UCI Environmental Health & Safety

Fire and Life Safety Field Meetings, Inspections and Facilities Closeout Program

Responsible Administrator: Campus Fire Marshal
Revised: October 2023

Summary: This section outlines the policy and procedures related to Fire and Life Safety Field Meetings, Inspections, Stop Order Notice, and Facilities Closeout Programs that are administered through the Environmental Health and Safety (EHS) Department.

1. Program Description

This program serves as a guideline for construction project inspection procedures, State Fire Marshal (SFM) required testing for renovations, new construction, and facility closeout procedures at the University of California, Irvine (UC Irvine). By establishing these criteria, UC Irvine strives to receive the highest quality of construction on all projects while optimizing the performance of facility fire and life safety systems. University of California Irvine's divisions of Environmental Health and Safety (EHS), Facilities Management (FM) and Design and Construction Services (D&CS) work together to implement and accomplish the goals of this program.

2. Scope

This program applies to all new construction and renovations on the grounds at UC Irvine. The Designated Campus Fire Marshal (DCFM) and D&CS Building Official are responsible for coordinating field inspection requests, conducting inspections, stop order notices, and closing out projects.

3. Definitions

Campus Building Official (CBO) – The individual the University has designated to act in the capacity as the "Building Official" as defined by the California Building Standards Code. The University's Building Official will determine whether the work complies with applicable code requirements and will determine whether and when it is appropriate to issue a Certificate of Occupancy.

Campus Fire Marshal (CFM) – The campus representative who has the responsibility and authority to enforce fire and life safety requirements in all UC Irvine facilities. CFC sections 103 & 104 designates this position as the "Fire Code Official" (FCO).

Designated Campus Fire Marshal (DCFM) – At UC Irvine, the SFM has delegated the Designated Campus Fire Marshal (DCFM) and assigned representatives as the Authority Having Jurisdiction (AHJ) for fire safety plan review and fire safety construction inspections. The DCFM also has the responsibility and authority to enforce SFM regulations and requirements elsewhere on campus. The CFM and the CBO are responsible for enforcement of State Fire Marshal regulations for the university.

Fire Hazard – Any condition, arrangement or act which will increase the hazard or menace of fire to a greater degree than is customarily recognized as normal by persons in the public service of preventing, suppressing or extinguishing fires; or which may obstruct, hinder, delay or hindrance the prevention, and / or suppression of fire.

Fire Life Safety Systems – Are comprised of building systems intended to alert and protect occupants from fire, smoke, and other related emergencies. These systems help preserve life and property by protecting buildings against fire hazards. Fire Life Safety Systems include smoke control systems, fire and smoke alarm detection and notification systems, fire sprinkler systems, and building construction design to protect occupants in event of a fire.

Inspector of Record (IOR) – An employee who is assigned to record all construction activities and observations that occur on a specific construction site. Each construction site has an assigned IOR.

National Fire Protection Association (NFPA) – A non-profit educational and technical association that educates and develops fire protection standards for protection of life and property.

Notice to Proceed (NTP) – A notice issued from D&CS or FM to the general contractor that a project may proceed to the construction phase.

Project Manager (PM) – An employee who is assigned to manage a construction project. The PM, under the general conditions of the contact documents is the University Representative.

Request for Information (RFI) – Form used by the contractor which is sent to the project manager to gather additional information about the construction project.

SFM Fire Safety Correction Notice (Form EN-11) – A form provided to the construction site Inspector of Record (IOR) from the DCFM that indicates deficiencies and or hazards in need of correction by the General Contractor or Subcontractor.

SFM Inspection Report (Form EN-2) – A form provided to the construction site IOR from the DCFM that indicates no deficiencies or hazards were identified during the inspection.

Stop Order Notice – A written notice from a University Representative to the contractor, that work is non-conforming to the contract documents.

Submittal – A proposed plan, detail, sketch or specification for various parties' (EHS, Facilities Management, D&CS) given to the DCFM for review and approval.

4. Responsibilities

Design and Construction Services (D&CS) & Facilities Management (FM) is responsible for:

- Ensuring that all building construction follows department processes and that buildings have been properly renovated or constructed;
- Ensuring that all buildings have been inspected for building and fire life safety systems;
- Assigning project managers (PM) and inspectors of record (IOR) to each construction project on campus;
- Providing training and resources to PM's and IOR's related to construction and fire safety;
- Assisting EHS in the implementation of this program.

D&CS & FM Project Managers are responsible for:

- Scheduling and conducting the Pre-Occupancy meetings with the Designated Campus Fire Marshal (DCFM) and other EHS staff members as necessary;
- Reviewing inspection and non-conformance reports for outstanding items;
- Reviewing outstanding action items with the DCFM in order to agree upon project completion;
- Coordinating "DCFM Stop Orders Notice" with DCFM;
- Communicating to the Project IOR regarding EHS issues on their construction project;
- Assisting EHS in the implementation of this program.

D&CS & FM Project Inspector of Record are responsible for:

- Scheduling project inspections with the DCFM at least 48 hours in advance;
- Communicating on a timely basis to the DCFM about rescheduling or canceling inspections;
- Ensuring all necessary items have been completed before the start of the inspection;
- Obtaining the DCFM approval for all required inspections;
- Ensuring that all necessary paperwork is approved, and all necessary signatures have been obtained;
- Verifying that there are no outstanding DCFM requests;
- Assisting the PM and DCFM during the project closeout process;
- Assisting EHS in the implementation of this program.

The Designated Campus Fire Marshal (DCFM) or assigned representative(s) are responsible for:

- Conducting SFM required inspections;
- Inspecting/Testing building construction and approving all fire and life safety systems;
- Working in conjunction with the PM's, IOR's, and Construction Contractors;
- Approving construction projects for: "Beneficial Occupancy", "Substantial Approval" or "Fire Clearance";
- Coordinating "DCFM Stop Orders Notice" with the PM.
- Serving as a fire and life safety technical resource to D&CS & FM.
- Implementing this program for all renovations and new construction projects on campus.

Environmental Health and Safety (EHS) is responsible for:

- Coordinating construction safety and fire safety training to D&CS & FM if necessary.
- Serving as an EHS technical resource to D&CS & FM.
- Coordinating and conducting inspections of existing and new facility buildings on campus.

5. Program Components

The procedures to initiate a construction project site inspection and/or test. And the closeout of a project is described in the following:

A – PM, IOR and General Contractor Pre-Construction Meeting

1. Before the commencement of any project, a Project Pre-Construction Meeting is held between the PM and/or the IOR, and the General Contractor. During this meeting, the project criteria is set and scheduled. This meeting is conducted after the Notice to Proceed (NTP) has been sent to the General Contractor. The General Contractor should invite the DCFM to their pre-construction meetings.

B - Construction User's Meeting

1. The DCFM shall periodically, or upon request of the Project IOR or PM, attend the project user's construction meetings to provide fire and life safety technical consultation (e.g., fire access and egress, fire main service, exiting, rated construction, building fire safety systems, through penetrations, fire stopping, and other EHS issues). The IOR or the PM shall schedule these meetings with the DCFM, and they should be scheduled at least 24 hours before the meeting.
    - The PM will forward all project meeting minutes to the DCFM for review.

C - Pre-DCFM Inspections

1. The Project IOR will inspect the construction area to ensure it is ready for inspection or testing by the DCFM.
2. Once the Project IOR has determined that the construction is acceptable, the Project IOR will generate and email a "Request for SFM Inspection" (Appendix A) to the DCFM. The inspection request should be sent 48 hours prior to the requested inspection time.
3. If the DCFM needs to cancel the requested inspection, the DCFM must notify the project IOR as soon as possible and reschedule the inspection.
4. For same day or next day Request for Inspections, the Project IOR must call the DCFM to schedule an inspection time.
5. The DCFM has 24 hours to respond to the Request for Inspection either by contacting the Project IOR by telephone or email. An email confirmation will be sent back to the IOR from the DCFM to confirm the inspection request and time. The DCFM will then schedule the inspection on their calendar.
6. When the project IOR is scheduling the DCFM inspection, he or she must include a minimum of 30 minutes to review plans and/or the submittal at the construction site, adequate time for the physical inspection, and a minimum of 30 minutes for the DCFM to write a report.

D - DCFM Inspection

1. The DCFM will walk the job site with the Project IOR after both parties agree to the scope of the inspection. Upon approval of both parties the contractor may attend the inspection.
2. Both the DCFM and the Project IOR will notate corrections or comments identified during the inspection.
3. If during the inspection either the DCFM or the Project IOR feel that the project site is not ready for inspection, either party may cancel the inspection. The Project IOR will reschedule the inspection following the current guidelines.
4. If during the inspection the DCFM has questions regarding the construction, they will only address the questions to the Project IOR (not the General Contractor or subcontractors).
5. The DCFM is required to log their time spent at the job site on the "EHS Log Form" prior of leaving the job trailer.
6. If the DCFM notices that there is a fire hazard on the construction site, at their discretion, the DCFM can write a "DCFM Stop Order Notice".

E – DCFM Stop Order Notice

1. The DCFM must use SFM's Notice of Correction, EN-11 form to document the fire hazard. The form should have on the first line in bold letters "Fire Hazard Stop Order".
2. The DCFM will list each hazard in detail with appropriate fire code section(s).
3. The Project IOR will then sign the SFM Notice of Correction and make a copy for his or her records.
4. The DCFM will immediately give the contractor a copy of the EN-11, DCFM Stop Work Order.
5. The DCFM will immediately email the DCFM Stop Order Notice to the CBO and the Project PM.
6. The Project PM under the General Condition of the contract documents will take all appropriate

actions.

F – DCFM Report

1. The DCFM must use the SFM's Notice of Correction, EN-11or EN02 form (Appendix B & C) to document items for correction or completion following all site inspections and tests. The DCFM has 24 - 48 hours to provide the Project IOR a completed SFM Notice of Correction and shall include the following:

    - The DCFM will type an electronic SFM Notice of Correction and send it or deliver a hard copy to the Project IOR.
    - The Project IOR will then sign the SFM Notice of Correction and make a copy for his or her records.
    - If an authorized representative of the DCFM has performed the site inspection or test, he or she will take the original SFM Notice of Correction to the DCFM for his or her signature.
    - The Project IOR will use the photocopied SFM Notice of Correction to follow up and complete all action items and recommendations.
    - The original SFM Notice of Correction will be available to be picked up by the Project IOR at the EHS building.

2. Required inspections and tests to be performed by the DCFM include, but are not limited to:

    - Review of construction site roads and fencing for fire department access;
    - Inspection of underground fire service thrust block hangers, bolted joints and bracing inspection;
    - Hydrostatic pipeline test of fire service, domestic water service and corrosion resistant coating inspection;
    - Underground fire service flush that includes fire department connection;
    - Fire hydrant flow and/or shutdown;
    - Fire pump acceptance test;
    - Emergency lighting and exit sign inspection;
    - Emergency generator acceptance test;
    - Rough-In Sprinkler Piping;
    - Sprinkler and standpipe flow test;
    - Sprinkler and standpipe hydrostatic testing with inspection of exposed pipe;
    - Sprinkler hangers and seismic bracing (prior to and post hanging);
    - Sprinkler final hydrostatic test with all heads and drop lines installed;
    - Sprinkler and standpipe couplings and welds;
    - Structural steel sprayed on fireproofing;
    - Framing inspection of rated walls and shafts;
    - Through-wall/floor penetrations and fire stopping;
    - Rough-In Fire Alarm Electrical Conduit;
    - Fire Alarm inspection and testing of all appliances, devices, fire alarm panel, annunciation panels, fire alarm panel battery back-up, panel system supervisory, smoke and duct detection, smoke evacuation system, automatic fan shut off, elevator recall, and sprinkler water flow alarm;
    - Fire Suppression systems test - Ansel and fume hood systems;
    - Fire/Smoke dampers testing and inspection of angles, labels, screws, bolts, fusible links, and "S" clips, and access doors;
    - Fire rated doors, rated door frames and opening protection assemblies;
    - Medical gas line inspection;
    - Interior finishes inspection;
    - KNOX Box keying prior to occupancy;
    - Building emergency evacuation signage;

- Comprehensive building final inspection leading to substantial completion.

G - Project Closeout Inspection and Report

1. The California State Fire Marshal Fire and Life Safety Checklist (Appendix C), also known as Closeout Procedures, shall be considered complete after the following procedures and the proper documentation has been submitted to the DCFM. This documentation consists of reports and records that must be reviewed and signed by the PM, the Project IOR, and the DCFM before final substantial completion and beneficial occupancy can be granted.
2. A pre-closeout meeting will be conducted at least two (2) weeks prior to the anticipated closeout of the building or facility. During this meeting, the PM, Project IOR, and DCFM shall review inspection documentation records, along with other pertinent information, to facilitate building or facility closeout. The following is a list of documentation and conditions to be reviewed at the pre- closeout meeting:

    - All inspection requests must be completed and signed by the DCFM;
    - All SFM forms must be completed and signed by the DCFM;
    - All detail plans for all fire penetrations and fire rated assemblies have been reviewed, approved, and signed by the DCFM;
    - Approved plans and documents have been reviewed and filed;
    - All appropriate RFI's have been reviewed and approved by the DCFM;
    - The California State Fire Marshal Fire and Life Safety Checklist must be reviewed, completed, and signed by the DCFM;
    - Documentation of inspections and tests are completed and signed for acceptance by the DCFM;
    - The "Record of Completion" form for the fire and sprinkler system for each building (NFPA 13R or 13) is accepted and signed by the DCFM; and
    - The NFPA 72 "Inspection and Testing" form is accepted and signed by the DCFM.

6. Reporting Requirements

All project closeout records, and documentation are maintained in the EHS Building Fire Division files.

7. References

Title 24 California Code of Regulations (24CCR)

California Fire Code (CFC)

National Fire Protection Association section 72 and/or section 13R or 13 (NFPA 72 and/or 14, 13R, 13)

Appendices:

A – Request for Inspection Form

B – State Fire Marshal's Notice of Correction, EN-11 Form

C – State Fire Marshal's Notice of Approval, EN-02 Form

D – California State Fire Marshal Fire and Life Safety Checklist

Appendix A – Request for Inspection Form

INSPECTION REQUEST			
DATE:		REQUEST NO.:	
PROJECT:		JOB NO.:	
PROJECT NO:		CONTRACTOR:	

ATTENTION

DATE REQUESTED FOR INSPECTION:

TIME REQUESTED FOR INSPECTION: ☐ AM/ ☐ PM

TYPE OF INSPECTION REQUESTED:

SPECIFICATION SECTION:

LOCATION OF INSPECTION:

All work requested for inspection has been reviewed for compliance with the construction Documents by prior to this request for inspection.

SIGNATURE: DATE:

UCI USE ONLY	
DATE OF INSPECTION:	TIME:

INSPECTOR:

COMMENTS:

INSPECTION REPORT ATTACHED YES NO

Appendix B – State Fire Marshal's Notice of Correction, EN-11 Form

STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY

DEPARTMENT OF FORESTRY AND FIRE PROTECTION

OFFICE OF THE STATE FIRE MARSHAL

FIRE AND LIFE SAFETY DIVISION

EN-11 (03-11)

UNIVERSITY of CALIFORNIA IRVINE

FIRE SAFETY CORRECTION NOTICE

SFM FILE NUMBER	UC IRVINE PROJECT NUMBER	REPORT #
17 – 30 – 03 – 0002 – XXX - 0		
NAME OF FACILITY University of California Irvine		Page of
NAME OF BUILDING		
ADDRESS		
ACCOMPANIED BY (Name, Title)		
The California Health and Safety Code and the State Fire Marshal's regulations require the following fire safety deficiencies be corrected.		

The above deficiencies are to be corrected within 30 days. If you have any questions, contact the Campus Fire Marshal at (949) 824-9665. Environmental Health and Safety 4600 Health Sciences Road, Irvine, CA 92697-2725.

PREPARED BY	DATE OF NOTICE
RECEIVED BY	ISSUED BY (Designated Campus Fire Marshal

I certify that all deficiencies outlined above have been corrected.

SIGNATURE: _____ DATE:

_____

Appendix C – State Fire Marshal's Notice of Correction, EN-2 Form

STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY

DEPARTMENT OF FORESTRY AND FIRE PROTECTION

OFFICE OF THE STATE FIRE MARSHAL

FIRE AND LIFE SAFETY DIVISION

UNIVERSITY of CALIFORNIA IRVINE

INSPECTION REPORT

EN-2 (12/08)

INSPECTION REPORT

SFM FILE NUMBER	UC IRVINE PROJECT NUMBER	REPORT #
17-30-03-0002-XXX-XXX-0		
NAME OF FACILITY University of California Irvine		Page 1 of 1
NAME OF BUILDING		
ADDRESS		
ACCOMPANIED BY (Name, Title)		

PREPARED BY	DATE OF INSPECTION
RECEIVED BY	DATE

Appendix D – California State Fire Marshal Fire and Life Safety Checklist

STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE AND LIFE SAFETY DIVISION

UNIVERSITY of CALIFORNIA IRVINE

FIRE AND LIFE SAFETY INSPECTION CHECKLIST

FACILITY NAME: _____ PROJECT NUMBER: _____

FIELD REVIEW OF PLANS:
- ☐ Approved contract drawings on site

UNDERGROUND FIRE LINES:
- ☐ Approved plans on site
- ☐ Material inspection
- ☐ Depth of bury & thrust blocks
- ☐ Hydrostatic test
- ☐ Flush
- ☐ Tracer wire verification
- ☐ Hydrant orientation
- ☐ FDC orientation
- ☐ NFPA 24 certificate of Completion

Complete x _____

STRUCTURAL STEEL PROTECTION:
- ☐ Fire proofing approved plans on site
- ☐ Fire proofing lab reports
- ☐ Fire proofing material inspection
- ☐ Inspect for Trade Damage

Complete x _____

SPRINKLER & STANDPIPE SYSTEMS:
- ☐ Approved plans on site
- ☐ Sprinkler rough-in inspection
- ☐ Flush of lead-in & FDC
- ☐ Hydrostatic test (shell/floor)
- ☐ Hydrostatic test final
- ☐ Drain location & function
- ☐ FDC identification sign
- ☐ PIV identification sign
- ☐ Hangers
- ☐ Seismic bracing
- ☐ Pipe clearance thru walls & floorings
- ☐ Number, type & arrangement of heads
- ☐ Test flow, drain, tamper & supervision
- ☐ Spare head box
- ☐ Calc plates
- ☐ Standpipe pumper truck flow approval
- ☐ Fire Pump Test
- ☐ Approval fire sprinklers
- ☐ NFPA 13 certificate of completion
- ☐ NFPA 14 certificate of completion

Complete x _____

HVAC:
- ☐ Damper install, instruct, on site
- ☐ Location of access door for inspection
- ☐ Damper Angle inspection
- ☐ 100% smoke damper test by DCFM
- ☐ 100% Fire damper test by IOR
- ☐ 10% fire damper drop test by DCFM
- ☐ Location of duct detector for auto shutdown
- ☐ Test Automatic Shutdown
- ☐ Air balance complete & report

Complete x _____

AUTOMATIC EXTINGUISHING SYSTEMS:
Approved plans on site
- ☐ Chemical Type_____
- ☐ Pipe pressure test
- ☐ Protection of floor penetrations
- ☐ Protection of wall penetrations
- ☐ Final AES approval

Complete x _____

FIRE ALARM SYSTEM:
- ☐ Approval plans on site
- ☐ Rough-in Inspection
- ☐ Test all devices 100%
- ☐ Smoke Detector Test
- ☐ Heat Detector Test
- ☐ Audio/visual notification throughout
- ☐ Test of supervision
- ☐ Panel test
- ☐ Candelas verified
- ☐ 24 hour back-up battery test
- ☐ 48 hour battery recharge test
- ☐ Duct detector magnehelic test/area detection
- ☐ Verify "Sequence of Operation"
- ☐ Shunt trip test & supervisory alarm
- ☐ Elevator recall
- ☐ Roll down / Won - door
- ☐ Fire pump supervision
- ☐ Smoke control system
- ☐ Auto extinguishing system supervision
- ☐ Fire Alarm Panel "Inside Sign"
- ☐ Phone line test with Central station
- ☐ Final fire alarm approval
- ☐ NFPA 72 certificate of completion

Complete x _____

FIRE RESISTIVE ASSEMBLIES:
- ☐ Framing inspection of walls and shafts
- ☐ Roof coverings
- ☐ Wall fire stopping inspection
- ☐ Shaft fire stopping inspection
- ☐ Floor fire stopping inspection
- ☐ Elevator shaft construction / fire stopping
- ☐ Back to back electrical junction boxes
- ☐ Rated recessed Panels
- ☐ Access Doors
- ☐ Door / Window Installation
- ☐ Attic Draft Stops
- ☐ Fire Blocking

Complete x _____

DOORS:
- ☐ Door frame gap
- ☐ Smoke gasket
- ☐ Door hardware
- ☐ Fire Rated Door & Frame Labels
- ☐ Door swing
- ☐ Self-close and latch
- ☐ Card Key Access/Fail open egress

Complete x _____

EXITING:
- ☐ Exit signs rough-in inspection
- ☐ Exit final inspection
- ☐ Low level exit signs & marking
- ☐ Emergency lighting to a public way
- ☐ Stair – rise & run
- ☐ Stair – Handrails
- ☐ Guardrails < 42" a.f.f.

Complete x _____

EMERGENCY GENERATOR:
- ☐ Load bank test (4 hours total)
- ☐ Annunciator location
- ☐ Start up & transfer
- ☐ Exit sign illumination
- ☐ Safety indications
- ☐ Shutdowns per NFPA 110
- ☐ Emergency egress lighting
- ☐ Fire alarm paging & phones

Complete x _____

SIGNAGE:
- ☐ Evacuation signs
- ☐ Tactile exit signs
- ☐ Exit route signs
- ☐ Room numbers
- ☐ Max occupancy signs

Complete x _____

MISCELLANEOUS:
- ☐ Interior finishes
- ☐ Rescue Windows
- ☐ Fire-treated retardant wood
- ☐ Knox Box keys
- ☐ Portable fire extinguishers
- ☐ 40bc (Type K) Fire extinguisher in kitchens
- ☐ Building address
- ☐ 800MHz Radio Testing complete

Complete x _____

_____
DCFM Approval

PROJECT CLOSEOUT:
☐ **Temporary Certificate of Occupancy** ☐ **Certificate of Occupancy** ☐ **Substantial Completion**