



**INSTRUCTIONS FOR
Testing, Inspection and Observation Program
OSHDP 1, 2, and 5**

General Instructions

(Version R4.22)

The design professional(s) in responsible charge (DPOR) shall establish and administer the Testing, Inspection and Observation program in accordance with the requirements of the 2019 California Administrative Code (CAC), Sections 7-141, 7-149 and 7-151 as well as Chapter 17A (or Chapter 17 for OSHDP-2/5 projects) of the California Building Code. The Testing, Inspection and Observation (TIO) form (OSH-FD-303A) is intended to assist the DPOR in preparing the TIO Program and presenting it in a standard format. This optional format may be reproduced in part or in whole and edited, but the essential elements described in the CAC shall be maintained.

Specific test and special inspection requirements shall be included in plans and specifications. Once the TIO program is defined the TIO form is used to summarize the requirements, identify the entities responsible for each aspect of the program, and serve as a checklist for closeout upon project completion. The Responsible Approved Agency or Individual in Sections B, C and D of form OSHDP-FD-303A, shall be identified and approved by the DPOR and HCAI/FDD Field Staff **prior** to start of fabrication or construction of affected work.

The TIO Program shall be made specifically appropriate for either OSHDP-1 (Hospitals), OSHDP-2 (skilled nursing facilities and/or intermediate-care facilities of Type V, wood, or light steel-frame construction), or OSHDP-5 (acute psychiatric hospitals subject to licensure) projects. Tests and special inspections not specifically listed may be added to the appropriate section of the form.

Commentary:

Before the Building Permit may be issued, the following documents shall be approved by HCAI/FDD:

- *Construction Documents (drawings and specifications)*
- *TIO program*
- *Application(s) for Inspector(s) of Record (IOR) – Form(s) OSH-FD-124 (see CAC Section 7-141(f))*



How to Fill Out the Testing, Inspection, and Observation (TIO) Form

The TIO Form is comprised of ten Sections:

- **Section A** identifies the project and TIO stage(s) and is mandatory for all projects.
- **Section B** identifies all required tests and is mandatory for all projects for which tests are required.
- **Section C** identifies all required on-site Special Inspections and is mandatory for all projects for which on-site Special Inspections are required.
- **Section D** identifies all required off-site Special Inspections and is mandatory for all projects for which off-site Special Inspections are required.
- **Section E** identifies all compliance forms which are mandatory for projects in order to comply with the California Energy Code.
- **Section F** identifies project stages, milestones, or intervals when Verified Compliance Reports are required from the various project participants and is mandatory for all projects.
- **Section G** identifies the scope of inspection responsibility for each Inspector of Record (IOR). This section is only required for projects where more than one IOR will share the inspection responsibilities on the project. If there is more than one IOR, a lead IOR shall be identified.
- **Section H** is the “reviewed” section for **Plan Review**. The signatures of the architect and structural engineer (when one has been delegated) of record sign this section to indicate all tests and special inspections have been indicated on the form. At completion of Plan Review this section also documents that the TIO program has been reviewed by HCAI; it is mandatory for all projects.
- **Section I** is the “approval” section for the TIO program. The signatures of the architect and structural engineer (when one has been delegated) of record sign this section to indicate all approved agencies and individuals assigned to conduct tests and special inspections have been reviewed and accepted. Upon issuance of the Building Permit, this section also documents that the TIO program has been approved by HCAI field staff. The completion of this section is mandatory for all projects.
- **Section J** includes a change log to facilitate tracking of changes to the TIO form and is mandatory for projects if changes to the TIO form are made after initial approval.
Note: changes include revisions to the TIO requirements as well as changes to the individuals or agencies identified as responsible for the tests and/or special inspections.

Compiling and Printing the Form

The form incorporates “Macros” that will hide rows which are not applicable to the scope of the project in order to simplify viewing/printing. After filling out the entire form (all sections), the buttons on Tab A may be used to “COMPILE & PRINT” a pdf.

Individual Sections may be compiled or un-compiled by clicking “HIDE ROWS” or “SHOW ROWS” on tabs B, C, D, and E.



Macros

“Macros” are the embedded “programs” that allow functionality. Two types of Macros are used in the form:

- **“Expand” (+) and “Collapse” (-) Macros:**

Sections B, C, D, and E include buttons that allow the user to “expand” or “collapse” the choices available. Section B (for example) is divided into six main categories (Structural, Electrical, Mechanical, Plumbing, Fire Protection and Life Safety Systems, and Other). The Structural category is subdivided into seven subcategories (Foundation, Concrete, Masonry, Steel, Other Structural Materials, Alternative Systems, and Nonstructural Components, Supports and Attachments). Click on the ‘+’ sign to expand each category or the ‘-’ sign to collapse. These Macros are intended to facilitate viewing each specific category of the form rather than ALL line items for the entire Section. The form remembers which items are marked even when the category is hidden.

- **“HIDE ROWS” and “SHOW ROWS” Macros:**

After the form is filled out the “HIDE ROWS” button in each Section will look for rows with no ‘X’ in the “Required” column and simply hide them so that they are no longer visible on the screen or when printing. This feature makes the form much more compact and readable. The “SHOW ROWS” button will show all the rows (including hidden rows) and expand all collapsed categories in that Section.

Troubleshooting Commentary:

*The form was developed using the Excel desktop application in Office 365. The macros **WILL NOT** work in the web-based version of Excel in Office 365. The spreadsheet was tested for compatibility with Excel 2013, so it is assumed that it is compatible with other version of Excel released between Excel 2013 and Office 365. The Macros incorporated into the form may not perform as expected when using the form with older or newer versions of Excel. If you are using this version and experiencing problems, it could be due to your security settings. If your security settings are set too high, Macros may be disabled when you download the form. Try setting your security settings to “medium” and/or identifying the form as a “trusted” document in your security settings (depending on the version of Excel you are running).*



Section A – Project Information Instructions:

This section is completed by the architect and/or engineer in responsible charge of the project hereinafter referred to as the Design Professional of Record (DPOR); it identifies the specific project as follows:

- Facility # – ID number, as assigned by HCAI (a five-digit number). This is automatically filled in based on the selected Facility Name.
- Facility Name – As shown on the Facility License issued by the California Department of Public Health
- Project # – As assigned by HCAI

The Facility #, Facility Name, Project #, and Sub # are automatically populated to the headers of all subsequent Sections.

- Street Address – The physical street address of the construction project.
- City – The city where the project is located.
- County – The County where the project is located.

The Street Address, City, and County are automatically filled in based on the selected Facility Name.

- Record Name (Scope of Project) – Scope of the project, as shown on the Application for New Project.
- TIO Stage Description – Provides a name and description/scope for each stage of the TIO program. Select the number of stages for your project by using the list box to the right of the project stage description. If the TIO program will be administered in a single stage, then select "1 Stage". The number of stages on Tabs A, B, C, and D will automatically update when the number of stages is selected in the list box.

Commentary:

Stages, as related to the TIO program, are defined by the DPOR to identify the specific tests and inspections required for a portion of the project work. A stage can be defined as the scope of work within a room, an area of the project, concrete work for certain floors, etc. A stage should not be confused with a milestone. A milestone requires Verified Compliance Reports to be submitted, a stage does not. A stage can be a single milestone or can contain multiple milestones. It is up to the DPOR to decide how to structure the TIO program to best suit the project.



Section B – Tests Instructions:

Section B layout includes the following:

DURING CONSTRUCTION DOCUMENT SUBMITTAL (left side of form):

The DPOR shall identify all specific tests required for the project (see Title 24, Part 1 Section 7-141(d) & (g)). The Form includes most tests required by the 2019 California Building Standards Code (CBSC), Title 24, Parts 2, 3, 4, 5, 6 and 9 but the list is not all inclusive. Some documents referenced by the designer (e.g., pre-approvals, manufacturer's instructions, etc.) may require testing not identified by the CBSC, these tests shall also be referenced and included in the TIO.

Commentary:

HCAI Plan Review Staff will review the list of tests for accuracy and completeness, and provide comments, if necessary, prior to Plan Review Approval. The plan review staff will not approve the TIO.

Columns:

- INDEX # – each item is numbered for ease of reference; numbers may not be consecutive after the form is compiled.
- STAGE # REQUIRED (Select with "X") – This column is completed by the DPOR prior to plan review. An 'X' is placed in each applicable row in the table to indicate that the test is required for the specific TIO stage (unmarked rows will be hidden when the form is compiled using the Macros "Compile & Print" button on Tab A).
- TESTS – This column is completed by the DPOR prior to plan review; numerous Code required tests are pre-printed on the form. Additional tests shall be added in the appropriate sections as required.

DURING CONSTRUCTION (right side of form):

The DPOR shall identify the Approved Agencies and Individuals proposed to conduct each test. The DPOR shall verify the qualifications and independence prior to completing the right side of the form.

Columns:

- SELECT WITH "X" OR PROVIDE REQUIRED OPAA INFORMATION - Enter the necessary information for one of the two following options with an "X" or the required OPAA information. Only one option shall be selected.
 - SAMPLES OF TEST & INSPECTION REPORTS INCLUDED - This column is to be checked if samples of test and inspection reports are included with the TIO program. Samples shall be submitted to and approved by the HCAI Field Staff prior to proceeding with the work that requires test or special inspections.
 - OPAA NO. AND EXPIRATION DATE - this box shall be filled with the OPAA number and expiration date if the design professional in responsible charge has chosen an HCAI approved Structural Tests and Special Inspections agency providing services to California's Health Facilities Construction. Samples of test and inspection reports shall not be required when tests and special inspections are performed by an OPAA. A copy of the OPAA shall be kept onsite with the TIO.
- RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL – This column is completed by the DPOR prior to commencement of related fabrication/construction. When a test is required, indicate which approved agency or individual is responsible to carry out the test. The DPOR is



responsible for evaluating and approving the qualifications and independence of the Approved Agency or Individual for the tests assigned.

Commentary:

The DPOR is responsible for evaluating and approving the qualifications, certifications, experience and independence of the approved agencies and individuals named on this form in accordance with CAC Section 7-141, 7-144 & 7-149; CBC 1703A.1.1 & 1704A.2.1 (Sections 1703.1 and 1704.2.1 for OSHPD 2/5 projects).; and ISO 17025 Section 4.1.4 as applicable. Approved agencies and individuals named for structural tests and special inspections shall be evaluated and accepted by the structural engineer delegated responsibility for the design and administration of construction of the structural aspects (when such delegation has been made).

For a majority of Code required tests, the Approved Agency shall be a qualified testing laboratory or Individual provided by the hospital governing board or authority in accordance with California Administrative Code (CAC) Sections 7-144 and 7-149(b). All tests of structural materials and components shall be performed by a testing laboratory conforming to Title 24, Part 2, Section 1703A.1 through 1703A.1.3 (Section 1703.1 through 1703.1.3 for OSHPD 2 and 5 projects).

Exception: *Some tests may be performed by the contractor or installer. For example, pressure testing of plumbing, grounding resistance of electrical, etc.*

- COMPLIANCE VERIFICATION BY IOR– Once all tests for the Row are satisfactorily completed and the related construction is in compliance with the approved construction documents, the responsible IOR shall verify completion with an initial and date.

Commentary:

Pursuant to CAC Section 7-149(a), the reports shall state whether the material tested complies with the approved construction documents.

- HCAI/FDD USE– For HCAI use only.

Commentary:

Upon completion of any required tests, at least one HCAI Field staff: Compliance Officer (CO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE) will review for compliance with the approved construction documents and the TIO program and indicate their concurrence with an initial and date.



Section C – On-site Special Inspections Instructions:

Section C layout includes the following:

DURING CONSTRUCTION DOCUMENT SUBMITTAL Tasks (left side of Form):

The DPOR shall identify all on-site special inspections required to be performed for the project (see Title 24, Part 1, Section 7-141(d) & (g)). The DPOR shall also identify the Approved Agencies and Individuals proposed to conduct each test. The DPOR shall verify the qualifications and independence prior to completing the right side of the form.

Commentary:

The Form includes most special inspections required by the 2019 CBSC, Title 24 but the list is not all inclusive. Some documents referenced by the designer (e.g., pre-approvals, manufacturer's instructions, etc.) may require special inspection not identified by the CBSC, these special inspections shall also be referenced and included.

HCAI Plan Review Staff will review the list of on-site special inspections for accuracy and completeness, and provide comments, if necessary, prior to Plan Review Approval. The plan review staff will not approve the TIO.

Columns:

- INDEX # – each item is numbered for ease of reference; numbers may not be consecutive after the form is compiled.
- STAGE # REQUIRED (Select with "X") – This column is completed by the DPOR prior to plan review. An 'X' is placed in each applicable row in the table to indicate that the on-site special inspection is required for the specific TIO stage (unmarked rows will be hidden when the form is compiled using the Macros "Compile & Print" button on Tab A).
- ON-SITE SPECIAL INSPECTIONS – This column is completed by the DPOR prior to plan review; numerous Code required special inspections performed on-site are pre-printed on the form. Additional special inspections shall be added in the appropriate sections as required.

DURING CONSTRUCTION (right side of form):

The DPOR shall identify the Approved Agencies and Individuals proposed to conduct each on-site special inspection in accordance with California Administrative Code Section 7-141(g). The DPOR shall verify the qualifications and independence prior to completing the right side of the form.

Columns:

- SELECT WITH "X" OR PROVIDE REQUIRED OPAA INFORMATION - Enter the necessary information for one of the two following options with an "X" or the required OPAA information. Only one option shall be selected.
 - SAMPLES OF TEST & INSPECTION REPORTS INCLUDED - This column is to be checked if samples of test and inspection reports are included with the TIO program. Samples shall be submitted to and approved by the HCAI Field Staff prior to proceeding with the work that requires test or special inspections.
 - OPAA NO. AND EXPIRATION DATE - this box shall be filled with the OPAA number and expiration date if the design professional in responsible charge has chosen an HCAI approved Structural Tests and Special Inspections agency providing services to California's Health Facilities Construction. Samples of test and inspection reports shall



not be required when tests and special inspections are performed by an OPAA. A copy of the OPAA shall be kept onsite with the TIO.

- **RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL** – This column is completed by the DPOR prior to commencement of related fabrication/construction. When an on-site special inspection is required, indicate which approved agency or individual is responsible to carry out the special inspection. The DPOR is responsible for evaluating and approving the qualifications and independence of the Approved Agency or Individual for the tests assigned.

Commentary:

When special inspection is required, identify the special inspection agency responsible to carry out the special inspection. The name(s) of the specific individual(s) within the agency who will be performing the special inspections shall be listed or reference shall be made to an attached matrix identifying the individuals for each special inspection. For agencies in the HCAI Pre-Approved Agency (OPAA) program the HCAI website includes a matrix of all Approved Agencies. For large projects where more than one agency will share responsibility for special inspection of a particular aspect of work, additional rows may be added to assign responsibility for specific aspects of the work to specific agencies and/or individuals.

The DPOR is responsible for evaluating and approving the qualifications, certifications, experience and independence of the approved agencies and individuals named on this form in accordance with CAC Section 7-141, 7-144 & 7-149; CBC 1703A.1.1 & 1704A.2.1 (Sections 1703.1 and 1704.2.1 for OSHPD 2/5 projects); and ISO 17025 Section 4.1.4 as applicable. Approved agencies and individuals named for structural tests and special inspections shall be evaluated and accepted by the structural engineer delegated responsibility for the design and administration of construction of the structural aspects (when such delegation has been made).

For most special inspections, the qualified individual shall be provided by an approved agency employed by the hospital governing board or authority in accordance with California Administrative Code (CAC) Sections 7-141(d),(g), 7-144 and 7-149(b) as well as CBC Section 1704A.2 (Section 1704.2 for HCAI 2 and 5 projects). Some special inspections may be performed by the IOR or a designated specialist when approved by HCAI.

- **COMPLIANCE VERIFICATION BY IOR**– Once all on-site special inspections for the Row are satisfactorily completed and the related construction is in compliance with the approved construction documents, the responsible IOR shall verify completion with an initial and date.
- **HCAI/FDD USE**– For HCAI use only.

Commentary:

Upon completion of required on-site special inspections, at least one HCAI Field staff: Compliance Officer (CO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE) will review for compliance with the approved construction documents and the TIO program and indicate their concurrence with an initial and date.



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Suite 800
Sacramento, CA 95833

355 South Grand Avenue,
Suite 1900
Los Angeles, CA 90071





Section D – Off-site Special Inspections Instructions:

Section D layout is similar to Section C and includes the following:

DURING CONSTRUCTION DOCUMENT SUBMITTAL (left side of Form):

The DPOR shall identify all off-site special inspections required to be performed for the project (see Title 24, Part 1, Section 7-141(d) & (g)). The DPOR shall also identify the Approved Agencies and Individuals proposed to conduct each test. The DPOR shall verify the qualifications and independence prior to completing the right side of the form.

Commentary:

The Form includes most special inspections required by the 2019 CBSC, Title 24 but the list is not all inclusive. Some documents referenced by the designer (e.g., pre-approvals, manufacturer's instructions, etc.) may require special inspection not identified by the CBSC, these special inspections shall also be referenced and included.

HCAI Plan Review Staff will review the list of off-site special inspections for accuracy and completeness, and provide comments, if necessary, prior to Plan Review Approval. The plan review staff will not approve the TIO.

Columns:

- INDEX # – each item is numbered for ease of reference; numbers may not be consecutive after the form is compiled.
- STAGE # REQUIRED (Select with "X") – This column is completed by the DPOR prior to plan review. An 'X' is placed in each applicable row in the table to indicate that the off-site special inspection is required for the specific TIO stage (unmarked rows will be hidden when the form is compiled using the Macros "Compile & Print" button on Tab A).
- OFF-SITE SPECIAL INSPECTIONS – This column is completed by the DPOR prior to plan review. Numerous Code required special inspections, typically performed off-site are pre-printed on the form. Additional special inspections shall be added in the appropriate sections as required.

DURING CONSTRUCTION tasks (right side of form):

The DPOR shall identify the Approved Agencies and Individuals proposed to conduct each off-site special inspection in accordance with California Administrative Code Section 7-141(g). The DPOR shall verify the qualifications and independence prior to completing the right side of the form.

Columns:

- OFF-SITE SPECIAL INSPECTIONS – This column is completed by the DPOR prior to approval of the building permit. Numerous Code required special inspections performed off-site are pre-printed on the form. Additional special inspections shall be added in the appropriate sections as required. It is intended that the DPOR consult with the contractor and identify all fabrication/construction requiring special inspections which will be performed at off-site locations.

**Commentary:**

Structural steel and precast concrete elements are routinely fabricated at off-site locations. In some cases, components of the medical gas system, enclosures for equipment or other aspects of the project may also be fabricated off-site.

- SELECT WITH "X" OR PROVIDE REQUIRED OPAA INFORMATION - Enter the necessary information for one of the two following options with an "X" or the required OPAA information. Only one option shall be selected.
 - SAMPLES OF TEST & INSPECTION REPORTS INCLUDED - This column is to be checked if samples of test and inspection reports are included with the TIO program.
 - OPAA NO. AND EXPIRATION DATE - this box shall be filled with the OPAA number and expiration date if the design professional in responsible charge has chosen an HCAI approved Structural Tests and Special Inspections agency providing services to California's Health Facilities Construction. Samples of test and inspection reports shall not be required when tests and special inspections are performed by an OPAA.
- RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL – This column is completed by the DPOR prior to commencement of related fabrication/construction. When an off-site special inspection is required, indicate which approved agency or individual is responsible to carry out the special inspection. The DPOR is responsible for evaluating and approving the qualifications and independence of the Approved Agency or Individual for the tests assigned.

Commentary:

When special inspection is required, identify the special inspection agency responsible to carry out the special inspection. The name(s) of the specific individual(s) within the agency who will be performing the special inspections shall be listed or reference shall be made to an attached matrix identifying the individuals for each special inspection. For agencies in the HCAI Pre-Approved Agency (OPAA) program the HCAI website includes a matrix of all Approved Agencies. For large projects where more than one agency will share responsibility for special inspection of a particular aspect of work, additional rows may be added to assign responsibility for specific aspects of the work to specific agencies and/or individuals.

The DPOR is responsible for evaluating and approving the qualifications, certifications, experience and independence of the approved agencies and individuals named on this form in accordance with CAC Section 7-141, 7-144 & 7-149; CBC 1703A.1.1 & 1704A.2.1 (Sections 1703.1 and 1704.2.1 for OSHPD 2/5 projects); and ISO 17025 Section 4.1.4 as applicable. Approved agencies and individuals named for structural tests and special inspections shall be evaluated and accepted by the structural engineer delegated responsibility for the design and administration of construction of the structural aspects (when such delegation has been made).

For most special inspections, the qualified individual shall be provided by an approved agency employed by the hospital governing board or authority in accordance with California Administrative Code (CAC) Sections 7-141(d),(g), 7-144 and 7-149(b) as well as CBC Section 1704A.2 (Section 1704.2 for HCAI 2 and 5 projects). Some special inspections may be performed by the IOR or a designated specialist when approved by HCAI.



- COMPLIANCE VERIFICATION BY IOR – Once all off-site special inspections for the Row are satisfactorily completed and the related construction is in compliance with the approved construction documents, the responsible IOR shall verify completion with an initial and date.
- HCAI/FDD USE – For HCAI use only.

Commentary:

Upon completion of required on-site special inspections, at least one HCAI Field staff: Compliance Officer (CO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE) will review for compliance with the approved construction documents and the TIO program and indicate their concurrence with an initial and date.



Section E – Required Compliance Forms Instructions:

Section E layout includes the following:

DURING CONSTRUCTION DOCUMENT SUBMITTAL (left side of form):

The DPOR shall identify the name of all the *2019 California Energy Code Non-Residential forms* required for the project (see Title 24, Part 1 Section 7-118 and 7-141(d) & (g)). This includes, but is not limited to, documentation required by the 2019 California Building Standards Code (CBSC), Title 24, Parts 2, 3, 4, 5, 6 and 9. Some documents referenced by the designer (e.g., pre-approvals, manufacturer's instructions, etc.) may require testing not identified by the CBSC, these tests shall also be referenced and included.

Commentary:

Once the forms are identified by the DPOR, HCAI Plan Review Staff will review the list of forms and provide comments, if necessary, prior to Plan Review Approval. The plan review staff will not approve the TIO.

- FORM # - each row identified the form number for ease of reference; form numbers may not be consecutive.
- REQUIRED (Select with "X") – This column is completed by the DPOR prior to plan review. An 'X' is placed in each applicable row in the table to indicate that the form is required for the project (unmarked rows will be hidden when the form is compiled using the Macros "compile and print" button on the "A-Project Info" tab).
- DOCUMENT NAME – This column is completed by the DPOR prior to plan review; numerous Energy Code forms are identified on this tab. The DPOR shall identify which forms will need to be completed prior to project completion. Additional forms shall be added in the appropriate sections as required.

DURING CONSTRUCTION (right side of form):

- RESPONSIBLE DESIGNER OR INSTALLING CONTRACTOR – This column is completed by the DPOR prior to commencement of related fabrication/construction or installation. When a form is required, indicate which designer or installing contractor is responsible to complete the required form. The DPOR is responsible for evaluating and approving the qualifications and independence of the designer or installing contractor for the design or installation of materials.

Commentary:

The DPOR is responsible to verify the proposed installing contractor holds a valid contractor's license with the California Contractors State License Board for the work they are identified to complete.

The field technician signs and attest that the construction or installation identified on the "Certificate of Acceptance" complies with the applicable acceptance requirements indicated in the plans and specifications approved by the enforcement agency.

The licensed "Installing Contractor" responsible for the work, by signing accepts responsibility for the system design, construction or installation of features, materials, components, or manufactured devices for the scope of work identified on the Certificate of Acceptance and attest to the declarations in the statement.

FORMS - CALIFORNIA ENERGY CODE



The following forms are required to be completed under the purview of the installing contractor to document what was installed to meet the requirements of the California Energy Code and outlined in the Non-residential Code Compliance forms.

Electrical:

- 2019-NRCI-ELC-01-E-ElectricalPowerDistribution.pdf
 - Only complete the following sections in this form:
 - Certificate of Installation
 - General Information
 - Scope of Responsibility
 - List of applicable construction document table
 - Voltage drop
 - Documentation authors declaration statement
 - Responsible persons declaration statement
- 2019-NRCI-LTI-01-E-IndoorLighting.pdf
 - Complete all sections
- 2019-NRCI-LTI-02-E-EMCSLightingControlSystem.pdf
 - Only complete the following sections in this form:
 - Certificate of Installation
 - General Information
 - Scope of Responsibility
 - Requirements in the Standards. Check all that apply in the following: PART 1 (A and B), PART 2 (A, B, C, and E), and PART 3 (A and D)
 - Documentation authors declaration statement
 - Responsible persons declaration statement
- 2019-NRCI-LTO-01-E-OutdoorLighting.pdf
 - Complete all sections
- 2019-NRCI-LTO-02-E-EMCSLightingControlSystem.pdf
 - Complete all sections

Optional Electrical Forms:

The following forms are optional and are only used when the conditions outlined below the form name are met. These forms shall be completed under the purview of the installing contractor to document what was installed to meet the requirements of the California Energy Code and outlined in the Non-residential Code Compliance forms.

- 2019-NRCI-LTI-04-E-TwoInterlockedLightingSystems.pdf
 - To be completed where two lighting systems are used in Auditoriums, Convention Center Rooms, Conference Rooms, Multipurpose Rooms, or Theater Rooms.
- 2019-NRCI-LTI-05-E-PowerAdjustmentFactors.pdf
 - To be completed if Power Adjustment Factor will be used by the designer.
- 2019-NRCI-LTI-06-E-AdditionalVideoconferenceStudioLighting.pdf
 - To be completed if additional lighting power shall be used in a videoconferencing studio.

Mechanical:

- 2019-NRCI-MCH-01-E-Mechanical.pdf
 - Complete all sections

Plumbing:

- 2019-NRCI-PLB-01-E-Plumbing.pdf
 - Complete all sections

**Miscellaneous Required Forms:**

- 2019-NRCA-ENV-02-F-Fenestration
 - Complete all sections
- 2019-NRCI-PRC-01-E-CoveredProcesses
 - Complete all sections

Commentary:

For a majority of Energy Code required forms, the responsible designer or installing contractor shall be qualified to perform the design or installation and approved by the hospital governing board or authority.

- COMPLIANCE VERIFICATION BY IOR– Once all forms for the Row are satisfactorily completed and the related construction is in compliance with the approved construction documents, the responsible IOR shall verify completion with an initial and date.
- HCAI/FDD USE– For HCAI use only.

Commentary:

Upon completion of all required forms, at least one HCAI Field staff: Compliance Officer (CO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE) will review for compliance with the approved construction documents and the TIO program and indicate their concurrence with an initial and date.

For more information on the 2019 California Energy Code Building Energy Efficiency Compliance Forms contact the California Energy Commission

Toll-Free in California: 800-772-3300

Outside of California: 916-654-5106

Email: Title24@energy.ca.gov



Section F – Construction Verification Instructions:

The DPOR in charge is responsible for defining the project's stages, milestones, and/or intervals when Verified Compliance Reports are required to be submitted by the specified project participant. Section F sets forth a standard way to tabulate these requirements.

The rows of the table are the project stages, milestones, or intervals when verified compliance reports are to be submitted. The columns of the table show the project participants who shall perform the tests, special inspections, or observations and are required to submit Verified Compliance Reports. Projects typically require Verified Compliance Reports from the following project participants:

- The design professionals including the Geotechnical Engineer of Record (GEOR), Architect of Record (AOR), Structural Engineer of Record (SEOR), Mechanical Engineer of Record (MEOR), and Electrical Engineer of Record (EEOR) who are identified on the Application for New Project (Form OSH-FD-121) and in Section H of the TIO form.

Commentary:

Each designer is responsible for observation of construction per Title 24, Part 1, Section 7-141(b).

- The representative of the contractor (or owner/builder) who is identified on the Application for Building Permit (Form OSH-FD-302).
- The IOR (Inspector of Record) who is identified on the Application for Inspector of Record (Form OSH-FD-124). When more than one IOR is approved for a project each IOR shall also be listed in Section G of the TIO Form.
- Special Inspectors and/or Approved Agencies identified in Section B, C, and D of the TIO Form.

Commentary:

For large projects which require additional Verified Compliance Reports an additional copy of Section F may be used with the additional names substituted for the generic pre-printed project-participants in row 6.

- Each box marked with an "X", indicates that a Verified Compliance Report shall be submitted by the project participant at the described stage, milestone, or interval.

Commentary:

Stages, as related to the TIO program, are defined by the DPOR to identify the specific tests and inspections required for a portion of the project work. A stage can be defined as the scope of work within a room, an area of the project, concrete work for certain floors, etc. A stage should not be confused with a milestone. A milestone requires Verified Compliance Reports to be submitted, a stage does not. A stage can be a single milestone or can contain multiple milestones. It is up to the DPOR to decide how to structure the TIO program to best suit the project.

Milestones may include but are not limited to: Site Work, Foundation, Concrete, Masonry, Steel, Wood, Roofing, Fire Rated Construction, Above Ceiling Components, Architectural Elements, Equipment Anchorage, Fire Protection Systems, Miscellaneous Systems, Plumbing Systems, Mechanical Systems, Electrical Systems, etc.



Intervals may be defined by a period of time (e.g., weekly, monthly, etc.) and/or by percentage completion.

HCAI Field review staff may also require additional stages, milestones, or intervals based on any additional information that may become available as the project construction proceeds including but not limited to construction schedules and methodologies. For example, if a portion of the project is scheduled to be fabricated off-site which was initially anticipated to be fabricated on-site it may require an additional stage or milestone for that portion of the work.

The DPOR shall maintain copies of all Verified Compliance Report forms. Work to be inspected/observed shall not be covered, occupied, or used until written acceptance by all individuals identified in the TIO Section F. HCAI Field staff will indicate their concurrence with an initial and date.

Section F layout shall include the following:

- **REFERENCE** – A reference number shall be input for ease of tracking receipt of Verified Compliance Reports (see OSH-FD-123 form).
- **PROJECT STAGE(S), MILESTONE, OR INTERVAL** – A complete description of the specific stage(s), milestone, or interval at which the Verified Compliance Report(s) are required.
- **VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED** (Form OSH-FD-123). These columns identify which individuals are required to submit the HCAI Verified Compliance Report Form (OSH-FD-123) for each milestone or interval. The Verified Compliance Report is based upon “personal knowledge” as defined in CAC Section 7-151.
- **HCAI/FDD USE** – For HCAI use only.

Commentary:

HCAI Field staff may at any time review the accumulated Verified Compliance Reports at the project site against the required Reports. Field Staff will initial and date rows after they verify as in compliance.

The last row of the Section shows that Verified Compliance Reports are always required at time of PROJECT COMPLETION and/or Occupancy.

Reports are always required from the Contractor (or Owner/Builder), the IOR, and the architect or engineer in responsible charge. Most projects require reports from designers delegated responsibility for a portion of the project, special inspectors, and approved agencies as well.

See CAC Title 24, Part 1, Section 7-151 for Verified Compliance Report requirements. Projects are subject to Stop Work Orders if reports not submitted in a timely manner.



Section G –Inspector of Record (IOR) Responsibility Instructions:

When more than one IOR is assigned to a project this section provides a place to document the portions of the construction inspection responsibility assigned to each IOR. If only one IOR is assigned this section shall be omitted.

When more than one IOR works on a project a clear description of the scope and responsibility of inspection assigned to each IOR shall be provided as required by CAC 7-141(f). One IOR shall be designated as the ‘lead’ IOR per CAC 7-144(b). One of the IORs shall be assigned to, “all other work” to ensure that any miscellaneous aspects of the construction are assigned.

Commentary:

Responsibility is commonly divided by trade, but any logical and clear division of responsibility is acceptable. For example, one IOR could be assigned to the “Central Plant” portion of the project and another IOR could be assigned to the “Hospital Building.” If an IOR leaves a project prior to completion on June 30, 2022, it is acceptable to add a date to the “SCOPE OF INSPECTION” column so that the IOR who leaves would be responsible for “all construction through June 30, 2022” and the new IOR would be responsible for “all construction after June 30, 2022.”

Assignment of IOR responsibility shall not overlap; IORs shall not share responsibility for inspection of any aspect of the project.



Section H – Plan Review Approval Instructions:

It is the responsibility of the DPOR to prepare a testing, inspection, and observation program for HCAI review during plan review. The DPOR shall identify all required tests and special inspections for the project.

Projects involving structural work and structural design and observation of construction are required to be delegated to a Structural Engineer per Health and Safety Code CAC Section 7-111(b)1. The Structural Engineer shall verify that all structural tests and special inspections have been identified per CAC Section 7-115(b)1 and 7-141.

The DPOR (and SEOR when applicable) shall print, sign, and date the TIO Program form.

The designated HCAI plan review staff will affix their “reviewed” or “reviewed with comments” stamp once their review is complete.



Section I – TIO Program Approval Instructions:

The DPOR (and the structural engineer when required) shall evaluate and approve all agencies and individuals named on the form to perform tests or special inspections prior to commencement of the construction requiring the tests or special inspections. The names of the “Approved Agencies or Individuals” in Sections B, C, and D are not required for plan review approval but shall be added prior to start of related construction.

The DPOR shall print first and last name, indicate professional license and license number, sign, and date the TIO Program form.

The designated HCAI RCO shall affix their “reviewed” or “reviewed with comments” stamp upon TIO program approval.



Section J – Summary of Changes to the TIO Program Instructions:

The DPOR uses this table to document changes to the TIO program that occur throughout the construction phase of the project. Changes may be required due to re-assignment of responsibility, personnel changes in the approved agency, or changes to the approved construction documents.

- **REVISION NUMBER** - Revision numbers shall be assigned to help track changes to the TIO program throughout the project. Revision numbers shall correspond with the revision numbers applicable to the approved construction documents when applicable.
- **SYNOPSIS OF CHANGE** – A brief summary of the changes to the TIO program is required. The specific changes to the TIO program shall be clearly shown (“clouded” or highlighted) in the appropriate location on the TIO form. A triangle with the revision number in it shall be placed on the form near each change.
- **ARCHITECT/ENGINEER OF RECORD SIGNATURE (initial/date)** – All changes to the TIO program shall be signed (initials) and dated by the DPOR.
- **STRUCTURAL ENGINEER OF RECORD SIGNATURE** – All structural changes to the TIO program shall be signed by the structural engineer of record. This is only required when structural aspects of the project have been delegated to a structural engineer.
- **DATE** – The date of the changes shall be entered

Commentary:

Changes in construction shall not be implemented until HCAI approves the proposed changes.

- **HCAI FDD CONCURRENCE** – At least one HCAI field staff shall initial and date to indicate HCAI concurrence with the proposed changes.

Commentary:

Most changes to the TIO program may be processed as “non-material alterations” in accordance with CAC Section 7-153 (b) through (e). Material changes to the approved construction documents that require changes to the TIO program shall be processed as “amended construction documents” in accordance with CAC Section 7-153(a) and 7-153(c) through (e).