

## **Fire and Life Safety Training Program**

### *Report to the Joint Legislative Budget Committee*

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#### **INTRODUCTION**

As mandated by Assembly Bill 1808, Chapter 75, Statutes of 2006, the Office of Statewide Health Planning and Development, Facilities Development Division is submitting to the Joint Legislative Budget Committee this report setting forth the goals, objectives and structure of its program for training fire and life safety officers. As required by statute, the report includes the:

- Program Goals
- Program Objectives
- Program Structure
- Number of fire and life safety officers to be trained annually
- Timeline for training completion
- Process for collecting data to evaluate the program's efficiencies including, dropout rates, retention rates, and method used to provide annual assessments for determining the need to continue the training program.

#### **BACKGROUND**

Assembly Bill 1808, Chapter 75, authorized the Facilities Development Division of the Office of Statewide Health Planning and Development (OSHDP) to establish a program for training fire and life safety officers. This program will ensure a sufficient number of qualified persons to facilitate accurate, consistent and timely performance of plan review and field review of hospital and skilled nursing facility construction projects.

#### **PROGRAM GOAL**

The goal of the Fire and Life Safety Training Program (FLSTP) is to improve efficiencies in the plan review and construction observation processes by: 1) training a sufficient number of technical professionals to allow accurate, consistent and timely plan review and construction observation of hospital buildings throughout the State of California; 2) providing participants with a comprehensive understanding of the principles, policies, and specific requirements necessary to conduct effective plan and field review of healthcare facility construction projects; and 3) providing participants with the knowledge and skills necessary to use good judgment in code enforcement meeting healthcare industry demands while also protecting the health and welfare of patients, staff, and the public.

#### **PROGRAM OBJECTIVES**

- Provide formal training to new and existing staff
- Improve code interpretation and application quality and consistency
- Establish expectations for staff based on performance standards
- Capture and share the knowledge of experienced staff
- Improve communication between plan review and field review staff
- Establish standard operating procedures to implement code standards and enforce compliance

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#### **PROGRAM STRUCTURE**

The Fire and Life Safety Training Program (FLSTP) is led by a Chief Fire and Life Safety Officer and supported by a Staff Services Analyst and Office Assistant.

##### Chief Fire and Life Safety Officer

The Chief Fire and Life Safety Officer is responsible for the development, implementation and oversight of the fire and life safety training plan; selection of the twelve fire and life safety candidates to participate in the Fire and Life Safety Training Program; and supervising and/or training program participants.

##### Staff Services Analyst

The Staff Services Analyst serves as the administrative coordinator and recruiter for the Fire and Life Safety Training Program.

##### Office Technician

The Office Technician provides general clerical support for the Fire and Life Safety Training Program.

In January 2007, OSHPD established six new Fire and Life Safety Officer I, Health Facilities Construction (FLSO I) positions and has authority to establish another six positions in July 2007. Initially, the focus of the FLSTP will be to train these twelve new fire and life safety officers. Once trained, they will be dispatched to assist with plan review and/or construction observation activities where needed. Then, the focus of the FLSTP will shift to training new employees as OSHPD backfills vacant positions and performing ongoing training for existing staff to ensure statewide consistency.

The enforcement of fire and life safety requirements for healthcare facilities involves every aspect of building design including, architectural, electrical, mechanical and structural systems and materials such as: egress (exiting), fire alarm and sprinkler systems, occupancy designation, floor, wall and ceiling assemblies, and separation of hazardous materials, etc. The FLSTP training plan covers all subjects necessary for effective code enforcement; it includes classroom training (both in-house and outside venues) and on-the-job training where participants will perform actual plan review and construction observation. Successful candidates who complete the FLSTP prescribed training plan will be able to (see Attachment A for list of training topics):

- Conduct reviews of plans, specifications, calculations, Alternate Methods of Compliance, post approval documents and other submittal documents for healthcare facilities' fire and life safety systems to ensure compliance with California Building Standards Code.

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- Consult with, make recommendations, and provide technical assistance to professional engineers, architects, building and fire officials, hospital staff and construction contractors.
- Conduct construction observation of healthcare facilities' fire and life safety systems and construction methods and materials to ensure compliance with California Building Standards Code.
- Monitor the work of the OSHPD certified Inspector of Record on projects to ensure continuous, adequate and competent inspection of all parts and phases of the work in accordance with Title 24, Part 1, CCR and other inspection provisions of the California Building Standards Code.

### **NUMBER OF FIRE AND LIFE SAFETY OFFICERS TO BE TRAINED ANNUALLY**

The number of fire and life safety officers trained annually will vary depending on OSHPD's ability to recruit suitable candidates to participate in the training program. The twelve new fire and life safety officers will be the first to be trained as part of the FLSTP. Then the existing fire and life safety officers will receive training as part of the FLSTP on an ongoing basis to ensure consistent code application and interpretation statewide. Any newly hired fire and life safety officers will also receive training thru the FLSTP.

### **TIMELINE FOR TRAINING COMPLETION**

Depending on each candidate's education, experience, knowledge and skills, it is anticipated that completion of the training program will range between one to two years for new employees. Training of existing staff will be done on an ongoing basis.

#### **FIRE AND LIFE SAFETY OFFICER POSITIONS ESTABLISHED 01/01/07**

- Orientation – Begins 04/01/07
- Training – Begins 05/01/07
- On-the-Job Training – Begins 10/01/07\*
- Training Program Completion – 04/01/09\*

#### **FIRE AND LIFE SAFETY OFFICER POSITIONS ESTABLISHED 07/01/07**

- Orientation – Begins 09/01/07
- Training – Begins 10/01/07
- On-the-Job Training – Begins 03/01/08\*
- Training Program Completion – 09/01/09\*

*\*On-the-Job Training and Training Program Completion timeframes will vary depending on each participant's education, experience and knowledge.*

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#### **TRAINING EXISTING STAFF**

- Begin Developing Training Plan – 03/01/09
- Training – Begins 09/01/09

#### **NEWLY HIRED FIRE AND LIFE SAFETY OFFICER STAFF**

Newly hired fire and life safety officer staff will be incorporated into the FLSTP as they are appointed.

#### **PROCESS FOR COLLECTING DATA TO EVALUATE PROGRAM EFFICIENCIES**

OSHPD will utilize multiple tools and resources to collect data to evaluate the Fire and Life Safety Training Program's efficiencies and assess the performance of FLSTP participants including but not limited to: proficiency assessments, participant/manager feedback, job performance evaluations, feedback from the design and construction communities, and data collection/analysis.

In conjunction with the standard one year probationary period, all new employees that participate in the FLSTP will receive feedback and proficiency assessments on an ongoing basis throughout their enrollment in the training program. In addition, they will undergo quarterly assessments during their first year on the job and additional training will be provided as deemed necessary. FLSTP participant progress information will be captured in a data file and will include dropout and retention rate information.

The success of the FLSTP should be reflected in an overall increase in the number of reviews and field visits completed each quarter, decrease in turn-around time for reviews, and fewer backchecks. Data to confirm these success markers will be captured in OSHPD's Logbook Database. OSHPD will utilize this data to determine the need to continue the FLSTP and to identify those areas within the plan review and field review processes that indicate staff training is required.

#### **STATUS**

- Chief Fire and Life Safety Officer appointed, November 2006
- Staff Services Analyst appointed, December 2006
- Office Technician appointed, December 2006
- Six Fire and Life Safety Officer I job offers pending acceptance, February 2007
- Fire and life safety training plan established, January 2007
- Orientation to commence in April 2007
- Training to commence in May 2007

**Office of Statewide Health Planning and Development  
Facilities Development Division**

**FLSO I Training Topics**

**In-house Training**

❖ **OSHDP Organization**

- Division History
- Originating Legislation
  - SB 961
  - Health and Safety Code – Division 107
  - Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983
- Subsequent Major Legislation
  - AB 47
  - AB 1808
  - SB 1953
  - SB 1838
- Introduction to Codes, Standards and reference Documents
  - Title 24
  - Title 19
  - National Fire Codes
  - PIN's and CAN's
  - Alternate Method of Compliance/Protection
  - Directories
    - o U.L. Directories
    - o Omega Point Lab Directories
    - o Gypsum Association Handbook
    - o ASHRAE
    - o NEMA
    - o PIPE
- OSHDP Policies
  - #04-2 - Prohibiting Sexual Harassment Policy
  - #02-4 - Statement Of Incompatible Activities
  - #02-10 - Use of Computing Facilities Policy
  - #02-11 - Workplace Violence
  - #04-19 - Incident Response Policy
- Record Keeping
  - Timesheets
  - Itineraries
  - 634's
  - Vehicle Mileage Logs
  - OSHDP Forms
  - Logbook System

❖ **Overview Title 24, Part 1**

- Chapter 6 – Seismic Evaluation Procedures for Hospital Buildings
- Chapter 7 – Safety Standards for Health Facilities
  - Article 1 – General

- Article 2 – Definitions
- Article 3 – Approval of Plans and Specifications
- Article 4 – Construction
- Article 5 – Appeals to the Hospital Building Safety Board
- Article 6 – Contracts
- Article 7 – Testing and Inspection
- Article 8 – California Building Standards – (Reg. Development)
- Article 19 – Certification and Approval of Hospital Inspectors
- Article 20 – Repair of Earthquake Damage – (EOC)
  - o Emergency Response Plan
- Article 21 – Plan Review, Building Inspection and Certification of Surgical Clinics, Chronic Dialysis Clinics and Outpatient Services Clinics

❖ **Overview of the California Building Code**

- Administrative – Chapter 1
  - OHSPD 1, 2, 3 Requirements
  - CAN 1 – Enforceable Codes
  - CAN 1-7-125(d) – Original Reproducible Drawings
  - PIN 33 – Tests, Inspections, and Observation Form
  - PIN HSC 129725 – Definition of “freestanding and separate”
- Definitions – Chapter 2
- Effective Use of the California Building Code
- Classify the building:
  - occupancy classification
  - type of construction
  - location on property
  - allowable floor area
  - height and number of stories
- Occupancy Requirements – Chapter 3
  - CAN 2-308.1 – Housing Nonambulatory Patients Under Restraint
  - CAN 2-308.9 – Manual and Automatic Fire Alarm System
- Type of Construction Requirements – Chapter 6.
- Means of Egress – Chapter 10
  - CAN 2-1003.2.9 – Means of Egress Illumination
- Special Use & Occupancy – Chapter 4
  - State Chapter 4A – Special Use and Occupancy
  - Division III – OSHPD
  - CAN 2-413A.2.3 – Combustion Engines and Gas Turbines
  - CAN 2-420A.31 – Cardiovascular Surgery and/or Catherization Laboratory
  - CAN 2-423A.1 – Gas and Vacuum Systems
- Fire-Resistive Construction – Chapter 7
- Interior Finish – Chapter 8
- Fire Protection Systems – Chapter 9
- Exterior Wall Coverings – Chapter 14
- Roofs and Roof Structures – Chapter 15
- Glass & Glazing – Chapter 24
- Gypsum Board and Plaster – Chapter 25
- Plastics – Chapter 26

- Elevators – Chapter 30
- Construction in the Public Right of Way – Chapter 32
- Existing Buildings – Chapter 34
  - CAN 2-34 – Remodel Projects
- Adopted Standards, Referenced Standards and Amendments to the National Standards – Chapter 35
- Policy Intent Notices
  - PIN 2 – Installation of Underground Fuel Storage Tanks
  - PIN 5 – Review of Underground Fire Main Submittals
  - PIN 8 – Hazardous Materials Inventory
  - PIN 11 – Establishment of Policy in FDD
  - PIN 14 – Fire Watch Guideline
  - PIN 16 – Interior Finish Material Approval
  - PIN 18 – Design/Build Project Delivery Method
  - PIN 19 – Through and Membrane Penetrations
  - PIN 34 – Mobile Units Used for Outpatient Hospital Services
  - PIN 35 – Healthcare Decontamination Facilities
  - PIN HSC 27550 – Cafeterias located within Health Facilities

❖ **Overview of the California Electrical Code**

- Generators – Article 445
- Hazardous (Classified) Locations – Article 500
- Health Care Facilities – Article 517
- Fire Pumps – Article 695
- Emergency Systems – Article 700
- Fire Alarm Systems – Article 760

❖ **Overview of the California Mechanical Code**

- General Requirements – Chapter 3
  - CAN 4-331 – Emergency Electrical Power for Heating
- Ventilation Air Supply – Chapter 4
  - CAN 4-404.1 – Return Air from Patient Rooms and Corridors
- Exhaust Systems – Chapter 5
- Duct Systems – Chapter 6
- Refrigeration – Chapter 11
  - CAN 4-1104 – Refrigeration Systems

❖ **Overview of the California Fire Code**

- Fire Protection Systems and Equipment – Article 10
- Refrigeration – Article 63
- Stationary Lead Acid batteries – Article 64
- Compressed gases – Article 74
- Flammable & Combustible Liquids – Article 79
- Hazardous Materials – Article 80
- Fire Safety During Construction – Article 87
- Division VI Informational Appendixes

- CAN 9-1001 – Fire Protection Systems and Equipment
- CAN 9-8705.4 – Fire-resistive Assemblies and Construction

❖ **Overview of Specialized Systems**

- Emergency Power Systems
- Hazardous Materials
- Flammable Liquids
- Medical Gas Systems
- Refrigeration Systems
- Smoke Control Systems
- Helistops

❖ **Fire Alarm Systems**

- CAN 2-1108A.3 – Visual Fire Alarms

❖ **Automatic Fire Sprinkler Systems**

❖ **Plan Review**

- Philosophy of Review
- Pre-Design Consultations
- Stamping and Signing of Documents
- Project Intake
- Project Numbering System
- Fees
- Triage Review
- Geotechnical and Engineering Geological Reports
- Preliminary Plan Review
- Incremental Projects
- Final Plan Review
- Backcheck Review
- Approval of Final Plans and Specifications
- Approval with Comments
- Post Approval Documents
- Annual Building Permit
- Comment and Process Review
- Alternate Method of Compliance
- Self-Certification
- Testing Inspection and Observation Program

❖ **Construction and Inspector Monitoring**

- Construction Monitoring through Field Reports
  - Start of Construction
  - Stop Work Order



- Occupancy
  - Construction Final
- Inspector Monitoring – Reviewing Record Keeping by IOR's
  - List of Construction Deficiencies
  - Request for Inspections
- Coordination of Field Staff
  - When to write
  - When to talk
- Record Keeping by Field Staff
  - Timesheets
  - Itineraries
  - 634's
  - Phone and Computer Usage
  - Vehicle Mileage Logs
  - Bargaining Units
  - Conflicts of Interest
  - OSHPD Forms
  - Logbook System
- Field Plan Review
  - Post Approval Documents
  - FREER Manual
  - OSHPD Standard Details
  - Other New Field Review Projects
- Closure Overview
  - Construction Final
  - Final Certified Costs
  - Final Verified Compliance Reports
  - Types of Closure
- Emergency Response Overview

## **Outside Training**

### **California Fire Academy – State Fire Training**

Fire Prevention 1A: Introduction to the California Fire Code  
Fire Prevention 1B: Inspection of Fire Protection Systems and Special Hazards  
Fire Prevention 1C: Flammable Liquids and Gases  
Fire Prevention 2A: Fire Protection Systems and Building Components  
Fire Prevention 2B: Interpreting the UBC and CCR  
Fire Prevention 2C: Special Hazards Occupancies  
Fire Prevention 3A: Hydraulic Sprinkler Calculations  
Fire Prevention 3B: Plan Review  
OSFM California Building Code

### **National Fire Prevention Association**

NFPA 13: Installation of Sprinkler Systems  
NFPA 72: National Fire Alarm Code  
NFPA 20: Installation of Stationary Pumps  
NFPA 101: Life Safety Code  
NFPA 99: Healthcare Facilities

**International Code Council**

2006 IBC: Fundamentals - Nonstructural  
2006 IFC Fundamentals  
IBC: Solving Means of Egress Issues in Commercial Buildings

**Piping Industry Progress & Education**

P.I.P.E. Medical Gas Seminar