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September 30, 2025

Eric Berg
Director, Research and Standards Unit
California Division of Occupational Safety and Health
1515 Clay St., Suite 1901
Oakland, CA 94612

**RE: Comments on Cal/OSHA's Updated Discussion Draft Occupational Exposure to Plume in Health Care**

Dear Mr. Berg,

On behalf of the California Nurses Association/National Nurses United (CNA), the largest union of registered nurses (RNs) in California with over 100,000 members who work providing bedside care in the state, we thank you for the opportunity to comment on the discussion draft "§51XX. Occupational Exposure to Plume in Health Care" developed by the California Division of Occupational Safety and Health (Cal/OSHA, hereinafter "Division"). As the sponsor of AB 1007 (Ortega, 2023), which requires the Division to submit a proposed regulation on surgical plume in health facilities by 2026, CNA champions the importance of protecting RNs and other health care workers from occupational exposure to surgical plume, which is a well-substantiated health hazard.

CNA appreciates the Division's work to update and strengthen the discussion draft to improve protection for RNs and other health care workers occupationally exposed to surgical plume including incorporating many of our comments. We support many of the changes made in the discussion draft while also urging the Division to make additional edits to ensure that RNs and other health care workers are fully protected from the negative health impacts of exposure to surgical plume.

1. **Comment #1: CNA Supports Updates to the Division's Discussion Draft**

Comments on Subdivision (a) Updates:

In the updated discussion draft, the Division expanded the scope to include general acute care hospitals and ambulatory surgical centers in subdivision (a). CNA supports this expanded scope. We also note that the trend in the health care industry has been that more procedures have been shifted to outpatient and other settings over time. If, in the future, the scope needs to be expanded, CNA is available to work with the Division on identifying which types of additional settings where workers are exposed to surgical plume.

CNA also supports additional changes in subdivision (a). Specifically, we support the added clarity to subdivision (a)(2) that other Title 8 standards are not precluded by the surgical plume standard, including the respiratory protection standard (§5144) and the airborne contaminants standard (§5155). It is important that the Division clearly instructs employers that they must comply with *all* applicable standards to protect RNs and other health care workers.

Comments on Subdivision (b) Updates:

The Division also added several new definitions to subdivision (b) that provide useful and important clarification, including definitions for administrative controls, ambulatory surgical center, gas phase filter, and HEPA filter.

In addition, CNA also supports the following changes to definitions in the discussion draft:

- We appreciate that the Division removed the word "medical" from the term "energy-based device" in response to our comments. We believe that this edit clarifies the standard and its requirements. We also support the Division's clarified definition of "energy-based device" in subdivision (b)(7).

- We support updating the definition from "surgical plume" to "plume" and the additional clarifying edits the Division made to this definition in subdivision (b)(11). We would note that it could be helpful clarification to include the lists of the types of contaminants contained in surgical plume in the definition, so long as the list is a non-exclusive "or" list that does not limit the definition should an employer try to parse that plume must contain all listed items to qualify as plume or if additional chemicals or substances should be identified within surgical plume in the future that were not listed.

- We appreciate the work of the Division to incorporate CNA's feedback on the definition of "plume evacuation system" (formerly "plume scavenging system") in subdivision (b)(12). Specifically, we support the clarity that is provided by specifying that plume evacuation systems must "capture and remove" plume, not just capture as in the previous draft. It is vital that plume evacuation systems not simply capture and release plume into another part of the same room but remove plume in such a way that ensures that health care workers and patients will not be exposed.

Comments on Subdivision (c) Updates:

CNA appreciates the Division's efforts to update and clarify the requirements for written exposure control plans to protect RNs and other health care workers from surgical plume exposure in subdivision (c).

- Changing terminology from "operating procedures" to "exposure control plan" is a useful clarification in subdivision (c)(1).

- It is important that the Division added requirements for employers not just to create the exposure control plan, but also for employers to implement and maintain those plans in order to make sure that plans actually protect RNs and other health care workers, not just exist on paper, in subdivision (c)(1).

- We appreciate the expanded requirements for the written exposure control plan to require additional information like the name and job title of the person responsible for implementing the plan, listing the job classifications with exposure to surgical plume, and requiring procedures to evaluate exposure to plume in subdivision (c)(2). We have found these elements to be important for ensuring that written exposure control plans in other Title 8 standards are fully implemented so that RNs and other health care workers receive the necessary workplace protections.

- CNA strongly supports the Division's inclusion of requirements for employers to obtain the active involvement of employees and their representatives when identifying plume exposures, controlling exposures, selecting plume evacuation systems, selecting personal protective equipment (PPE), reviewing and updating the plan, and planning and administering training in subdivision (c)(2)(F). As we pointed out in our previous comments, employee input is essential to ensure that effective prevention plans and associated procedures protect workers.

- Adding requirements for the exposure control plan to be reviewed, evaluated, and updated at least annually and when conditions in the workplace change that could impact plume exposure and control is an important element for ensuring that RNs and other health care workers are protected in an ongoing fashion in the second subdivision labeled (c)(2) (what should be subdivision (c)(3)).

Comments on Subdivision (d) Updates:

CNA appreciates the clarity provided by the Division's separation of written exposure control plan requirements from the usage and implementation requirements delineated in subdivision (d) Control Measures. We believe this will support compliance and enforcement activities in ways that will result in improved protections for RNs and other health care workers. Additionally, we support the following changes to subdivision (d):

- We appreciate the Division's work to craft a discussion draft that follows the hierarchy of controls. We believe the updated discussion draft clearly requires the use of engineering controls first followed by administrative controls and PPE, as directed by the hierarchy of controls.

- The requirement for operation of plume evacuation systems in accordance with the manufacturer's instructions is important, as in subdivision (d)(1)4., because there is a wide range of different types of systems available that have varying protocols and

requirements. Following the manufacturer's instructions is important to ensure the plume evacuation system operates safely and effectively.

- The Division's requirement in subdivision (d)(1)(A)3. that exhaust from plume evacuation systems must be recirculated through a ULPA filter and a gas phase filter or exhausted directly outside is an important safety measure to prevent occupational exposure to plume.

- CNA thanks the Division for responding to our previous comments by removing the exception that would have allowed individual surgeons to refuse to use plume evacuation systems.

- CNA thanks the Division for removing the problematic standard to use PPE and other control measures "when plume is visible," and replacing it with more protective language that requires use of PPE and other controls when other measures are insufficient to prevent employee exposure to plume. This is a much more protective approach.

## 2. Comment #2: CNA Urges the Division to Make Additional Updates to Further Strengthen the Discussion Draft

While the Division made many important improvements to the discussion draft, there are still some areas where CNA urges the Division to make further updates, which we described below.

A. Comment #2A: Definitions of employee representatives in subdivision (b) are inconsistent with other Title 8 standards that apply in similar health care facilities.

**The use definitions of "employee representatives" in the updated discussion draft that vary from existing standards that apply in the same or overlapping scope will result in confusion and inconsistent application of protections.** The Division added separate definitions of "authorized employee representatives" and "designated employee representatives" to the updated discussion draft. However, these definitions are inconsistent with other Title 8 standards that would apply in the same health care facilities included in the scope of the surgical plume standard. For example, the Workplace Violence Prevention in Health Care Standard requires the involvement of "employees and their representatives" in designing, implementing, and reviewing the employer's workplace violence prevention plan.[1] The Safe Patient Handling Standard requires provision of records to "employees and their representatives,"[2] and the Aerosol Transmissible Diseases Standard requires provision of the written exposure control plan to employees and "employee representatives."[3] **CNA urges the Division to use language and definitions of "employee representatives" that is more consistent with existing standards with which RNs and employers in covered health care settings are already familiar.**

[1] 8 Cal. Code Regs. § 3342 (c)(2)
[2] 8 Cal. Code Regs. §5120(e)(1)(D)
[3] 8 Cal. Code Regs. §5199

B. Comment #2B: The Division should add a definition for capture device to subdivision (b).

**CNA urges the Division to add a definition for "capture device" to subdivision (b), similar to what appears in ISO Standard 16571 *Systems for evacuation of plume generated by medical devices* (2024-03).** Adding this definition would allow for a more precise and measurable requirement that the capture device of a plume evacuation system must be located as close as possible to the site of plume generation. This would specify more clearly both for employers and the Division's enforcement staff what is required for the use of plume evacuation systems to function properly and to protect RNs and other health care workers from occupational exposure to surgical plume.

C. Comment #2C: The requirements for exposure control plan reviews should be expanded.

First, we want to note that there is a typo where the second subdivision (c)(2), pertaining to exposure control plan reviews, should be listed as (c)(3). We refer to this section as (c)(3) in this comment.

CNA notes that the listed situations where the plume exposure control plan would need to be reviewed and updated are not comprehensive and do not support an appropriate approach to reducing carcinogenic exposures. Reducing carcinogenic risks, such as those posed by surgical plume exposure, should be reduced as low as reasonably achievable (ALARA). If new technology is developed that captures surgical plume better than existing technology, the Division should require employers to assess whether the new technology would support an ALARA approach to reducing surgical plume exposure. To this end, **CNA recommends adding an additional situation in which the exposure control plan would need to be reviewed and updated "as needed."**

D. Comment #2D: The Division should clarify language regarding when and how plume evacuation systems must be used in subdivision (d)(1)(A).

**CNA urges the Division to further clarify the language in (d)(1)(A)1. to require the use of plume evacuation systems <u>whenever energy-based devices are used</u>, rather than when plume is generated.** We appreciate that the Division removed the very problematic language "when plume is visible," but are concerned that "when plume is generated" is not specific enough. In our experience, health care employers often attempt to avoid regulatory requirements in order to save money to boost their profits. Health care employers may attempt to argue that plume is not generated in certain procedures or with certain equipment. But the evidence that the Division reviewed at its advisory committee meeting clearly indicated that plume is generated whenever energy-based devices are used. Because it is not always possible to measure plume generation in real time, we also believe that a requirement for plume evacuation systems to be used whenever energy-based devices are used will be a more straightforward standard for the Division's enforcement staff to inspect and document.

**CNA urges the Division to clarify the requirement that plume evacuation systems be located as close to the plume generation site as possible in subdivision (d)(1)(A)2. by**

**specifying that it is the capture device that must be located as close to the plume generation site as possible.** There are multiple parts that are required for a plume evacuation system to function, such as hosing or tubing, filters, flow generators, etc. Simply stating that the plume evacuation system must be located as close as possible to the site of plume generation is not specific enough because it is not clear to which part of the plume evacuation system it would apply. Adding a definition of "capture device" would enable the Division to more specifically require that it is the capture device that must be located as close as possible to the plume generation site, which is what would ensure the best protection for RNs and other health care workers. This would also have the added benefit of making the standard more specific for the Division's enforcement staff to measure and observe violations of the standard.

The Division's discussion draft does not account for the fact that plume evacuation systems may become contaminated during use with hazardous substances, such as patients' blood, other potentially infectious matter, and carcinogenic and other hazardous chemicals, including both reusable parts and disposable parts such as filters. **CNA requests that the Division make clear that health care employers need to protect employees from hazards that can be posed by the contaminated equipment and supplies during activities like cleaning and maintenance of plume evacuation systems.**

While we appreciate that the Division added more details regarding requirements for employers to follow Section 5143 with regards to installation, inspection, and testing of plume evacuation systems in (d)(1)(A)4., **we encourage the Division to expressly list and describe requirements on installation, inspection, and testing in more detail**. In our experience, highlighting the specific requirements from other standards that are incorporated by reference is more effective in assuring compliance and enforcement. Specifying these elements more clearly would support the Division's enforcement staff. Specifically, we urge that the requirement in Section 5143 to test mechanical ventilation systems at least annually be expressly described in the discussion draft.[4]

E. Comment #2E: The Division should add a performance standard to ensure that only plume evacuation systems that have been shown to be effective can be utilized to meet the standard's requirements.

CNA remains concerned that the Division's discussion draft does not include a performance standard for plume evacuation systems. Health care employers often seek the lowest cost equipment or supplies. An efficiency standard is needed to ensure that health care employers obtain plume evacuation systems that function at the level necessary to protect RNs and other health care workers. **CNA urges the Division to require that covered employers utilize plume evacuation systems that have been demonstrated to evacuate at least 90 percent of plume utilizing the test methods in the ISO Standard 16571 *Systems for evacuation of plume generated by medical devices (2024-03)* or equivalent.**

[4] 8 Cal. Code Regs. §5143 (a)(5)

F. Comment #2F: Requirements for general ventilation are important but incomplete.

Related to general ventilation in rooms where energy-based devices are used and surgical plume is generated, CNA appreciates the Division's clarification that room air contaminated with surgical plume must be exhausted directly outdoors or recirculated via a HEPA filter in subdivision (d)(1)(B). This is important to ensure that no workers or patients are exposed to surgical plume. However, we express concern that there is not a requirement for contaminated room air to also pass through a gas phase filter, in addition to a HEPA filter, because the contaminants that can be contained in surgical plume include both particulate and gaseous hazards. **CNA encourages the Division to add the requirement that room air contaminated with plume pass through both a HEPA and a gas phase filter prior to being recirculated.**

CNA also notes that the Division included the requirement for plume evacuation systems exhausted outdoors to be exhausted at least 25 feet from any doors, windows, air intakes, other openings in buildings, or places where persons may be present in subdivision (d)(1)(A)3., but that **these same requirements were not included in subdivision (d)(1)(B) for general ventilation air containing plume that is exhausted outdoors and should be added**.

G. Comment #2G: Eye protection requirements should be expanded in subdivision (d)(4).

CNA recommends adding a requirement that employers address the potential for appropriate surgical plume eye protection not conflict with other PPE, such as respirators or laser eye protection.

H. Comment #2H: Training requirements should be expanded in subdivision (e).

Training is an important and vital element for exposure control plans to function and effectively provide protection. The Division has included many important elements for training related to surgical plume to be effective. However, CNA requests that the Division address the following comments related to subdivision (e) Training:

- **Include a requirement for training to be provided at the time of initial assignment to a job where plume exposure could occur**, in addition to when the plan is first established and at least annually. Once the plan is established, if an employee moves into a new job or into a new area where plume exposure is a concern, the employer should be required to provide the necessary training prior to assignment and possible exposure, rather than waiting months to provide the annual training.

- **Require that refresher training occur "at least" annually** in subdivision (f) so that health care employers cannot say that the Division intends training to only occur annually and not more frequently as needed.

- **Add a requirement that employers must provide additional training when changes to the exposure control plan or work practices related to surgical plume occur.** This additional training is important to ensure that when plans are updated, employees are aware of the changes to hazards and controls.

- **Add two additional elements to the list of required training topics**: an explanation of the importance of reporting exposures and symptoms of exposures to surgical plume and how employees can request additional training.

I. Comment #2I: Expand recordkeeping and reporting requirements further in subdivision (f).

We appreciate the Division's work to expand the recordkeeping and reporting requirements in the discussion draft and note some additional elements that would be important for protecting RNs and other health care workers.

**CNA urges the Division to include a timeframe within which employers are required to provide records to the Division, employees, and their representatives.** Without a clear timeframe, it is likely many employers would delay or refuse to grant employees and their representatives access to important records. Other Title 8 standards that apply in similar health care settings require provision of records in accordance with Section 3204, including the Aerosol Transmissible Diseases Standard,[5] the Workplace Violence in Health Care Standard,[6] and the Safe Patient Handling Standard.[7]

**CNA urges the Division to add a requirement to subdivision (f) that covered employers maintain records of the implementation of their plan**, including records of the annual review and plans for correcting issued identified in the exposure control plans. These records would be important to supporting the ability of the Division's enforcement staff to determine whether or not employers had actually conducted the annual review required by the discussion draft. These records would also be important information for employees to have access to in order to understand their employer's actions on surgical plume protections.

**CNA also urges the Division to add a requirement to subdivision (f) that covered employers create and maintain records of employee exposures to surgical plume.** As discussed in our previous comments, CNA urges the Division to consider the impacts for employees that having exposure records to surgical plume would have. Exposure records to surgical plume would enable better understanding of the health impacts caused by exposure. It would allow employees to have better access to workers' compensation coverage if a consistent exposure history were available.

- **Conclusion**

It is clear from the scientific evidence that surgical plume poses a significant hazard to RNs and other health care workers. Control measures are feasible and, in many cases, are already present in California's hospitals and ambulatory surgical centers. CNA greatly appreciates the Division's work to move this important standard forward given the need to protect health care

[5] 8 Cal. Code Regs. §5199 (j)(4)
[6] 8 Cal. Code Regs. §3342 (h)(5)
[7] 8 Cal. Code Regs. §5120(e)(1)(D)

workers from the significant health hazard of surgical plume. Thank you for the consideration of CNA's comments on these important issues. Please contact Carmen Comsti, CNA Government Relations Director, at ccomsti@calnurses.org with any questions.

Sincerely,

Carmen Comsti, Director of Government Relations
California Nurses Association/National Nurses United