INITIAL STATEMENT OF REASONS (ISOR)

Summary of Proposal

The California Department of Public Health (Department) proposes to adopt rules and regulations concerning the manufacturing and operation of reduction chambers in the death-care industry. Assembly Bill (AB) 351 (Garcia, Chapter 399, Statutes of 2022) authorizes reduction as an additional disposition method and directs the Cemetery and Funeral Bureau (Bureau) to license and regulate reduction facilities. Section 26 of AB 351 authorizes the Department to adopt rules and regulations prescribing standards for reduction chambers to preserve the public health and safety and to ensure the destruction of pathogenic microorganisms. This section also directs the Department to create an application process by which reduction chamber manufacturers must apply for the sale and use of their reduction chambers in California. This proposal seeks to establish reduction chambers standards that will preserve public health and safety.

Background or Summary of Existing Laws and Regulations

Reduction is the process of controlled, aerobic decomposition of human remains in the presence of air, water, and organic materials. Reduction was first introduced as “Natural Organic Reduction” by ESSB 5001 (2019), the Washington State law authorizing reduction as an option for final disposition. It was defined as “the contained, accelerated conversion of human remains to soil.”

Reduction is adapted from well-established techniques for livestock mortality composting. Specifically, reduction is most similar to within-vessel composting, where deceased animals are surrounded by organic feedstocks within a covered enclosure. Air is forced into the bottom of the pile and a ventilation valve in the cover allows gases to escape. Many of these composting studies were undertaken to investigate responses to animal mortality events, where large numbers of livestock die from disease outbreaks or are culled to quell an outbreak and the volume of animals overwhelm traditional processing methods, such as rendering and mass burial. Composting is shown to be safe and effective in these situations and investigations confirm pathogen destruction across various methodologies. The critical factors influencing pathogen destruction in all composting systems are temperature, time, water, and oxygen.

In the case of reduction, human remains are placed in a vessel or chamber along with moistened organic materials (wood chips, saw dust, various types of straw, etc.) and allowed to aerobically decompose. Temperature is monitored throughout the reduction process and is used to indicate the stages of microbial activity, the timing of turning events, and when curing is complete. Oxygen and moisture are also critical components in maintaining aerobic decomposition and microbial efficiency, though temperature can be used as a general proxy for oxygen and moisture measurements.

Presently, publicly available peer-reviewed studies of reduction are limited. A critique of the practice (Ondruschka, Verhoff, & Puschel, 2022) was published in response to services offered by Meine Erde, a reduction facility in Germany. Though the critique focuses on German funerary customs and laws, it circumscribes pertinent scientific questions about the practice, including evaluations of soil composition, tissue degradation, chemical and molecular analyses, and applicability to forensic inquiry. The critique prompted a research study that examined some of these questions (Schwarz, et al, 2024). Utilizing the Meine Erde reduction method to reduce two donor bodies, Schwarz reports that reduction lessens concentrations of pharmaceuticals in hair samples, degrades DNA in intact bone fragments, and describes the resulting soil as suitable for colonization by typical soil-borne organisms. Schwarz notes that Meine Erde previously produced data on heavy metal pollutant testing, indicating levels well below acceptable thresholds set by German authorities. Neither Schwarz nor Meine Erde investigated pathogen destruction. Schwarz concludes that, with some caveats concerning the limitations of the initial study, reduction is effective and safe for final disposition.

Two reduction proof-of-concept studies are known, and both are associated with reduction facilities in Washington. Dr. John Paul (Transform Compost Systems, Abbotsford, BC) presented an overview of his research for Return Home at TerraCon 2024, the 1st Annual Terramation Conference. He described his reduction vessel and methodology to reduce surrogate pig carcasses. Information regarding materials used as feedstocks, time and temperature values, and soil analysis were not shared. Another study by Dr. Lynne Carpenter-Boggs (Washington State University, Pullam), in conjunction with Recompose, provided more details on methodology and post-reduction testing. Dr. Carpenter-Boggs' presentation at the Body Composting Conference (March 16-17, 2023) described her reduction trials on six donor bodies using a commercially available drum composting system. The trials successfully reduced the human remains and tested below threshold limits for indicator pathogens and heavy metal contaminants.

As of September 2025, fourteen states have authorized reduction as a disposition option (Washington, Colorado, Oregon, Vermont, California, New York, Nevada, Arizona, Maine, Delaware, Maryland, Minnesota, Georgia, and New Jersey). Reduction is presently practiced in Washington, Colorado, Oregon, and Nevada. Colorado providers operate without a comprehensive regulatory structure. Oregon's regulations require operators to "…utilize an industry-specific vessel that meets industry and commercial standards for use as a reduction chamber…" but do not specify criteria for pathogen destruction, or post-reduction testing parameters. Nevada operators rely primarily on statutes for industry guidance, and proposed regulations do not address chamber designs or functionality. Only Washington regulations provide guidance on vessel performance and confirmatory post-reduction testing for indicator pathogens and heavy metal pollutants. New York's regulations are the most comprehensive regarding reduction operations, including vessel descriptions, organic plant materials required to

achieve reduction, operating procedure, and data logging. Importantly, the regulations prescribe testing requirements, similar to Washington's requirements, and require procedures following testing failures.

Existing reduction regulations and state composting regulations that require pathogen and heavy metal testing conform to United States Environmental Protection Agency (US EPA) Title 40 of the Code of Federal Regulations (CFR) Part 503 regulations for the treatment of biosolids that result in Class A compost. A Class A designation means pathogens are below detectable limits and heavy metal contaminants are below safety thresholds. The resulting Class A compost can be applied directly to the land without any additional restrictions.

As there are no federal regulations pertaining directly to reduction and associated processes, and until a time when more reduction-specific studies are available, the Department intends to adapt relevant guidelines from US EPA, California composting regulations, neighboring state's reduction regulations, and scientific studies related to reduction to develop California's Reduction Chamber Regulatory Program.

AB 351 requires the Department and the Bureau to regulate this industry. While the Department's responsibilities ensure that reduction chambers destroy pathogens and preserve public health and safety, the Bureau's licensing responsibilities ensure that reduction chamber operators are knowledgeable in reduction. The licensing requirements broadly test an applicant's understanding of applicable laws and regulations, as well as the specific knowledge necessary to operate specialized disposition equipment, such as a crematory retort, alkaline hydrolysis chamber, and soon a reduction chamber. Because of this knowledge base, the Department's proposed regulations utilize language commonly found in the reduction industry that is easily understood by this specific regulated community, even though the general public may not be familiar with context of certain words and phrases.

In accordance with the statutory mandates of AB 351, the purpose of this proposal is to establish minimum standards governing reduction chambers that will be sold and used in California, pursuant to Business and Professions Code (BPC) section 7714.3. The proposal intends to establish rules that preserve public health and safety, as authorized by Health and Safety Code (HSC) sections 131056 and 131200.

Policy Statement Overview

Problem Statement: Section 26 of AB 351 authorizes reduction as a method for final disposition. However, no statutes or regulations exist prescribing standards for the safe and effective application of this method. Currently, only one commercial entity manufactures reduction chambers anywhere, either domestically or internationally. The new industry will require oversight to ensure safe and effective operations. Reduction is in its infancy and industry best practices have not been developed. Without regulations that prescribe minimum standards for reduction chambers, reduction would pose a risk

to public health and safety. Reduction chambers could break during operation, creating a hazard for the operator. The operator may not be able to confirm the reduced remains are free of pathogens, risking exposure to anyone handling the remains. The reduction process may stop if improperly maintained, in which case the human remains would be incompletely reduced.

Objective: The broad objective of this proposal is to effectuate the Department's statutory mandate to prescribe standards for the preservation of public health and safety by adopting rules and regulations for the manufacture, sale, and use of reduction chambers.

Benefits

This proposal ensures reduction chambers are manufactured and operated safely and effectively. Standards for reduction chamber construction preserve the dignity of the human remains and prescribe requirements for monitoring the reduction process, so that the reduced human remains are safe to handle.

AB 351 allows for the reduced human remains to be returned to the relatives and friends of the deceased person, just like cremated human remains. However, unlike burial, where any pathogens are sequestered with the human remains, or cremation and alkaline hydrolysis, where high heat and pressure destroy pathogens, reduction carries a risk of pathogen exposure if conducted incorrectly. The standards described in this proposal minimize pathogen exposure risks for reduction facility operators and recipients of the reduced remains.

Unlike cremation, which requires a large quantity of fossil fuels to reduce human remains and emits harmful greenhouse gases in the process, the energy required to achieve reduction is produced by microbiological decomposers. By comparison, reduction and reduction chambers use only a fraction of additional energy, primarily for monitoring and maintenance purposes. And the process results in a nutrient rich material, very similar to compost, that can be used as a soil amendment that directly benefits the health of Californians and the environment.

Authority and References

Under CA Health and Safety Code sections 131200 and 131056, the Department has authority to adopt and enforce regulations for the execution of its duties. Under CA Business & Professions Code section 7714.3, the Department has the authority to adopt, and amend, rules and regulations prescribing the standards for reduction chambers to preserve the public health and safety and to ensure the destruction of pathogenic microorganisms.

References: Sections 7001, 7002.7, 7010.3, 7010.8, 7025, 8393, 8392, 8395, 107150, 114710, 114715, 114970, 114985, 117690, 120130 Health and Safety Code; Section 7714.3, Business and Professional Code.

Stakeholder Engagement

In an effort to better understand reduction and the thoughts and concerns of stakeholders within this new industry, the Department developed a questionnaire to help shape the proposed regulations. The questionnaire asked stakeholders to address the manufacture and operation of reduction chambers. The questionnaire also included open-ended questions that were designed to allow respondents the opportunity to add important information that was not elicited in the defined questions.

As reduction is a new disposition method with few practitioners, the Department decided to engage with many different groups of stakeholders. These included current operators, out-of-state regulators that have already developed reduction regulations, funeral and disposition services trade groups, California regulatory agencies, potential future reduction chamber operators and manufacturers, and current in-state funeral homes, mortuaries, crematoria, and cemeteries that may expand into reduction services.

The Department emailed the questionnaire directly to stakeholders in March 2025. Additionally, both the Department and Bureau hosted the questionnaire on their webpages to maximize exposure to potential respondents. The Department received responses through April 2025.

Major themes that respondents highlighted concerned reduction chamber construction and performance standards, reduction management, and the testing of the reduced remains. Respondents worried that restrictive construction standards and performance criteria would limit innovation in reduction chamber designs. Respondents conveyed concern that the process of reduction must be properly managed within the chamber to ensure the human remains are fully reduced. Respondents also felt testing reduced remains to confirm the remains are safe to handle should be a requirement. The Department evaluated these responses and included relevant information in the proposed regulations.

Discussion of Each Regulatory Provision

The Department proposes to adopt the following sections of the CCR, title 22, to implement AB 351.

Adopt **Chapter 24. Reduction Chamber Standards**

Adopt **Article 1. Scope and Definitions**

Adopt **Section 65900 – Scope** to specify to whom these regulations apply. This provision makes clear that these regulations apply only to reduction chamber manufacturers and reduction chamber operators. There is substantial overlap of operations in the death-care industry and multiple options for final disposition of human remains. Defining who is subject to these regulations is crucial since these are the Department's initial regulations under AB 351, which concerns a newly approved method for disposing of human remains in California.

Adopt **Section 65905 – Definitions** to define the meaning of words used to govern this chapter.

(a) Bureau. The definition of "Bureau" is necessary to align the regulations with the definition of "Bureau" in Business and Professions Code section 7601, subdivision (c), and to provide clarity to the regulated community.

(b) Department. The definition of "Department" is necessary to specify the State Department of Public Health, also known as the California Department of Public Health, to avoid confusion in the regulated community with other California departments and oversight agencies. For example, the Bureau is part of the Department of Consumer Affairs. As these are the State Department of Public Health's proposed regulations, this definition is necessary for clarity for the regulated public. Moreover, both "State Department of Public Health" and "California Department of Public Health" are used here as AB 351 refers to the Department as the "State Department of Public Health" while many in the regulated public know the Department as the "California Department of Public Health."

(c) Disposition. The definition of "disposition" is necessary to align the regulations with the definition of "disposition" imported from HSC section 7025 for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California. The Department proposes to insert "[Health and Safety Code]" into the original quotation to clarify a possibly ambiguous internal reference with the use of brackets to show that the insertion is not part of the otherwise quoted definition.

(d) Feedstocks. The definition of "feedstocks" is necessary to specify that, unlike broader definitions used in industrial processes or agricultural composting, feedstocks for human reduction is limited to carbon-rich and nitrogen-rich organic plant materials. For instance, certain agricultural composting methods permit food waste or manure, but neither is appropriate for disposing of human remains. During reduction, feedstocks, air, and water are added to the reduction chamber. When mixed with air and water, microorganisms consume the carbon and nitrogen in the feedstocks to sustain the biological activity required to transform the human body to soil. The Department's narrow definition of feedstocks for reduction chambers is a term of art in the reduction industry that restricts feedstocks to carbon-rich and nitrogen-rich organic plant materials

only. As reduction is a new method for handling human remains, this clear definition helps ensure the regulated public understands what qualifies as feedstocks.

(e) Human remains or remains. The definition of “human remains" or "remains” is necessary to align the regulations with the definition of "'human remains' or 'remains'" imported from HSC section 7001 for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California.

(f) Inorganic. The definition of “inorganic” is necessary to specify that this term refers to material that does not decompose during reduction, distinguishing it from “organic,” which does. This definition provides clear guidance to the regulated community for compliance with these regulations. Due to the importance of organic feedstocks for reduction, the proposed regulations specify that feedstocks must be composed of carbon-rich and nitrogen-rich organic plant materials and that inorganic contaminants are banned from feedstocks. Inorganic materials such as surgical metals within human remains or reduction facility-approved mementos, if any, may remain in the reduction chamber, but will not be affected by reduction.

(g) Integrate into the soil. The definition of “integrate into the soil” is necessary to align the regulations with the definition of “integrate into the soil” imported from HSC section 7010.8, subdivision (a), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California.

(h) Natural decomposition. The definition of “natural decomposition” is necessary to provide vital specificity to the meaning of “reduction,” as referenced from HSC section 7002.7, subdivision (c), for the regulated public. In pertinent part, the statutory definition in HSC section 7002.7, subdivision (c) defines reduction as “the process of transforming a human body into soil using the natural decomposition process, accelerated with the addition of organic materials.” (HSC, §7002.7, subd. (c), italics added.) In this context, the Department defines natural decomposition as the decomposition that occurs at ambient pressure and is heated only by decomposing microorganisms.

When combined with air and water, microorganisms metabolize carbon and nitrogen in the feedstocks, sustaining the biological processes necessary to transform human remains into soil. Under natural decomposition, these biological activities proceed at ambient pressure, which is unaltered atmospheric pressure surrounding the area where decomposition occurs, and rely solely on heat generated biologically by microorganisms, rather than artificial pressure or external heating sources. This additional specificity enables regulated entities to clearly understand acceptable practices during reduction. Defining natural decomposition is essential, as it provides important detail to the definition of “reduction” in HSC section 7002.7, subdivision (c),

thereby affording the regulated community clear guidance regarding permissible methods of reduction.

(i) Necessary preparation. The definition of “necessary preparation” is necessary to provide vital specificity to the meaning of “processing,” as referenced from HSC section 7010.3, subdivision (b), for the regulated public. In pertinent part, the statutory definition in HSC section 7010.3, subdivision (b) defines processing as “the removal of foreign objects, pursuant to Section 7051, and any necessary preparation for the reduced human remains to be integrated into the soil.” (HSC, §7010.3, subd. (b), italics added.) In this context, the Department defines necessary preparation as the reduction of the particle size of reduced human remains by mechanical means, including, but not limited to, grinding, crushing, and pulverizing to a soil-like consistency.

The process of reduction does not decompose human remains uniformly. Soft tissues, like skin and muscles, reduce quickly, while hard tissues, like teeth and bones, reduce slowly. Larger fragments must be reduced in size before the reduced remains may be integrated into the soil. Particle size reduction by mechanical means, as described in this definition, aligns with processing requirements following cremation and alkaline hydrolysis of human remains. This additional specificity enables regulated entities to clearly understand acceptable practices during reduction. Defining necessary preparation is essential, as it provides important detail to the definition of “processing” in HSC section 7010.3, subdivision (b), thereby affording the regulated community clear guidance regarding permissible methods for processing the reduced remains.

(j) Organic. The definition of “organic” is necessary to specify that this term refers to material that decomposes during reduction. Reduction requires organic materials to drive the decomposition process. The Department’s proposed definition provides clarity to the regulated public as the term is not defined in AB 351 and the word “organic” itself carries multiple definitions in agriculture, chemistry, and marketing, which can lead to potential misunderstanding.

(k) Processing. The definition of “processing” is necessary to align the regulations with the definition of “processing” imported from HSC section 7010.3, subdivision (b), for clarity and for the ease of the reader. HSC section 7010.3 contains two definitions for "processing." Subdivision (a) applies to cremated or hydrolyzed remains and subdivision (b) applies to reduced remains. As these regulations relate to reduced remains, the definition in subdivision (b) is the applicable definition for these regulations. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California. The Department proposes to insert "[Health and Safety Code]" into the original quotation to clarify a possibly ambiguous internal reference with the use of brackets to show that the insertion is not part of the otherwise quoted definition.

(l) Reduced human remains. The definition of “reduced human remains” is necessary to align the regulations with the definition of “reduced human remains” imported from HSC section 7002.7, subdivision (b), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California.

(m) Reduction. The definition of “reduction” is necessary to align the regulations with the definition of “reduction” imported from HSC section 7002.7, subdivision (c)(1) through (c)(3), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California. The Department proposes to insert "[Health and Safety Code]" into the original quotation of subdivision (c)(3) to clarify a possibly ambiguous internal reference with the use of brackets to show that the insertion is not part of the otherwise quoted definition.

(n) Reduction chamber. The definition of “reduction chamber” is necessary to align the regulations with the definition of “reduction chamber” imported from HSC section 7002.7, subdivision (d), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California. The Department proposes to insert "[Business and Professions Code]" into the original quotation to clarify a possibly ambiguous internal reference with the use of brackets to show that the insertion is not part of the otherwise quoted definition.

(o) Reduction facility. The definition of “reduction facility” is necessary to align the regulations with the definition of “reduction chamber” imported from HSC section 7002.7, subdivision (a), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California.

(p) Soil amendment. The definition of “soil amendment” is necessary to align the regulations with the definition of "soil amendment" imported from HSC section 7010.8, subdivision (b), for clarity and for the ease of the reader. The quoted language is included to facilitate understanding for the reader as the proposed regulations are the first Department regulations for this new method of disposing of human remains in California.

(q) Turn. The definition of turn is necessary to specify that this term refers to the mixing of the contents of the reduction chamber during reduction. The contents of the reduction chamber must be turned to redistribute and homogenize the resources required by the reducing microorganisms to sustain their biological activity. AB 351 and

the word “turn” itself carries multiple definitions in various industries and functions, which can lead to potential misunderstanding.

(r) Vector. The definition of vector is necessary to specify a group of organisms that must be prevented from gaining access to the reduction chamber. This group consists of carrier organisms that are capable of transmitting diseases. The Department’s proposed definition provides clarity to the regulated public as the word “vector” has multiple definitions in mathematics, physics, and aerospace, which can lead to potential misunderstanding.

(s) Written plan for reduction. The definition of written plan for reduction is necessary to specify the guiding document that a reduction facility will develop and utilize in their operations. This document describes specific aspects of reduction, which are detailed in section 65950 of the proposed regulations, that are conducted at a reduction facility. The Department’s proposed definition provides clarity to the regulated public.

Adopt **Article 2. Reduction Chamber Construction**

Adopt **Section 65910 – Minimum Standards for Reduction Chamber Design and Features** to specify the minimum physical and operational requirements of the reduction chamber. AB 351 requires the Department adopt regulations that prescribe reduction chamber standards that preserve public health and safety and ensure the destruction of pathogenic microorganisms. AB 351 also requires the reduction chamber to meet or exceed the requirements of the Department and federal Centers for Disease Control and Prevention for the destruction of human pathogens. A reduction chamber is specialized equipment that contains and monitors reduction to confirm the reduction process is successful and the reduced human remains are safe to handle. The Department researched current operators and determined that the minimum standards described in this section are necessary to comply with AB 351.

Adopt **subdivision (a)** to inform the regulated community that a reduction chamber must be manufactured to meet or exceed the minimum standards described below. This provision is necessary to clarify the minimum manufacture standards are described in this subdivision, while minimum operational standards are described in subdivision (b). The Department recognized that a reduction chamber’s standards must be split between these two factors. The manufacturing minimum standards concern the physical construction of the reduction chamber. The Department determined that a reduction chamber that does not meet these requirements risks public health and safety and does not destroy pathogens.

Adopt **subdivision (a)(1)** to require a reduction chamber to be constructed of material that supports the maximum combined weight of the required feedstocks, water, human remains, and any allowed mementos, as determined by the manufacturer, during reduction without breaking, warping, splitting, or otherwise losing structural integrity, and does not allow the uncontrolled release of liquids and gases during reduction. This

requirement is necessary because a reduction chamber that cannot support the weight of all the components of reduction risks public health and safety and cannot destroy pathogens. Reduction combines human remains with feedstocks, water and mementos. The combined weight of these components is substantially greater than the weight of the human remains alone. It is necessary that the reduction chamber will support the total weight of reduction without failing. Additionally, leaky construction may lead to reduction chamber failure during operation, potentially risking workers and work environments to pathogen exposure and unsafe conditions.

Adopt **subdivision (a)(2)** to require a temperature monitoring device, which monitors the interior of the reduction chamber during reduction. This requirement is necessary because temperature is the primary method for monitoring the reduction process as it indicates the stages of decomposition of the human remains and the elimination of pathogens. Without a temperature monitoring device, the operator will be unable to confirm whether the reduction process is complete and that pathogens are eliminated.

Adopt **subdivision (a)(3)** to require an odor control device, which filters the gases emitted from the reduction chamber. This subdivision is necessary to preserve public health and safety because strong odors are a nuisance to workers and customers and can attract vectors that can spread disease. As an example, strong odors, especially those associated with decomposition and decay, attract certain species of flies that interact with and lay eggs on the decaying material. This activity furthers the survival of the fly but creates a pathogen exposure risk for workers. Filtration removes the nuisance and the lure of vectors.

Adopt **subdivision (a)(4)** to allow manufacturers the option to include additional nonenclosed devices as may be necessary for the safe function of their reduction chamber, except for devices that are designed to heat the chamber during reduction. This subdivision is necessary to allow flexibility in reduction chamber design, subject to the Department's mandate to uphold public health and safety. The Department recognizes that reduction and reduction chambers represent new methods and technologies in the death-care industry and that the Department cannot anticipate all design variations in reduction chambers. As such, the requirements of this section only detail minimum manufacture and operational standards and allow manufacturers freedom to market effective reduction chambers that exceed the minimum requirements. The use of a heating device is unnecessary, as naturally occurring reducing microorganisms generate the heat required for pathogen destruction. Additionally, artificial heating violates the definitions of "reduction" and "natural decomposition."

Adopt **subdivision (a)(5)** to require a reduction chamber manufacturer to affix a permanent identification tag or plate or placard to the reduction chamber, and that the tag or plate or placard must be affixed in a position that is visible to the reduction chamber operator during reduction. The information on the affixture must be no less than 12-point font and must not be represented by only a symbol or barcode. These

provisions are necessary for reasons of traceability for the reduction facility, the Department, and the Bureau, and for ease of use by the reduction chamber operator. Current operators in Washington and Colorado employ multiple, identical custom-built reduction chambers. It is likely that California reduction facilities will also use more than one identical reduction chamber in their businesses. Necessitating a unique identifier at the time of manufacture allows traceability throughout the reduction chamber's lifetime across all entities that manufacture, sell, operate, maintain, and regulate the reduction chamber. Ease of reading the information is critical for the reduction chamber operator to link the reduction chamber to the human remains being reduced. The Department determined that an affixture mounted inconspicuously or displayed in less than 12-point font or in only a format that is unintelligible without specialized equipment would not be easily readable.

Adopt **subdivision (a)(5)(A)** through **(a)(5)(D)** to require the specific identifying information that must be on the included on the permanent affixture. These provisions are necessary for reduction chamber traceability. The specific identifying information must include the manufacturer's name, the reduction chamber model, the reduction chamber serial number, and the date of manufacture. These are the minimum details required to accurately trace the reduction chamber throughout its lifetime and are monitoring and reporting requirements in sections 65935 and 65955.

Adopt **subdivision (b)** to inform the regulated community that a reduction chamber must be operated to meet or exceed the minimum standards described below. This provision is necessary to clarify the minimum operational standards are described in this subdivision, while minimum manufacture standards are described in subdivision (a). The Department recognized that a reduction chamber's standards must be split between these two factors. The operational minimum standards of this subdivision concern the operation of the reduction chamber. The Department determined that a reduction chamber that does not meet these requirements risks public health and safety and does not destroy pathogens.

Adopt **subdivision (b)(1)** to require that a reduction chamber must allow for the addition of air and water during reduction and also release gases that develop during reduction. This subdivision addresses the necessities of the biological process that results in reduction. Reduction is accelerated aerobic decomposition. The reduction chamber operator must have a means of adding air and water into the reduction chamber during reduction to maintain aerobic decomposition. Likewise, the aerobic microorganisms that drive reduction respire gases that must be released. The buildup of these gases leads to increased internal pressure in the reduction chamber, which risks chamber failure. A method to exhaust the reduction chamber is necessary to eliminate this risk and maintain reduction.

Adopt **subdivision (b)(2)** to require the reduction chamber to maintain moisture during reduction. Water is required for all biological functions. This subdivision is necessary for reduction to be complete and to ensure pathogen destruction. If moisture were

allowed to fully evaporate out of the reduction chamber or if water could not be effectively added to the reduction chamber, the aerobic microorganisms that drive reduction would eventually cease functioning. Reduction would not achieve the pathogen destruction requirement of AB 351 and the reduction chamber would not reduce the human remains.

Adopt **subdivision (b)(3)** to require that the reduction chamber must be operated only at ambient pressure. This subdivision is necessary to preserve public health and safety and maintain reduction. Elevated pressure can lead to deleterious or unknown conditions. Fat and adipose within the human remains can liquify, which creates fire risk. Failure of the mechanics associated with the pressurization system risks the safety of workers, the dignity of human remains, and possibly explosion. The decomposing microorganisms that reduce human remains live and thrive at ambient pressure, as previously discussed in the definition of “natural decomposition”. It is unknown if these decomposers would function or survive at elevated pressures. And elevated pressure risks subjecting the human remains to a form of cooking rather than reduction.

Adopt **subdivision (b)(4)** to require that a reduction chamber must prevent vectors from accessing the reduction chamber. This subdivision is necessary to preserve public health and safety. Vectors are organisms that carry pathogens from one organism to another. Preventing vectors from access to human remains minimizes the spread of diseases and maintains the dignity of the human remains.

Adopt **subdivision (b)(5)** to require the reduction chamber to be able to rotate or be mechanically turned during reduction without breaking, warping, splitting, or otherwise losing structural integrity. This subdivision is necessary to preserve public health and safety and ensure pathogen destruction. Turning mixes the contents of the reduction chamber, homogenizing the decomposing microorganisms, feedstocks, and air. Turning is necessary to achieve accelerated decomposition. Without turning, the oxygen in the air would be depleted by the aerobic microorganisms, and the reduction process would become anaerobic, where different decomposing microorganisms dominate the biological activity within the reduction chamber. Anaerobic microorganisms do not require oxygen for survival. Anaerobic decomposition does not meet the temperature requirements necessary for pathogen destruction and does not result in soil, as described in HSC section 7002.7. Structural failure of the reduction chamber while turning risks pathogen exposure and loss of dignity to the human remains.

Adopt **subdivision (b)(6)** to require the reduction chamber to maintain a temperature of at least 55°C (131°F) for at least 72 consecutive hours. This subdivision is necessary to ensure pathogen destruction. The statutes and regulations of the states that authorize their version of reduction base their temperature and time requirements on US EPA Title 40 CFR Part 503 regulations governing the safe composting of biosolids. The temperature and time requirements of this subdivision are consistent with US EPA rules to achieve Class A compost, in which pathogens are below detectable levels. This is

the safest class of compost and can be applied directly to land without special handling requirements or land usage restrictions.

Adopt **Article 3. Condition of Remains and Occurrence of Death**

Adopt **Section 65915 – Condition of the Remains** to prohibit the reduction of human remains where the remains are subject to certain treatments or medical implantations.

Adopt **subdivision (a)** to prohibit embalmed remains from the reduction chamber. This subdivision is necessary to inform reduction chamber operators of a limitation to the biological process that drives reduction. Embalming fluids compromise the microbiological decomposition of human remains. The microorganisms on and within the human remains, as well as those associated with the feedstocks, are the organisms that reduce the human remains. Compromising the activity of these microorganisms also compromises reduction. Allowing embalmed human remains will inhibit reduction, which conflicts with the requirements of AB 351.

Adopt **subdivisions (b)** through **(d)** to prohibit specific implanted medical devices from the reduction chamber. These provisions are necessary to inform a reduction chamber operator of the limitations of certain medical implants. Batteries, battery packs, and nuclear pacemakers may break open when the contents of the reduction chamber are turned, and the contents of these devices would contaminate the reduced human remains. Likewise, nuclear pacemakers and radiologically active medical therapeutics, if left in the human remains prior to reduction, pose radiation expose risks to reduction chamber operators and recipients of the reduced human remains. The removal of these devices or the organ containing the radiologically active implant prior to reduction renders the human remains safe from these risks and removes the prohibition.

Adopt **Section 65920 – Occurrence of Death** to prohibit the reduction of human remains where death resulted from or was associated with certain conditions. This prohibition complies with AB 351's mandate that the Department's regulations safeguard public health and safety and ensure the elimination of pathogenic microorganisms. Washington and New York regulations have similar prohibitions as those described in this section. In developing this proposal, the Department also researched the reportable diseases and conditions list (California Code of Regulations, title 17, section 2500) to refine the prohibitions of this section.

Adopt **subdivision (a)** to prohibit the reduction of human remains where death resulted from, occurred with, or was suspected to occur with a specific disease or infection. This provision is necessary to preserve public health and safety. These infections and diseases are difficult to treat once contracted or are very infectious. The Department determined that the only means of guaranteeing public health and safety is to absolutely prohibit human remains that died from or may have been infected with the described causal agents from a reduction chamber.

Adopt **subdivision (a)(1)** to prohibit human remains associated with a prion disease. This provision is necessary to preserve public health and safety. Prion diseases, such as Creutzfeldt-Jakob disease, are caused by misfolded proteins and are highly resistant to any treatment besides high heat and pressure. The reduction process does not achieve the temperatures or pressures known to inactivate prions, which means any prions within the human remains would remain active in the reduced human remains. Handling reduced remains that contain prions creates an infection risk for the reduction chamber operator and the recipient of the reduced remains. The exclusion of prions from the reduction chamber is necessary due to their resistance to treatment by reduction and their persistence in the reduced human remains.

Adopt **subdivision (a)(2)** to prohibit human remains associated with a bacterial infection of an endospore-forming species. This provision is necessary to preserve public health and safety. Endospore-forming bacteria, such as Bacillus anthracis and Clostridium botulinum, generate endospores as a means of surviving harsh environmental conditions. Endospores survive and germinate in soil many years after sporulation and are very resistant to inactivation at the temperatures achieved during reduction. Handling reduced remains that contain endospore-forming bacteria creates an infection risk for the reduction chamber operator and the recipient of the reduced remains. The exclusion of endospore-forming bacteria from the reduction chamber is necessary due to their resistance to treatment by reduction and their persistence in the reduced human remains.

Adopt **subdivision (a)(3)** to prohibit human remains associated with a virus that causes Virulent Hemorrhagic Fevers. These viruses, such as Ebola, are serious infectious diseases that can be acquired from human remains. Though these viruses would be effectively deactivated during reduction, they pose an acute risk to people who handle the remains without proper protection. Due to these risks, the Centers for Disease Control and Prevention (CDC) recommend special procedures when handling human remains that died from viruses that cause Virulent Hemorrhagic Fevers and cremation as the option for final disposition. Excluding viruses that cause Virulent Hemorrhagic Fevers from reduction chambers aligns with CDC recommendations and eliminates risks to public health and safety.

Adopt **subdivision (b)** to prohibit the reduction of human remains that died from a disease declared by the Department to be infectious, contagious, or communicable and dangerous to public health as listed in California Code of Regulations, title 17, section 2500, unless the state or local department of health provides a written release indicating that the remains are not infectious. This provision is necessary to protect public health and safety. The diseases and conditions listed in California Code of Regulations (CCR), title 17, section 2500 pose a direct risk to public health and safety, and to the people handling the human remains specifically. A written release, issued by the state or local health department, that indicates the human remains are not infectious is required before the human remains may be reduced.

The diseases and infections identified in subdivision (a) are excluded from the written release provision and are prohibited from reduction under all circumstances. The diseases and infections described in subdivision (a) are included on the section 2500 list. The Department determined the subdivision (a) group must be excluded from the reduction chamber for the reasons described above. A written release will not ensure safety when handling human remains subject to subdivision (a). The Department determined that the remaining diseases and conditions on the section 2500 list will be destroyed during reduction but require a written release to protect the health and safety of the reduction chamber operators and anyone who handles the human remains prior to reduction.

Adopt **subdivision (c)** to prohibit the reduction of human remains where death occurred from a radiological incident or accident, unless the state or local department of health or other state or federal agency responsible for responding to the incident provides a written release indicating that the remains are not radiologically contaminated. This provision is necessary to protect public health and safety. If human remains containing or contaminated with radiological material undergo reduction, the radiation would be present in the reduced human remains, risking exposure to reduction chamber operators and recipients of the reduced human remains. A written release from the agency in charge of the response to the radiological event indicating that the remains are not radiologically contaminated removes the prohibition.

Adopt **Article 4. Reduction Chamber Additions and Prohibitions**

Adopt **Section 65925 – Additions to Reduction Chamber** to specify materials and items that are required or permitted to be added to the reduction chamber. Reduction requires feedstocks, air, and water to reduce human remains. This section describes the conditions and circumstances for their addition to the reduction chamber. This section also addresses the permissive inclusion - under certain conditions - of mementos, which are commonly found in the funeral and disposition industry.

Adopt **subdivision (a)** to specify the materials and items that must be added to the reduction chamber, subject to the provisions of sections 65915 and 65920. This subdivision is necessary to protect public health and safety and ensure pathogen destruction. Reduction chambers are used for reduction, which is a type of human disposition. However, some human remains are restricted from reduction. The Department determined that including reference to sections 65915 and 65920 in this section is the appropriate method for reminding reduction chamber operators of those restrictions. Feedstocks, air, and water are necessary for the reduction process.

Adopt **subdivision (a)(1)** to require the addition of feedstocks into the reduction chamber. This subdivision is necessary to ensure pathogen destruction. Along with the human remains, feedstocks are the source of the reducing microorganisms. The microorganisms that drive reduction consume feedstocks to maintain their biological activity. Feedstocks provide structure to the support of the human remains, space for

air to flow through the reduction chamber, and absorption capacity for water and other fluids generated by reduction. The feedstocks requirement ensures reduction proceeds safely.

The Department considered specifying types of feedstocks that a reduction chamber operator must use, based on either the Department's research on reduction or the reduction chamber manufacturer's feedstocks requirements. However, both alternatives were rejected. Unlike cremation or alkaline hydrolysis, where combustion and chemical reactions decompose the human remains, reduction is a biological process that relies on microorganisms to complete decomposition. The biological process succeeds across a range of conditions rather than under strict or distinct parameters. Also, current out-of-state reduction chamber operators use many types of feedstocks to achieve reduction, including sawdust, hardwood shavings, alfalfa, wildflowers, and straw. Limiting reduction to certain types of feedstocks is unnecessary. The only feedstocks requirement is that they must be organic.

Additionally, the alternatives were rejected due to local variance in feedstock availability. Not all feedstocks are universally available in all geographical locations. Under the rejected alternatives, the Department or an out-of-state manufacturer may require feedstocks that are locally available, but not locally available to the reduction chamber operator, which would necessitate potentially steep transport costs on the operator. As an example, requiring a California operator to use only feedstocks that are locally available to the Florida-based manufacturer would require the operator to purchase and ship feedstocks from Florida. This situation is scientifically unsupported and burdensome on the operator. The Department determined that feedstocks limitations are unnecessary and that the reduction chamber operator is best positioned to decide the types of feedstocks to use in their operations.

Adopt **subdivision (a)(1)(A)** to inform the reduction chamber operator that feedstocks must not contain inorganic contaminants, including but not limited to plastics, metals, and glass. This provision is necessary to preserve public health and safety. Plastic, glass, metal, and other inorganic materials do not decompose during reduction. For reduction to proceed the feedstocks must be organic, or the reducing microorganisms will not be active. Inorganic contaminants also pose a hazard to the reduction chamber, the operator, and the recipient of the reduced remains. For example, plastic can create a barrier between the human remains and the reducing microorganisms, glass can break and create a puncture or cut risk to anyone handling the reduced remains, and metal could compromise the construction or function of the reduction chamber.

Adopt **subdivision (a)(1)(B)** to inform the reduction chamber operator that feedstocks must be mixed and moistened, as detailed in the reduction facility's written plan for reduction, before reduction begins. This provision is necessary to ensure pathogen destruction. In developing this proposed regulation, the Department researched current out-of-state operations and noted that each operation utilizes their own particular mix of feedstocks and prepares those feedstocks to their own standards. Regardless of the

operator's choice of feedstocks, all operators mixed and moistened the feedstocks before reduction began. Mixing and moistening before reduction starts ensures the feedstocks and water are immediately available to the reducing microorganisms and reduction can begin once the human remains are enclosed in the reduction chamber. As the operation of the reduction chamber will be done by the reduction facility, the Department determined that feedstocks preparations must be part of the written plan for reduction, which is described in detail in section 65950, so that the reduction chambers at a reduction facility are operated consistently.

Adopt **subdivision (a)(1)(C)** to inform the reduction chamber operator that feedstocks must be combined with air and water in a way that achieves the temperature requirements of section 65910. This provision is necessary to ensure the operator mixes feedstocks, air, and water with reduction as the focus. The temperature requirement, as described in further detail in section 65910, is the primary method to ensure pathogen destruction. As noted above, reduction can be accomplished using various types of feedstocks. Feedstocks, containing both carbon-rich and nitrogen-rich components, are combined with air and water, as determined by the operator, to achieve the temperature requirements. If an operator mixed these components for only aesthetic reasons, such as to comply with a family's desire to only use flowers for feedstocks or over moistening the mix in an attempt to increase the speed of reduction, then reduction may be compromised and the reduction chamber would not destroy pathogens. This provision ensures operator precision while using the reduction chamber and compliance with the pathogen destruction requirement of AB 351.

Adopt **subdivision (a)(2)** to inform the reduction chamber operator that air and water must be added to the reduction chamber, as required for reduction. This provision is necessary to preserve public health and safety and ensure the destruction of pathogens. As reduction progresses, air and water are depleted by the reducing microorganisms. If air and water are not added as needed, the reducing microorganisms would cease functioning and the reduction chamber would change from aerobic to anaerobic conditions, where nonreducing microorganisms would dominate. Anaeorbic conditions do not generate the temperatures necessary to comply with section 65910. Without sufficient temperatures, the reduction chamber would no longer comply with AB 351, which requires a reduction chamber to destroy pathogens. The air and water provision ensures the conditions inside the reduction chamber favor reducing microorganisms over nonreducing microorganisms, which allows reduction to proceed as required.

Adopt **subdivision (b)** to specify that mementos may be added to the reduction chamber, subject to the provisions of sections 65915 and 65920 and with documented permission from the individual who retains the rights to the human remains and approval of the reduction facility. Mementos must not interfere with operation of the reduction chamber and must not result in a hazard to the operator or the public. This subdivision is necessary to ensure reduction of human remains, protect public health and safety, and allow for the continued practice of including significant objects with the

human remains during final disposition. In contrast to subdivision (a), which covers the materials and items that are required in the reduction chamber to accomplish the reduction of human remains, subdivision (b) covers an item that may be added to the reduction chamber but is not required to accomplish the reduction of human remains.

Though not defined, AB 351 refers to mementos in relation to other objects of value – dental gold and silver, and jewelry – that are often found in funeral services and dispositions. The regulated community commonly understands mementos to be objects of significance that are occasionally included in the reduction chamber during reduction. Mementos are meaningful to the person being reduced or the family and loved ones of that person or to both parties. Out-of-state operators describe allowing both organic and inorganic mementos in their chambers. Some of the inorganic mementos include toys and plushies, coins, and jewelry. Organic mementos typically include pictures and letters, flowers, and alcoholic beverages. Some operators do not allow mementos under any circumstance while others limit the weight or volume of mementos, regardless of the material composition.

This provision requires the documented approvals of the individual who retains the rights to the remains and the reduction facility before mementos may be enclosed with the human remains in the reduction chamber. Operators will have the discretion to include mementos on a case-by-case basis, as is the current practice out-of-state. The Department determined that requiring documentation of memento inclusion protects both the recipient of the reduced remains and the reduction chamber operator in case of unexpected malfunction and also informs the operator that the memento, depending on the material composition, may be recoverable during processing, in which case the memento must be returned to the reduced human remains.

Additionally, mementos must not interfere with the operation of the reduction chamber or result in a hazard to the operator or the public. This provision is necessary to protect public health and safety. As mementos may be any size, shape, or material, the Department determined that informing an operator that protecting the reduction chamber and eliminating hazards must be criteria considered when deciding which mementos may be included.

Adopt **Section 65930 - Prohibitions from Reduction Chamber** to detail items that are prohibited from the reduction chamber during reduction.

Adopt **subdivision (a)** to prohibit any feedstocks derived from dimensional lumber, construction or demolition debris, waste comprised of cooked food, or organic materials that have been painted, glued, or chemically treated. This provision is necessary to protect public health and safety and ensure pathogen destruction. These prohibited items undergo treatments and exposures that may diminish or eliminate the population of the reducing microorganisms required for reduction or create hazards for the reduction chamber. Dimensional lumber is dried to reduce shrinkage before sale. The drying process reduces or eliminates the resident microorganism populations.

Construction and demolition debris expose the potential feedstocks, to inorganic or chemical contaminants, such as nails, tacks, glues, paints, concrete, and sealants. Cooking food destroys the naturally occurring microorganisms which reside on the material that are necessary for reduction. Chemically treated organic materials pose a contamination risk in the reduced human remains. No out-of-state operator uses these items as feedstocks and the Department was unable to discover scientific studies that would support their inclusion for reduction.

Adopt **subdivision (b)** to prohibit clothing, footwear, and shrouds that dress or cover the human remains. This provision is necessary to ensure reduction is complete. Although these items are often utilized to protect the dignity of the human remains during viewings or as final vestments in funeral and nonreduction disposition services, it is necessary to exclude these items from the reduction chamber because they create a barrier between the human remains and the reducing microorganisms. The Department did not observe any out-of-state operators that include clothes and footwear in the reduction chamber during reduction. However, some operators use shrouds either as temporary coverings during viewing services prior to the start of reduction or include shrouds as a normal part of their operation. No industry standard exists on this subject. The Department researched scientific studies on reduction and composting on which to base a decision regarding the inclusion of these items during reduction. The Department did not discover any studies supporting inclusion. Since the Department could not discover any scientific studies regarding clothing, footwear, and shrouds in reduction, and because there is no industry standard, the Department determined that prohibiting these items is the appropriate method for ensuring reduction is not compromised and pathogens are destroyed.

Adopt **subdivision (c)** to prohibit acids, alkaline agents, or other solvents. This provision is necessary to protect health and safety and to ensure reduction is complete. These additives have not been tested in the reduction process and may interfere with reduction or have some other deleterious effect, potentially by creating a hazardous environment for the reducing microorganisms. If reduction stopped, the reduced remains may pose a pathogen exposure risk to the operator or recipient of the remains. Additionally, the additives themselves pose a chemical exposure risk to the operator and anyone who handles the reduced human remains. Acids, alkaline agents, and solvents can cause contact burns to the skin and affect breathing. Prohibiting these additives eliminates these risks.

Adopt **subdivision (d)** to prohibit fungal spores, bacterial isolates, enzymes, or other biologically active cultures or organisms, separate from the organisms associated with the human remains and feedstocks. This is necessary to protect public health and safety and ensure pathogen destruction. Reduction does not require additions to or alteration of the naturally occurring microorganisms that are associated with the feedstocks and human remains. Including foreign biologics into the reduction chamber may cause an imbalance in the populations of microorganisms. If the introduced organisms dominate the microbial communities, reduction may stop and the reduced

remains may not achieve the temperature and time requirements for pathogen destruction. If this happens, the reduced human remains would pose a pathogen exposure risk to the operator or recipient of the reduced remains. Prohibiting biologically active additions eliminates these risks.

Adopt **subdivision (e)** to prohibit vectors. This subdivision is necessary to preserve public health and safety. Vectors, like insects, rodents, and birds, are organisms that carry pathogens from one organism to another. If a vector were to access infectious human remains inside that reduction chamber, the vector could spread that disease to uninfected individuals working at the reduction facility or elsewhere. Prohibiting vectors from the reduction chamber eliminates the spread of diseases, thereby preserving public health and safety.

Adopt **subdivision (f)** to prohibit any device that is not a part of the approved reduction chamber. This provision is necessary to comply with AB 351. AB 351 requires the Department to evaluate and approve reduction chambers for sale and use in California. The evaluation process described in these regulations examines the design and function of all components of the reduction chamber before approval is granted, to ensure the reduction chamber is safe and destroys pathogens. Alterations of the chamber and the use of any device during reduction which has not been approved by the Department may compromise the reduction chamber, rendering it unsafe for use in reduction, and circumvents the approval process. This situation violates AB 351 and risks public health and safety.

Adopt **Article 5. Reduction Chamber Monitoring and Confirmation Testing**

Adopt **Section 65935 – Reduction Chamber Monitoring** to describe the reduction chamber monitoring requirements that are necessary to ensure reduction destroys pathogens and results in reduced human remains that are safe for handling, in compliance with the Department's mandate under AB 351.

Adopt **subdivision (a)** to require that a reduction facility must not operate a reduction chamber without monitoring reduction and recording certain parameters into a monitoring log. The log is necessary to maintain traceability between the reduction chamber, the human remains, and the reduction process. The reduction facility generates a monitoring log for every reduction. This log confirms that the reduction process carried out in the reduction chamber destroyed pathogens, as required by AB 351, and creates a reviewable document for regulatory purposes. This section includes the necessity to log identifying information of the reduction chamber and human remains, as well as the parameters that confirm pathogen destruction. The log is also reviewable by Department and Bureau representatives for regulatory purposes.

Adopt **subdivision (a)(1)** to require the reduction facility to monitor and record temperature, at a frequency of not less than one reading every hour. The temperature of reduction must be maintained at not less than 55°C (131°F) for at least 72

consecutive hours, per California Code of Regulations, title 22, section 65910, at least one time during reduction. This provision is necessary to confirm pathogen destruction and to comply with these proposed regulations. This subdivision refers to section 65910, where the temperature necessity is discussed, and is included here for the regulated community's reference. As previously discussed, the pathogen destruction criteria are sourced from US EPA composting regulations. Destruction is accomplished when the internal temperature of the reduction chamber is at least 55°C (131°F) for a minimum of 72 consecutive hours, and this time and temperature requirement is met one time. One temperature reading per hour of reduction chamber operation provides the resolution necessary to confirm pathogen destruction.

Adopt **subdivision (a)(2)** to require the reduction facility to monitor and record turning events and requires that turning not commence until the pathogen destruction temperature and time requirements described in (a)(1) are met at least once. This provision is necessary to ensure pathogen destruction and comply with the proposed regulations. Turning redistributes and homogenizes the developing soil and creates a more uniform reduction. As reduction progresses, the reducing microorganisms deplete the feedstocks, air, and water that are locally available within the reduction chamber, which leads to a drop in the internal temperature of the reduction chamber. Redistribution and homogenization make those elements more available for consumption, allowing the reducing microorganisms to remain active, which raises the temperature and keeps reduction progressing as expected. If turning occurs early in the process, the reducing microorganisms may be inhibited and not achieve the temperature and time requirements. Monitoring and logging turning events is necessary to confirm the order of the events described in (a)(1) and (a)(2).

Adopt **subdivision (a)(3)** to require the reduction facility to record any event that results in malfunction of the reduction chamber or creates a gap in the monitoring log, including but not limited to power outage, emergency repair, or equipment failure. This requirement is necessary to account for all events that occur during reduction that can adversely affect the reduction chamber and the monitoring log. The Department recognizes that malfunctions may occur when operating equipment. Malfunction may result from some cause outside the control of the operator, like a power outage that creates a gap in the data recorded by a digital temperature monitoring device. Emergency repairs, such as one caused by the catastrophic failure of a lid latch, would require immediate response to bring the reduction chamber back to full functionality. Malfunctions may be caused by the failure of a component on the reduction chamber, like a temperature monitoring device failing during reduction or a faulty motor on the turning mechanism. These events disrupt the normal operation of the reduction chamber. Logging these events ensures the reduction facility properly accounts for and is able to explain potential emergency repairs to the reduction chamber or gaps in the temperature or time data.

Adopt **subdivision (b)** to require that the monitoring log must also include the human remains' identifying information, reduction chamber identifying information described in

California Code of Regulations, title 22, section 65910, and reduction start and end dates and times. Along with the human remains' identifying information, the log must include the reduction chamber's identifying information and the reduction start and end times. The information is necessary to maintain traceability between the reduction chamber, the human remains, and the reduction process. These elements are critical for tracking purposes. Including the described information in the monitoring log ensures the reduction facility properly tracks the human remains while they are being reduced in the reduction chamber and allows the Department to confirm that the specific reduced human remains are safe for disposal.

Adopt **subdivision (c)** to clarify that the recording of the monitored parameters into a monitoring log must start at the time the human remains are enclosed within the reduction chamber and must continue until the reduced human remains are removed from the reduction chamber. This provision is necessary to inform the reduction facility of the monitoring timeframe. Recording starts when the human remains are enclosed in the reduction chamber and ends when the reduced human remains are removed from the reduction chamber. These two times align with the start and end of reduction. Monitoring parameters within this timeframe is necessary to confirm reduction is complete and pathogens are destroyed. Monitoring parameters outside the timeframe is uninformative for confirming pathogen destruction since the human remains would not be in the reduction chamber during those times.

Adopt **subdivision (d)** to require that the monitoring log must be retained for at least ten (10) years after reduction is complete. This provision is necessary for reduction facility accountability and regulatory purposes. This document retention period aligns with the statutory requirement for a reduction facility to maintain reduction records for 10 years (HSC section 8392) and is consistent with the other document retention provisions in this proposal. This requirement is necessary so that monitoring logs are reviewable by Department and Bureau representatives for regulatory purposes and for traceability of reduction chamber performance.

Adopt **Section 65940 - Reduction Confirmation Testing** to describe the testing requirements of the reduced human remains that are necessary to confirm reduction destroys pathogens and results in reduced human remains that do not contain heavy metal pollutants above specific thresholds. The Department determined that a reduction facility must continuously test reduced remains to confirm the reduction chamber is operating safely and is effective at destroying pathogens.

Adopt **subdivision (a)** to require that after a reduction facility receives a letter of reduction efficiency, as described in California Code of Regulations, title 22, section 65950, every fourth reduction must undergo confirmation testing for pathogen destruction and heavy metal pollutants prior to release for final disposition. Confirmation testing must occur at a US Composting Council Seal of Testing Assurance (STA) Compost-Certified laboratory. Sampling of the reduced human remains for confirmation testing must follow the testing laboratory's sampling guidelines. This

provision is necessary to confirm reduction destroys pathogens and the reduced human remains are safe. Reduction is a new disposition method, practiced only by a few operators. Though reduction is based on well-understood composting science, California reduction chamber operators are unlikely to have experience in composting nor standard testing practices.

The Department reviewed other state's regulations to determine how frequently the reduced remains should be tested after the reduction facility receives their letter of reduction efficiency. Washington's regulations do not require continuous testing after 80 reductions have passed the testing requirement, while New York and Maryland require every reduction to be tested. Minnesota and Georgia also require testing, but their schedules require continuous testing of only a percentage of reduction performed after the first 20 reductions. Their testing schedule is similar to the requirements in California's compost testing schedule, as well as requirements for Alkaline Hydrolysis of Human Remains, a sister program to the Reduction Chamber Program. The Department determined a testing frequency of one in every four reductions after the reduction facility receives the letter of reduction efficiency is enough to ensure a reduction facility stays proficient in their operations. The Department chose the phrase "one in every four" over percentage enumeration because percentage could be interpretable to mean a fraction of any grouping, like reductions per month or year. The Department intends for a reduction facility to test continuously. "One in every four" specifies how many (one) of the group (every four) must be tested.

The Department determined that the confirmation tests must be for both pathogen destruction and heavy metal pollutants. These are standard tests sourced from United States Environmental Protection Agency regulations for testing compost and are utilized in states that require reduction testing. California composting regulations also require these tests. The Department considered alternative approaches to these confirmation tests. One alternative would be to require no testing to confirm the reduced remains are safe. Another alternative considered was to include other test requirements, such as stability and nutrient load testing. However, both alternatives were rejected. The first alternative was rejected because continuous third-party testing confirming the results generated by the reduction facility ensures the reduction facility stays proficient and also provides a comparative result the Department will review to confirm the safety of the reduced remains. The second alternative was rejected because the Department determined the additional tests would be onerous to the reduction facility and not provide information to confirm pathogen destruction, as required by AB 351, nor would additional tests confirm the reduced remains are safe to handle. Requiring additional tests would also not align with standard testing practices in other states nor California composting regulations.

The Department determined that reduction facilities must use a US Composting Council (USCC) Seal of Testing Assurance (STA) Compost-Certified laboratory to test the reduced remains. USCC, a recognized authority in the composting industry, developed and maintained the STA testing program to certify labs meet the highest standards in

compost testing. To gain the certificate, participating labs are required to comply with federal, state, and local composting regulations, utilize standard testing methods, maintain chain-of-custody, and undergo periodic proficiency testing, where blind compost samples are tested at all STA labs. The Department considered that reduction facilities could test at any third-party lab capable of performing the required tests but rejected this alternative because of the lack of accountability without certification. The high standards imposed by the USCC STA certification ensure confidence in the test results.

Also, the Department determined that the sampling of the reduced remains must follow the guidelines of the testing laboratory. Each testing lab requires that samples are prepared and submitted in a way that is particular to that lab. One lab may require that samples are submitted by volume, while another may require a certain weight. Following the testing lab's guidance ensures sampling requirements meet the necessity of the lab. The Department determined that delineating sampling guidelines in this proposal would be ineffective because of the various sampling methods required by different certified labs.

Adopt **subdivision (b)** to inform the reduction facility the confirmation test results must be below the thresholds described in the following subdivisions to pass each test. Additionally, the reduced remains must pass these tests before the remains can be released for final disposition. This provision is necessary to clarify the testing requirements to the reduction facility. Testing confirms the remains are safe to handle and do not pose a hazard to the environment. Releasing the remains before the reduction facility has received confirmation of the passing results creates a safety and environmental risk.

Adopt **subdivisions (b)(1)** and **(b)(2)** to inform the reduction facility of the specifics of each test. These provisions are necessary to inform the reduction facility of the exact tests required and the threshold limits for the results to pass. Subdivision (b)(1) describes the pathogen destruction test organisms and testing thresholds, and subdivision (b)(2) describes the heavy metal pollutants to be tested, and each pollutant's testing limits. Values for both pathogen destruction and heavy metal pollutants come from US EPA testing requirements for Class A compost (Title 40 CFR section 503.32 and Table 3 of section 503.13, respectively). Class A compost is the highest grade of compost and may be used without any restrictions. US EPA regulations also describe Class B compost. However, use restrictions exist in this class as pathogens are still detectable in Class B compost. To comply with AB 351, the Department determined that reduced remains must meet the highest Class A standard. The proposed testing limits are consistent with US EPA requirements, California composting regulations and align with other state's reduction regulations

Adopt **subdivision(c)** to inform the reduction facility that all reduced human remains must undergo processing and cure before final disposition. This provision is necessary to protect public health and safety. As defined in AB 351, processing the reduced

remains minimizes the size of larger fragments in the reduction chamber in preparation for integration into the soil. Reduction works relatively quickly on soft tissue, like skin and muscle, but is slower to reduce bones. Intact bones and larger fragments of feedstocks do not comply with the requirements of AB 351 and must be minimized to "a soil material." Processing is also the step where the remains are sifted for objects that do not decompose, like surgical implants and inorganic mementos. Curing is commonly understood by the regulated community to be the final stage in reduction, where the reduced remains cool and microbiological activity diminishes, and the reduced remains stabilize. In researching this proposal, the Department noted that operating reduction facilities cure the reduced remains for various times and by various means. Some facilities utilize curing bins, separate from the reduction chamber, in which the reduced remains cure, while others let the remains cure within the reduction chamber. Also, some facilities have a standard curing period while others cure until the remains reach a particular temperature. Though there is no industry standard that addresses the specifics of curing, the Department determined that curing is necessary to ensure the reduced remains are safe to handle, but that the reduction facilities must determine the parameters of the curing process that align with their business practices.

Adopt **subdivision (d)** to inform the reduction facility that they must follow the contingency plans for retesting the reduced human remains in the written plan for reduction, if the reduced human remains fail either pathogen destruction testing or heavy metal pollutants testing, or both tests. This provision is necessary to ensure pathogen destruction and is included to avoid a situation where the reduction facility has completed reduction but cannot release the remains for final disposition because of failed confirmation testing. Reduction chamber malfunction or a biological imbalance in the reduction chamber may lead to testing failure. Reduction is a new disposition method and there are no industry-wide standards for reduction chambers or feedstocks or other factors that may influence the success of reduction. Reduction is also more complicated than other disposition methods and operators may not be familiar with the biological processes that occur during reduction. Therefore, the Department determined that the reduction facility must be prepared in the event of reduction testing failure and plan for that possibility.

Adopt **subdivision (e)** to inform the reduction facility that all confirmation testing results must be retained for at least ten (10) years after reduction is complete. This provision is necessary for reduction facility accountability and regulatory purposes. This document retention period aligns with the statutory requirement for a reduction facility to maintain reduction records for 10 years (HSC section 8392) and is consistent with other document retention provisions within this proposal. This subdivision is necessary so that testing results are reviewable by Department and Bureau representatives for regulatory purposes and for traceability of reduction chamber performance.

Adopt **Article 6. Reduction Chamber Application**

Adopt **Section 65945 – Application for Approval for the Sale and Use of a Reduction Chamber** to details the requirements for a manufacturer to apply for approval to sell and use a reduction chamber in California. Additionally, this section describes the application review process, clarifies circumstances where the applicant may postpone application review, and describes the process to request approval to alter a reduction chamber. AB 351 requires the Department to prescribe standards for reduction chambers to preserve public health and safety and to ensure the destruction of pathogenic microorganisms. This section is necessary so that the applicant is aware of the application process and so that the Department can confirm a reduction chamber meets the minimum reduction chamber standards in the proposed regulations.

Adopt **subdivision (a)** to clarify that a reduction chamber manufacturer must apply to the Department for approval to sell and use a reduction chamber in California. AB 351 requires a manufacturer to apply to the Department for reduction chamber approval before the manufacturer can market or operator the reduction chamber. AB 351 also requires that a reduction facility must employ a Department approved reduction chamber. AB 351 identifies these two groups, reduction chamber manufacturers and reduction facilities, as separate entities. In current practices, and as the Department expects will occur in California's reduction chamber industry, manufacturers and reduction facilities are usually the same entity. As the industry evolves, the Department expects manufacturers, who will not also be a reduction facility, to apply for approval. This subdivision is meant to distinguish that it is the manufacturer who must apply for approval, regardless of whether the manufacturer and reduction facility are the same or separate entities. Additionally, this subdivision clarifies to whom the application will be made. AB 351 designates oversight roles to the Department and the Bureau. To avoid confusion in the regulated community, the Department determined to explicitly state which entity is the application recipient.

Adopt **subdivision (b)** to inform the applicant that the application must include the following information. This provision is necessary for applicant accountability and justification of the reduction chamber's ability to reduce human remains and destroy pathogens. This section describes the various pieces of information an applicant must submit to the Department to review. The information is modeled off a similar application used by the Medical Waste Management Program's to evaluate alternative treatment technologies.

Adopt **subdivisions (b)(1)** and **(b)(2)** to inform the applicant to submit basic identifying information and a description of the applicant's current business operations. These provisions are necessary for applicant accountability. The Department requires this information to link the applicant to the application and to verify their business standing in their jurisdiction of operation.

Adopt **subdivision (b)(3)** to inform the applicant that they must provide a unique identifier for the reduction chamber model. This provision is necessary for applicant accountability and for tracking the reduction chamber model when employed in

reduction services. For the Department to properly evaluate the application, the model identifier must be linked to the submitted information. If a manufacturer were applying for approval of two different reduction chambers, the Department would be unable to determine which application goes with which reduction chamber without a unique identifier. The proposed regulations also require the model identifier information be included on an identification tag or plate or placard that is affixed to the chamber. Without the unique reduction chamber model identifier, the Department would be unable to distinguish one chamber from another, the reduction facility would be unable to confirm the reduction chamber is approved, and tracking the human remains as they are reduced would be impossible.

Adopt **subdivision (b)(4)** to inform the applicant that they must provide a statement of the applicant's intention to either manufacture the reduction chamber for sale, or manufacture for sole use by the applicant's company or affiliate, or both. This provision is necessary for applicant accountability. Reduction is a new disposition method with few operators. These operators utilize custom-built reduction chambers and currently only one operator markets a reduction chamber to businesses that choose to offer reduction services. The Department requires the information submitted in this subdivision to better understand the evolution of the reduction chamber industry in California.

Adopt **subdivisions (b)(5)** through **(b)(8)** to inform the applicant that they must provide information concerning the construction of the reduction chamber, an estimate on the useful lifetime of the reduction chamber and attached devices, a description of the requirements for the safe operation of the reduction chamber, and a description of the reduction chamber monitoring devices. These provisions are necessary for applicant accountability, to confirm the reduction chamber meets the minimum standards of this proposal, and to confirm the reduction chamber will destroy pathogens. In researching the proposed, the Department noted there are a wide variety of reduction chambers currently operating. The Department observed variations in construction materials, size, and monitoring devices. To properly evaluate the reduction chamber to confirm it meets or exceeds the minimum standards, the Department determined the applicant must submit information that describes how the particular design and features of the reduction chamber meet those standards.

Adopt **subdivisions (b)(9)** through **(b)(16)** to inform the applicant that they must provide information concerning the operation of the reduction chamber. These provisions are necessary for applicant accountability, the confirmation of pathogen destruction, and to delineate limitations on reduction chamber performance. The Department anticipates some manufacturers will apply for reduction chamber approval with the intention to only sale the reduction chambers and not also operate the chambers, or currently manufacture similar technology in related industries, such as composting systems. The required information includes the protocol used to reduce human remains, a description of the feedstocks utilized in the reduction chamber, limitations on the dimensions of the human remains that can be reduced in the

reduction chamber, a description of how the operator will determine the appropriate mix and quantity of feedstocks, a description of how the reduction chamber will be monitored during reduction, and how the operator will access the chamber to retrieve a sample for confirmation testing. Additionally, the required information will include a description of a contingency plan in the event that the reduced human remains do not reach the pathogen destruction temperature requirement or do not pass confirmation testing, as well as any special training or knowledge necessary for the safe operation of the reduction chamber. The Department determined it is necessary for manufacturers to demonstrate knowledge in the process of reduction by providing the requested information.

Adopt **subdivisions (b)(17)** through **(b)(18)** to inform the applicant they must provide information concerning the maintenance and calibration requirements of the reduction chamber. These provisions are necessary for applicant accountability and compliance with AB 351. Maintenance of the reduction chamber is a requirement of AB 351, and reduction facility relicensing by the Bureau is, in part, contingent on annual maintenance being performed. Calibrations are necessary to ensure that the monitoring devices are accurately registering and recording critical data. These data determine when reduction is complete and fulfils the temperature and time requirements of the proposed regulations. The Department will use this information to compare to maintenance and calibration requirements in the operator's manual and to ensure that the guidance is safe and effective.

Adopt **subdivisions (b)(19)** through **(b)(21)** to inform the applicant that they must provide information concerning the health and safety and environmental effects of the reduction chamber. These provisions are necessary for applicant accountability. Reduction chambers may malfunction or pose specific hazards to the operators. The required information includes a description of the acute and chronic health and safety hazards associated with operating the reduction chamber, a description of hazards associated with the byproducts generated by the reduction chamber, and a description of the hazards associated with a malfunction of the reduction chamber. These provisions also require the applicant to describe emergency measures that should be taken when a hazard occurs and to list any training or procedures that will be provided to the operator to lessen the risk of these hazards. The Department determined that to properly evaluate the application, the applicant must declare these hazards and provide guidance in response to those hazards.

Adopt **subdivision (b)(22)** to inform the applicant that, along with the information provided in subdivisions (b)(1) through (b)(21), they must provide an attestation with the, which must include the applicant's name, title, signature, and date of signing, stating, "I certify under penalty of perjury that the information contained in this application is true and accurate to the best of my knowledge and belief." This provision is necessary for applicant accountability and to engender trust between the Department and the applicant. The Department does not intend to inspect the reduction chamber in-person as part of the application process. The attestation and signature confirm that the

applicant is providing factual information regarding the reduction chamber. The Department determined that the signed attestation is sufficient to confirm the application information is factual and trustworthy.

Adopt **subdivision(c)** to inform the applicant to provide additional documents along with the information required in subdivision(b). These provisions are necessary for applicant accountability. The documents include visual representations of the reduction chamber and information supplied to the reduction chamber operator. The Department requires these documents to properly assess the information submitted in subdivision (b) to confirm pathogen destruction and ensure the reduction chamber does not risk public health and safety.

Adopt **subdivisions (c)(1)** and **(c)(2)** to inform the applicant to provide schematics and pictures of the reduction chamber, which include dimensions, device and port placements, and identification labels. These provisions are necessary for applicant accountability and regulatory purposes. The Department will use the schematics and pictures to confirm the information provided in subdivision (b). Additionally, during inspections, these documents will allow the Department to visually compare an operating reduction chamber to the approved model. These documents are critical for regulatory purposes.

Adopt **subdivisions (c)(3)** and **(c)(4)** to inform the applicant to provide the operator's manual, which describes operations, installation, and maintenance of the reduction chamber, and the sales brochure, if available. These provisions are necessary for applicant accountability and regulatory purposes. The operator's manual provides critical information about the reduction chamber that the reduction chamber operator will need. The Department requires this document to confirm that the information provided in subdivision(b) is accurate and that the guidance provided is safe and effective. The Department also requires the applicant to submit the sales brochure, if available. Some applicants may not intend to market the reduction chamber, in which case the applicant will be unlikely to generate this document. However, if the applicant does create a sales brochure, the Department will need it to confirm the accuracy of the information presented to a potential reduction chamber purchaser.

Adopt **subdivision(d)** to inform the applicant to submit a nonrefundable application fee of $5000 along with the information and documents required in subdivisions(b) and (c). This subdivision also informs the applicant that application review is calculated at $249 per hour. Lastly, this subdivision notifies the applicant that an invoice will be issued for the hours of review that are not covered by the initial application fee and that approval of the application may be denied if the invoice is not paid within 30 calendar days of the date on the invoice. This provision is necessary to comply with AB 351, which requires the Department to charge a reasonable fee for application evaluation.

The application fee is necessary for applicant accountability. The Department considered not requiring an application fee and only requiring payment after application

review was complete. However, this approach was rejected. Without an application fee, which this proposal requires for the application to be complete, an application could be deemed abandoned or an applicant could refuse to pay the final invoice and the Department would not be compensated for any application review hours, which is out of compliance with AB 351. Requiring a fee at the beginning of application review ensures the Department is compensated for at least some review hours in a worst-case scenario.

The application fee is nonrefundable because the Department wants to minimize the review of substandard applications. Reduction offers a new market for manufactures. That newness alone may incentivize manufacturers to rush the development of a reduction chamber that does not meet the standards of AB 351 or this proposal. Without a nonrefundable fee, an applicant is not invested in the review process, and the Department may be in a position where it cannot recover any fee for review of the application. The Department determined that requiring a nonrefundable application fee will minimize the submission of substandard applications and therefore reduce the resources the Department spends reviewing said applications.

To determine the application review rate, the Department researched analogous programs for guidance. AB 967 (Gloria, Chapter 846, Statutes of 2017) authorizes the use of alkaline hydrolysis as a new final disposition method, in the same manner as AB 351 authorizes reduction. Alkaline hydrolysis chambers serve an equivalent purpose as reduction chambers, that being the disposition of human remains via specialized technology. The Department is explicitly responsible for the evaluation of these respective technologies. In both programs, the primary reviewer is a Senior Environmental Scientist and the proposed application review process for reduction chambers mirrors the process in place for alkaline hydrolysis chamber applications. BPC section 7639.08 of AB 967 directs the Department to adhere to HSC section 118245 in its evaluation and fee schedule for the hydrolysis chamber application. This section of the Health and Safety Code describes the evaluation fee for alternative treatment technology applications as part of the Medical Waste Management Program. The hourly cost of review of alternative treatment technologies was originally set at $100 per hour (AB 1641, Mojonnier, Chapter 1614, Statutes Of 1990). Based on the Consumer Price Index's Inflation Calculator (accessed 12/12/2025), $100 in 1990 is equivalent to $249 today. Because of the similarities between the alkaline hydrolysis chamber program and the proposed reduction chamber program, the Department determined that utilizing the inflation-adjusted hourly rate for alternative treatment technology evaluation is the appropriate and reasonable charge for the reduction chamber application hourly review fee. This valuation is the reasonable regulatory cost of review, as authorized by BPC section 7714.3, and is necessary to inform the applicant of the expected costs associated with the application review process.

The Department determined that an applicant must pay the final invoice to cover the cost of application review before being granted approval. If the Department granted approval while the invoice is unpaid, the applicant would have no reason to pay the

balance, as the applicant's reduction chamber would already be approved, and the Department would be uncompensated for the review hours spent evaluating the application. The invoice payment requirement is necessary for applicant accountability.

Adopt **subdivision(e)** to inform the applicant that an application is complete when the applicant has provided the information, documents, and nonrefundable application fee required in subdivisions (b) through (d) of this section. This subdivision is necessary to inform the applicant of the review process and to engender trust between applicants and the Department. This subdivision informs the applicant that the application is complete when all information, documents, and fees detailed in subdivisions (b) through (d). Following subdivisions address specific aspects of application review.

Adopt **subdivisions (e)(1)** and **(e)(2)** to inform the applicant of review when an application is not complete or the information submitted in an application that is complete requires clarification. These provisions are necessary to clarify circumstances when additional information will be requested from the applicant. When an application requires additional information or documents, the applicant is asked to submit the missing requirement within 120 calendar days, after which the application will be deemed abandoned. The Department recognizes that the manufacturing of reduction chambers is a new industry and responses to requests for missing information may not be easily answered. As an example, if the Department observes that the schematics and the pictures show a difference in the position of the turning mechanism, the applicant may require substantial time to correct the documents. As such, the Department believes it is necessary to allow the applicant ample time to respond to requests for additional information. However, the Department also believes the applicant should respond in a timely manner. These provisions make clear to the applicant that the application will be deemed abandoned if responses are not made in the specified timeframe. The abandonment provisions are necessary for applicant accountability and for the Department to minimize wasting resources on open but unresponsive applications.

Adopt **subdivisions (e)(3)** to inform the applicant about application review postponement. This provision is necessary for applicant accountability. Postponement is a pause of application review, requested in writing by the applicant. Postponement may be requested in response to a Department request for additional information, as described in subdivisions (e)(1) and (e)(2). The Department recognizes that the applicant may not be able to respond in the allotted 120 calendar days, or the applicant may discover new information which could lead them to revise their application in some way. During postponement, the Department would stop reviewing the application, thereby generating no new review hours and minimizing resource loss. This subdivision also makes clear that an abandoned application is not eligible for postponement. This provision is necessary to allow ample time for applicants to make such repairs.

Adopt **subdivisions (e)(3)(A)** through **(e)(3)(D)** to inform the applicant of the specifics of postponement. These provisions are necessary for applicant accountability. These

provisions clarify that only one postponement may be granted per application and that postponement must be no longer than one year from the date the request is submitted to the Department. These subdivisions continue by clarifying that the application will be deemed abandoned if the applicant does not submit a written request for reactivation and the information requested in subdivisions (e)(1) or (e)(2) before the end of postponement and that after reactivation any days remaining in the postponement period are void for use as response days as described in subdivisions (e)(1) and (e)(2). The Department developed the postponement provisions as a means of providing flexibility in the application process while also holding the applicant responsible for the application. Applicants will have the flexibility to improve their application without having to start the process from the beginning and the Department will minimize resources loss while pausing review. As an alternative to this option, the Department considered not developing postponement provisions. However, the Department rejected this alternative as too restrictive to the regulated community. As reduction and reduction chambers represent a new industry in California, the Department determined that clearly delineating the proposed postponement regulations are beneficial to the regulated community and the Department. Applicants will be allowed flexibility to innovate and improve their application without having to restart the process and the Department will minimize resources loss.

Adopt **subdivision (e)(4)** to inform the applicant that if an application is deemed abandoned the applicant may reapply by complying with the requirements of subdivisions (b) through (d), including the nonrefundable application fee. This provision is necessary for applicant accountability. This provision informs the applicant of reapplication after abandonment. The application review process described in the proposed regulations is meant to be equitable to applicants and the Department. Since an application may be abandoned after the Department has expended uncompensated resources on evaluation, the Department determined that complete reapplication of the abandoned application would be most equitable to both parties. The Department does not anticipate that many applications will be abandoned but determined that procedures concerning abandonment should be clear in the regulations.

Adopt **subdivision (f)** to inform the applicant that if the reduction chamber meets the requirements of this proposal, that they will be issued a letter of approval for the reduction chamber model so that it may be sold and used in California. This provision is necessary to comply with AB 351. AB 351 requires the Department to approve a reduction chamber that meets or exceeds the minimum standards as described in the proposed regulations. The Department determined that issuing a letter of approval satisfies the requirements of AB 351. Additionally, this subdivision informs the applicant that a copy of the letter will be sent to the Bureau. The Department and the Bureau have separate but overlapping regulatory responsibilities in this industry. AB 351 requires the Bureau to only grant a license to a reduction facility that employs Department-approved reduction chambers. The Department determined that the Bureau must be made aware of which reduction chambers are approved so that the Bureau can confirm the reduction facility is actually operating an approved reduction

chamber. Sending a copy of the letter is the simplest way to make the Bureau aware of approval.

Adopt **subdivision (g)** to inform a manufacturer that they may request approval to alter an approved reduction chamber model and describe the required information that must be submitted with the request. This provision is necessary for manufacturer accountability. The Department determined that until reduction chamber manufacturing and operations mature and a track record of performance develops, AB 351 should be interpreted strictly and that proposed alterations to an approved reduction chamber must be reviewed. However, some informal stakeholder questionnaire respondents conveyed concerned that regulations may stifle innovation in reduction chamber development. The Department determined that requiring a full application for a minor redesign of an approved reduction chamber would be onerous to manufacturers. The Department's proposal in this subdivision is necessary to balance the requirements of AB 351 and the concerns of the regulated community.

Adopt **subdivisions (g)(1)** through **(g)(3)** to inform the manufacturer of the criteria against which the request will be evaluated. These provisions are necessary for manufacturer accountability. The Department will evaluate the proposed alterations in the request and supporting documents, if any, against the information submitted in subdivisions (b)(5) through (b)(22) of the approved reduction chamber's application. The information submitted in subdivisions (b)(5) through (b)(22) of the application are evaluated as a whole. Altering the information in one of these subdivisions may affect the information in another. As such, the Department determined that these are the appropriate criteria against which to evaluate the proposed alterations. If the proposed alterations change the information in these subdivisions, then approval will not be granted, and any further evaluation of the proposed alterations requires a new application. If the proposed alterations do not change the information in these subdivisions, then the manufacturer will be issued a letter of approved alteration. The Department determined that issuing a letter of approved alteration satisfies the requirements in AB 351 for the Department to approve reduction chambers.

Additionally, subdivision (g)(2) informs the applicant that a copy of the letter will be sent to the Bureau. The Department and the Bureau have separate but overlapping responsibilities in this industry. AB 351 requires the Bureau to only grant a license to a reduction facility that employs Department-approved reduction chambers. The Department determined that the Bureau must be made aware of which reduction chambers are approved so that the Bureau can confirm the reduction facility is actually operating an approved reduction chamber. Sending a copy of the letter is the simplest way to make the Bureau aware of approval.

These provisions also make clear that updates and improvements to the approved reduction chamber's operator's manual or sales brochure do not qualify as alterations. However, these updated documents must be submitted to the Department within 30 calendar days of publication. The Department recognizes that businesses routinely

update their consumer materials. These updates do not alter the reduction chamber. The Department determined that requiring a manufacturer to request approval to alter an approved reduction chamber because of updates to these documents is onerous to the manufacturer. Submitting these updates to the Department is necessary for manufacturer accountability and for the Department to stay aware of the evolution of the reduction chamber industry.

Adopt **Article 7. Reduction Chamber Operations**

Adopt **Section 65950 – Reduction Efficiency Reporting** to describe the reporting requirements of a newly licensed reduction facility. Reduction efficiency reporting allows the Department to monitor the progress of reduction chamber operations at a reduction facility. Since reduction is new to California and operators are unlikely to be experienced at reduction, the data submitted in the reduction efficiency reports allow the Department to monitor progress closely.

Adopt **subdivision(a)** to require the reduction facility to submit to the Department a reduction efficiency report for each of the first 20 reductions. Each reduction efficiency report must include the reduction facility's name, license number, and the following information. This provision is necessary for reduction facility accountability and to confirm reduction chambers are being operated safely and effectively. AB 351 requires the Department to adopt regulations pertaining to reduction chambers that preserve public health and safety and ensure the destruction of pathogens. The Department notes that some state's reduction regulations require testing of the reduced human remains but do not require reporting. Inspectors operating under those regulations review the testing results on sight. Reduction is a new industry and operators in this space are unlikely to be experienced when they are first licensed. The Department determined that the reduction facility must report on the first 20 reductions. This number aligns with Washington's testing requirements for the first 20 reductions at a reduction facility. The information submitted with the report will allow the reduction facility and the Department to link the reduction chamber to all additional information supplied as part of the reduction efficiency report. This subdivision will allow the Department to monitor how consistently the reduction facility reduces human remains and provide feedback to the reduction facility.

Adopt **subdivisions (a)(1)** through **(a)(8)** to inform the reduction facility of the information that must be submitted in the reduction efficiency reports, including starting conditions of the human remains, which include a description the height and weight of the human remains, and any preparations or written releases required in sections 65915 and 95620, a description of the feedstocks used in reduction, the written plan for reduction, additional mementos included in the reduction chamber, the starting weight of reduction, the reduction chamber monitoring log and all confirmation testing results, the ambient temperature, which is the temperature of the area in the reduction facility where reduction occurs, and the end weight of reduction. These provisions are necessary for reduction facility accountability and to confirm reduction chambers are being operated

safely and effectively. Reduction is new to California and operators are unlikely to be experienced at reduction. The data submitted in the reduction efficiency reports allow the Department to assess the factors that may contribute to the success or consistency of a reduction facility's operations. The Department requires these data to fully evaluate the operation of the reduction chamber and confirm the reduction chamber is functioning as expected.

Adopt **subdivision (a)(3)** to inform the reduction facility of the specific information required in the written plan for reduction. This provision is necessary for reduction facility accountability and to confirm reduction chambers are being operated safely and effectively. AB 351 makes a distinction between the reduction chamber manufacturer and the reduction facility, which will be the reduction chamber operator. The reduction facility operates the reduction chamber. The reduction facility develops the written plan for reduction as the guiding document for their reduction operations. The Department expects the reduction facility will generally follow the recommendations of the manufacturer. However, reduction is the responsibility of the operator, not the manufacturer. Reduction chambers contain and monitor reduction. The combination of feedstocks, air, and water provided the proper environment for the reduction microorganisms to reduce human remains. The Department determined that the reduction facility must address specific aspect of reduction to ensure safe and consistent operations.

Adopt **subdivisions (a)(3)(A)** through **(a)(3)(F)** to inform the reduction facility of the specific information that must be included in the written plan for reduction. These provisions are necessary for reduction facility accountability and to confirm reduction chambers are being operated safely and effectively. The written plan for reduction must describe how the human remains are prepared prior to inclusion within the reduction chamber, feedstocks and water mix preparations prior to reduction, reduction chamber monitoring methods, turning events, removal of the reduced human remains from the chamber, and the contingency plan for reduced human remains that fail confirmation testing. Reduction is the responsibility of the reduction facility and the information contained in the written plan for reduction addresses the factors under the control of the reduction facility that influence the success of reduction. Review of this document will allow the Department to assess public health and safety risks within the written plan for reduction.

Adopt **subdivision (b)** to inform the reduction facility that they must submit each reduction efficiency report to the Department within 15 calendar days of the reduced human remains passing confirmation testing. This provision is necessary for reduction facility accountability and to confirm pathogen destruction. This provision clarifies that the Department is the recipient of the reduction efficiency reports. The Department and the Bureau have separate but overlapping regulatory responsibilities in this industry. To avoid confusion in the regulated community, the Department decided to explicitly state which entity is the report recipient. The Department determined 15 calendar days is sufficient to allow the reduction facility to compile the report while also allowing the

Department enough time to provide feedback before any identified problems are repeated in subsequent reductions.

Adopt **subdivision (c)** to inform the reduction facility that a letter of reduction efficiency will be issued following the submission of the final reduction efficiency report. This provision is necessary for reduction facility accountability. The letter informs the reduction facility that all reduction efficiency reports have been received and reviewed by the Department and that the review shows the reduction facility is consistent in the operation of the reduction chamber, resulting in safe and fully reduced human remains. The Department determined that issuing a letter of reduction efficiency is consistent with the other letters described in this proposal and is the simplest way to notify the reduction facility.

Adopt **subdivision (c)(1)** to inform the reduction facility that additional reduction efficiency reports are required if any of the first 20 reductions fail to achieve the temperature and time monitoring requirements or fail one or both confirmation tests when first tested. This provision also clarifies how many additional reduction reports are required following the described failures. This provision is necessary for reduction facility accountability and to confirm reduction chambers are being operated safely and effectively. The number of additional reduction efficiency reports equal the number of reductions that failed either the temperature and time monitoring requirement or confirmation testing when first tested. The Department determined that requiring the reduction facility to demonstrate first-run success a total of 20 times before being issued a letter of reduction efficiency ensures the reduction facility is proficient at reduction. Reduction is a biological process that can produce unexpected results even though the operator controls as many variables as possible and operates the reduction chamber correctly. Each failure is an opportunity for improvement and the Department determined that additional reductions following first run failures is the most comprehensive way a reduction facility can demonstrate their ability to improve reduction.

Adopt **subdivision (c)(2)** to inform the reduction facility that no further reduction efficiency reports are required after issuance of the letter of reduction efficiency. This provision is necessary to clarify to the reduction facility that the reduction efficiency reporting requirement is complete. The Department determined that once a reduction facility receives a letter of reduction efficiency, then the purpose of this section is fulfilled. No additional reports are required and any reports submitted by the reduction facility would not be reviewed as part of the reduction efficiency reporting requirement.

Adopt **subdivision (d)** to inform the reduction facility that they must retain all reports and letters described in this section for at least ten (10) years after reduction is complete. This provision is necessary for reduction facility accountability and consistency within the proposed regulations. The document retention period aligns with the statutory requirement for a reduction facility to maintain reduction records for 10 years (HSC section 8392) and is consistent with the other document retention

provisions in the proposed regulation. These documents are reviewable by the Department and the Bureau for regulatory purposes. The reduction facility must retain them to comply with oversight requirements.

Adopt **Section 65955 – Reduction Chamber Inspection and Operation** to describe how the Department will provide oversight of reduction chambers that are in operation. Section 65955 is necessary to confirm reduction chambers are operating at the standards described in this proposal. This section informs the reduction facility that the reduction chambers are subject to inspection and that an inspection report will be issued. This section also details notification requirements regarding reduction chambers at the reduction facility.

Adopt **subdivision (a)** to inform the reduction facility that reduction chambers are subject to inspection by the Department's representative to confirm the chambers comply with California Code of Regulations, title 22, Chapter 24. This is necessary to confirm reduction chambers are destroying pathogens and for consistency with other regulatory programs. Multiple programs within the Department require on-sight inspection as a part of regulatory oversight. AB 351 requires the Bureau to inspect its licensees, including reduction facilities. However, the Department is the subject matter expert regarding reduction chambers. It is outside the purview of the Bureau to assess operating reduction chambers to confirm they are preserving public health and safety and destroying pathogens. The Department determined that inspections are appropriate for both confirming reduction chambers are operating as required by the proposed and to ensure oversight is consistent with the Bureau and similar programs.

Adopt **subdivisions (a)(1)** through **(a)(3)** to inform the reduction facility of specifics regarding inspections. These provisions inform the reduction facility that inspection may occur with or without advanced notice, that inspections may be conducted during or outside a reduction facility's regular business hours, and that the Department's representative must have access to all reduction chambers, reduction facility spaces, and any related documentation. These provisions are necessary to clarify the specifics of inspection activities to the reduction facility. The Department modeled these inspection requirements after the inspection requirements of the Bureau. AB 351 requires the Bureau to inspect reduction facilities with or without prior notification, during regular office hours or hours that the facility is in operation, to inspect the books, records, and premises of the reduction facility, and requires that the reduction facility must allow the Bureau inspector access to these documents and spaces. The Department determined that refining the Bureau's inspection requirements to the proposed regulations is sufficient and necessary to ensure the reduction chambers are being operated in a manner that preserves public health and safety and destroys pathogens.

Adopt **subdivision (b)** to inform the reduction facility that an inspection report will be issued after inspection. This provision is necessary for reduction facility accountability. Inspection reporting is routine in substantially similar programs within the Department,

such as the Medical Waste Management Program. The Department determined that creating a written record of inspection engenders trust between the Department and the regulated community. The inspection report is reviewable by the Department and the Bureau for regulatory purposes.

Adopt **subdivision (b)(1)** to inform the reduction facility that the report will be written in reference to Chapter 24 of the proposed regulations. This provision is necessary to clarify to the reduction facility the information that will be in the inspection report. During inspections, the Department's representative will confirm that the reduction chamber is being operated to the requirements of the proposed regulations. AB 351 requires the Department to ensure the reduction chambers preserve public health and safety and destroy pathogens. Chapter 24 fulfills the requirements of AB 351. The Department determined that focusing the inspection report on this Chapter meets the AB 351 requirements.

Adopt **subdivision (b)(2)** to inform the reduction facility that identified reduction chambers must not be used until proof of repairs or correction of violations is submitted to and accepted by the Department. This provision is necessary to ensure reduction chambers preserve public health and safety and destroy pathogens. During inspection, the Department will evaluate the reduction chamber at the reduction facility and may discover a problem that needs to be addressed. As an example, the Department may identify a reduction chamber that has a broken lid latch or has an obscured permanent identification tag. These examples would constitute violations of section 65910(a)(1) and section 65910(a)(5), respectfully, that the reduction facility would be required to fix or correct. Depending on the nature of the violation, proof may be an invoice detailing the repairs completed, pictures showing a broken part has been replaced, or a detailed narrative describing the steps taken to correct the problem. The Department will evaluate the submitted proof to ensure the reduction chamber is back to proper working order, at which time the reduction chamber may be operated again.

Adopt **subdivision (b)(2)(A)** to inform the reduction facility that they must notify the Department in writing if a reduction chamber cannot be repaired and remove the identified reduction chamber from further use in reduction. This provision is necessary to ensure reduction chambers preserve public health and safety and destroy pathogens. The reduction facility is the party responsible for undertaking any repairs and will be in the best position to know if a reduction chamber is not repairable. The Department determined that the reduction facility must notify the Department of this situation so that the Department will be aware of a reduction chamber that no longer meets the standards of the proposed regulations.

Adopt **subdivision (b)(2)(B)** to inform the reduction facility that they will be issued a letter of permanent disrepair for the specific reduction chamber after receiving written notification and that a copy of the letter will be forwarded to the Bureau. This provision is necessary to ensure reduction chambers preserve public health and safety and destroy pathogens and for regulatory purposes. This letter confirms the written

notification from the reduction facility and permanently prohibits the use of the unrepairable reduction chamber from reduction. The Department determined that the Bureau must be made aware of this situation for their regulatory purposes. Forwarding a copy of the letter is the simplest and most expedient method to accomplish communication.

Adopt **subdivision (b)(3)** to inform the reduction facility that they must retain all reports and letters described in this subdivision for at least ten (10) years after reduction is complete. This provision is necessary for reduction facility accountability and consistency within the proposed regulations. The document retention period aligns with the statutory requirement for a reduction facility to maintain reduction records for 10 years (HSC section 8392) and is consistent with the other document retention provisions in this proposal. These documents are reviewable by the Department and the Bureau for regulatory purposes. The reduction facility must retain them to comply with oversight requirements.

Adopt **subdivision (c)** to inform the reduction facility that written notification must be submitted to the Department within 15 calendar days of reduction chamber acquisition, malfunction, or permanent removal from use. This subdivision also informs the reduction facility that the written notification must include the date of occurrence and the reduction chamber's identifying information as described in section 65910. This provision is necessary for reduction facility accountability and to ensure the reduction chamber meets the standards of the proposed regulations. The Department determined that to properly regulate reduction chambers, the Department must be aware of all reduction chambers in operation. Written notification from the reduction facility is the simplest and most expedient method to make the Department aware. The Department determined the notification timeframe is not burdensome on the reduction facility and is consistent with the reduction efficiency reporting timeframe. The information required to be in the notification allows the Department to link the specific reduction chamber to the reduction facility and know date of occurrence. The information is critical for regulatory purposes.

Adopt **subdivisions (c)(1)** through **(c)(3)** to inform the reduction facility of what qualifies as an occurrence that requires written notification and of additional requirements for specific occurrences. These provisions are necessary for reduction facility accountability and to ensure the reduction chamber meets the standards of this proposal. Subdivision (c)(1) clarifies that acquisition of a reduction chamber qualifies for notification. Notifying the Department of reduction chamber acquisition makes the Department of new reduction chambers in operation so that the Department can properly oversee the reduction facility. Subdivision (c)(2) clarifies that a malfunction, which renders the reduction chamber unsafe or ineffective, qualifies for notification. Additionally, this subdivision requires that the malfunctioning reduction chamber not be used until proof of repair is submitted to and accepted by the Department. The reason that proof of repair must be submitted and accepted is the same in this subdivision as in subdivision (b)(2). Subdivision (c)(3) clarifies that the permanent removal from use of a

reduction chamber qualifies for notification. Subdivision (c)(3) also requires a description of the reduction chamber's disposal. The Department determined that a description of the reduction chamber's disposal is required because the reduction facility may dispose of a reduction chamber by various means, including recycling, if appropriate, or resale. This description informs the Department of the exact nature of the reduction chamber's disposition after removal from use at the reduction facility.

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Alternatives Considered

The Department has determined that no reasonable alternative considered by the Department or that has otherwise been identified and brought to the attention of the Department which would be more effective in carrying out the purpose for which the action is proposed, or would be as effective and less burdensome to affected private persons than the proposed regulatory action, or would be more cost-effective to affected private persons.

BPC section 7714.3(b), as authorized by AB 351, mandates the Department adopt rules regarding the sale and use of reduction chambers in California. This section also mandates that a reduction facility may only operate a reduction chamber that is approved by the Department and that the Bureau will not issue a license to a reduction facility that is not operating an approved reduction chamber. The Department would be out of compliance with the authorizing legislation if this proposal is not promulgated.

Economic Impact Assessment or Standardized Regulatory Impact Analysis

The Department has made the initial determination that the proposed regulations would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

The creation or elimination of jobs in the state. The proposed regulations are not likely to create or eliminate significant numbers of jobs in the state. However, it is possible that new reduction chamber manufacturers and operators will determine additional workers are required to manufacture or operate reduction chambers.

The creation or elimination of businesses within the state. The proposed regulations are not likely to create or eliminate significant numbers of businesses in the state. As of April 2025, only six businesses in the country operate reduction chambers. It is likely that a small number of businesses will be created in the state to meet the demands of the population.

The expansion of businesses currently doing business in the state. The proposed regulations are not likely to significantly expand businesses currently operating in the state. Of the six reduction chamber operators mentioned above, only two of them represent businesses that expanded into reduction. The others are stand-alone operations that were built specifically to offer reduction services. It is likely that a small number of businesses currently operating in the state will expand into reduction to meet the demands of the population.

The benefits of the regulation to the health and welfare of California's residents, worker safety, and the environment. The proposed regulations will benefit the health and welfare of California's residents, worker safety, and the environment. The reduction chamber design and performance standards will ensure California's residents won't be exposed to pathogens or heavy metal pollutants. Requirements for safe operations will benefit worker safety and preserve the dignity of the human remains. The environment will benefit both directly and indirectly from the application of the nutrient-dense reduced human remains in a conservation area (HSC section 7054.5) and a drastic decrease in greenhouse gas generation where reduction is preferred over cremation.

Statements of Determination

Local Mandate: The Department has determined that the proposed regulations would not impose a mandate on local agencies or school districts, nor are there any costs for which reimbursement is required by Part 7 (commencing with section 17500) of Division 4 of the Government Code.

Effect on Small Business: The Department has determined that the proposed regulations will have no adverse impact on small businesses. The proposal defines the parameters for the manufacture and operation of reduction chambers, and the application process to sell and use reduction chambers. The proposal applies only to small businesses that choose to manufacture or operate reduction chambers.

Housing Costs Determination: The Department has determined that the proposed regulations will have no impact on housing costs. The regulations only affect potential reduction chamber manufacturers and operators.

Mandated Use of Specific Technologies, Equipment, Actions, or Procedures

BPC section 7714.3(b) authorizes the Department to promulgate rules and regulations regarding reduction chambers, a new technology for use in death-care settings. No specific technology is required by this proposal. However, these regulations describe prescriptive and performative standards that specify manufacturing criteria and safe and effective operations of reduction chambers to preserve public health and safety and destroy pathogenic microorganisms, as mandated by statute.

Determination of Significant Adverse Economic Impact on Business

The Department has determined that the proposed regulations will have no adverse economic impact on businesses. The proposal defines the parameters for the manufacture and operation of reduction chambers, and the application process to sell and use reduction chambers. The proposal applies only to businesses that choose to manufacture or operate reduction chambers, not to all businesses operating in the death-care industry.

Involvement with Affected Parties

The Department attended TerraCon 2025 (2nd Annual Terramation Conference, February 2025, Tacoma, WA) and TerraCon 2026 (3rd Annual Terramation Conference, February 2026, Tacoma, WA). While in attendance, the Department engaged with current reduction chamber operators, toured multiple reduction facilities, and spoke with out-of-state regulators and prospective future operators. The conversations and discussions at the conferences informed the Department's understanding of this industry as a whole and offered an opportunity to gauge the concerns of affected parties. The information gathered at this conference was invaluable to the Department's regulation development process. Additionally, the Department developed a questionnaire to solicit input from current and possible future operators, out-of-state regulators, trade groups, and potential reduction chamber manufacturers. On March 17, 2025, the Department sent the questionnaire to 57 contacts via email, as well as posted the questionnaire on the Environmental Management Branch's and Cemetery and Funeral Bureau's websites. Responses were accepted until April 4, 2025, and relevant comments and suggestions were included in the proposed regulations.