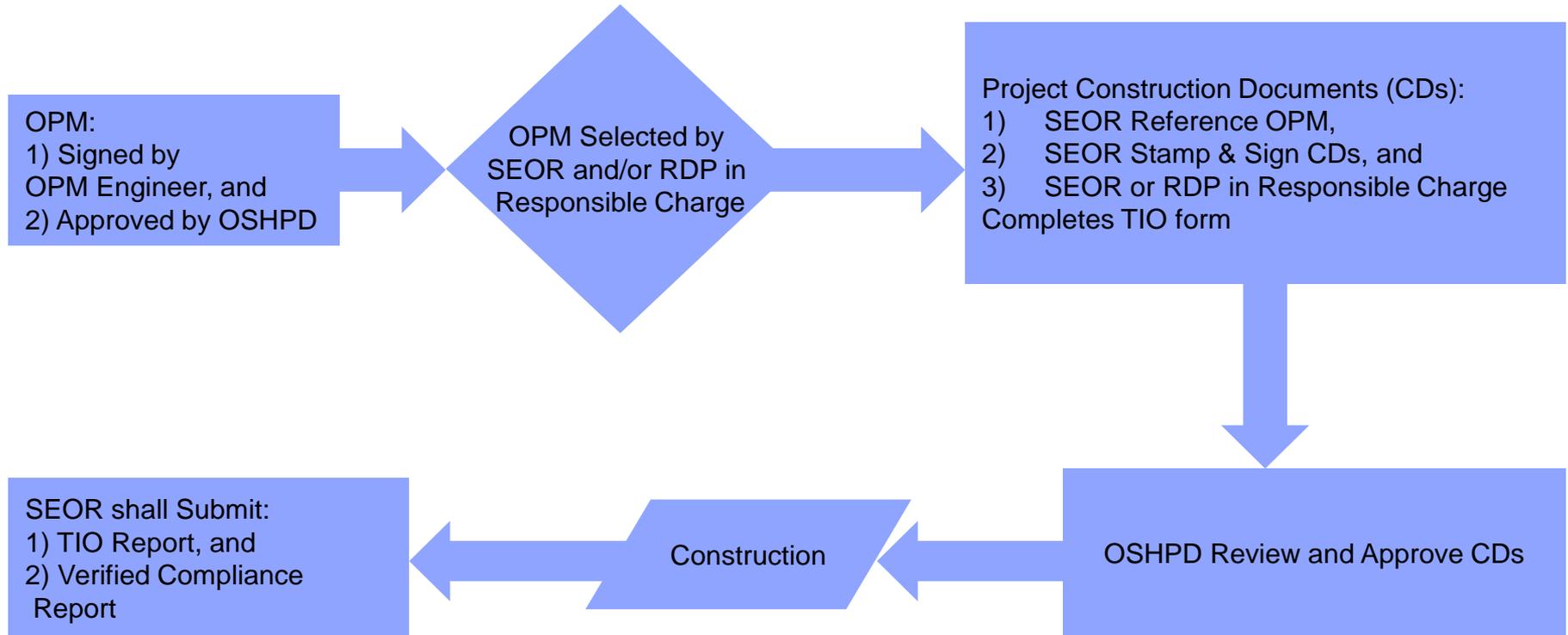
OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: Implementation for OSHPD Projects

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9. The Registered Design Professional for the project shall specify on the construction documents, submitted to OSHPD for approval, the requirements for OPM by reference (including specific details in the OPM, as applicable) in accordance with CBC Section 1705.13.2 or 1705A.13.2.

Implementation of “Single Component” OPM in OSHPD Projects



PIN 62: Implementation for OSHPD Projects

10. Certificates of compliance for the manufacturer's certification shall be submitted to the building official as specified in CBC Section 1704.5 or 1704A.5.

Exceptions: An OPM not using **approved fabricator** provisions (in accordance with CBC Section 1703.6 or 1703A.6 or exception to Section 1704.2.5 or 1704A.2.5) need not provide certificate of compliance.

PIN 62: Implementation for OSHPD Projects

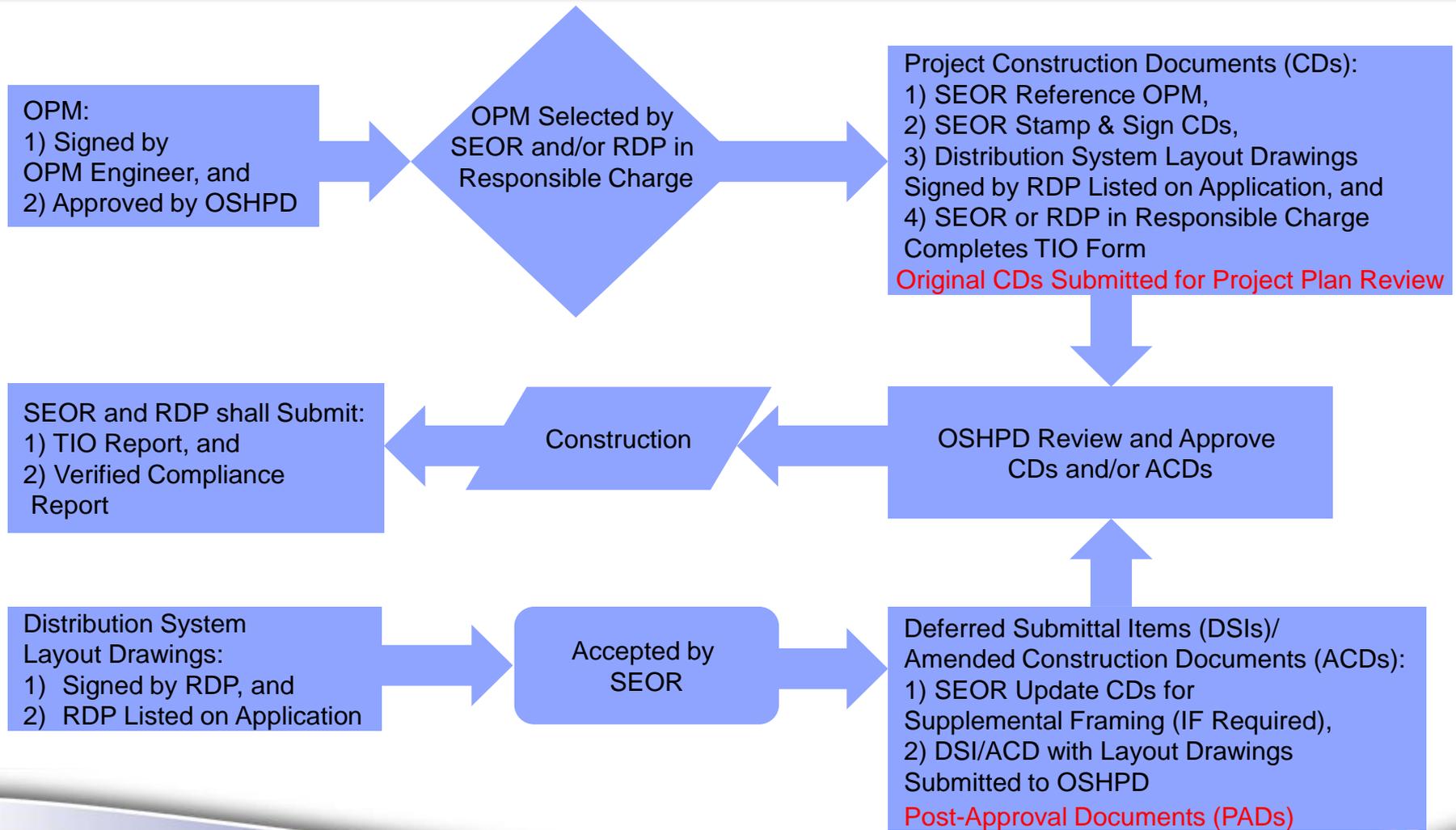
11. Distribution system (pipes, HVAC ducts and electrical raceways) seismic supports and attachments OPMs:

How can we submit layout drawings, as required by the distribution system OPMs?

1. Part of the original Construction Documents (CDs) submittal for plan review; or
2. As Deferred Submittals Items (DSIs) in accordance with 2016 CAC Section 7-126 and 2016 CBC Section 107.3.4.1 which are required to be listed on the CDs; or
3. As Amended Construction Documents (ACDs) in accordance with 2016 CAC Section 7-153 and 2016 CBC Section 107.4, where equipment, supports and attachments are changed or added after CD approval.

(Both DSIs and ACDs are Post Approval Documents (PADs) and use Form OSH-FD-125)

Implementation of “Distribution Systems” OPM in OSHPD Projects



PIN 62: Overstrength Factor for Concrete Anchorage

12. Overstrength factor (Ω_0) for OPMs shall be in accordance with ASCE 7, as amended in CBC 2016 Section 1616A.1.23.

PIN 62: Verified Compliance Report

13. The Registered Design Professional shall submit verified compliance reports in accordance with CAC Section 7-151, that satisfy the requirements of the approved Testing, Inspection and Observation (TIO) program in accordance with CAC Section 7-141.

OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: Validity

OPMs are Valid Indefinitely

14. OPMs have no expiration date, they are valid indefinitely for the code cycle under which they are approved.

Exception: OPMs approved under the 2013 CBC or 2016 CBC can be used for projects submitted under any code cycle, subject to limitations in the OPM.

Can I Use the CBC 2001, 2007, or CBC 2010 based OPA's for the CBC 2013 or CBC 2016 based Projects?

▪ **No!**

Can we Use the CBC 2013 or CBC 2016 OPMs for the CBC 2001, CBC 2007, or CBC 2010 based Projects?

■ **Yes!**

Can we Use the CBC 2013 OPMs for the CBC 2016 Based Projects or Vice-Versa?

■ Yes!

- CBC 2013 based OPMs can be used for the CBC 2016 projects.
- CBC 2016 based OPMs can be used for the CBC 2013 projects.
- Code used shall be the applicable code for the project. Requirements from the CBC 2013 and CBC 2016 shall not be mixed in a single project.

OPMs should not be Materially Altered

15. OPM will be nullified when:

- a. Design, construction, or quality control/quality assurance methods are materially altered as defined in the CAC Section 7-111; or
- b. Strength, stiffness, size, weight, materials, support, orientation, or manufacturer are changed/altered so that they are no longer equivalent to what was approved in the OPM.

OPMs are Posted at OSHPD Website

16. Approved OPMs will be posted at the OSHPD website.

OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: OPM Application Submittal Requirements

OPM Submittal Requirements

1. Completed **application in word format with signature attached**.
2. Application filing fee of \$250.00 payable to “OSHPD”.
 - Review fee will be charged to the applicant for actual cost at prevailing rates **in addition to the filing fee**.
 - Application filing, review, and renewal fees are **non-refundable**.
 - Use OSHPD FDD Payment form:
http://oshpd.ca.gov/FDD/Forms/eSPForms/OSH-FD_367-FacDvmtDivPmtForm.pdf
3. For equipment supports and attachments OPM, Manufacturer’s **certified outline drawings** showing sizes, weights, locations of center of gravity (CG), and attachment requirements.
4. Supporting documents, test reports, drawings, product catalog, and calculations for review, and OPM to be approved.
5. All documents shall be **submitted electronically to OPM@OSHPD.CA.GOV**.

Questions?

Thank You!

What is a Mobile Component?

Mobile Component: Means components that are moved from one point in the structure to another during ordinary use and are not permanently attached to the building utility systems. Components mounted on wheels to facilitate periodic maintenance or cleaning but which otherwise remain in the same location are not considered mobile for the purpose of Supports and Attachments design.

Certificate of Compliance for Components where Special Seismic Certification is NOT required

- Certificate of Compliance for Seismic Certification of Components, **where Special Seismic Certification is NOT required:**
 1. Components commonly designed by calculations (e.g. those listed in ASCE 7-10 Table 13.5-1), such as storage racks, shall be justified by calculations;
 2. Mechanical and Electrical components (e.g. those listed in ASCE 7-10 Table 13.6-1) can be justified by reference to ANSI approved seismic design standards.
- **Certificate of Compliance shall specify validity range for S_{DS} & z/h , and I_p :**

Who provides Certificate of Compliance for Components?

- Manufacturer shall provide “Certificate of Compliance” for components **with** Special Seismic Certification in accordance with ASCE 7-10 Section 13.2.2.
- For components **where Special Seismic Certification is NOT required by Code**, “Certificate of Compliance” can be provided by manufacturers, designers or suppliers (H&SC #129895).
- The owner or owner’s authorized agent shall submit certificate of compliance to OSHPD in accordance with the CBC 2016 Section 1704A.5.

Does OSHPD Consider Manufactured Equipment to be Fabricated Items?

- In general, **NO!**
- Fabricated Item **ONLY** include structural elements, components, supports, and attachments for which structural provisions of the CBSC require Quality Assurance/Quality Control (QA/QC), as defined in the CBSC 2016 Section 1702A.1.
- Manufactured equipment which are not subject to QA/QC by structural provisions of the code are not considered to be fabricated item for the CBC 2016 Section 1704A.2.5:
 - Pump is not considered a fabricated item;
 - Skid mounted pump assembly will be considered a fabricated item (since skid requires QA/QC)

Can Different Distribution System OPM's Be Used On a Pipe, Duct, Or Conduit?

■ No!

- ❖ Different distribution systems OPM should not be used for **a given run** of pipes, ducts, or conduits.
- Different distribution system OPM's are permitted on different runs of the distribution system but all braces on a particular run must be from the same OPM.

Can we Substitute Components in an OPM?

- **No!**

- ❖ Substitution of components in an OPM is not permitted, unless they are reviewed and approved by OSHPD for specific application.

How Long will it take for OSHPD to review an OPM?

- **OSHPD has a 80/40/40 Goal for OPM, except for Partition Walls, Suspended Ceilings, and Distribution Systems Seismic Bracing OPM!**
 - New OPM Application Submittal shall be Reviewed within 80 days.
 - Response to Back Checks for OSHPD Comments will be Reviewed within 40 days.
 - Renewal Request for OPM (within the same code cycle) shall be Reviewed within 40 days.

What are the Turn Around Goals for Partition Walls, Suspended Ceilings, and Distribution Systems Seismic Bracing OPMs?

- **Depends on the Scope & Quality of Submittal!**
 - Turn around goals for Partition Walls, Suspended Ceilings, and Distribution Systems Seismic Bracing OPMs are negotiated on a case by case basis.
 - Approval can take anywhere from 6-months to couple of years.
 - Depends largely on the scope of the OPM, quality of submittal, and responsiveness of the OPM Owner.

Can I Get an OPM for Components Exempt by the CBC 2016 Sections 1616A.1.18 or 105.2?

■ Yes!

- OSHPD **does not recommend** OPM's for small components exempt from plan review by the CBC 2016 Sections 1616A.1.18 or 105.2.
- Exemptions from plan review requirements by the CBC 2016 shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances.

OSHPD Preapproval of Manufacturer's Certification (OPM)

PIN 62: Frequently Asked Questions

Frequently asked Questions

2. Can we submit distribution system layout drawings to OSHPD field staff?

Yes. However, depending on the scope of review and staff availability submittal may be sent to the OSHPD regional plan review units for review.

Frequently asked Questions

3. Do we need to insert approved OPMs into construction documents?

No. OPMs can be used by reference in construction documents. Reference to the OPM shall identify specific details in the OPM being used for the project. Submittal of layout drawings, as specified in the OPMs, shall be required for distribution system OPMs.

All approved OPMs are posted on the OSHPD website:

<http://www.oshpd.ca.gov/FDD/Pre-Approval/preapprovalMfgCert-dtaTable.html>

Frequently asked Questions

4. Can OSHPD Preapproval of Manufacturer's Certification (OPM) based on the 2013 CBC be used on projects governed by the 2016 CBC?

Yes. Demand shall be based on either the 2013 CBC or 2016 CBC. Capacities shall be as provided in the OPMs.

Frequently asked Questions

5. Can OSHPD Preapproval of Manufacturer's Certification (OPM) based on the 2016 CBC be used on projects governed by the 2013 CBC?

Yes. Demand shall be based on either the 2013 CBC or 2016 CBC. Capacities shall be as provided in the OPMs.

Frequently asked Questions

7. Can I get an OPM for outdoor equipment, where design is governed by wind or snow loads?

No. OPM is for indoor components only, where design is controlled by seismic forces. Components that are subject to significant non-seismic forces such as gravity (where seismic force is primarily vertical seismic force produced by self-weight of the components supported), wind, flood, snow, soil or water pressure, thermal loads, etc. are outside the scope of the OPM program.