

Advisory
Guide
Series

A5

FOR
GENERAL ACUTE CARE
HOSPITAL FACILITIES
[OSHPD 1] Buildings

**NPC-5
WATER RATIONING
PLAN**

Includes:
Water Rationing Plan
Plumbing Fixtures Table
FAQs
CDPH Evaluation Tool

Office of Statewide Hospital Planning and Development

**Department of Health Care Access and Information
Office of Statewide Hospital Planning and Development**

Headquarters and Northern California
(916) 440-8300

Southern California
(213) 897-0166

<https://hcai.ca.gov>

INTRODUCTION

The California Department of Health Care Access and Information (HCAI), Office of Statewide Hospital Planning and Development (OSHPD), has prepared this “*NPC-5 Water Rationing Plan for General Acute Care Hospital Facilities – Advisory Guide A5*” to address frequently asked questions to HCAI/OSHPD and the California Department of Public Health (CDPH) as they relate to General Acute Care Hospital Facilities, or OSHPD 1 Buildings, in Nonstructural Performance Category 5 (NPC-5).

Specifically, California Code of Regulations, Title 24, California Building Standards Code, and Title 22, Social Security, are applied.

The “*NPC-5 Water Rationing Plan for General Acute Care Hospital Facilities – Advisory Guide A5*”, hereinafter referred to as the “Advisory Guide”, is to be used for reference only. Whereas it presents code information regarding key elements, this Advisory Guide shall not be considered a complete representation of all requirements. Compliance with applicable laws, regulations and codes are the responsibility of the design professional in charge, in accordance with California Administrative Code, Section 7-115.

Appendix D in this document is used by CDPH to evaluate the impact of the water rationing plan on General Acute Care Hospital Facility services for Nonstructural Performance Category 5 (NPC-5). This is an internal evaluation tool used by CDPH. The facility does not need to submit this checklist along with the water rationing plan. The document is for reference only to assist the design team and facility in preparing the water rationing plan.

Department of Health Care Access and Information (HCAI)
Office of Statewide Hospital Planning and Development (OSHPD)
has drafted this Advisory Guide in consultation with the
California Department of Public Health (CDPH)

(This page is intentionally blank.)

TABLE OF CONTENTS

| | |
|--|-------------|
| INTRODUCTION..... | i |
| TABLE OF CONTENTS..... | iii |
| SECTION 1 Background..... | 1 |
| SECTION 2 Code Reference Index | 2 |
| SECTION 3 Submittal Instructions and Timeframe Requirements..... | 5 |
| APPENDIX A – [OSHPD 1] General Acute Care Hospital (GACH) WATER RATIONING PLAN..... | A-1 |
| APPENDIX B – [OSHPD 1] General Acute Care Hospital (GACH) PLUMBING FIXTURES TABLE..... | B-1 |
| APPENDIX C – [OSHPD 1] General Acute Care Hospital (GACH) Frequently Asked Questions (FAQs) | C-1 |
| APPENDIX D – [OSHPD 1] General Acute Care Hospital (GACH) CDPH Evaluation Tool Checklist..... | D-1 |
| REVISION HISTORY | RH-1 |

(This page is intentionally blank.)

SECTION 1 BACKGROUND

The 2022 California Plumbing Code, Section 615.4 states that “*The emergency water storage capacity shall be computed based on an approved Water Conservation/Water Rationing Plan to provide for 72 hours of operation, accepted by the licensing agency.*” This *Advisory Guide* does not provide a comprehensive list, it only outlines commonly asked information by the Department of Health Care Access and Information (HCAI), Office of Statewide Hospital Planning and Development (OSHPD), also referred to as “the Office”, and the California Department of Public Health (CDPH). Additional information should be provided to reflect building specific information where necessary.

Nonstructural Performance Category 5 (NPC-5) refers to the ability of a hospital facility to support 72 hours of emergency operations. The 2022 California Plumbing Code has exceptions (see Sections 615.4 and 727.0) that allow much smaller holding tanks where alternate arrangements have been made for delivery of water or transportable means for sewage and liquid waste disposal. Where such exceptions are used, the arrangements require approval by HCAI/OSHPD and CDPH.

The NPC-5 requirement refers to both potable water as well as industrial/process water to operate hospital utilities and equipment to support 72 hours of emergency operations.

For a seismically separate building that has licensed patient beds, a minimum of 150 gallons of potable water per licensed bed shall be provided (2022 California Plumbing Code, Section 615.4) with additional industrial/process water to support 72 hours of emergency operation of the subject building. A new Central Utility Plant must provide water for 72 hours of emergency operation for itself and any other new buildings but not for the existing buildings on the campus, but nothing prohibits installation of larger tanks at the time of construction. The existing buildings remaining in the acute care inventory on January 1, 2030 will need to comply with the NPC-5 requirements by January 1, 2030.

The amount of water required is determined from the facility’s emergency operations plan and an associated Water Conservation/Water Rationing Plan to provide for 72 hours of operation. The water conservation/water rationing plan must also be accepted by the California Department of Public Health Licensing and Certification. Whereas there is a minimum volume of potable water per licensed bed, there is no minimum volume for industrial/process water in the California Plumbing Code. This volume is dependent on which utilities and systems the hospital facility intends to operate during an emergency. The Water Conservation/Water Rationing Plan must account for losses in the process water for closed loop heating and cooling systems.

The California Plumbing Code, Section 615.4.2 requires the emergency supply of water be provided with sufficient pressure using gravity, pressure tanks or booster pumps. If booster pumps are provided, they are required to be connected to the emergency power supply system. California Plumbing Code, Section 615.4.2 applies even when the exception of the California Plumbing Code, Section 615.4.1 is used to ensure that the

emergency supply of water is delivered to the end point of usage at sufficient pressure from the storage tank. The ability to dispense water to portable containers from the storage tank required in the exception of the California Plumbing Code, Section 615.4.1 is to be considered a measure of last resort.

Refer to planning guide, “[Emergency Water Supply Planning Guide for Hospitals and Health Care Facilities](#)” by the Centers for Disease Control and Prevention (CDC) and American Water Works Association (AWWA). Atlanta: U.S. Department of Health and Human Services (DHHS); 2012, Updated 2019.

CDPH issued [All Facility Letter](#) (AFL 23-21) regarding water rationing plan and storage requirements on June 30, 2023.

SECTION 2 CODE REFERENCE INDEX

This Advisory Guide is the result of a joint effort between various regulatory authorities. Consequently, references from a number of code sources are included. The items/requirements on the following pages are categorized into groups as color-coded below:

RED – Code Sections designated in red are direct building code requirements supported by Title 24, California Code of Regulations, California Building Standards Code (CBSC) including the California Building Code (CBC), California Electrical Code (CEC), California Mechanical Code (CMC) and California Plumbing Code (CPC).

PURPLE – Code Sections designated in purple are indirect code requirements as standards referenced by the CBSC. These include requirements associated with California Department of Public Health regulations Title 22 §70271, §70273, §70275, §70277, §70279 and §70481. Although not direct requirements, they are referenced by the CBSC and will need to be in compliance with those regulations prior to licensure by CDPH.

BLUE – Items designated in blue are strongly recommended items and/or practical support of submitted project programmatic requirements.

BLACK – Black text is generally provided for reference and context.

TITLE 24, California Code of Regulations, Part 5 California Plumbing Code

615.4 [OSHPD 1] Emergency Water Supply.

615.4.1 *For new acute care hospital buildings submitted after the effective date of this code, the hospital shall have an on-site water supply sufficient to operate essential hospital utilities and equipment in the acute care hospital building, to support 72 hours of continuing operation in the event of an emergency. Any general acute care hospital in operation after January 1, 2030 shall have an on-site water supply sufficient to operate essential hospital utilities and equipment in the acute care hospital buildings on the campus with an SPC-3, SPC-4, or SPC-5 rating, to support 72 hours of continuing operation in the event of an emergency. See also California Building Code, Part 2, Section 1617A.1.40.*

The emergency water storage capacity shall be computed based on an approved Water Conservation/Water Rationing Plan to provide for 72 hours of operation, accepted by the licensing agency. For acute care hospital facilities or buildings required to meet NPC-5, on-site water supply of not less than 150 gallons [based on 50 gallons/day/bed for 72 hours] of potable water per licensed bed shall be provided. In no event shall the campus on-site water storage capacity be less than one tank with at least 5,000 gallons capacity.

The emergency supply shall have fittings to allow for replenishment of the water supply from transportable water sources and a means to dispense water to portable containers in the event that normal water supply becomes unavailable.

Exception: *With the approval of the Office and the licensing agency, hook-ups that allow for the use of transportable sources of potable water may be provided in lieu of 72 hours of on-site storage if a minimum onsite water supply of potable and industrial water is provided, sufficient to support 24 hours of operation, without replenishment based on the hospital's approved Water Conservation/Water Rationing plan. In no event shall the on-site water storage capacity be less than one tank with at least 5,000 gallons capacity. This emergency supply tank shall have fittings to allow for replenishment of the water supply from transportable water sources and a means to dispense water to portable containers in the event that normal water supply becomes unavailable.*

615.4.2 *The emergency supply of water shall be provided at adequate pressure using gravity, pressure tanks, or booster pumps. Pumps used for this purpose shall be provided with electrical power from the on-site emergency power supply system.*

727.0 [OSHPD 1] Emergency Sanitary Drainage.

727.1 *For new acute care hospital buildings submitted after the effective date of this code, the hospital shall have an onsite holding tank[s] to store sewage and liquid waste sufficient to operate essential hospital utilities and equipment in the acute care hospital building, to support 72 hours of continuing operation in the event of an emergency. Any general acute care hospital in operation after January 1, 2030 shall have an on-site holding tank[s] to store sewage and liquid waste sufficient to operate essential hospital utilities and equipment in the acute care hospital buildings on the campus with an SPC-3, SPC-4, or SPC-5 rating, to support 72 hours of continuing operation in the event of an emergency. The emergency waste holding capacity shall be based on the Water Conservation/Water Rationing Plan required in Section 615.4.1. See also California Building Code, Part 2, Section 1617A.1.40.*

Exception: *Hook-ups that allow for the use of transportable means of sewage and liquid waste disposal may be provided instead of on-site storage if the hospital has a plan for storage of sewage and liquid waste. This plan may include the use of leak-proof bags if adequate storage of these and other bags of waste are provided. These storage facilities shall comply with the appropriate local health and environmental authorities' requirements, California Department of Public Health requirements for medical waste management, and comply with the following minimum requirements:*

(a) Location[s]. *Location[s] shall be provided for waste collection and storage with sufficient space based upon the volume of projected waste and length of anticipated storage.*

(b) Enclosure[s]. Lockable room[s] or lockable screened enclosure[s] of adequate capacity to store the quantity of waste anticipated shall be provided for the washing and cleaning of containers and for the storage of sewage and waste water.

The room[s] or screened enclosure[s] shall include the following:

1. *Floor and curb.* A sealed concrete floor or other approved impervious flooring with a curb and with a drain connected to the sewer.
2. *Water.* Steam or hot water and cold water supplies in accordance with the California Plumbing Code.

**TITLE 22, California Code of Regulations, Division 5
Chapter 1 – General Acute Care Hospitals, Article 8 – Physical Plant**

70863. Water Supply and Plumbing.

(a) Water for human consumption from an independent source shall be subjected to bacteriological analysis by the local health department, State Department of Health or a licensed commercial laboratory at least every three (3) months. A copy of the most recent laboratory report shall be available for inspection.

(This page is intentionally blank.)

SECTION 3 SUBMITTAL INSTRUCTIONS AND TIMEFRAME REQUIREMENTS

Submittal Instructions:

For existing buildings, please do not create a project in eSP. Submit an [Application for New Project \(HCAI-OSH-121\)](#) and any supporting documents to the HCAI/OSHPD Seismic Compliance Unit (SCU). Once SCU receives your submittal, a project will be created for you. Please click [here](#) for SCU submittal instructions.

For new buildings, please do not create a SCU project, please submit your water rationing plan document as part of a new building construction project. These reviews are performed by the appropriate region of the Building Safety Section of HCAI/OSHPD.

Both HCAI and CDPH approvals are required for water rationing plans for new or existing buildings. To help coordinate and expedite the review and approval, HCAI/OSHPD internally coordinates comments from CDPH, therefore, there is no need for applicants to contact CDPH regarding the water rationing plan.

HCAI initially reviews the Water Rationing Plan. Once HCAI major comments are resolved; the submittal is then sent by HCAI to CDPH for their review and approval.

Timeframe Requirements:

- For any General Acute Care Hospital: By **January 1, 2024**, the hospital owner shall submit to the Office a complete nonstructural evaluation up to NPC-4 or 4D and NPC-5, for each building.
- By **January 1, 2026**, the hospital owner shall submit to the Office construction documents for NPC-4 or 4D and NPC-5 compliance that are deemed ready for review by the Office, for each building that will continue to provide acute care services beyond January 1, 2030.
- By **January 1, 2028**, the hospital owner shall obtain a building permit to begin construction, for NPC-4 or 4D and NPC-5 compliance of each building that the owner intends to use as a general acute care hospital building after January 1, 2030.
- By **January 1, 2030**, the general acute care building shall achieve NPC-5 rating.

Where buildings are removed from general acute care, see Appendix C for Frequently Asked Questions (FAQs) for additional information on timeline and procedure.

(This page is intentionally blank.)

APPENDIX A

**[OSHPD 1]
General Acute Care Hospital (GACH)
WATER RATIONING PLAN**

| | |
|--|---------------|
| Date: | |
| Facility ID: | |
| Facility Name: | |
| Building Number(s): | BLD-xxxxx |
| Licensed Beds: | Per BLD-xxxxx |
| Building Area(s) (SF): | |
| HCAI/OSHPD Construction Project Number(s) (if any): | |
| HCAI/OSHPD SCU Project Number(s) (if any): | |

**Facility Key Map (from the HCAI website)
Indicate the Building(s) in Water Rationing Plan**



Facility key maps are available: <https://hcai.ca.gov/construction-finance/facility-detail/>

Additional Documents Required:

- Diagram showing the shutoff / redirection valve locations.
- Architectural Floor Plans showing services (optional).
- Supporting capacity calculations.
- Facility sign-off on water rationing plan.

Executive Summary

Please provide a brief explanation indicating existing water and wastewater storage capacity (gallons), additional proposed water and wastewater storage capacity (gallons), anticipated emergency usage (gallons), services that are affected, and water replenishment/tanker truck arrangements.

See **example** below for a 75-bed hospital:

| | Water Interruption time-period | | |
|--|--------------------------------|--------------------------|--------------------------|
| | 0-24 hours | 24-48 hours ³ | 48-72 hours ³ |
| Code minimum for 75 beds – 11,250 gallons for 3 days ⁶ | | | |
| Existing average water usage ¹ | 200,000 | 200,000 | 200,000 |
| Water Rationing Plan water requirement - 60,000 gallons for 3 days. | | | |
| Existing water storage capacity | 10,000 ⁵ | | |
| Additional proposed water storage capacity | 10,000 ⁵ | | |
| Water replenishment/tanker truck arrangements | | 20,000 ⁵ | 20,000 ⁵ |
| Water Rationing Plan wastewater requirement - 45,000 gallons for 3 days | | | |
| Existing wastewater storage capacity | NA | NA | NA |
| Additional proposed wastewater holding tanks | 15,000 ^{2,5} | | |
| Wastewater removal tanker truck arrangements | | 15,000 ^{2,5} | 15,000 ^{2,5} |
| Service(s) affected under water rationing plan include _____ ⁴ | | | |

Footnotes:

- ¹ It is acceptable to include the quantity even if information available includes non-acute care facilities on campus. This quantity is used just as reference.
- ² A minimum size of 24 hour for holding tank is required to match the minimum 24 hour on-site water tank requirement. Beyond 24 hours, additional leak proof bags may be included to provide 72 hours of on-site capacity as recommended under this guide per CPC §727.1.
- ³ 48 hours and 72 hours are provided to indicate the prior arrangements made to meet 72 hours of continued operation per water rationing plan.
- ⁴ Provide a brief list or reference the section within the report where affected service(s) are listed.
- ⁵ Volume listed in gallons and represents the usable capacity (not total).
- ⁶ Minimum onsite water supply of potable and industrial water sufficient to support 24 hours of operation not less than 5,000 gallons as allowed per CPC §615.4 exception.

Water Usage under Normal Operating Conditions

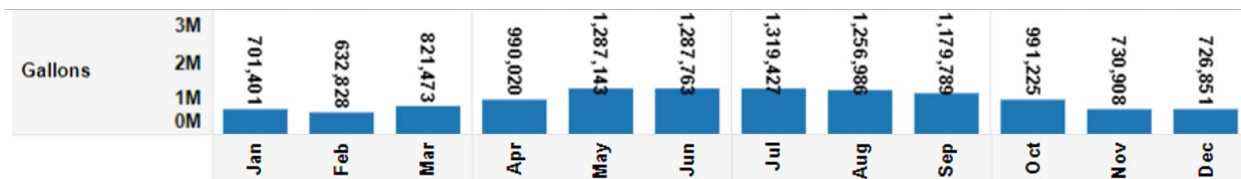
| For New Buildings in Design | | Gallons per Day |
|-----------------------------|---|-----------------|
| | Anticipated normal water usage (extrapolating from other similar existing buildings is acceptable.) | |
| For Existing Buildings | | |
| | Wintertime minimum normal water usage | |
| | Summertime maximum normal water usage | |

Below is an example from a facility-wide year-long water bill:

Feb: 632,472 gallons / 28 days = 22,588 gallons per day

July: 1,319,427 gallons / 31 days = 42,562 gallons per day

(Irrigation related usage can be excluded from the calculation if emergency water tank(s) are not connected to the irrigation network.)



Source(s) of Emergency Water Supply

Provide clear descriptions of facility’s water source(s)/supplier(s) (including utility and other source/supplier contact information) and supply main(s) and corresponding meter(s) for water entering the facility.

| Primary Emergency Water Supply^{1, 4} | Capacity (Gallons) | Notes |
|--|---------------------------|----------------------------------|
| Existing Water Tank(s) | | |
| New Water Tank(s) | | |
| Well(s) if any (daily average) ² | | |
| Other | | |
| | | |
| | | |
| Secondary Emergency Water Supply (if any)³ | Capacity (Gallons) | Notes (indicate location) |
| Bottled Water | | |
| Other Stored Water | | |
| | | |

Footnotes:

- ¹ Primary water supply— Provide capacity, location(s) and building numbers served.
- ² Well(s) including tanks, pumps, etc.: Provide well study showing anticipated average output on a daily basis. Provide a statement documenting that water quality (and/or treatment) satisfies public health standards.
- ³ Secondary water supply—This may include bottled water suppliers or bulk water tanker services.
- ⁴ The building that houses pump, tanks, filtering equipment must be in HCAI/OSHPD jurisdiction.

Identify Water Uses in the Building(s)

Consider all equipment, processes, and materials that use water. (e.g., HVAC, water-cooled compressors, etc.)

| Water Uses | Minimum Gallons per Day |
|--|-------------------------|
| Plumbing Fixtures ¹ | |
| Physical Plant | |
| Humidification | |
| Laundry, if outsourced, are there adequate supplies on hand? | |
| Housekeeping / Infection Control | |
| Fire & Life Safety Systems | |
| Sterilization Equipment | |
| Clinical Lab | |
| Hemodialysis | |
| Kitchen / Dietary | |
| Pharmacy | |
| Drinking Water | |
| Others (please list) | |

Footnote 1: See Appendix B

Water Quality

1. For new and/or existing tanks, indicate how water quality will be maintained.
2. Provide a plan that addresses treatment processes and water quality testing (if applicable).

Water Replenishment/Tanker Trucks

1. Identify the connection locations that will allow for placement of the tanker truck. Clearly indicate which connections are for potable water and which are for non-potable/industrial water, if broken out separately. Indicate water tank(s) refill interval (24, 48, 72 hours).
2. Name the company(ies) that have been contracted to provide tanker trucks to replenish water. Specify the date range for which the contract/agreement is valid.
3. Indicate how the contract will be monitored.
4. Provide information regarding the water use from the state drinking water authority, the public water utility, and possibly, the local emergency management agency.

Please note that tanker truck hookup, pumping water and disconnecting lines take time. Too many tanker trucks per day may not be feasible to execute. Consider increasing water storage capacity if truck replenishment proposed frequency is under 2 hours.

Emergency Wastewater Storage

| Primary Emergency Wastewater Storage ¹ | Capacity (Gallons) | Notes |
|---|--------------------|-------|
| Existing Wastewater Tank(s) | | |
| New Wastewater Tank(s) | | |
| | | |
| <i>Secondary Emergency Wastewater (if any)</i> | | |
| Leak-proof bags ² | | |
| Location of leak-proof bags ² | | |

Footnotes:

¹. There is no minimum size for the holding tank provided in Section 727.1, 2022 California Plumbing Code. The capacity shall be based on the Water Conservation/Water Rationing Plan required in Section 615.4.1. A minimum size of 24 hour for holding tank is required. The purpose of the holding tank is to permit 72 hours of continuing operation if the external sewer connection is severed. Thus, HCAI/OSHPD does not have any requirements for connection of the holding tank to the existing sewer line; however, such connections should be made with sufficient valves to isolate the external sewer lines.

². The exception to Section 727.1, 2022 California Plumbing Code permits use of leak-proof bags where adequate storage for such bags is provided and where storage facilities comply with the appropriate local health and environmental authorities' requirements, with the California Department of Public Health requirements for medical waste management, AND with requirements for location as well as enclosure. HCAI/OSHPD takes no objection for use of the parking lot or any other location for storing these bags if the storage location complies with the requirements of a lockable screen enclosure, floor, curb, drain connected to a sewer and supply of water as enumerated in this exception.

Temperature (Heating/Cooling)

If the facility is planning on limiting (or temporarily shutting down) heating/cooling, what services will be affected?

How will facility monitor and maintain adequate humidity, temperature, and air pressure?

| List of Services to be affected by heating/cooling modifications from normal day to day operations | Building Number(s) |
|--|--------------------|
| | |
| | |
| | |
| | |
| | |

During periods of power outages essential electrical power is to be provided for the cooling equipment necessary to maintain temperature and humidity for a minimum of one operating room and other spaces as identified in the functional program.

Based on CDPH discussions, CDPH recommends at a minimum, the facility should provide industrial water to heat/cool/humidify:

1. Operating Rooms
2. Temperature sensitive drugs and medical supplies.

Water rationing plan shall also include infection control measures for CDPH licensing and certification review.

For cooling/humidification units serving these spaces not connected to essential power, HCAI recommends (not requires) having alternate power source arrangements to maintain design temperatures per 2022 CMC Table 4-A.

Identify Impacted Services in the Building(s)

Identify services that may be impacted/restricted in the event of a water supply interruption and/or by the implementation of facility’s water rationing plan. For any services that are listed as Restricted or Impacted please provide detail on:

1. Any impacts to the service(s) that may be affected by the implementation of your Water Rationing Plan.
2. Reduction in capacity or services implemented by the Water Rationing Plan.
3. Applicable modifications to staff procedures.

| List of Services | Functional Status ¹ | Temperature Control ² | Notes ³ | N/A |
|--|--------------------------------|----------------------------------|--------------------|-----|
| Basic | | | | |
| Medical & Nursing | | | | |
| Surgical & Anesthesia | | | | |
| Clinical Laboratory | | | | |
| Radiological | | | | |
| Pharmaceutical | | | | |
| Dietetic | | | | |
| Supplemental | | | | |
| Emergency | | | | |
| Intensive Care | | | | |
| Outpatient | | | | |
| Dialysis | | | | |
| Therapy/Rehab | | | | |
| Support Services | | | | |
| Storage | | | | |
| Morgue | | | | |
| Administrative Space | | | | |
| Central Sterile Supply and Infection Control | | | | |
| Employee Dressing Rooms & Lockers | | | | |
| Housekeeping | | | | |
| Laundry | | | | |
| Others: (please list) | | | | |
| | | | | |

¹ List if the service is fully functional (FF), partially functional (PF) or not functional (NF).

² List if service spaces are maintaining temperature/humidity range per 2022 CMC Table 4A.

³ Provide additional information in notes for services partially functional or not maintaining temperature/humidity control.

Further Considerations

Pharmacy

1. Are there any impacts to compounding oral and IV clean rooms (cleaning, handwashing, and eyewash)?
2. Is handwashing/hand-hygiene available to pharmacy staff and at what frequency will hand hygiene be conducted?
3. How is the facility conducting sanitization of pharmacy and clean room(s)?
4. Are clean room scrub/sinks available for pharmacy staff?
5. Are oral suspension medications available for patients?
6. Is eyewash available?

Dietetic

1. Is the disaster food a dehydrated product? If so, how much additional water is planned for rehydrating this food?
2. Has normal dietetic service water usage been determined? If there is a plan to reduce water usage in dietetic service, describe what the plan is and how the reduction is calculated.
 - a. Handwashing is required in food preparation; hand sanitizer cannot replace handwashing.
 - b. How will food contact surfaces continue to be sanitized per safe food handling standards of practice?
 - c. Will cleaning routines be modified to save water?
3. If the plan includes the use of disposables, some warewashing may still be required, has this been included in the calculations for reducing water usage?
4. What is the plan for retail food service during an emergency and what water needs will be required for this?

Life Safety Code

1. Does the Water Rationing Plan reflect the same Emergency Preparedness requirements as their Emergency Preparedness Program?
2. Do these two plans support each other/same intent, just one for 72 hours? Or 24 hours?
3. How will facility handle the water for the automatic sprinkler system?
4. How will the facility handle fire watch as an alternate process (if used)?

APPENDIX B

**[OSHPD 1]
 General Acute Care Hospital (GACH)
 PLUMBING FIXTURES TABLE**

| Plumbing Fixture Calculation | | | | | | | |
|------------------------------|----------|-----------|--------|----------|--------------------------|-------------|---------------|
| Fixture Type | Quantity | Water Use | | Duration | Use per Day ¹ | Daily Total | 72 Hour Total |
| Water Closet | (#) | 1.28 | flush | n/a | (#) | (#) | (#) |
| Urinal | (#) | (#) | flush | n/a | (#) | (#) | (#) |
| Handwash | (#) | (#) | minute | 20 sec | (#) | (#) | (#) |
| Lavatory | (#) | (#) | minute | 20 sec | (#) | (#) | (#) |
| Scrub Sink | (#) | (#) | minute | 2 min | (#) | (#) | (#) |
| Process Sink | (#) | (#) | minute | tbd | (#) | (#) | (#) |
| Shower | (#) | 1.5 | minute | 5 min | (#) | (#) | (#) |
| Clinical Sink | (#) | 6.5 | flush | n/a | (#) | (#) | (#) |
| Mop Sink | (#) | (#) | minute | tbd | (#) | (#) | (#) |
| Drinking Fountain | (#) | .25 | minute | (30 sec) | (#) | (#) | (#) |
| Other | | | | | | | |

Footnote 1: Use per Day factored on occupant load in building.

(This page is intentionally blank.)

APPENDIX C

Frequently Asked Questions (FAQs)

1. Do hospital facilities need to meet the requirements of NPC-5 now?

For existing buildings, the milestone date for NPC-5 compliance is January 1, 2030 per the 2022 California Administrative Code, Chapter 6, Table 11.

However, if a new seismically separate general acute care hospital building greater than 4,000 square feet is constructed, it is required to be NPC-5 compliant per Section 1617A.1.40 of the 2022 California Building Code. Only the new building is required to be NPC-5 compliant and not the entire facility.

2. Is NPC-5 a campus-wide designation (like NPC-2) or a seismically separate building designation?

NPC-5 is a building specific designation with facility wide compliance expected in 2030, but new seismically separate buildings constructed to the 2010 or later California Building Codes are required to be NPC-5 compliant at the time of occupancy. HCAI/OSHPD recommends planning to comply on a campus-wide basis with a phased approach to obtain NPC-5 compliance for a new building before its occupancy.

3. Is a hospital facility required to have storage tanks for 72 hours of water and sewage and liquid waste? The required tanks are too big and our site does not have the room for placement of such tanks.

NPC-5 refers to the ability of a hospital facility to support 72 hours of emergency operations. The California Plumbing Code has exceptions (see Sections 615.4 and 727.0 of the 2022 California Plumbing Code) that allow much smaller holding tanks where alternate arrangements have been made for delivery of water or transportable means for sewage and liquid waste disposal. Where such exceptions are used, the arrangements require approval by HCAI/OSHPD and the California Department of Public Health.

4. Does the NPC-5 requirement of 72 hours of water refer to potable water only? Is industrial water or (process) water to operate hospital utilities included in this storage requirement?

NPC-5 requirement refers to both potable water as well as industrial/process water to operate hospital utilities to support 72 hours of emergency operations:

For a seismically separate building that has licensed patient beds, a minimum of 150 gallons of potable water per licensed bed shall be provided (Section 615.4, 2022 California Plumbing Code) with additional industrial/process water to support 72 hours of emergency operation of the subject building. Also see exception in California Plumbing Code Section 615.4.1, for a seismic separate building that has no licensed patient beds, potable water and industrial/process water to support 72

hours of emergency operation of the subject building. A new Central Utility Plant must provide water for 72 hours of emergency operation for itself, any other new buildings but not for the existing buildings on the campus (The existing buildings will need to comply by 2030).

The amount of water required is determined from the facility's emergency operations plan and an associated Water Conservation/Water Rationing Plan to provide for 72 hours of operation. The water conservation/water rationing plan must also be accepted by the California Department of Public Health Licensing and Certification. Whereas there is a minimum volume of potable water per licensed bed, there is no minimum volume for industrial/process water in the California Plumbing Code. This volume is dependent on which utilities and systems the hospital facility intends to operate during an emergency. The Water Conservation/Water Rationing Plan must account for losses in the process water for closed loop heating and cooling systems.

Refer to planning guide, "[Emergency Water Supply Planning Guide for Hospitals and Health Care Facilities](#)" by the Centers for Disease Control and Prevention (CDC) and American Water Works Association (AWWA). Atlanta: U.S. Department of Health and Human Services (DHHS); 2012, Updated 2019.

HCAI/OSHPD review of NPC-5 will be based on the volume of water required by the facility's Water Conservation/Water Rationing Plan (as part of the facility's emergency operations plan) as required by the California Plumbing Code.

5. Does the facility have to comply with Section 615.4.2 of the 2022 California Plumbing Code even when using the exception in Section 615.4.1?

Section 615.4.2 of the 2022 California Plumbing Code requires the emergency supply of water be provided with sufficient pressure using gravity, pressure tanks or booster pumps. If booster pumps are provided, they are required to be connected to the emergency power supply system.

Section 615.4.2 applies even when the exception of Section 615.4.1 of the California Plumbing Code is used, to ensure that the emergency supply of water is delivered to the end point of usage at sufficient pressure from the storage tank. The ability to dispense water to portable containers from the storage tank required in the exception of Section 615.4.1 of the California Plumbing Code is to be considered a measure of last resort.

6. Per Section 727 of the 2022 California Plumbing Code, can the facility store the sewage and liquid waste in a 5,000-gallon tank? Does this tank need to be connected to a sewage line?

Yes, holding tanks are required; however, the minimum size for the holding tank is based on the water rationing plan as required in Section 727, 2022 California Plumbing Code. The capacity shall be based on the Water Conservation/Water Rationing Plan required in Section 615.4.1. A minimum size of 24 hour for holding tank is required.

The purpose of the holding tank is to permit 72 hours of continuing operation if the external sewer connection is severed. Thus, HCAI/OSHPD does not have any requirements for connection of the holding tank to the existing sewer line; however, such connections should be made with sufficient valves to isolate the external sewer lines.

7. Can we use bladder tanks to store sewage and wastewater in the parking lot?

The exception to Section 727, 2022 California Plumbing Code permits use of leak-proof bags where adequate storage for such bags is provided where they comply with the appropriate local health and environmental authorities' requirements, California Department of Public Health requirements for medical waste management and requirement for location as well as enclosure.

HCAI/OSHPD takes no objection for use of the parking lot or any other location for storing these bags, if the storage location complies with the requirements of a lockable screen enclosure, floor, curb, drain connected to a sewer and supply of water as enumerated in this exception.

8. What are the requirements if the building is planned to be removed from the general acute care service before 2030?

The 2022 California Administrative Code, Chapter 6, Article 1, Section 1.5.2.1 requirements for deadlines for NPC 4 or NPC 4D and NPC 5 evaluation and submittal of plans, and construction work for acute care buildings to be removed from acute care service by January 1, 2030 deadline.

1.5.2.1.1 By January 1, 2024, the hospital owner shall submit to the Office a complete nonstructural evaluation up to NPC 4 or 4D and NPC 5, for each building.

NPC 4 / NPC 5 evaluation shall consist of a letter from the hospital on their letterhead signed by the Administrator / CEO stating that BLD-xxxxx will be removed from acute care usage by January 1, 2030. This letter will need to be submitted as part of a Seismic Compliance Unit (SCU) project.

1.5.2.1.2 By January 1, 2026, the hospital owner shall submit to the Office construction documents for NPC 4 or 4D and NPC 5 compliance that are deemed ready for review by the Office, for each building that will continue to provide acute care services beyond January 1, 2030.

The facility will need to submit one or more Removal from Acute Care (RACs) construction projects to meet the requirements of Applying for Removal of Acute Care Services. If no construction is required for the removal of acute care services, then this step may be skipped.

1.5.2.1.3 By January 1, 2028, the hospital owner shall obtain a building permit to begin construction, for NPC 4 or 4D and NPC 5 compliance of each building that the owner intends to use as a general acute care hospital building after January 1, 2030. Hospitals not meeting the January 1, 2028 deadline set by this section shall not be issued a building permit for any noncompliant building except those required for seismic compliance in accordance with the California Administrative Code (Chapter 6), maintenance, and emergency repairs until the building permit required by this section is issued.

Removal of Acute Care Services (RACs) construction project(s) shall obtain building permit(s) by January 1, 2028. After closure of these projects in compliance, a no construction RACs project shall be submitted to the Office as per Applying for Removal of Acute Care Services indicating whose jurisdiction the building will be in (local authority having jurisdiction or OSHPD). Once that project is closed in compliance, submit a project by January 1, 2030, to the SCU to remove the building from the acute care building inventory.

APPENDIX D

P&P 800.4.4
 Attachment A
 September 2022

**Hospital Emergency Water Rationing Plan
 Evaluation Tool**

Directions: Pursuant to [Title 24 California Code of Regulations section 615.4.1](#), general acute care hospitals (GACH) must have onsite water supply sufficient to operate for 72 hours, in the event of an emergency. GACHs must develop a water rationing plan that is reviewed and approved by the Department of Health Care Access and Information (HCAI) and the Center for Health Care Quality (CHCQ). GACHs must store a minimum of 150 gallons of water per licensed bed (50gal/bed/24-hours).

Use the below requirements to evaluate a GACH's water rationing plan.

I. General Requirements

| Plan Component | Evaluation |
|--|---|
| <p>Plan indicates how the services are provided in the event of an emergency. GACHs must provide basic services such as medical, nursing, surgical, anesthesia, laboratory, radiology, pharmacy, and dietary services. The plan should describe how services that rely on water will be provided.</p> <p>NOTE: Rural GACHs as defined under HSC section 1250(a) are not required to provide surgical and anesthesia services.</p> <p>Authority:</p> <ul style="list-style-type: none"> • HSC section 1250(a), 129680, & 130005(c) • Title 24 CCR section 615.4.1 | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |

| Plan Component | Evaluation |
|---|--|
| <p>Plan provides for a minimum water supply of 150 gallons per licensed bed (50gal/24-hours/bed for 72-hours of operation).</p> <ul style="list-style-type: none"> Review licensed bed capacity in ELMs to determine the minimum water supply. For new GACHs that are being built or that are not in ELMs, refer to the GACH's bed capacity in their water rationing plan. <p>NOTE: GACHs may be granted an exception by CHCQ and HCAI to store 50 gallons per licensed bed (50gal/24-hours/bed) and refill their water supply as needed to meet the 72-hour requirement. A GACH will be granted the exception when the GACH provides a copy of an agreement with an on-demand water supplier.</p> <p>Authority:</p> <ul style="list-style-type: none"> Title 24 CCR section 615.4.1 | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |
| <p>No water storage tank shall be less than 5,000 gallons.</p> <p>Authority:</p> <ul style="list-style-type: none"> Title 24 CCR section 615.4.1 | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |
| <p>Plan addresses how the GACH will continue to follow hospital infection prevention program during an emergency.</p> <p>The infection prevention program must include the following infection control requirements:</p> <ul style="list-style-type: none"> Sanitization of the facility Water supply testing The operation of autoclaves and sterilizers Staff hand hygiene program Patient hygiene options <p>Authority:</p> <ul style="list-style-type: none"> Title 22 CCR section 70739 | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |

II. Facility Equipment

Ensure the water rationing plan addresses the following areas as part of the plan and meets regulatory requirements:

| Plan Component | Evaluation |
|---|---|
| Air conditioning, heating/boilers, and ventilation Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70855 • Title 42 CFR section 482.41(d)(4) | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |
| Water heating equipment Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70863 • Title 22 CCR section 70273(m)(2-3) | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |
| Automatic fire suppression system NOTE: For certified facilities only. When a sprinkler system is shut down for 10 or more hours in a 24-hour period, the GACH must institute a fire watch until the system is back in service. (Title 42 CFR section 482.41 (b)(8)(ii)) Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70745 • Title 42 CFR 482.41(b)(1)(i) | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |

| Plan Component | Evaluation |
|---|--|
| <p>Toilets, handwashing, and bathing facilities</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70863(h) | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |
| <p>Medical gasses</p> <p>NOTE: GACHs should indicate in their water rationing plan if their medical gas equipment is water cooled or not. When the equipment is water cooled, the GACH must allocate water to operate it.</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70231 • Title 42 CFR section 482.52(b) | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |

III. Infection Prevention Measures

Ensure the water rationing plan addresses the following areas as part of the plan and meets regulatory requirements:

| Plan Component | Evaluation | | |
|--|--|----------------------------------|------------------------------|
| Routine sanitization of the facility. This may include: <ul style="list-style-type: none"> • Cleaning of occupied patient areas, procedure rooms, nurses' stations, work areas, halls, entrances, storage areas, rest rooms, laundry, pharmacy, offices, etc. • Cleaning of specialized areas such as nursery, operating, and delivery rooms • Cleaning of isolation areas • Cleaning of kitchen and associated areas • Cleaning of walls and ceilings • Terminal cleaning of patient unit upon discharge of patients Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70827 • Title 42 CFR section 482.42(a)(3) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Facility water supply is tested at least every three months Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70863(a) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Plan addresses how the GACH's facilities, supplies, and equipment ensure water quality is acceptable for the intended use (e.g., drinking water, lab water, etc.) during an emergency. This may include the facility's water supply and distribution system, water quality monitoring, and treatment system (as appropriate). Authority: <ul style="list-style-type: none"> • Title 42 CFR section 482.41(d) • SOM Appendix A A-0722 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |

| Plan Component | Evaluation |
|--|--|
| <p>Autoclaves and sterilizers shall be maintained in operating condition at all times</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70833(a) • Title 42 CFR section 482.51 | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |
| <p>Patient hygiene options are available</p> <p>Authority:</p> <ul style="list-style-type: none"> • HSC section 1288.95(c) • Title 42 CFR section 482.41(d) | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |
| <p>Plan ensures staff are conducting hand hygiene</p> <p>Authority:</p> <ul style="list-style-type: none"> • HSC section 1279.7(a) | <p>Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A</p> <p>Comments:</p> |

IV. Medical Services

Ensure the water rationing plan addresses the following areas as part of the plan and meets regulatory requirements:

| Plan Component | Evaluation | | |
|---|--|----------------------------------|------------------------------|
| <p>Suction machines/compressors</p> <p>NOTE: GACHs should indicate in their water rationing plan if their suction machine/compressor is water cooled or not. When the equipment is water cooled, the GACH must allocate water to operate it.</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70203(c)(5) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| <p>Visitor hygiene and hydration needs are adequately planned for</p> <p>NOTE: GACHs may reasonably restrict or limit visitation if visitation would significantly disrupt water conservation efforts or operations.</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70707(b)(17) • Title 42 CFR section 482.13(h) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| <p>Medical and surgical equipment are sterilized as needed</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR sections 70739 & 70833 • Title 42 CFR section 482.51 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| <p>Planning for the prompt transfer of casualties, when necessary and after preliminary medical or surgical services have been rendered, to another facility most appropriate to administer care</p> <p>NOTE: GACHs may cancel elective, non-emergency surgical, and interventional procedures. These procedures may be rescheduled until after a disaster, as necessary.</p> <p>Authority:</p> <ul style="list-style-type: none"> • Title 22 CCR section 70741(b)(5) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |

V. Nutrition Services

Ensure the water rationing plan addresses the following areas as part of the plan and meets regulatory requirements:

| Plan Component | Evaluation | | |
|--|--|----------------------------------|------------------------------|
| Patient and staff nutrition needs are met Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70741(b)(1) • Title 42 CFR section 482.15(b) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Water is available for meal preparation Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70741(b)(1) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Dietary staff are conducting handwashing Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70275(f)(3) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| The dietary service area is being sanitized Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70273(l) • Title 42 CFR section 482.28 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |

| Plan Component | Evaluation |
|---|---|
| Ware washing is being conducted or disposables are being used Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70273(m) | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |
| Patient and staff hydration needs are met Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70741(b)(1) • Title 42 CFR section 482.15(b)(1)(i) | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |
| Ice is provided from a sanitary source Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70865 | Evaluation: <input type="checkbox"/> Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A Comments: |

VI. Pharmaceutical Services

Ensure the water rationing plan addresses the following areas as part of the plan and meets regulatory requirements.

| Plan Component | Evaluation | | |
|--|--|----------------------------------|------------------------------|
| Pharmacy staff are conducting hand hygiene Authority: <ul style="list-style-type: none"> • HSC section 1279.7(a) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Pharmacy including the compounding room is being cleaned Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70827 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Pharmacy clean room scrub/sinks are being maintained to meet current standards Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70261 & 70267 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Medications are available 24-hours a day, including IV bags and oral suspension medications Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70263(e) | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |
| Water is available for medications requiring reconstitution and compounding Authority: <ul style="list-style-type: none"> • Title 22 CCR section 70261 | Evaluation: <input type="checkbox"/> Met | <input type="checkbox"/> Not Met | <input type="checkbox"/> N/A |

REVISION HISTORY

| | | |
|-------------|-------------|---|
| Version 1.2 | May 2024 | Wastewater holding tank clarification and essential electrical power requirement for ORs. |
| Version 1.1 | August 2023 | FAQs, CDPH internal checklist, industrial water requirement, summary tables, and minor editorial. |
| Version 1.0 | August 2022 | First Issued |

(This page is intentionally blank.)