Department of Health Care Access and Information

Advisory Guide Series

A14

REMODEL (ALTERATION, ADDITION, CHANGE OF OCCUPANCY, CHANGE IN FUNCTION OR REPAIR)

Previously CAN 2-102.6 Remodel

Office of Statewide Hospital Planning and Development

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Department of Health Care Access and Information
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INTRODUCTION

The California Existing Building Code, Part 10, Title 24 of the California Code of Regulations provides provisions for the repair, alteration, change of occupancy, addition or relocation of existing buildings. Based on the scope of work, the California Existing Building Code (CEBC) will determine what items may remain under the code that was in effect when the work was first constructed and what items will need to meet current code requirements. This Advisory Guide provides additional direction for project scope routinely submitted to the office.

Most of the construction projects submitted to the Office of Statewide Hospital Planning and Development (OSHPD) for review are remodels to existing health care buildings. Remodel is not a defined term in Title 24, however addition, alteration and change of occupancy and change in function are defined in the California Building Code and CEBC. These types of projects have unique issues, such as existing conditions that may be discovered during the construction, constructed compliant with a previous code but does not comply with current building codes and standards, a lack of historical records or knowledge regarding the construction of the building and/or utility systems, etc.

These kinds of projects are often constructed in occupied buildings in which patient care must continue without interruption. This pose concerns regarding infection control, interim fire life safety issues, dust and debris, noise and vibration, interruption of electrical and mechanical equipment and systems, etc. Remodel projects may also require involvement from other jurisdictions, such as local planning department, local fire department, etc. in addition to OSHPD. Consideration must be given to the requirements of the California Department of Public Health (CDPH) when performing construction in a building in which patient care is ongoing.

Making the right decisions as early as possible to define the scope of the project is fundamental in the success of every project. This Advisory Guide is intended to assist decision makers in knowing what concerns or issues must be addressed in formulating these decisions on an overall project and on a discipline-specific basis. OSHPD documents and resources are identified throughout the guide that will provide additional guidance to ensure that every renovation project is successful from inception through construction final and occupancy, when applicable. OSHPD's Code Application Notices and Policy Intent Notices may be found on the HCAI website at Codes and Regulations - HCAI. Advisory Guides for specific functionally related projects, such as dietary, pharmacy, etc., may be found at Training & Education - HCAI.

See OSHPD's "*Design Guide for Working on Projects under OSHPD Jurisdiction – Tips from the Experts*" on HCAI's website for information on how to prepare design documents, which includes examples, tips, methods, and approaches that have been successfully used on numerous projects, benefitting all parties involved in the planning, design, and construction of hospital construction projects in California. Following the guidelines and the tips from the experts will increase the likelihood of a successful project for all parties involved.

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SECTION 1
PURPOSE

The purpose of this Advisory Guide is to provide owners, designers and authorized plan review and enforcement agencies with a consistent method for defining the scope of work for remodel and renovation projects in existing buildings and systems. This Advisory Guide addresses the scope of work permitted to remain per previous code and scope of work required to meet current code based on the type of alteration, addition, change of occupancy or change of function. Historically, these types of projects have proven difficult because of the structure of Title 24, nonspecific requirements for applicability to existing structures, and Title 22 requirements to conform to the current code for any alteration affecting the function of a licensed health facility. Also See Section 4 Interpretation, and How to Use this Advisory Guide.

SECTION 2
CODE REFERENCES

2022 California Building Code (CBC), Title 24, Part 2
Chapter 1 Scope and Administration
Section 102.6 Existing structures.

2022 California Mechanical Code (CMC), Title 24, Part 4
Chapter 1 ADMINISTRATION
Section 102.4 Additions, Alterations, Renovations, or Repairs.
Section 102.6 Changes in Building Occupancy.

2022 California Plumbing Code (CPC), Title 24, Part 5
Chapter 1 ADMINISTRATION
Section 102.4 Additions, Alterations, Renovations, or Repairs.
Section 102.6 Changes in Building Occupancy.

2022 California Existing Building Code (CEBC), Title 24, Part 10
Chapter 3 Provisions for All Compliance Methods
Section 301.3 Alteration, addition or change of occupancy.
Section 302.2 Additional codes.

Chapter 5 Prescriptive Compliance Method
Section 506.1.2 Change in Function.

Chapter 5A Prescriptive Compliance Method
Section 506A.1.1 Change in Function.

Access is provided to the codes promulgated by OSHPD through the California Building Standards Commission website (https://www.dgs.ca.gov/en/BSC/Codes) with active links to each publisher's website for read-only public access versions of the codes.

Part 1, California Administrative Code
Part 2, California Building Code, Volumes 1 and 2
Part 3, California Electrical Code (Note: Accessed through the National Fire Protection Association (NFPA), however, requires the creation of a user account to view the Free Access - NFPA 70: 2022 California Electrical Code - NFPA 70 (2020 NEC®))
Part 4, California Mechanical Code
Part 5, California Plumbing Code
Part 6, California Energy Code
Part 9, California Fire Code
Part 10 California Existing Building Code

Refer to CAN 1-0 Enforceable Codes to determine the applicable code edition for the project.

SECTION 3
ACRONYMS AND DEFINITIONS

Acronyms and Definitions assist the user in recognizing and identifying various acronyms and terms generally used in OSHPD documents. Please refer to the Master Glossary of Acronyms and Definitions on the HCAI website at https://hcai.ca.gov/document/master-glossary-of-acronyms-and-definitions/ for the following terms:

Component.

Current Code.

Direct Replacement.

Discovered Condition.

Maintenance.

Previous Code.

Remodel. Alteration to an existing area or space. Any construction or renovation to an existing space that is not a repair, or addition is considered a remodel for the purpose and use of this document.

The following terms may be found in the California Building Standards Code, Title 24 of the California Code of Regulations (Title 24).

Addition. Refer to CEBC Chapter 2.

Alteration. Refer to CEBC Chapter 2.

Change in Function. Refer to CBC 1224.3.

Change of Occupancy. Refer to CBC Chapter 2 and CEBC Chapter 2.

Change of Use. Refer to CBC Chapter 3 and CEBC Section 506.

Change of Occupant Load. Refer to CBC Section 1004.

Repair. Refer to CEBC Chapter 2.

SECTION 4
INTERPRETATION

OSHPD Requirements

This Advisory Guide has been developed to assist the design professional with applying the remodel requirements of the California Building Code and California Existing Building Code, Parts 2 and 10 of Title 24. OSHPD amends the California Existing Building Code to add in Chapter 3A specifically to address the requirements for the OSHPD 1 building designation. The CEBC requires new construction for an alteration or addition to meet current code. The CEBC also requires a change of occupancy or function to comply with the current code. This Advisory Guide addresses the scope of work related to existing construction that is required to meet current code for alteration, addition, change of occupancy or change in function.

Specific sections in the CEBC Chapter 3 are adopted for OSHPD 1R, 2, 4 and 5. Because there are no material differences between Chapter 3 and 3A regarding the issues discussed in this Advisory Guide, the attached flow charts shall be used on OSHPD 1, 1R, 2, 4 and 5 projects.

How to Use this Advisory Guide

The information herein is presented as a series of flow charts, which serve as roadmaps, to direct the designer through the decision process of project scope development. The flow charts include a narrative explaining each item on the flow chart and its relevance to the scope of work. These flow charts are mutually supporting and are meant to be used concurrently to provide an accurate tool for project development and accomplishment. The flow charts help guide which scope of work will need to comply with the current edition of Title 24 versus the previous edition of Title 24 for existing construction utilized in an alteration, addition, change of occupancy or change of function. For more information on items excluded from plan review and permit, refer to the FREER Manual project table and section X(f) Maintenance Criteria and section X(c) Finishes Criteria.

To implement this Advisory Guide, the following Flow Charts with narratives shall be used:

1. Health Facility Remodel Flow Chart (See page A-1) / Narrative (See page A-2)
2. Architectural Remodel Flow Chart (See page B-1) / Narrative (See page B-2)
3. Electrical Remodel Flow Chart (See page C-1) / Narrative (See page C-2)
4. Fire and Life Safety Remodel Flow Chart (See page D-1) / Narrative (See page D-2)
5. Mechanical and Plumbing Remodel Flow Chart (See page E-1) / Narrative (See page E-2)

The main document, titled “Health Facility Remodel Flow Chart”, describes the entire process from project inception through construction. Please note that this flow chart addresses the two following common areas of concern regarding remodel projects:

1. The need for a pre-design consultation with the office.
2. How to handle conditions discovered during construction.

Examples have been provided starting on page 43.

Structural Issues

Historically, OSHPD has not observed a problem with designers identifying the structural scope of remodels, which is why this document does not include structural considerations in the flow charts. However, this Advisory Guide may be helpful in determining the scope of work required for non-structural elements, components and systems affected by seismic repairs to existing buildings or structures. For OSHPD 1, the structural additions, alterations or repairs shall meet the requirements of the CEBC Chapter 5A. OSHPD 1R, 2, 4 and 5 projects should be evaluated to ensure that they meet the requirements of CEBC Chapter 5. If a designer has questions regarding the structural requirements on a project, they are encouraged to contact the appropriate OSHPD structural plan review staff.

Temporary Construction

OSHPD recognizes that temporary construction is sometimes required to accommodate phasing of construction or to provide a transitional solution to a problem. Because each temporary installation is unique, OSHPD will review each installation on an individual basis. Refer to CAN 2-108 Temporary/Interim Structures, Tents and Equipment Uses for more information.

All required temporary construction must be shown on the plans or reviewed by OSHPD field staff. Required means of egress shall be maintained during demolition, construction, remodeling, renovations, or alterations in compliance with the California Fire Code, Chapter 33, Fire Safety During Construction and Demolition. Temporary construction barriers must comply with CFC 1105.12, CFC 1105.12.1, and OSHPD CAN 9-3301, Fire Resistive Assemblies and Construction. See item F-14 and F-15 in the FREER Manual for temporary barrier requirements. Existing equipment and system components that are obstructed by temporary barriers will require temporary modifications to maintain coverage of system and equipment, i.e. lighting, HVAC, and fire protection.

Temporary services or equipment must be provided and shown on the plans for projects that involve the replacement of an air handling unit, generator, a medical air compressor, a medical vacuum pump, or similar types of equipment unless it serves unoccupied space. The plans must show work or construction needed to maintain operations in the areas affected by the temporary installation or condition. Methods of Procedures (MOP) that are for clinical or patient care services are under the jurisdiction

of the California Department of Public Health (CDPH) and not OSHPD, such as the use of bottled gases instead of piped gases, infection control procedures, general patient care and safety, etc. Therefore, OSHPD does not review Methods of Procedures. Temporary installations must not have a negative impact on existing systems nor cause unsafe conditions.

Interruption of Electrical Power Sources

The code requires that two independent sources of power must be always maintained for essential loads. When this is not possible due to the nature of the scope of work, a construction sequence will need to be developed and included with the contract documents that provide an overview of work to be performed associated with all power interruptions. All instances when two independent sources of power are not available shall be identified along with maximum durations of these conditions. The construction sequence should be developed to minimize power outages and/or conditions when two sources are not available for all essential loads. Any interruption to power, including the lack of a secondary power source for essential loads, that affects or could potentially impact patient care, must be approved by CDPH.

Assessing Existing Conditions

Additions, Alterations, Renovations, or Repairs are prone to previously unknown conditions being discovered once construction commences. Correction of these conditions, after the start of construction, can be costly and create undesired delays. Known conditions discovered in the project investigation phase should be brought to the attention of the office during plan review. Existing non-conforming conditions will be evaluated on a case-by-case basis. Several resources and processes can help assess existing conditions.

1. Review as-built/record drawings.
2. Review facility’s historic documentation/archives.
3. Perform Condition Assessment/Material Testing/Surveys/Feasibility Study.
4. Identify and overcome constraints for progress.
5. Facility representatives should assist in identifying known deficiencies and consider a mitigation path.
6. Design Team, General Contractor (GC), and Owner survey existing conditions together for familiarity and awareness.
7. Site Investigation by design team – there may be costly consequences of restricting access.
8. Allow access to infrastructure to the design team and/or GC for predesign assessment.
9. Photography and scanners are useful tools for documenting existing conditions.
10. Destructive (soft) demolition may be considered to access hidden conditions.

11. Consider an early demolition project to identify and/or investigate inaccessible areas.
12. Develop and apply for facility or building specific Pre-Approved Details.
13. Identify and address previously unauthorized work.
14. Identify possible abatement issues (asbestos, lead, mold).

Pre-Design Conference

The flow charts and corresponding narratives are intended as a tool for establishing the level of compliance that OSHPD will require for projects that involve existing buildings and their systems. Clients are encouraged to call or meet with OSHPD staff when the flow charts and narratives do not address a specific project or issue, or when it is unclear how to proceed with the proposed project. Also refer to HCAI Forms, Applications and Reminder List.

Accessibility

The issues relating to accessibility requirements when applied to remodel, renovation, repair, or alteration projects are extensive and therefore addressed in CAN 2-11B, Accessibility in Health Facilities. Also, refer to CBC Section 11B-202.

It is important to anticipate and research deficiencies in existing accessibility as well as probable Path of Travel accessibility deficiencies so that they are accounted for in the project budget, schedule, and scope.

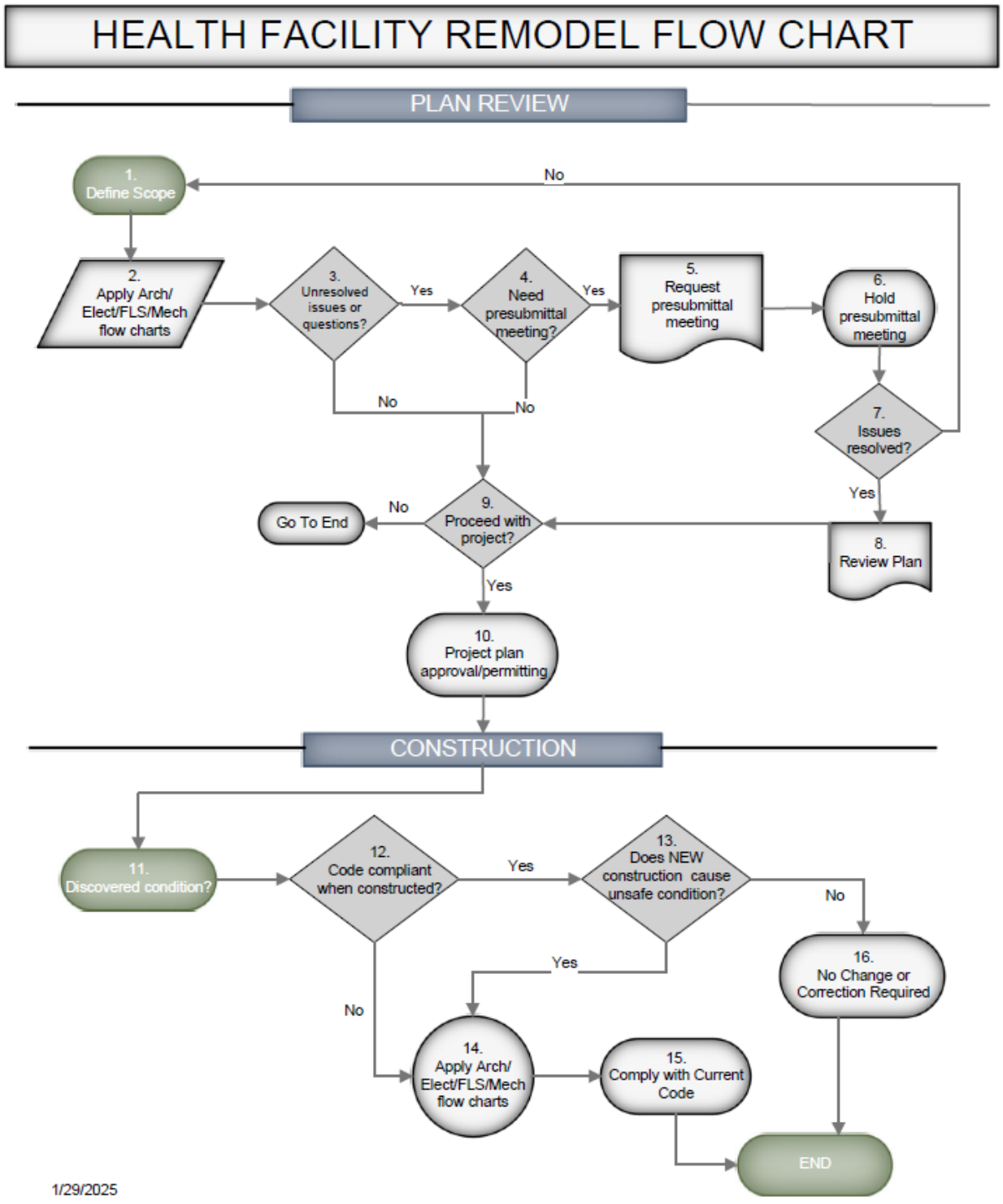
Energy Standards and Requirements

The issues relating to energy standards and requirements, as found in the California Energy Code, Part 6 of Title 24, are not addressed in this Advisory Guide. It is the design professional's responsibility to be aware of the applicable energy standards and requirements and to implement them, as applicable, in the design.

Alternate Materials and Methods of Construction

These guidelines are not intended to prevent the use of an alternate material or method of construction provided OSHPD approves the alternate. The requirements for alternate materials and methods of construction are shown in the California Administrative Code (CAC), Part 1 of Title 24, Section 7-104, CBC Section 104.11, CMC Section 302.2, and CPC Section 301.3.

APPENDIX A
HEALTH FACILITY REMODEL FLOW CHART



NARRATIVE FOR HEALTH FACILITY REMODEL FLOW CHART

The following comments apply to the Health Facility Remodel Flow Chart. The chart addresses the design and office plan review process on the upper portion and construction issues on the lower portion. The narrative comments are numbered and correspond with the numbered items on the flow chart.

1. Process Box: **Define Scope**
    a. It is the responsibility of the project team with their client to initially assess the needs of the facility in determining the project scope.
    b. In developing project scope, consideration should be given to:
        1. The project's program, goals, objectives, and expectations.
        2. Analysis and assumptions of existing conditions.
        3. Key code assumptions (Title 24 and Title 22).
        4. Applicable OSHPD CANs, PINs and Advisory Guides.
        5. Identify change of function or service, if applicable.
        6. Draft Functional Program, if applicable.

    Go to item 2.

2. Process Box: **Apply Architectural, Electrical, Fire and Life Safety, Mechanical/Plumbing Remodel Flow Charts.**

    To determine the project scope, apply the Architectural, Electrical, Fire and Life Safety, and the Mechanical and Plumbing Remodel flow charts to the design alternatives to consider how applicable code requirements may impact the project.

    Go to item 3.

3. Decision Box: **Unresolved Issues or Questions?**

    If the flow charts lead to a clear understanding of the scope of work, level of compliance, and resolutions of project concerns, the project may proceed.

    For unresolved issues go to item 4. If not, go to item 9.

4. Decision Box: **Need Presubmittal Meeting.**

    If the flow charts do not lead to resolutions of project concerns or if questions regarding project issues are not addressed, it may be advisable to conduct a pre-design meeting with OSHPD.

    If a meeting is needed, go to item 5. If not, go to item 9.

5. Process Box: **Request Presubmittal Meeting.**
    a. To take advantage of this service, it is necessary to request, in writing, a pre pursuant to CAC 7-121.

b. Prior to scheduling a pre-design meeting, OSHPD will require the applicant to submit the items identified in CAC 7-121 including a meeting agenda, new and existing floor plans, description of the scope of work, functional program, and description of structural systems. The presubmittal meeting documentation will need to include the occupancy, construction type, accessibility considerations, preliminary egress plan and identify the architectural, structural, mechanical, plumbing, electrical, and fire and life safety issues. Any existing non-compliant conditions will need to be indicated for consideration.

c. Fees - OSHPD consultation associated with a presubmittal conference shall be billed at an hourly rate to recover actual cost.

Go to item 6.

6. Process Box: **Hold Presubmittal Meeting.**

   a. After OSHPD has had the opportunity to review the submitted information, the project team will be contacted to set up the presubmittal meeting. It is incumbent on the project team to coordinate required meeting attendees and scheduling, i.e. Project Consultants, OSHPD (plan review and compliance, when necessary), Department of Public Health, Licensing and Certification, when necessary, and Facility Representatives. The OSHPD plan review staff must be contacted by the Design Professional of Record with the meeting information. When applicable, the project manager will then invite the appropriate Department of Public Health, Licensing and Certification staff to the meeting.

   b. During the meeting, the OSHPD staff will respond to the issues and concerns of the project team so they have a better understanding of how the project will proceed through the OSHPD process such as determining whether non-complying conditions may be allowed to remain or must be corrected in accordance with current building code.

   Go to item 7.

7. Decision Box: **Issues Resolved?**

   a. If the meeting results in resolution of the substantive issues regarding the project, it will be recorded in a Review Plan.

   b. If the meeting does not result in resolution of substantive issues or creates additional questions regarding the project, the project team should reassess the scope in response to the issues and, if necessary, reconvene another meeting with OSHPD.

   c. Issues that are not satisfactorily resolved in this process may be addressed through the OSHPD appeals process. Also refer to the HCAI website for information regarding the Comment, Process Review (CPR) process to resolve issues directly with OSHPD staff and/ or supervisors.

Refer to California Administrative Code Section 7-159 for appeals to the Hospital Building Safety Board.

If the issues are resolved, go to item 8. If not, go to item 1.

8. Process Box: **Review Plan.**
    a. Resolutions will be recorded in a Review Plan. The Review Plan will be made available to the project team and the Facility Representative and will be maintained in the OSHPD project file. The intent of the plan is to define the scope of work and to document a common understanding for the Basis for Design, Basis for Plan Review, and Basis for Field Compliance. The plan will be prepared by the design team and signed by the owner, design professional of record, OSHPD Regional Supervisor.
    b. It should be noted that the Review Plan is only as good as the assumptions presented at the pre-design meeting. Changes in the scope of work, design, program requirements, project delivery or other unforeseen issues may necessitate modifications to the Review Plan.

    Go to item 9.

9. Decision Box: **Proceed with Project.**

    The Review Plan will be utilized by OSHPD in its use of this Advisory Guide for the project.

    If ready to proceed with the project, go to item 10. If not, go to END.

10. Process Box: **Project Plan Approval and Permitting Process.**

    The project should be submitted to OSHPD for review identifying any of the special conditions (program flex, AMC, etc.) as resolved and recorded in the Review Plan for construction administration.

    Go to item 11.

11. Process Box: **Discovered Condition.**

    Existing non-complying conditions may be encountered during construction. It must be determined whether non-complying conditions may be allowed to remain or must be corrected in accordance with the current building code. Go to item 12.

12. Decision Box: **Code Compliant when Constructed?** (See California Existing Building Code Chapters 3, 3A,4, 4A, 5, and 5A)
    a. If the discovered condition complies with the code that was in effect when the work was first constructed, it may remain. Go to item 13.
    b. If the discovered condition IS NOT in compliance with the code that was in effect when the work was first constructed, it must be brought into compliance with the current code. Go to item 14.
    c. Unauthorized work must be brought into compliance with the current code.

Go to item 14.

13. Decision Box: **Does NEW construction cause dangerous conditions?**

    When NEW construction, elements or systems are provided, it must be determined if they cause dangerous, unsanitary, or hazardous conditions or life safety or fire risk. When existing construction that is deemed to be a dangerous condition is altered, the dangerous condition will be required to be made safe. See Section CEBC Chapters 3, 3A, 4, 4A, 5 and 5A, Additions, Alterations, Repairs and/or Change of Occupancy.

    If NEW construction causes an unsafe condition, go to item 14. If not, go to item 16.

14. Process Box: **Apply Architectural, Electrical, Fire and Life Safety, Mechanical and Plumbing Remodel Flow Charts**.

    Go to item 15.

15. Process Box: **Comply with Current Code.**

    Submit a post-approval document in accordance with California Administrative Code Section 7-153 to comply with current code.

    Go to END.

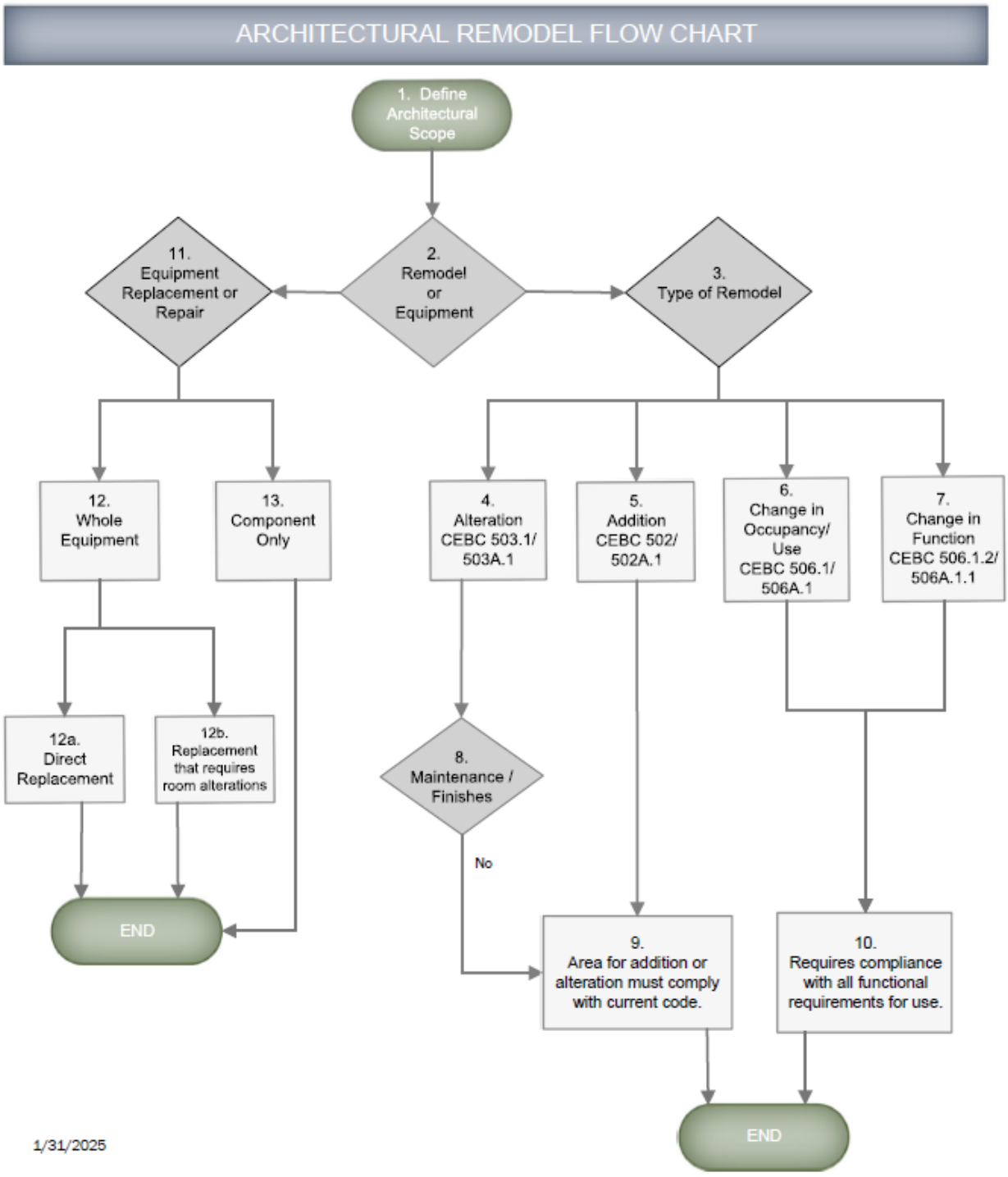
16. **No Change.**

    No change and no correction are required if the discovered condition was code compliant when constructed.

    Go to END.

— End of Health Facility Remodel Narrative —

APPENDIX B
ARCHITECTURAL REMODEL FLOW CHART



NARRATIVE FOR ARCHITECTURAL REMODEL FLOW CHART

This narrative must be used with the Health Facility Remodel Flow Chart for Architectural. The numbers shown on the Flow Chart correspond to the numbers shown below. The purpose of this narrative is to elaborate on the terminology used in the Flow Chart and to show the code requirements that OSHPD will enforce.

1. Process Box: **Define Architectural Scope of Project.**
    a. It is the responsibility of the project team with their client to initially assess the needs of the facility in determining the project scope.
    b. In developing project scope, consideration should be given to:
        1. The project's program, goals, objectives, and expectations.
        2. Verification and analysis of existing conditions.
        3. Key code assumptions (Title 24 and Title 22).
        4. Applicable OSHPD CANs and PINs.
        5. Identifying a change of occupancy or use, if applicable. Specific occupancies and uses are identified in CBC Chapter 3.
        6. Identifying change of function or service, if applicable. Specific functions are identified in CBC Chapter 12, Sections 1224, 1225, 1226 and 1228. Identify rooms with the CBC nomenclature.
        7. Determine whether temporary barriers, ingress and/or egress, equipment, systems and/or services, utilities, or other Interim Life Safety Measures are necessary, and if so, include in the scope of work.
        8. Determine if Infection Risk Control Measures are necessary, and if so, include in the scope of work.
        9. Finalize the Functional Program, if applicable.

    Go to item 2.

2. Decision Box: **Does the scope of work include a Remodel OR Equipment?**

    Determine the scope path of the project. Is the scope of work related to a remodel project or equipment replacement/repair? If Remodel, go to item 3. If equipment, go to item 11.

3. Decision Box: **Identify the type of Remodel**.

    A remodel can be classified as an alteration, addition, change of occupancy/use or a change in function. If alteration, go to item 4, if addition go to item 5, if change in occupancy/use, go to item 6, if change in function, go to item 7.

4. Process Box: **Alteration.**

Alterations shall comply with the current code per CEBC 503.1/503A.1. Alterations that include a change in occupancy/use will need to follow narrative 6 and a change in function will need to follow narrative 7. Alterations consisting of maintenances or finishes only go to item 8.

5. Process Box: **Addition.**

   Additions shall comply with the current code per CEBC 502.1/502A.1. Additions may utilize the existing service spaces (nourishment, clean or soiled utility, locker rooms, etc.) to meet the functional requirements of the CBC where areas comply with the current code. See the Electrical and Mechanical narratives for the use of existing equipment to serve new additions. Go to item 9.

6. Process Box: **Change in Occupancy/Use.**

   Change of occupancy/use shall comply with CEBC 506.1/506A.1. The following are examples of an entire facility or department changing occupancy/ use:

   a. Acute care hospital changes to a licensed clinic.
   b. Acute care medical/surgical unit changes to administrative office space.
   c. Acute care hospital changes to a skilled nursing facility.

   All functions and new construction must comply with current code requirements that pertain to the new occupancy/use or function. Existing functions that are not changed may remain under the code which they were built. Go to item 10.

7. Process Box: **Change in Function Only**

   Change in function shall comply with CEBC 506.1.2/506A.1.1. The following are examples of a change in function (activity or service provided) only that does NOT change the use, or occupancy:

   a. Medical/Surgical Nursing Unit to Pediatric Nursing Unit.
   b. Inpatient Surgery to Outpatient Surgery.
   c. Class 1 imaging to Class 2 imaging.
   d. Class 2 imaging to Class 3 imaging.

   Determine if the change in function will require changes to room size, finishes, or additional support spaces. If new construction is necessary to meet these requirements, it must comply with the current code. Existing functions that are not changed may remain per the code that was in effect when the work was first constructed. Go to item 10.

8. Process Box: Only **Maintenance/Finishes or Cosmetic Change?**

   New and replacement materials shall comply with CEBC 302.4/302A.4. A cosmetic change is a superficial or decorative change to a space, room, or building. A cosmetic change must not change the function, area, or volume of the room. Examples of cosmetic changes: painting, new wall coverings, new floor

finishes, casework, and similar cosmetic work. Yes, utilize the FREER process; No, go to item 9.

9. Process Box: **New Construction.**

   New construction for alterations or additions requires compliance with current code. Existing utilities may comply with the code in effect at the time of construction if they meet the original design loads and the required capacities for the new spaces. Also see discipline specific sections of this guide.

   Go to END.

10. Decision Box: **Functional Compliance.**

    A change in occupancy, use or function requires compliance with all **functional** space or equipment requirements for new use. An example of this is changing a Medical/Surgical Nursing Unit into a Pediatric Nursing Unit. The patient rooms may not require revisions but there are other required functions that will need to be added (exam/treatment room, play area, etc.) to the unit that may trigger new construction. Areas not impacted by construction can remain as is, if they were code compliant at the time of construction.

    Go to END.

11. Decision Box: **Equipment Replacement or Repair?**

    For whole equipment, go to item 12. For a component only go to item 13.

12. Process Box: **Whole Equipment Replacement.**

    12 (a) Direct Replacement of the entire equipment unit must comply with current code. It must meet the general functional specification and operational use of the item it is replacing, does not change the use or architecture of the space, room, or building, and does not require alterations to the space, room, or building other than related changes to plumbing, mechanical, or electrical services and/or connections to adapt to the new equipment, and equipment anchorage. Replacement of equipment shall not decrease the accessibility of the space, room, or building that was provided by the equipment it is replacing. CEBC Section 302A4 states “Except as otherwise required or permitted by this code, materials and equipment permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no hazard to life, health or property is created. Hazardous materials shall not be used.”

    If Imaging Equipment is replaced, submit a Functional Program with a list of proposed procedures.

    Go to END.

    12 (b) Equipment replacement that does not match the footprint of the existing equipment or is oriented differently shall be evaluated for space requirements. The size of the room shall be evaluated for the manufacturers’ recommended

clearances, patient transfer clearance, accessibility and staff access. Room alterations in addition to the equipment replacement will require compliance with the current code for lighting, HVAC, fire life safety equipment and possible structural changes. An imaging equipment replacement that increases the classification of procedure types will need to follow narrative 7 for a change in function. When Imaging Equipment is replaced, a Functional Program shall be submitted with a list of proposed procedures. Relocation or enlargement of control or equipment rooms will be treated as an alteration. Additional remodeling of room layout, walls, ceilings or finishes will require compliance with the current code as an alteration.

Go to END.

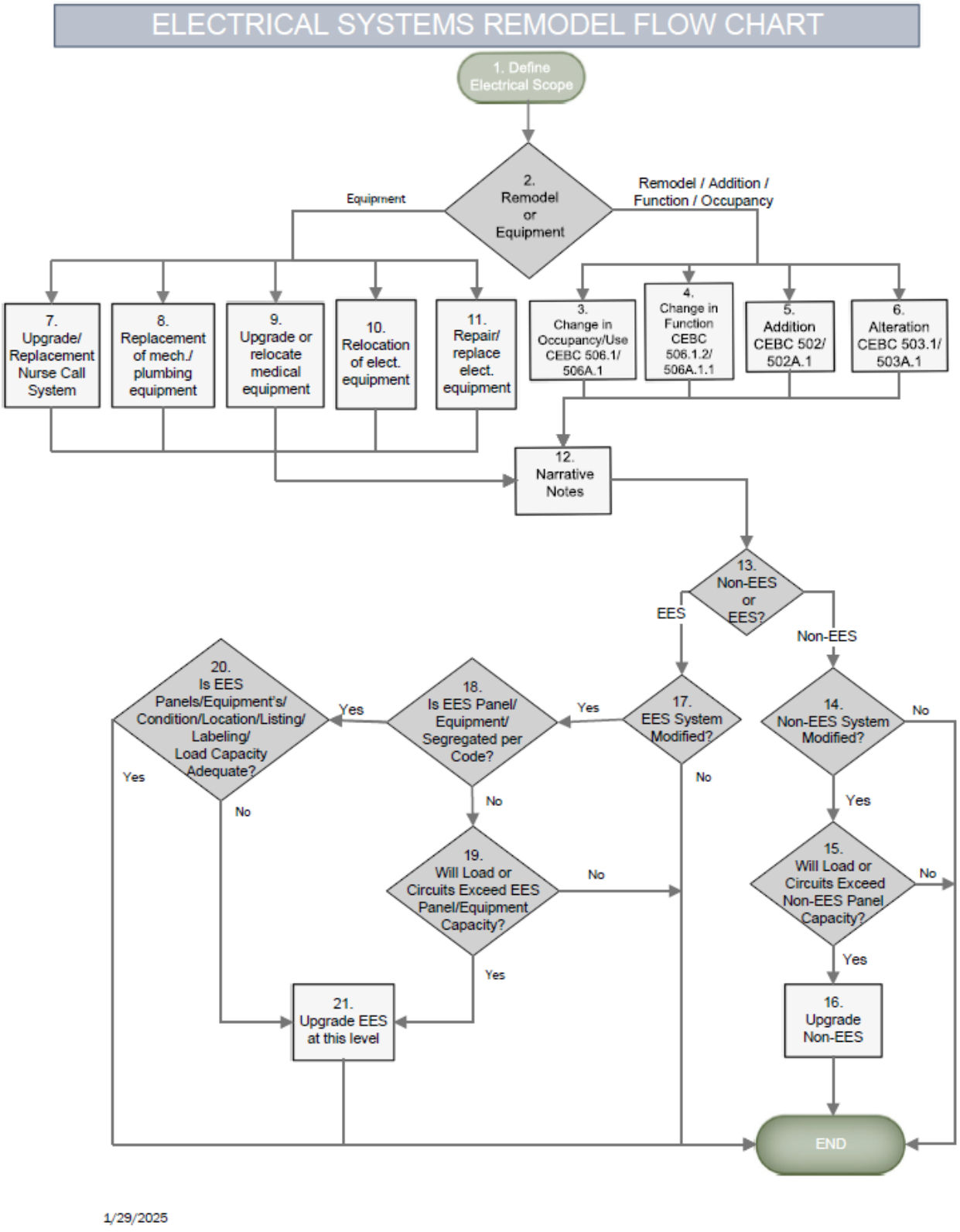
13. Process Box: **Replacement of Component of Equipment Unit.**

    Components that use the same or similar materials in the original location may remain per code at time of installation. An example of component replacement is replacing a patient call button, patient pull cord or staff notification device. It's possible a component replacement may be accomplished using the FREER process.

    Go to END.

— End of Architectural Remodel Narrative —

APPENDIX C
ELECTRICAL SYSTEMS REMODEL FLOW CHART



NARRATIVE FOR THE ELECTRICAL SYSTEMS REMODEL FLOW CHART

This narrative should be used with the Health Facility Remodel Flow Chart for Electrical Systems. The numbers shown on the Flow Chart correspond to the numbers shown below. The purpose of this narrative is to elaborate on the terminology used in the Flow Chart and to show the code requirements that OSHPD will enforce.

1. Process Box: **Define Electrical Scope of Project.**
    a. It is the responsibility of the project team and their client to initially assess the needs of the facility to determine the project scope.
    b. In developing project scope, consideration should be given to:
        1. The project's program, goals, objectives, and expectations.
        2. Verification and analysis of existing conditions.
        3. Key code assumptions (Title 24 and Title 22).
        4. Applicable OSHPD CANs and PINs.
        5. Identifying change of function or service, if applicable. Specific functions are identified in CBC Chapter 3 and Sections 1224, 1225, 1226 and 1228. Identify rooms with the CBC nomenclature.
        6. Determine whether temporary equipment, systems and/or services, utilities, or other Interim Life Safety Measures are necessary, and if so, include in the scope of work.

    Go to item 2.

2. Decision Box: **Does the scope of work include a Remodel or Equipment Replacement project?**

    If change of occupancy/use, function, addition, or remodel, go to items 3, 4, 5, or 6 as applicable. If equipment upgrade/replacement, go to items 7, 8, 9, 10, or 11 as applicable.

3. Process Box: **Change of Occupancy or Use.**

    An example of this type of situation would be a change of use from a general acute patient care area to skilled nursing beds or an administration area. Another example would be a change of use from a general acute patient care area to a critical care area, or an administration area to a patient care area. As indicated in the lower portion of the electrical flow chart; new systems, wiring, panels, devices, etc., within the scope of construction are required to comply with current code requirements. Existing electrical systems not within the scope of construction but connected to existing systems, wiring, panels, devices, etc. within the scope of construction, are required to be upgraded if load capacity limits are exceeded. If new Essential Electrical systems Over Current Protection Devices (OCPD) are added or existing spare OCPDs are used, they will need to meet coordination requirements of PIN 70. If the electrical distribution system is

altered to accommodate new or upgraded elevators or fire pumps, OCPD's will need to meet selective coordination requirements of PIN 70.

Go to Narrative Notes item 12.

4. Process Box: **Change of Function.**

   An example of this type of project is a change from Inpatient Surgery to Outpatient Surgery. The surgery rooms may not require revisions but there might be equipment added to the unit. Areas not impacted by construction can remain as is, if it was code compliant at the time of construction. All new construction must comply with the current code.

   Go to Narrative Notes item 12.

5. Process Box: **Addition.**

   This type of project adds floor space to an existing building. The systems affected by the scope of the project must meet the current minimum code requirements. Existing electrical systems that are not part of the addition project scope but utilized for connection to the systems of the remodel project scope, must be upgraded if load capacity limits are exceeded as shown in the lower portion of the electrical flow chart. If new Essential Electrical systems OCPD's are added, they will need to meet coordination requirements of PIN 70. If the electrical distribution system is altered to accommodate new or upgraded elevators or fire pumps, alterations will need to meet selective coordination requirements of PIN 70.

   Go to Narrative Notes item 12.

6. Process Box: **Alteration.**

   The electrical systems directly involved in the scope of the project must meet current minimum code requirements. Existing electrical systems, not part of the alteration project scope but utilized for connection to the systems of the project scope, must be upgraded if load capacity limits are exceeded as shown in the lower portion of the electrical flow chart.

   Go to item 12.

7. Process Box: **Upgrade/Replace Nurse Call System.**

   New equipment must be listed, labeled, or certified by a Nationally Recognized Testing Laboratory (NRTL) and provide functionality as required by current code requirements. With prior approval by OSHPD, some additions, alterations or repairs to existing nurse call systems may be installed in accordance with the code in effect at the time the original installation was made. The design professional is responsible for giving OSHPD sufficient information to determine if the original installation was in accordance with the code in effect at the time of the installation. See Advisory Guide AX Nurse Call Systems – coming soon.

   Go to item 12.

8. Process Box: **Replacement of Mechanical/Plumbing Equipment.**

   Existing electrical systems serving or monitoring the mechanical/plumbing equipment must be reconnected to meet the requirements of the current codes. An existing or new electrical circuit providing power to the equipment to be replaced must meet the power source requirements of the Mechanical Narrative in this Advisory Guide. That is, the power source must be normal, life safety branch, critical branch, or equipment branch as required by Mechanical Narratives 7 and 8. If the Essential Electrical System (EES) is a non-segregated EES, the existing electrical system to be reconnected must meet current code requirements for either normal source or emergency source connection. Existing electrical systems serving the replaced mechanical equipment do not require segregation unless load capacity limits are exceeded as shown in the lower portion of the electrical flow chart. It will be acceptable to meet the code requirements at the time of initial installation if a single element or component is being replaced, and no other operational/functional changes are to be made to the facility being served by the new element or component. If new Essential Electrical systems OCPD's are added, they will need to meet coordination requirements of PIN 70.

   Go to item 12.

9. Process Box: **Upgrade/Relocate Medical Equipment.**

   Equipment must be listed, labeled, or certified by a Nationally Recognized Testing Laboratory (NRTL) and installed per current code requirements. As indicated in the lower portion of the electrical flow chart, existing electrical systems not within the scope of construction but required for connection to supply the medical equipment, would need to be upgraded if load capacity limits are exceeded. If new Essential Electrical systems OCPD's are added they will need to meet coordination requirements of PIN 70.

   Go to item 12.

10. Process Box: **Relocation of Electrical Equipment.**

    This type of project involves the simple relocation of electrical equipment. In this type of project, there is no change in the electrical source or load. The reinstalled equipment must meet current code requirements for the installation. The electrical system upstream and/or downstream would not need to be upgraded unless the existing load exceeds the rating of OCPD's feeders or equipment.

    Go to item 12.

11. Process Box: **Repair/Replace Electrical Equipment.**

    This type of project involves repairing existing electrical equipment or replacement of electrical equipment. The repair or replacement of electrical equipment must be accomplished in compliance with the CEC. That is, new equipment must be listed, labeled, or certified by a Nationally Recognized Testing Laboratory (NRTL). The replacement of a specific piece of electrical

equipment must be replaced with equipment of the same type, electrical rating, and physical size. The installation of the equipment must also comply with current code requirements for clear workspace and entrance to and egress from working space.

Go to item 12.

12. Process Box: **Narrative Notes.**

    Load capacity verification shall be provided for branch circuits, panels, panel feeders, and overcurrent protective devices at points in the electrical distribution system where modifications occur. A load summary shall be provided per the requirements of OSHPD Policy Intent Notice (PIN) 38. For a net load reduction on an affected panel where load is to be modified, the requirement for load capacity verification is satisfied. For a net load addition on an affected panel, follow OSHPD PIN 38 for the acceptable means of providing load capacity verification. Also, as used herein, the word “panel” is defined as any panelboard, switchgear, switchboard, motor control center, distribution panelboard, etc. Submission of verification of compliance with OSHPD PIN 38 for affected electrical panels does not relieve the Electrical Engineer from fully complying with Article 220 of the current edition of the CEC relating to load capacity verification for the electrical system.

    All new electrical systems, wiring, panels, devices, etc. within the scope of construction shall comply with the current code. Existing electrical systems, wiring, panels, devices, etc. within the scope of construction shall comply with the code at the time of initial installation/construction.

    Go to item 13.

13. Decision Box: **Non-EES System or EES System?**

    Is the work on a non-EES system or EES system?

    If “non-EES” go to item 14. If “EES” go to item 17.

14. Decision Box: **Non-EES System Modified?**

    This system is typically the normal source system described in CEC Sections 517.30 and 517.41 (supplying the entire electrical system). The non-EES/branch circuit will not be considered as modified if the scope of construction involves only a simple removal of a load or device. For load disconnected an updated panel schedule is required. Relocation of an existing load or device, or the addition of a load or device, constitutes a modification of the non-EES/branch circuit.

    If “Non-ESS Not modified” go to END. If “Non-EES Modified, go to item 15.

15. Decision Box: **Load or Circuits Exceed Non-EES Panel Capacity?**

    This is for projects where load is being added to the non-EES. If load capacity verification per OSHPD PIN 38 indicates that this panel will be overloaded by the

load addition, the panel, its feeder, and feeder overcurrent protective device must be brought into conformance with current code requirements resulting in a “Yes”. The next panel electrically upstream towards the source must also undergo load capacity verification per the requirements of OSHPD PIN 38. If it is also overloaded, it must also be brought into conformance with current code requirements along with its feeder and feeder overcurrent protective device. It is not the intent of this paragraph to relieve the Electrical Engineer from the responsibility of performing load capacity verification calculations on affected feeders all the way back to the main service entrance or to the terminals of a separately derived system as required by CEC Article 220. If part of the non-EES system is overload, the result is a “yes”.

If “yes,” go to item 16. If the non-EES system is not overloaded i.e. the answer to “Will load or circuits exceed non-EES panel capacity” is “no” go to END.

16. Process Box: **Upgrade Non-EES at this Level.**

    Replace panel, panel feeder, and panel feeder overcurrent protective device per current code requirements. Transformers, transfer switches and other electrical devices which are not panels, but which occur at a level in the distribution system where upgrade is required, shall also be upgraded accordingly to meet current code requirements if required.

    Go to END.

17. Decision Box: **EES System Modified?**

    This system is the Essential Electrical System described in CEC Sections 517.25 through 517.45.

    a. The simple removal of a load or device on an EES/branch circuit will not be considered as modified, go to END.

    b. Relocation of an existing load or device to a different panel, or the addition of a load, device, or panel, constitutes a modification of the EES/branch circuit, go to item 18.

18. Decision Box: **EES Panel/Equipment Segregated per Code?**

    All new and spare OCPD’s used will need to meet the requirements of PIN 70 Electrical Coordination. If the panel to which load is added is segregated per the requirements of CEC Sections 517.29 through 517.45 go to item 20. If not, go to item 19.

19. Decision Box: **Load or Circuits Exceed Non-Segregated EES Panel/Equipment Capacity?**

    The non-segregated EES panel to which load is being added, its feeder, and its feeder overcurrent protection device must undergo load capacity verification per the requirements of OSHPD PIN 38. If load capacity verification per OSHPD PIN 38 indicates an overload condition, then the panel, its feeder and its feeder overcurrent protective device must be brought into conformance with current

code requirements as described in item 21. The next panel electrically upstream towards the source, its feeder, and its feeder overcurrent protective device must also undergo load capacity verification per the requirements of OSHPD PIN 38. If there is an overload condition, then the panel, its feeder and its feeder overcurrent protective device must also be brought into conformance with current code requirements as described in item 21. It is not the intent of this paragraph to relieve the Electrical Engineer from the responsibility of performing load capacity verification calculations on affected feeders all the way back to the main service entrance or to the terminals of a separately derived system as required by CEC Article 220.

Non-segregated EES panels which are not overloaded do not need to be upgraded but the new load(s) added to the panel must be segregated at the branch circuit level. That is, new loads must be connected to an existing or new branch circuit so that all loads on that circuit are either life safety branch loads, critical branch loads, or equipment branch loads. If the new load(s) cannot be added in the segregated fashion described above, then the load(s) cannot be added to non-segregated EES panel and the EES will be required to be upgraded as described in narrative item 21.

Do the added loads or circuits exceed non-segregated EES panel/equipment capacity? If “yes”, go to item 21. If “no”, go to END.

20. Decision Box: **EES Panel’s/Equipment’s Condition/Location/Listing/Labeling/Load Capacity Adequate?**

    If the EES panel/equipment, which is proposed to be connected to electrical systems within the remodel project’s scope of construction, is not in proper working condition, is not located properly per code requirements in place at the time of installation, is not adequately listed, labeled or certified per the requirements of CEC Section 110.2, or does not have adequate load capacity per OSHPD PIN 38, upgrade is required of the EES at this level.

    If adequate, go to END. If an upgrade is required, go to item 21.

21. Process Box: **Upgrade EES at This Level.**

    Where load is added to an existing segregated EES panel that causes an overload condition based on the load calculations per OSHPD PIN 38, the panel must be replaced with code conforming, segregated panels and panel feeders. Where load is added to an existing non-segregated EES panel that causes an overload condition per OSHPD PIN 38, the panel must be replaced with code conforming, segregated panel(s) and panel feeders.

    Where new loads cannot be added to an existing non-segregated EES panel because of space or capacity issues, the panel must be replaced with code compliant, segregated panels, and panel feeders or another source will need to be selected. If there are life safety branch loads to be added with no sufficient source, a life safety branch panel shall be provided with a separate feeder back to the serving panel electrically upstream towards the source. If there are critical

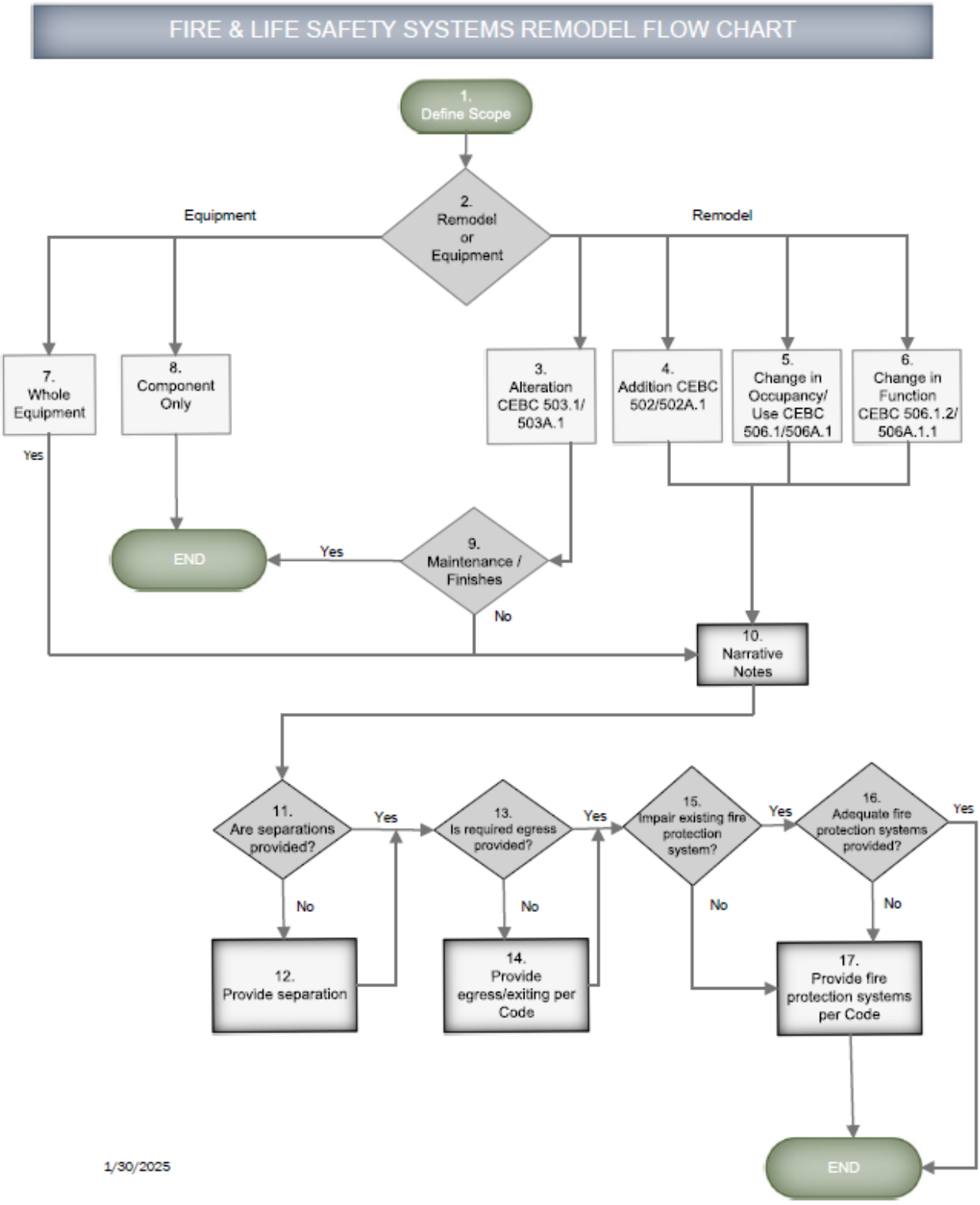
branch loads to be added, a critical branch panel shall be provided with a separate feeder back to the serving panel electrically upstream towards the source. If there are equipment branch loads to be added, an equipment branch panel shall be provided with a separate feeder back to the serving panel electrically upstream towards the source. Transformers, transfer switches and other electrical devices which are not panels, but which occur at a level in the distribution system where upgrade is required, shall also be added or upgraded to comply with current code requirements.

Where an existing segregated EES panel has adequate load capacity for the proposed new load, but is not in proper working condition, does not meet code requirements in place when originally constructed, or is not listed, labeled, or certified, it shall be brought into conformance with current code requirements before adding any new loads.

Go to END.

— End of Electrical Narrative —

APPENDIX D
FIRE AND LIFE SAFETY SYSTEMS REMODEL FLOW CHART



NARRATIVE FOR FIRE AND LIFE SAFETY SYSTEMS REMODEL FLOW CHART

This narrative must be used with the Health Facility Remodel Flow Chart for Fire and Life Safety Systems. The numbers shown on the Flow Chart correspond to the numbers shown below. The purpose of this narrative is to elaborate on the terminology used in the Flow Chart and to show the code requirements that OSHPD will enforce.

1. Process Box: **Define Scope of Project.**
    a. It is the responsibility of the project team with their client to initially assess the needs of the facility in determining the project scope.
    b. In developing project scope, consideration should be given to:
        1. The project's program, goals, objectives, and expectations.
        2. Verification and analysis of existing conditions.
        3. Key code assumptions (Title 24 and Title 22).
        4. Applicable OSHPD CANs and PINs.
        5. Identifying change of function or service, if applicable. Specific functions are identified in CBC Chapter 3 and Sections 1224, 1225, 1226 and 1228. Identify rooms with the CBC nomenclature.
        6. Determine whether temporary barriers, ingress and/or egress, equipment, systems and/or services, utilities, or other Interim Life Safety Measures are necessary, and if so, include in the scope of work.

    Go to item 2.

2. Decision Box: **Does the scope of work include a Remodel or Equipment?**

    Determine if the project scope is a remodel or equipment replacement/ repair. If remodel, go to items 3, 4, 5, and 6 in parallel. If whole or component equipment replacement/repair, go to items 7 and 8.

3. Process Box: **Alteration.**

    An alteration will require all new work to comply with the current code. An alteration may result in rating/separation, door, egress, devices, fire alarm, and fire sprinkler changes.

    As an example, an imaging equipment replacement project can require alterations due to equipment or structural supports. Structural rails can alter the fire protection device layout. Control or equipment rooms can require changes that affect fire protection device layout.

    MRI shielding design can include combustible components that are not permitted by CBC Section 603. Wood will need to be fire treated and additional protection features for concealed ceiling spaces such as gypsum board to provide a

noncombustible surface finish or additional above ceiling fire sprinkler protection can be done as an alternate. Fire equipment will need to meet manufacturers' requirements with regard to nonferrous materials and RF filters.

Go to item 9.

4. Process Box: **Addition.**

   An addition will be required to meet the current code and a project be submitted. It may result in rating/separation, door, egress, devices, fire alarm, and fire sprinkler changes at the connection to the existing building. Egress and fire protection systems of existing buildings may serve the addition when the requirements of CEBC 310/310A and 311/311A are met.
   Go to item 10.

5. Process Box: **Change of Occupancy or Use.** Based upon the scope, is there a change of occupancy or a change of use, as identified in CBC Chapter 3 and CEBC Section 506.1 or 506A.1? Pursuant to CBC chapter 5, a change in occupancy may require the new occupancy to be separated from other spaces. The fire and life safety provisions for fire alarm, fire sprinkler, rating/separation, opening protection, interior finish and egress changes will need to comply with current code requirements that pertain to the new occupancy/use. The CEBC has exceptions, such as Section 506.3.
   Go to Narrative Notes item 11.

6. Process Box: **Change of Function.**
   A change in function may result in rating/separation, door, egress, finishes, fire alarm, and fire sprinkler changes when the new function includes more restrictive requirements. As an example, if patient rooms served by a1-hour rated corridor are remodeled to a care suite a 1-hour fire barrier suite boundary is required per current code.

   Another example is a change in function from a medical/surgical nursing unit to a psychiatric nursing unit.
   The change of function would require more restrictive interior finish materials, fire rated separations, fire sprinkler, smoke detection, and door changes.

   When a change of function results in a new incidental use listed in CBC Table 509.1, the rated separations are required to be provided.

   Go to item 10.

7. Process Box: **Whole Equipment Replacement**.

   A change in equipment must be installed according to the current code and could result in fire smoke damper, rating/separation, egress, alarm, ventilation changes. Medical, architectural, mechanical or electrical equipment replacements will require fire and life safety provisions related to the replacement. Fire alarm system and smoke control replacements require testing.
   Go to item 10.

8. Process Box: **Replacement of Component.**
   Replacement of a component may be installed under the conditions which the original equipment was installed. Fire alarm and smoke control component requires testing. Go to END.

9. Decision Box: **Remodel – Maintenance/Finishes?**

   For maintenance or finishes only, utilize the FREER process, go to END. If there is new equipment/construction, go to Narrative Notes item 10.

10. Process Box: **Narrative Notes.**

    The categories included within the narrative notes will need to be evaluated for life safety scope to be included within the project.

    Remodel work can include an alteration, an addition, change in occupancy/use, or a change in function. A remodel may result in changes to fire rated separations which can affect wall ratings, doors, windows, dampers and penetrations. Remodels can also affect building egress or smoke compartment layout. Remodel work that affects fire protection systems such as fire alarm, smoke control, and fire sprinkler equipment or devices will require the scope of work to be added to the project.

    > Existing functions that are not changed or adversely affected by related project scope may remain per code under which they were built.

    The design professional is responsible for determining how the proposed changes will affect various fire and life safety building components. Compliance with the current code will depend on the changes made.

    For Separations and Egress go to items 11 and 12. For fire protection systems, go to item 15.

11. Decision Box: **Are Separations Provided in Accordance with CBC Chapters 3 and 5?** Additions will need to meet building and smoke compartment area requirements and provide rated separations as required by the current code. A change in occupancy will need to be evaluated for required fire rated separations per current code. Changes in function that are accessory or incidental to the current occupancy of the space will need to be evaluated for current code requirements in CBC Sections 508 and 509.
    If yes, go to item 13. If no, go to item 12.

12. Process Box: **Provide Separations in Accordance with CBC Chapters 3 and 5**. New separations will need to include the requirements of the rated wall design type, including continuity and termination as outlined in Chapter 7. Openings, penetrations and joints will need to meet current code requirements. A change in fire-rated wall type will need to be evaluated for wall priority and opening protection of doors, windows, penetrations, joints and duct penetrations per CBC Sections 714, 715, 716 and 717.

    Provide separations in accordance with CBC Sections 508 and 509.

Go to item 13.

13. Decision Box: **Required Egress Provided?**

    When changes of occupancy, use, or change in floor area occur that create a change in egress requirements, it must be determined if compliant egress is provided. The following conditions must be evaluated for this determination in accordance with CBC Chapters 10 and Part 10, Chapters 3, 4 and 5. Patient relocation must also be considered in accordance with CBC Section 407.5. If there is a change in use, then a determination must be made if adequate means of egress is provided (reference CBC Chapter 3, Section 302 CBC Chapter 4 Section 407.4 and Chapter 10, Table 1004.1.2).

    a. Maximum travel distance maintained or exceeded.
    b. Minimum exit width provided.
    c. Number of exits provided.
    d. Distance between exits provided.
    e. Fire-rated separations provided.
    f. Means of Egress compliant with SPC and NPC requirements per CBC Section 308A.1.1
    g. Size of smoke compartment
    h. Travel distance to smoke barrier door

    Egress cannot be considered as adequate, if not in compliance with provisions of current or previous code. If required egress is provided, go to item 15. If not, go to item 14.

14. Process Box: **Provide Egress/Exiting.**

    If determined that compliant means of egress or compliant refuge areas for occupant relocation are not provided, means of egress and compliant refuge areas for occupant relocation must be provided in accordance with CBC Chapters 4 and 10. Go to item 15.

15. Decision Box: **Impair Existing Fire Protection Systems?**

    It must be determined if the project causes or creates a deficiency in the existing protection systems including fire dampers, fire/smoke dampers, smoke control, fire sprinkler, and fire alarm systems. If any fire protection system is impaired during the project scope, these systems are to be included as part of the project.

    OSHPD Policy Intent Notice 14, Fire Watch shall be followed should these fire systems be impaired from performing during construction. All changes, modifications, or additions must comply with the current code. California Fire Code, Chapter 33 and California Fire Code Chapter 80 shall be consulted for adopted codes and standards.

If the existing fire protection system is impaired, go to item 16. If not, go to item 17.

16. Decision Box: **Adequate Fire Protection Systems Provided?**

    Projects must be evaluated for adequate fire dampers, smoke/fire dampers, and fire protection systems including smoke control, fire sprinkler, and fire alarm systems.

    See CBC Chapters 3, 7, and 9.

    Fire protection systems are adequate when they are in compliance with the current California Building Standards Code or are in compliance with the applicable code when they were installed.

    If an adequate fire protection system is provided, go to END. If not, go to item 17.

17. Process Box: **Provide Fire Protection Systems per Code.**

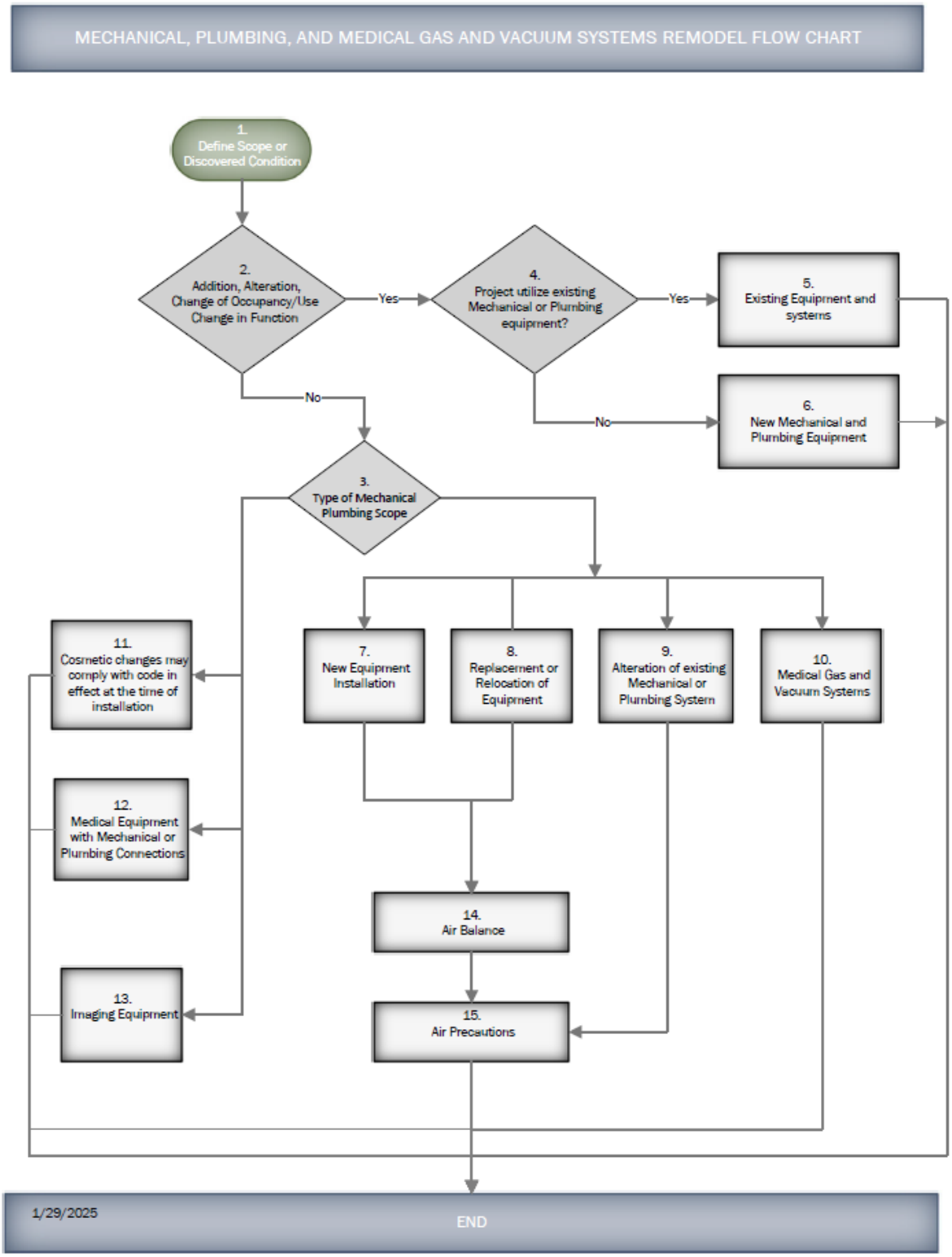
    If determined that adequate fire protection systems are not provided, systems must be provided in accordance with the California Building Code.

    A remodel may change the requirements of the fire protection system and require additional fire alarm devices or fire sprinklers. The design density of the fire sprinkler system may increase, or the remodel could require smoke detection to be installed. Room layouts can disrupt existing fire sprinkler or fire alarm coverage. Any time a wall is added, removed or relocated, the fire sprinkler and fire alarm detection and notification devices require evaluation for compliant coverage.

    Go to item END.

— End of Fire and Life Safety Narrative —

APPENDIX E
MECHANICAL AND PLUMBING REMODEL FLOW CHART



NARRATIVE FOR MECHANICAL AND PLUMBING REMODEL FLOW CHART

This narrative must be used with the Health Facility Remodel Flow Chart for Mechanical and Plumbing. The numbers shown on the Flow Chart correspond to the numbers shown below. The purpose of this narrative is to elaborate on the terminology used in the Flow Chart and to show the code requirements that OSHPD will enforce.

At the discretion of OSHPD, the design professional may be requested to submit design calculations or measurements to verify that the existing systems and equipment can achieve code compliance.

Note: See the Fire and Life Safety Flow Chart and Narrative for fire damper, smoke damper and fire sprinkler system requirements.

1. Process Box: **Define Scope or Discovered Condition of the Project.**
    a. It is the responsibility of the project team with their client to initially assess the needs of the facility in determining the project scope.
    b. In developing project scope, consideration should be given to:
        1. The project's program, goals, objectives, and expectations.
        2. Verification and analysis of existing conditions.
        3. Key code assumptions (Title 24 and Title 22).
        4. Applicable OSHPD CANs and PINs.
        5. Identifying change of function or service, if applicable. Specific functions are identified in CBC Chapter 3 and Sections 1224, 1225, 1226 and 1228. Identify rooms with the CBC nomenclature.
        6. Determine whether temporary equipment, systems and/or services, utilities, or other Interim Life Safety Measures are necessary, and if so, include in the scope of work.

    Go to item 2.

2. Decision Box: **Addition, Alteration, Change of Occupancy/Use, or Change in Function?**

    All new systems shall meet the current code. For existing systems extended to serve an addition, see narrative 4.

    For an "alteration" see Architectural Remodel Flow Chart narrative 4. Identify rooms with CMC Table 4-A nomenclature. If alteration changes the occupancy, use or function of a room, space or unit, go to item 4. If not, go to item 3.

    For an "Addition", see Architectural Remodel Flow Chart narrative 5.

    For a facility changing Occupancy/Use, see Architectural Remodel Flow Chart narrative 6.

For a facility changing Function, see Architectural Remodel Flow Chart narrative 7.

Comply with all current code requirements that pertain to the new occupancy/use or function.

3. Decision Box: **Identify Type of Mechanical Plumbing Scope**

   If new equipment, go to item 7.

   If Replacement of Relocation of equipment, go to item 8.

   If alteration of existing equipment, go to item 9

   If medical gas, go to item 10

   If cosmetic, go to item 11.

   If medical equipment, go to item 12.

   If imaging equipment, go to item 13.

4. Decision Box: **Does the Project Utilize Existing Mechanical or Plumbing Equipment?**

   OSHPD will use the following criteria as guidelines for deciding if an addition or an alteration with a change in occupancy/use/function to an area served by an existing mechanical system will be considered for complete compliance with the current codes versus the codes in effect at the time of construction.

   Rooms or spaces with a change of function, use or occupancy will need to be evaluated with the current code for ventilation, plumbing fixtures and medical gas outlets. Ventilation requirements will need to meet the current CMC Table 4-A. Where an area is not listed in CMC table 4A the minimum outdoor air rate is required to be provided per ASHRAE 62.1. For existing mechanical equipment serving an alteration with a change of function, use or occupancy, the equipment will need to meet the minimum code for items noted in narrative 7. For minor architectural alterations, the following items will be considered to determine if the change may continue with the code the area was approved under.

   a. The project does not involve a room or area shown in CMC Section 322.
   b. The project does not involve an Angiography Room, a Protective Environment Room, or an Airborne Infection Isolation Room.
   c. The project does not use more than 10% of the connected existing mechanical system capacity. Mechanical systems include air handling and distribution systems, hot water systems, chilled water systems, steam, etc. If existing mechanical systems are used to serve the building addition, the addition must not cause the capacity of the existing systems to be exceeded.
   d. The project involves only balancing air or water systems.

The design professional should communicate with OSHPD to determine which versions of the mechanical, plumbing, and medical gas codes apply.

The CPC does not have a section for minor additions or alterations to plumbing systems. Additions, alterations, or repairs shall be permitted to be made to a plumbing system, provided the addition, alteration, or repair is in accordance with that required for a new plumbing system. Additions, alterations, or repairs shall not cause an existing system to become unsafe, insanitary, or overloaded. See CPC Division II, Administration, Section 102.4.

The 2021 edition of NFPA 99 does not have a section for minor additions or alterations to medical gas and vacuum systems. See narrative 10.

If the mechanical system is new, go to item 6.

If using existing equipment, go to item 5.

5. Decision Box: **Existing Mechanical and Plumbing Equipment or Systems.**

   Existing Mechanical and Plumbing Systems that will serve a significant addition or alteration will require compliance with the current code as noted below. If existing mechanical systems are used to serve the building addition, the addition must not cause the capacity of the existing systems to be exceeded. Measures must be taken to ensure that the modifications within the project boundaries do not impact airflow to spaces outside the project boundaries, see narrative 15 for additional information. Plans must contain specific information and procedures to define the measures required.

   OSHPD will enforce the following code requirements:

   a. Air-handling units, fan coil units, forced-air type central furnaces and exhaust fans.
      1. Filter efficiency, filter location, and filter gages. See CMC Section 408.0.
      2. Pressure relationship and ventilation requirements for areas within the project boundaries. See CMC Section 407.3.1. Air precautions plan required, see narrative 15 for additional information.
      3. Essential electrical power for equipment per CMC Section 321.0. (OSHPD 1, 4 and 5).
      4. Indoor temperature and humidity requirements, see CMC Table 4-A.
      5. Automatic shutoff for smoke control. See CMC Section 608.0.
      6. Use of corridor or space above ceiling as a plenum. See CMC Sections 407.4.1.3 and 407.4.1.4.
   b. All other types of existing mechanical, plumbing, and medical gas and vacuum equipment and systems.

1. If the existing equipment or system has sufficient capacity to serve the addition or alteration, OSHPD will allow the equipment or system to remain as installed. Equipment or systems that do not have sufficient capacity must be replaced or supplemented.

c. See narrative 10 for additional medical gas and vacuum system requirements.

d. All services/systems and utilities serving building additions shall comply with California Existing Building Code Sections 310A for OSHPD 1 and Section 310 for OSHPD 5.

Go to END.

6. Process Box: **New Mechanical and Plumbing Equipment or Systems.**

   All new systems located within the scope of the project must comply with all current code requirements, see narrative 7. New source equipment connected to an existing distribution system is to follow narrative 8 for replaced/relocated equipment. Alterations to mechanical and plumbing distribution are to comply with current code (see narrative 9). Medical gas and vacuum systems are to comply with narrative 10.

   Go to END.

7. Process Box: **Installation of New Equipment, Fixtures, or Systems.**

   OSHPD will require alterations or installation to comply with current code within the project boundary. Mechanical alterations must not cause an existing system to become unsafe or create unhealthy or overloaded conditions. Measures must be taken to ensure that the modifications within the project boundaries do not impact airflow to spaces outside the project boundaries, see narrative 15 for additional information. Plans must contain specific information and procedures to define the measures required. Plumbing alterations must not cause an existing system to become unsafe, insanitary or overloaded.

   For projects with HVAC, go to item 14, others go to END.

8. Process Box: **Replacement or Relocation of Mechanical or Plumbing Equipment or Systems.**

   OSHPD will enforce the following code requirements:

   a. Air-handling units, fan coil units, and forced-air type central furnaces.

      1. Filter efficiency, filter location, and filter gauges (see CMC Section 408.0 (OSHPD 1, 2, 3 and 4)).
      2. Condensate drain (see CMC Section 310.0 and CPC Section 814.0).
      3. Clearances and access (see CMC Sections 303.0 and 304.0).

4. Essential electrical power (see CMC Section 321.0 (OSHPD 1 and 4 only) (See PIN 74 for OSHPD 2).
5. Outdoor air intake location (see CMC Sections 407.2, 414.0 and 305.3.2, and CPC Section 906.2.1). (OSHPD 2 direct replacement may remain under the code that was in effect when the work was first constructed).
6. Indoor temperature and humidity requirements (see CMC Table 4-A).
7. Automatic shutoff for smoke control (see CMC Section 608.0).
8. Air Balance (comply with narrative 14).
9. Outdoor air changes and total air changes (see CMC Table 4-A (OSHPD 1, 3 and 4)). For projects that are limited to the replacement of air handlers, fan coil units, forced-air-type central and/or exhaust fans the outdoor air changes and total air changes may remain under the code that was in effect when the work was first constructed including the 100% outside air column.
10. Fan operation (see CMC Section 407.1.1).
11. Use of corridor or space above ceiling as a plenum (see CMC Sections 407.4.1.3 and 407.4.1.4).
12. Special Seismic Certification (see CBC 1705A.14.3.1 (OSHPD 1 and 4 only)).

b. Steam and Hot Water Boilers.
    1. All requirements (see CMC Chapter 10).
    2. Room size (see CMC Section 1001.2.1).
    3. Number of boilers (see CMC Section 319.1(OSHPD 1, 2, 4 and 5).
    4. Essential electrical power (see CMC Section 321.0 (OSHPD 1 and 4 only)).
    5. Exit access doorways (see CBC Section 1006.2.2.1).
    6. Temperature requirements (see CMC Table 4-A).
    7. Combustion air requirements (see CMC Chapter 7).
    8. Special Seismic Certification (see CBC 1705A.14.3.1 (OSHPD 1 and 4 only)).
c. Refrigeration Systems.
    1. All requirements (see CMC Chapter 11).
    2. Machinery Rooms (see CMC Section 1106, 1107 and 1108).
d. Exhaust Fans.

1. Exhaust fan location (see CMC Section 407.1.2).
2. Exhaust fan operation (see CMC Section 407.1.1).
3. All requirements (see CMC Chapter 5).
4. Essential electrical power (see CMC Section 321.0 (OSHPD 1 and 4 only).
5. Exhaust discharge. Minimum 25’ clearance from outside air intakes (see CMC Section 407.2.1).
6. Air balance (comply with narrative 14).
7. Special Seismic Certification (see CBC 1705A.14.3.1 (OSHPD 1 and 4 only)).

e. Evaporative Coolers.

1. All requirements (see CMC Section 406.0 and 933.0).

f. Plumbing Fixture.

1. All requirements (see CPC 210, Table 4-2).
2. Shower and bathtub valves (see CPC Section 408.3).
3. All requirements (see CPC Chapter 4).
4. See CPC Sections 310.0 and 605.0.
5. Sterilization (see CPC Section 609.9).
6. Relocation of fixture (see CPC 613.6 for maximum pipe length).

g. Water Heater.

1. All requirements (see CPC Chapter 5).
2. Temperature and Capacity (see CPC 613.1).
3. Redundancy (see CPC 613.2 OSHPD 1, 2, 3, 4 and 5) (OSHPD 2 Single piece of equipment may remain where building includes more than one source for patient care).
4. Hot water alarm and mixing valve (see 613.5).
5. Essential electrical power (see CPC 321.0).

h. Fuel Storage Tanks: Comply with OSHPD PIN 2.

For projects with HVAC go to item 14, others go to END.

9. Process Box: **Alterations to Existing Mechanical or Plumbing Equipment or Systems, and/or the Installation of New Equipment, Fixtures, or Systems.**

OSHPD will require alterations or installation to comply with current code within the project boundary. Mechanical alterations must not cause an existing system to become unsafe or create unhealthy or overloaded conditions. Measures must be taken to ensure that the modifications within the project boundaries do not impact airflow to spaces outside the project boundaries, see narrative 15 for additional information. Plans must contain specific information and procedures to define the measures required. Plumbing alterations must not cause an existing system to become unsafe, insanitary or overloaded. Minor ductwork changes or terminal box replacement for similar air flows are considered minor. HVAC systems converting to variable air volume or adding unoccupied mode will need to follow current code provisions for variable volume and unoccupied modes. Replacement of only plumbing fixtures will not require compliance with the current code for CPC 613.6 hot water piping requirements.

Go to item 15 for air precautions for HVAC systems, if not go to end.

10. Process Box: **Medical Gas and Vacuum Systems. Replacement, Relocation, or Alteration.**

    OSHPD will enforce the code requirements shown below. The cited code sections are from the 2021 edition of NFPA 99.

    a. For alterations of existing systems, OSHPD will require all new work within the project boundaries to comply with NFPA 99. The existing systems may have their use continued, if the systems do not present a distinct hazard to life (see NFPA 99 Sections 1.2, 1.3, and 5.1.1.4, and the corresponding Sections in the 2021 edition "Healthcare Facilities Handbook," published by the NFPA. Testing of systems, including existing systems breached by project work, must comply with NFPA 99 Section 5.1.12.
    b. Medical Air Compressor Replacement (comply with NFPA 99 Section 5.1.3.6, Figure A.5.1.3.6 and applicable code sections).
    c. Medical Vacuum Pump Replacement (comply with NFPA 99 Section 5.1.3.7, Figure A.5.1.3.7 and applicable code sections).
    d. Medical Gas Cylinder Manifold/Controls Replacement (comply with NFPA 99 Section 5.1.3.5.10, Figure A.5.1.3.5.10 and applicable code sections).
    e. Bulk Medical Gas System Alteration or Replacement (comply with NFPA 99 Section 5.1.3.10, Figure A.5.1.3.10(a)/(b), applicable code sections, and NFPA 55).
    f. Medical Gas Cylinder Storage Alteration (comply with the California Fire Code Section 5306).

    Go to END.

11. Process Box: **Cosmetic Changes.**

    A cosmetic change is a superficial or decorative change to a room. A cosmetic change must not change the function, area, or volume of the room. Examples of

cosmetic changes are replacement and/or relocation of diffusers, registers, or grilles, and similar work. See also Architectural Remodel Flow Chart narrative 9.

For cosmetic changes that involve the replacement of diffusers or grilles, a direct replacement will not require an air balance. When the duct work is modified, or the type of grille is changed, an air balance will be required to confirm air flows are compliant. Rooms requiring non-aspirating diffusers may maintain existing diffusers if limited to direct replacement of existing diffusers or minor relocation due to obstruction of equipment.

The OSHPD FREER Manual contains requirements for most projects considered cosmetic changes. For cosmetic changes that are not in the FREER Manual contact OSHPD mechanical staff.

End flow chart for Cosmetic Changes.

12. Process Box: **Medical Equipment.**

    For sterilizers, analyzers, lab equipment, etc. with mechanical connections comply with 2022 CMC for required room ventilation and direct exhaust connections. For such equipment with plumbing connections comply with 2022 CPC Section 603 for backflow prevention and 806.0 for indirect waste connections and 2019 CBC Section 1224.22.2 for required exhaust to exterior of building.

    End flow chart for Medical Equipment**.**

13. Process Box: **Imaging Equipment.**

    Does existing equipment maintain the proper room temperature?

    The design professional must provide Sufficient information to OSHPD to show the existing HVAC system can maintain the proper room temperature required by CMC Table 4-A. OSHPD recommends the design architect or engineer determine that the HVAC system can maintain the room environmental conditions within the parameters recommended by the imaging equipment manufacturer. The final air balance in the space must comply with CMC Section 407.3.1. Where changes in airflow are necessary, measures must be taken to ensure that the modifications within the project boundaries do not impact airflow to spaces outside the project boundaries (see narrative 15 for additional information). Plans must contain specific information and procedures to define the measures required.

    Replacement of a ceiling in a class 2 or 3 imaging room will be considered a remodel and require compliance with supply diffusers per the current code.

    If HVAC capacity does not comply, follow alteration narrative 4. Examples of imaging equipment include X-ray equipment, Gamma Camera, CT Scanner, MRI, etc.

    End flow chart for Imaging Equipment.

14. Process Box: **Air Balance.**

For projects involving the replacement of a supply, return or exhaust fan unit, the air distribution system shall be rebalanced in accordance with the following requirements:

a. For acute care hospitals (OSHPD 1). The supply, return and exhaust airflows in the entire area served by the replaced unit shall be rebalanced to comply with CMC Chapter 4 and Table 4-A. Existing systems designed with the 100% outside air column may continue where the existing duct system cannot accommodate additional flow. For equipment replacements, designs under previous codes may be continued where design documentation can be provided to demonstrate approved airflows. For projects replacing a single component of a fan or air handler unit (i.e., fan scroll, cooling coil, heating coil, etc.) with a replacement component of the same capacity, the rebalance may consist of measuring the system air flow prior to replacing the component and then re-establishing the same system airflow after the component has been replaced. Replacement of multiple components will require the entire air distribution system to be rebalanced. Rebalancing the air distribution system shall not be required for fans serving entirely non-patient care areas, but the system air flow will need to be confirmed to match the existing compliant airflow. Air balance shall not be started until the completion of work for the project or the completion of each phase of a phased project.

b. For skilled nursing facilities, licensed clinics, and correctional treatment centers (OSHPD 2, 3, 4 and 5). Rebalancing the air distribution systems is not required if:

    1. There is no change to the system design airflow.
    2. The airflow is compliant with the original installation.
    3. There is no change to the air distribution system, or it is a direct replacement.
    4. The replaced fan system does not serve sensitive rooms or areas or an airborne infection isolation room or a protective environment room.

    Where the above items are met, the existing compliant system airflow must be confirmed. Pre-readings of the existing system airflow, providing design documentation or similar means may be used to match the compliant airflows. Plans must describe how existing compliant system airflows are being met. Where existing airflows are compliant, a prereading of the system airflow may be used to balance the new system. 10% of the registers should be confirmed to meet minimum air change rates. Pressurized rooms should be confirmed for proper directional pressurization. See item 15b.

c. General requirements: When rebalancing is required, the entire area served by the supply, return or exhaust fan(s) being replaced shall be rebalanced. Mechanical plans shall contain all necessary information to

demonstrate design airflows in areas served by the equipment and shall comply with the ventilation and air balance requirements in CMC Table 4-A. Plans shall include room name and number, and room volume of each room served by the unit. If the actual room name does not match an area designation in CMC Table 4-A, then an equivalent Table 4-A room designation based upon the functional use of the space shall be provided on the plans. Adjacent rooms or spaces not served from the replaced unit that have their airflow or air balance impacted must also comply with CMC Table 4-A for both ventilation and air balance.

Air balance for areas without occupancy will require air balance prior to substantial completion. For air handlers serving occupied areas, post installation readings will need to be provided in a timely manner to ensure air flows are maintained in occupied areas. Air balance shall be indicated in the TIO under milestones. Project phasing should be considered for reoccupying spaces when work is completed. See also narrative 14 for air precautions to maintain air flows to occupied areas. Where the project includes multiple air handlers or encompasses larger floor areas the design professional may coordinate the timing of the final air balance duration in plan review. Sensitive areas are required to be confirmed for air flow rates, pressurization, and temperature control prior to occupancy. The AHU will need to have total system air flow confirmed at the time it is put into service. Pressurized rooms and sensitive areas are to be confirmed when a new system is put into service or when pitot traverses are used to maintain existing airflows.

Go to item 15

15 Process Box: **Air Precautions.**

When duct work is modified or when air flows are changed within the project boundary, an Air Precautions plan shall be provided in the project plan submittal. The air precautions plan will need to include the pre-balance reading locations required on all duct systems serving the project to ensure modifications do not impact airflow to spaces outside of the project boundary. Air precautions are to be provided for the demolition and new work plans and for each phase. Where a duct system being modified also serves an occupied area, air precautions must be provided each time the duct work is modified to maintain compliant air flows to occupied areas. Air precautions must be addressed at the time the duct work is modified. Where noncompliant airflows are discovered in an area outside the scope of work, it shall be treated as a discovered condition and the Health Facility Remodel Chart narrative 11 shall be followed. Noncompliant air flows found during the design phase will need to be addressed in the project scope. Noncompliant air flows discovered during the construction phase will need to be corrected by an amended construction document.

The following methods are identified as common practices to achieve compliance. It is up to the design professional to evaluate which method or combination of methods are most appropriate for their design; however, OSHPD

plan review comments may arise if the plans do not specifically address all measures necessary to demonstrate compliance. It is recommended that the design professional in conjunction with the Facility have air flow measurements taken for the project scope and associated units prior to the design submission to OSHPD. This will establish the existing quantity of air flow and unit capacity available for the remodel. The pre-balance readings may be taken up to 6 months prior to the project if the duct system has not been modified.

Measure Outlets. The most common method is to measure and document the airflow of all outlets on the duct system to be modified prior to demolition work. At the completion of the project (and each separate phase) re-measure all outlets again and re-balance the duct system as necessary to re-establish documented measured airflows.

a. Duct Traverses. Branch ducts that are outside the project boundaries but served by the same HVAC system that serves the remodel project, duct (pitot) traverses may be taken prior to demolition work. At the completion of the project (or phase of work) re-measure these same duct traverses and re-balance duct system as necessary to re-establish the original measured airflows. Plans must show specific locations duct traverses are to be taken. New branch duct balancing dampers may have to be installed to achieve pre-demolition airflows if they do not exist at the time of the pre-demo airflow measurements. The air flow is to be adjusted as close as tolerancing will allow, to maintain the pre balance readings.

b. Unchanged Airflow. If the remodel project re-distributes the existing airflow within the project boundaries such that ducts beyond the project boundaries do not experience a change in airflow, then measures beyond the project boundaries are not necessary. Use of this method requires recent documented airflow measurements (within 6 months) to be taken within the project boundaries prior to the design submission to OSHPD to establish the existing quantity of airflow that will be re-established. A note should be included in the plans to reference the air balance report and its date.

c. Bypass Method. The bypass method is normally used only during construction to allow the contractor to construct the remodel without requiring elaborate or costly re-balancing effort outside the construction boundary during construction. Capping off ducts inherently causes airflow changes throughout the rest of the duct system unless the system has very specific volume controls built into the existing design. In lieu of capping off ducts, airflow to a remodel space can be measured and a bypass duct with a balancing damper can be installed such that the net supply and exhaust (or return) airflow remains constant throughout the rest of the system. The bypass duct shall comply with CMC Chapter 6.

d. Pressure Independent Systems. This method can be used on newer HVAC systems that have pressure independent supply air terminal units with variable frequency drive (VFD) volume control of the main supply fan.

Such systems normally do not require measurements be taken on the supply system. Where the return/exhaust duct system does not have pressure independent terminal units, measurements must be taken on the return/exhaust system. Duct or air flow modifications downstream of the pressure independent terminal units require air precautions. The plans must describe the existing system in sufficient detail so that the use of this method can be allowed. Dual-duct systems will also tend to be self-balancing and do not generally require balancing precautions. These simplifications do not generally apply to exhaust systems since they are not normally designed as pressure independent systems.

e. Comply with the current code. Another method is to make affected areas outside the project boundaries to comply with current code requirements, namely CMC Table 4-A. In this case, pre-demolition airflow measurements are not required.

When fan speed changes are made to systems that are not pressure independent, the entire system must be rebalanced to maintain existing airflows to areas outside the project boundaries. For phased projects, rebalancing shall be completed at each phase to maintain existing airflows to areas outside the project boundaries. Corridors or areas that interface with the project boundaries may require rebalancing to ensure their original air balance is maintained.

A common question is: “Do I have to take measurements of the entire duct system?” Not necessarily, especially for relatively small projects. As you travel upstream in the duct system towards the fan, the percentage of project air to total air quantity decreases. When the percentage of project air is reduced to the point that air-balancing tolerances exceed the quantity of project air, further upstream duct measurements are not necessary. Also, regardless of the type of method used, the relative air balance of a room (equal, negative, or positive) must be maintained. Thus, even if the project only involves supply air modifications, the return and/or exhaust outlets to a room or space may need to be measured to ensure the relative air balance of the room or space remains unchanged. The standard air balancing tolerances specified by the AABC and NEBB Standards are acceptable.

Go to END.

— End of Mechanical and Plumbing Narrative —

APPENDIX F
EXAMPLES

The following examples are not meant to limit the interpretations of the code or limit discussion on differing situations.

Example 1: There is a project adding an exam light with above ceiling support in an existing Exam Room and the Acoustical Ceiling Tiles (ACT) must be removed to add the new support structure. When the ACT is removed, it is discovered that there are conditions above the ceiling that are not code compliant although they were compliant at the time they were installed. No action is required to remedy this situation although updating anchorage for NPC should be considered at this time.

Example 2: Same project as above but the discovered conditions were not compliant when installed or were modified since installation deeming them non-compliant. This condition would have to be corrected to meet current code. It is at the owner's discretion to correct this condition as part of the current project while conditions are exposed or to have the condition written up as an investigation into unauthorized work, which will need to be corrected at a later date and prior to, or part of, a future project. If the unauthorized work is not corrected, restrictions may be placed on future work.

Example 3: A pharmacy is being expanded to include a new work area. The new work area will have some new ductwork and a new ceiling. The existing pharmacy will utilize existing ductwork and will receive a new ceiling. When the pharmacy ceiling is removed it is noticed that the ductwork is not code compliant, although it was compliant at the time it was installed. The existing pharmacy ductwork may remain unchanged since it was compliant at the time it was built, and no modifications will be made. All new duct work in the expanded work area shall comply with the current code. The new ceiling in the pharmacy and the expanded work area shall comply with the current code.

Example 4: A Lab is being remodeled to include 15 feet of modified workbench countertop that will require modifications to the existing plumbing. The plumbing may be modified to match the existing system. This project would not require replacing all the existing plumbing within the workbench to current code unless additional fixture units are added to the system.

Example 5: 80% of the hospital nursing floor is being renovated and the remaining 20% are only receiving cosmetic upgrades. It is found that some of the patient rooms within the 20% do not have handwashing fixtures in the rooms and the fixtures in the toilet rooms are not accessible. This condition was compliant at the time of initial construction. No additional work is required as this condition was compliant when installed.

Example 6: An existing water pump must be replaced in the Central Utility Plant. An exact duplicate is no longer available, but an updated model is available. The updated water pump is lighter than the original pump and has similar anchorage. The new water

pump must be UL certified. A new anchorage detail is required and must be submitted for review. Disinfection of potable water system required per CPC, 609.10.

Example 7: An OSHPD 1 nursing unit with licensed patient beds was renovated to be an administration office and the patient beds were removed from the license. These rooms were not held in suspense as the licenses were transferred to the new patient rooms, or the number of licensed beds was reduced. The hospital's census has risen over the years and now they would like to convert the administrative offices back to patient rooms. This is a change of occupancy; therefore the proposed nursing unit would have to meet the requirements of the current code, including patient room requirements and all support functions for a nursing unit. Non-compliant room sizes may be considered through the Alternate Method of Compliance process.

Example 8: A nursing unit with licensed patient beds was vacated and the beds were placed in suspense. The facility now wishes to take the beds out of suspense. OSHPD may need to do an assessment of the area prior to reoccupying the unit to ensure that unauthorized work did not occur, that medical gases, if applicable, are tested and recertified, etc., and that the unit complies with the code at the time it had been constructed and licensed.

Example 9: Five roof-mounted exhaust fans are direct replacement. They serve multiple spaces including several operating rooms. The tower was constructed 20 years ago when the fans were installed in compliance with the code at that time. All spaces served by the subject exhaust fans will need to be rebalanced. Mechanical plans shall contain all necessary information to demonstrate design airflows in areas served by the equipment and shall comply with the ventilation and air balance requirements in CMC Table 4-A. A balance report will be required upon completion of the project. Airflows may comply with the code requirements in effect when the facility was first constructed.

REVISION HISTORY

Version 1.0	June 2025	First issued and used Code Application Notice (CAN) 2-102.6 Remodel (Renovations, Alterations, Repairs) as the basis to develop this new Advisory Guide since the content is not interpreting code but providing guidance on various types of remodel projects. The following information describes how the CAN was updated to this new guide. This guide uses the terms defined in the California Building Code and California Existing Building Code such as addition, alteration, change of occupancy and change in function and repair to reflect the different types of projects. Added references to the 2022 California Existing Building Code since it contains the requirements for these types of projects. Updated the Health facility remodel flow chart to assist design professionals in determining if a resubmittal meeting is necessary. Revised the narratives and flow charts to reflect the defined terms and the path for the different types of projects. Updated all the disciplines and provided paths for each type of remodel and equipment replacement. Equipment replacement is separated into whole equipment or component only. Included information for medical gas projects. Added project examples for the different disciplines.