

NOTICE OF PUBLIC COMMENT PERIOD & WORKSHOP

PRE-RULEMAKING PUBLIC COMMENT PERIOD FOR PUBLIC HEALTH RULEMAKING

DRAFT RULE FOR PROTECTION OF COMMUNITIES AND WORKERS FROM HEALTH AND
SAFETY IMPACTS FROM OIL AND GAS PRODUCTION OPERATIONS
PRE-RULEMAKING RELEASE FOR PUBLIC REVIEW AND CONSULTATION

October 21, 2021

BACKGROUND

The Department of Conservation's (DOC) Geologic Energy Management Division (CalGEM) prioritizes protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. To do that, CalGEM uses science and sound engineering practices to regulate the drilling, operation, and permanent closure of oil, gas, and geothermal wells.

CalGEM has undertaken a process to update public health and safety protections for communities near oil and gas production operations. This process began in response to a November 2019 directive by Governor Gavin Newsom and has resulted in the preliminary draft rule that is the subject of this notice.

Document Availability

The draft rule is available on DOC's website at:

<https://www.conservation.ca.gov/publichealth>.

This notice is available in Spanish at <https://www.conservation.ca.gov/publichealth>.

Este aviso está disponible in español en <https://www.conservation.ca.gov/publichealth>.

Submission of Written Comments

Written submissions may be provided through December 21, 2021, by email at:

calgemregulations@conservation.ca.gov.

Written and oral comments received during the comment period will be reviewed and considered in developing the proposed regulations for formal rulemaking.

Public Workshop Information (Virtual)

A public workshop will be held on December 1, 2021, at 5 pm to solicit public comment. Registration details will be forthcoming, and available at:

<https://www.conservation.ca.gov/publichealth>

Spanish language translation will be available. Habrá traducción al español disponible. Additional workshops may be scheduled pending input from the public.

Accessibility

If you have a disability and require a reasonable accommodation to fully participate in this event, please contact Sarah Rubin, Outreach and Engagement Coordinator as soon as possible to discuss your accessibility needs.

Email: Sarah.Rubin@conservation.ca.gov | PH: (916) 322-3080

Translation and interpretation services (in addition to Spanish) may be provided upon request. To ensure availability of these services, please make your request no later than ten working days prior to the workshop by contacting Sarah Rubin, Outreach and Engagement Coordinator.

Email: Sarah.Rubin@conservation.ca.gov | PH: (916) 322-3080

[Spanish]

Servicios de accesibilidad adicionales, como traducción de inglés a otros idiomas, pueden hacerse disponibles si usted los pide. Para asegurar la disponibilidad de estos servicios, por favor haga su petición 10 días antes del taller público, a Sarah Rubin at Sarah.Rubin@conservation.ca.gov. | PH: (916) 322-3080

[Tagalog]

Ang mga serbisyo sa pagsasalín at interpretasyon (bilang karagdagan sa Espanyol) ay maaaring ibigay sa kahilingan. Upang masiguro ang pagkakaroon ng mga serbisyonang ito, mangyaring gawin ang iyong kahilingan nang hindi lalampas sa sampung araw ng pagtatrabaho bago ang pagawaan sa pamamagitan ng pagtawag kay Sarah Rubin, Outreach and Engagement Coordinator.

Email: Sarah.Rubin@conservation.ca.gov | PH: (916) 322-3080

[Punjabi]

ਬੇਨਤੀ ਕਰਨ 'ਤੇ ਅਨੁਵਾਦ ਅਤੇ ਵਿਆਖਿਆ ਸੇਵਾਵਾਂ (ਸਪੈਨਿਸ਼ ਤੋਂ ਇਲਾਵਾ) ਪ੍ਰਦਾਨ ਕੀਤੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ। ਇਹਨਾਂ ਸੇਵਾਵਾਂ ਦੀ ਉਪਲਬਧਤਾ ਨੂੰ ਯਕੀਨੀ ਬਣਾਉਣ ਲਈ, ਵਿਕਰਪਾ ਕਰਕੇ ਵਰਕਸ਼ਾਪ ਤੋਂ 10 ਦਿਨ ਪਿਹਲਾਂ ਆਪਣੀ ਬੇਨਤੀ ਦਰਜ ਕਰੋ।

[Chinese]

可应要求提供翻译和口译服务（除西班牙语外）。为了确保这些服务的可用性，请在研讨会开始前的十个工作日内与Sarah Rubin联系，外展和参与协调员。

电子邮件：Sarah.Rubin@conservation.ca.gov | 电话：(916) 322-3080

[Vietnamese]

Có thể cung cấp các dịch vụ biên dịch và phiên dịch (ngoài tiếng Tây Ban Nha) theo yêu cầu. Để đảm bảo việc có thể cung cấp các dịch vụ này, quý vị vui lòng đưa ra yêu cầu không trễ hơn mười ngày làm việc trước ngày hội thảo bằng cách liên hệ với Sarah Rubin - Giám Đốc Tiếp Cận và Cố Vấn Tham Gia.

Email: Sarah.Rubin@conservation.ca.gov | Điện thoại: (916) 322-3080

Contact Information

If you have any questions regarding the process for this public comment period, or if you would like to receive a hard copy of the draft rule by mail, please contact the Office of Legislative and Regulatory Affairs, at (916) 322-3080, or by email at calgemregulations@conservation.ca.gov.

INTRODUCTION

CalGEM carries out its regulatory authority under a legislative mandate to encourage the wise development of oil and gas resources, while preventing damage to life, health, property, and natural resources, including underground and surface waters suitable for domestic or irrigation purposes. (See Pub. Resources Code, § 3106.) In 2019, Assembly Bill 1057 (Limón, Ch. 771, Statutes of 2019) amended CalGEM's mission to include the protection of public health, safety, and the environment (See Pub. Resources Code, § 3011.)

CalGEM's statement of purpose for the public health rulemaking project:

To enact policies and regulations to protect the health and safety of people and communities in close proximity to oil and gas production operations by mandating new operational requirements, monitoring and mitigating pollutants, and minimizing pathways of exposure to noise, emissions, odors, vibrations, spills, and hazardous materials associated with the production, storage, and transmission (within CalGEM's jurisdiction) of oil and gas.

Draft Regulation Development Process

Public Input and Scoping

In collaboration with key stakeholders, CalGEM designed an early input community engagement process comprised of several public meetings beginning February 2020. Four in-person meetings were held in Arvin, Bakersfield, Santa Maria, and Oakland, with the Arvin meeting taking place primarily in Spanish. In response to COVID-19 stay-at-home orders, CalGEM pivoted to engage the public digitally. Three digital town hall meetings were held to solicit public comments via telephone while participants viewed a web presentation. One of these town hall meetings was also held primarily in Spanish.

The public outreach process was focused on broad outreach and recognition of the need to engage disadvantaged communities that may be disproportionately affected by pollution in their communities. Flyers notifying the public of meetings were translated into eight languages and Spanish-language interpreters were available except when a meeting was held in Spanish. Stakeholders, including environmental justice partners, community leaders, operators, and air district partners, participated in the development of handouts and materials, and provided venue support and customized outreach to ensure high meeting participant turnout.

During this early input outreach period, more than 40,000 comments were received through email, instant online polling, individual survey, mail, and verbal and written comments submitted during public meetings. All comments were reviewed and analyzed to inform the draft rule. Summaries of these comments and transcripts of the digital meetings can be found on the Department's webpage.¹

Multi-Agency Coordination

CalGEM is comprised of engineers and geologists with education and experience in the field of oil and gas exploration and production, supporting a technically-sound approach to regulating all aspects of oil and gas production operations. Recognizing the multi-disciplinary nature of this rulemaking, CalGEM consulted with other state agencies with relevant jurisdiction and experience on proposed regulatory language, recommendations for specific regulatory requirements, and to engage in ongoing discussions about appropriate parameters and cross referencing. To date, CalGEM has

¹ Information referenced by this document which can be found "on the Department's webpage" can be accessed at: <https://www.conservation.ca.gov/publichealth>

engaged with the following California state and regional agencies regarding the public health rule²:

- California Air Resources Board
- California Environmental Protection Agency
- Department of Fish and Wildlife's Office of Spill Prevention and Response
- Department of Forestry and Fire Protection
- Department of Public Health
- Department of Toxic Substances Control
- Department of Water Resources
- San Joaquin Air Pollution Control District
- Santa Barbara Air Pollution Control District
- South Coast Air Quality Management District
- State Lands Commission
- State Water Resources Control Board

Rulemaking Scoping Process

Acknowledging the broad nature of oil and gas operations, CalGEM started its process by defining the scope of the proposed regulations, including the statement of purpose referenced above. CalGEM staff then used relevant scientific literature to identify activities or scenarios that pose a risk of environmental contamination or negative health impacts including air emissions, noise, light, the presence of hazardous materials, spills, and threats to groundwater quality. Staff also carefully considered hazards and concerns identified by the public during the public input and scoping process to ensure that public concerns were addressed.

Staff then evaluated a wide range of mitigations that potentially minimize pathways to exposure for the neighbors of oil and gas operations and verify that contamination does not occur. Solutions considered included subsurface mitigation measures for wells and pipelines and surface protections such as secondary containment. Existing regulations were also reviewed, and updates are proposed to include mitigations that would close regulatory exceptions and enhance existing protections.

Staff studied regulations from other regulatory bodies and consulted with the agencies listed above to identify possible regulatory gaps that could be closed by the rulemaking; collaborative efforts for enforcement and property access were also

² The inclusion of an agency on this list should not be taken as an endorsement of the rule by the agency or its professionals.

discussed when jurisdictional limitations were encountered. The identified mitigations were then organized according to engineering control type and used to generate this draft rule for purposes of public review and consultation in advance of commencing the formal rulemaking process. Following the initial development of this draft rule, refinement will continue to ensure an effective rule will be proposed in the formal rulemaking process.

The data and sources provided in this document to support the need for the proposed regulations should not be considered exhaustive or complete. Comments and data provided by the public during the comment period will be investigated and evaluated for potential modifications or additions to the rule. Part of that research and development process will include the ongoing incorporation of data and recommendations from the Scientific Advisory Panel that was contracted to support this rulemaking.

Scientific Advisory Panel

To inform CalGEM's draft rule, a diverse group of qualified public health experts were selected to participate in the CalGEM public health oil and gas rulemaking as members of a scientific advisory panel. The panel has provided CalGEM with professional quality opinions, recommendations, and data supported by citations to relevant public health studies, expert advice, and public health policy considerations, related to oil and gas production in California.

Panel members were selected by the co-principal investigators, who represent Physicians, Scientists, and Engineers for Healthy Energy (PSE) and the University of California, Berkeley. Panel members work in the following fields of study:

- Toxicology
- Air quality
- Hazardous waste
- Oil and gas
- Environmental justice
- Scientific integrity
- Medical monitoring
- Disease outbreaks
- Risk assessment
- Birth outcomes; pregnancy
- Climate change and health
- Hydrogeological impacts
- Water and energy resources
- Cancer prevention; pediatrics
- Environmental health sciences
- Epidemiology; perinatal epidemiology
- Subsurface gas migration and wellbore integrity
- Produced water management, handling, disposal, and reuse
- Environment impacts, injuries, and illnesses
- Contaminant exposure and health outcomes

- Energy industrial and agricultural systems
- Remote sensing technology of emissions
- Community-based participatory research

Biographies for panel members can be found on the Department's website at <https://www.conservation.ca.gov/publichealth>.

The panel's preliminary guidance regarding health impacts from proximity to oil and gas development and exposure pathways of concern assisted CalGEM in identifying relevant scientific literature and stressors to communities.

The panel concluded with a "high-level of certainty"³ that there is a causal relationship between close geographic proximity to oil and gas development and adverse perinatal and respiratory outcomes, and that concentrations of health-damaging air pollutants, including criteria air pollutants and toxic air contaminants, are more concentrated near oil and gas development activities compared to farther away. The panel also found that epidemiological studies consistently demonstrate evidence of harm at distances less than one kilometer. In response to specific questions from CalGEM, the panel summarized its initial conclusions on proximity to oil and gas operations in a document that is made available with this notice at <https://www.conservation.ca.gov/publichealth>.

The panel's input informed CalGEM's determination that both engineering controls to reduce air emissions and other stressors from well sites, and exclusion measures to prohibit new wells within 3200 feet of sensitive receptors such as homes and schools, are necessary to reduce health hazards and risks from oil and gas development.

A more detailed report and set of recommendations remain a work in progress and are expected to be made part of the rulemaking package to be submitted to the Office of Administrative Law and made available for public comment during the formal rulemaking process. In the meantime, the Scientific Advisory Panel's activities include:

- 1) Synthesizing existing scientific research recommendations and science-based policy recommendations regarding public health and upstream oil and gas development;

³ In this document, the statement, "a high-level of certainty" is based on the professional judgement of all California Oil and Gas Public Health Rulemaking Scientific Advisory Panel members in their assessment of the scientific evidence. [Shonkoff, S., Morello-Frosch, R. et al., *Response to CalGEM Questions for the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel, October 1, 2021.*]

- 2) Reviewing additional peer-reviewed scientific literature and government reports on the public health dimensions of oil and gas development in California and other oil and gas regions in North America; and
- 3) Compiling science-based findings, conclusions, and recommendations regarding public health hazards, risks, and impacts of upstream oil and gas development.

Pathways to Health Harms from Upstream Oil and Gas Development

The summary of pathways to public health impacts which appears below, has been developed based on preliminary guidance received from the Scientific Advisory Panel as described above. The panel compiled sources available through October 1, 2021, that focused on upstream oil and gas development in the United States and Canada. Sources considered by the panel for this preliminary guidance focused primarily on peer-reviewed studies, and included relevant government agency reports and expert panels. The panel limited its deliberations to peer-reviewed scientific literature to help ensure that any findings and conclusions rely on high-quality data and scientific interpretations.

According to the panel's preliminary guidance, the relevant studies demonstrate statistically significant associations between upstream oil and gas development and adverse health outcomes in surrounding communities. The panel analyzed the research findings using the Bradford-Hill criteria⁴ to determine with high confidence that oil and gas development is causally related to adverse respiratory and perinatal outcomes. Although the precise mechanisms of health harms linked to oil and gas operations have yet to be fully understood, the strength of the evidence indicates that there are viable pathways for contamination of air, water, and soil from these operations by substances with known negative health effects. These include chemical and physical stressors that may induce adverse responses in persons who are exposed.

Chemical & Physical Stressors

According to the preliminary guidance from the panel, chemical stressors are chemical agents that may be released into environmental media (e.g., air, water, soil) and may pose a risk to human health and/or the environment. These include chemicals that are

⁴ Hill, A. B. (1965). The Environment and Disease: Association or Causation? *Proceedings of the Royal Society of Medicine*, 58(5), 295–300. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1898525/>; and Lucas, R. M., & McMichael, A. J. (2005). Association or causation: Evaluating links between "environment and disease". *Bulletin of the World Health Organization*, 83(10), 792–795. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626424/>

found in petroleum reservoirs, chemicals that are emitted from upstream oil and gas development activities, and additives used to facilitate well maintenance and production. Many are known carcinogens, are classified as toxic air contaminants, and may lead to the formation of ground-level ozone, a federally recognized criteria air pollutant associated with adverse respiratory impacts.

Odor from chemicals is a particular problem noted by many community members and may be an indicator of a loss of containment. Broadly, epidemiological studies have associated odors with acute physical symptoms such as headaches, nausea, eye and throat irritation, respiratory symptoms, and psychosocial stress. Exposure to chemical additives used in upstream oil and gas development may result from accidental spills and leaks, releases to the air during chemical mixing and operations, groundwater contamination, and volatilization of chemicals into the air from produced water.

The panel's preliminary guidance also identifies that physical stressors stem from physical agents and may also pose risks to health and safety. These include noise, light, induced seismicity, and explosions and fires associated with upstream oil and gas development. Studies have associated chronic noise ranging from 30 to 70 dBA with sleep disturbance and cardiovascular disease, including hypertension and increased stroke risk. Exposure to artificial light at night (ALAN) is associated with mental health symptoms, increased risk of mortality, and sleep deprivation, which can cause secondary effects, such as reduced cognitive function and reduced productivity. In addition, exposure to ALAN has been associated with elevated incidence of cancer, including breast cancer, as well as metabolic and mood disorders.

Distance between oil and gas development operations and human populations is also crucial to mitigation of adverse health outcomes. Risks associated with chemical and physical stressors can be reduced by establishing greater distances between these sites and receptors, whether it be a human receptor or a receptor relevant to human exposure.

Pathways to Contamination

Upstream activities related to oil and gas development may emit various pollutants into air, water, and soil. Under normal operating conditions, inhalation is the primary significant exposure route for residents living near oil and gas operations. The concentrations of pollutants in air, water, and soil that result from these emissions can be taken in through exposure routes including inhalation via the nose and mouth; ingestion through the mouth and dermal absorption through the skin.

Some of the health issues correlated with proximity to oil and gas operations include asthma, wheeze, sore throat, chest tightness, eye and nose irritation, dizziness, ringing of the ears, adverse birth outcomes including small for gestational age, low birth weight, reduced term birth rate, preterm birth, neural tube defects and congenital heart defects, impacts to infant health index, infant mortality, high-risk pregnancy, cardiovascular disease, antenatal anxiety and depression, skin irritation, rash, difficulty breathing, nose, throat and sinus problems, gastrointestinal disturbances, headache, sleep disruption, and stress.

Air Pathway

Sources of air pollutants associated with oil and gas development include products of incomplete combustion from flares and diesel-powered equipment, which emit carbon monoxide (CO), hydrocarbons, black carbon, diesel particulate matter (a known carcinogen), and carbonyls, as well as chemicals emitted from surface and subsurface equipment such as wells, pumps, generators, compressors, pneumatic devices, tanks, surface impoundments, and solid and liquid waste handling equipment. Chemical additives can volatilize and have the potential to increase airborne exposure of surrounding communities. Air pollutant emissions from upstream oil and gas development include toxic air contaminants, criteria air pollutants, sulfur oxides, nitrogen oxides, volatile organic compounds (VOCs), and reactive organic gases.

The engineering controls proposed for inclusion within the draft rule focus on the early detection and elimination of emissions through full containment of gases and fluids and real time leak detection. Some of these proposed controls include vapor recovery for all equipment that emits vapors, removal of existing exemptions from inspection for some tanks, and broadly expanding requirements for tank bottom leak detection systems. Operators would also be required to conduct daily external visual inspections and carry a portable multi-gas detection meter during the inspection. Temporary pipeline repairs must be replaced with permanent repairs within 60 days, and detailed records of any pipeline leaks must be maintained.

The intent of focusing on containment and immediate response is to help ensure that harmful emissions are minimized or eliminated before they can expose the public and cause health impacts.

Water & Soil Pathways

Chemical additives used in oil and gas production operations have the potential to undergo subsurface chemical transformations and return to the surface via flowback

and produced water. Although degradation pathways and products have been established for some chemical additives under standard state conditions, downhole conditions including high temperatures and pressures can result in altered biodegradation potentials and unexpected chemical reactions and degradation productions. The formation of degradation byproducts from downhole chemical transformations are poorly understood, yet can have significant implications for produced water quality, treatment, and disposal, and for human health due to environmental releases.

In addition, the U.S. EPA recognizes six pathways through which injected fluids could potentially migrate into underground sources of drinking water (USDWs), causing groundwater contamination and impact to domestic or municipal water wells:

- 1) migration of fluids through a faulty injection well casing;
- 2) migration of fluids through the annulus located between the casing and wellbore;
- 3) migration of fluids from an injection zone through the confining strata;
- 4) vertical migration of fluids through improperly abandoned and improperly completed wells that penetrate the injection zone;
- 5) lateral migration of fluids from within an injection zone into a protected portion of that stratum; and
- 6) direct injection of fluids into or above an USDW.

Contaminated groundwater could then affect municipal, domestic, and irrigation wells. In addition, contaminated groundwater could also intercept rivers, streams, and surface water resources. Finally, contaminated water used by plants (including food crops), fish, and wildlife can introduce contaminants into the food chain. Other pathways of human exposure include skin contact via accidental exposure (e.g., falling into a pond) and inhalation of volatile compounds present in produced water from ponds.

Spills also pose a wide variety of environmental concerns. For example, spills on the land surface can greatly enrich topsoil sodium and chloride content and increase mortality rates in vegetative communities. Furthermore, chemical constituents of produced water including trace metals salts, BTEX (benzene, toluene, ethylbenzene, and xylene) and other organic compounds, can percolate into groundwater. That percolation provides a subsequent exposure route to co-located drinking water wells. Spills can also introduce contaminants to surface water, with a subsequent exposure route to humans through drinking water or through bioaccumulation in fish.

Finally, soil, and subsequently groundwater, can be contaminated by the deterioration of materials and equipment that are not in use. For example, pipelines may drain and lead to contamination of surface or groundwater, may lead to ground subsidence, and can contain hazardous chemicals. Other out-of-service infrastructure may deteriorate and lead to similar contamination.

These soil and water hazards can be mitigated by ensuring regular testing of the gas and produced water streams so that the chemical hazards are known and are mitigated through good oil field practice. This will also include the need for additional secondary containment for facilities, wellheads, and the pumping unit stuffing box to prevent fluids from reaching the soil and leaching into groundwater. Out-of-service production facilities will need to be removed promptly, and pipelines that are being abandoned will need to be filled and tested for contaminants.

Ensuring the integrity of the wellbore will also reduce the chance of water and soil contamination, and the proposed requirements for cement to surface during operations and plugging and abandonment recognize the need to protect all viable water sources including freshwater and USDW. Finally, restricting the use of drilling fluid additives that might lead to a degradation of water quality will eliminate a source of hazardous contamination, and a provision allowing neighbors of drilling activities to seek water well testing will promptly identify any specific impact.

Specific Rationale for Proposed Rules

Operative Definitions:

- "Setback exclusion area" - means all land within 3200 feet of a Sensitive Receptor. Proposed new section 1765 outlines the prohibitions and exceptions associated with the setback exclusion area.
- "Setback mitigation area" - means all land within 3200 feet of a Sensitive Receptor. Proposed new and amended sections 1766 through 1777, 1722.4, 1722.6, and 1723 provide engineering control and reporting requirements that apply within the setback mitigation area. In this document, "setback mitigation area" is abbreviated to "SMA."
- "Sensitive receptor" - means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (K-12) schools; daycare centers; any building housing a business that is open to the public; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

- “Effective date” - The date after the formal rulemaking process is complete and new requirements are set to go into effect as provided by the Administrative Procedure Act.

Section 1765. Setback Exclusion Area

Proposed new section 1765 would implement a setback exclusion area where a Notice of Intention to drill a new well with a new surface location will not be approved within 3200 feet of a sensitive receptor as defined above.

The Scientific Advisory Panel has concluded with a high-level of certainty⁵ that the epidemiological evidence indicates that close residential proximity to oil and gas development is associated with adverse perinatal and respiratory outcomes, for which the body of human health studies is most extensive in California and other locations. The Panel has a high level of certainty in the findings of epidemiological studies for perinatal health outcomes because of the consistency of results across multiple studies that were conducted using different methodologies, in different locations, with diverse populations, and during different time periods.

The Panel applied the Bradford-Hill criteria for causation to the peer-reviewed epidemiological literature on oil and gas development and perinatal and respiratory outcomes and concluded with a high-level of certainty that there is a causal relationship between close geographic proximity to oil and gas development and adverse perinatal and respiratory outcomes.

The Scientific Advisory Panel found that existing epidemiologic studies were not designed to test and establish a specific “safe” buffer distance between oil and gas development sites and sensitive receptors, such as homes and schools. Nevertheless, studies consistently demonstrate evidence of harm at distances less than 1 km, and some studies also show evidence of harm linked to oil and gas development activity at distances greater than 1 km. In addition, exposure pathway studies have demonstrated through measurements and modelling techniques, the potential for human exposure to numerous environmental stressors (e.g., air pollutants, water contaminants, noise) at distances less than 1 km and that the likelihood and magnitude of exposure decreases with increasing distance.

⁵ In this document, the statement, “a high-level of certainty” is based on the professional judgement of all California Oil and Gas Public Health Rulemaking Scientific Advisory Panel members in their assessment of the scientific evidence. [Shonkoff, S., Morello-Frosch, R. et al., “Response to CalGEM Questions for the California Oil and Gas Public Health Rulemaking Scientific Advisory Panel,” dated October 1, 2021.]

A 2500-foot setback for populated areas was strongly supported by thousands of members of the public during the scoping process. However, because the Scientific Advisory Panel found the strongest evidence of harm at distances of 1 km, CalGEM proposes a distance in alignment with the panel's analysis to establish the setback exclusion area. One kilometer is approximately 3200 feet.

The draft rule provides limited exceptions to the setback exclusion area. First, where an intercept well or pressure well is needed to alleviate an immediate threat to public health and safety, it may be permitted. Additionally, new production facilities may not be installed or constructed unless they are necessary for safe operation of a well allowed under an exception to the rule, are necessary for compliance with the law or to protect public health and safety, or to replace an existing facility without increasing its geographic footprint.

This section responds to the Scientific Advisory Panel's findings that the greatest public health benefits would be gained from a strategy that, along with other measures, includes a setback distance between production activities and sensitive populations.

Section 1766. Leak Detection and Response Plan

Proposed new section 1766 would require an operator whose wellheads or production facilities are located within the SMA to create and maintain a Leak Detection and Response Plan. The plan must be completed within two years of the effective date of the regulation, or the operator must suspend all activity in the SMA. As part of plan development, they must identify how they will provide continuous detection for methane⁶ and hydrogen sulfide, with an alarm system designed to immediately notify the operator in the event of any indication of a leak.

Under a Leak Detection and Response Plan, detection would be continuous, and the detection system would include an in-field component to cover the wells and facilities, and a fenceline component to provide detection of emissions leaving the operation. A meteorological system would also be required, and all alarms would be time stamped so that it will be possible to associate weather conditions with triggering events.

The plan would contain an alarm response protocol element to provide for rapid identification and correction of a detected problem and require suspension of the use of the well or facility until any leak has been corrected. Leaks that cannot be corrected

⁶ Methane does not have associated health impacts and is generally considered non-toxic. It is targeted for detection here because it is the substance most likely to be emitted during a leak incident and can be easily detected. Ensuring that leaks are detected and repaired will prevent any harmful chemicals from reaching the community.

quickly and safely would require notification to local officials and, at their direction, the community, and operators must consult with those local officials in generating their alarm response protocol. A sample of emissions would be collected and tested when a continuous alarm event indicates that emissions may have traveled to sensitive receptors. The operator would also be required to have a communication plan in place that is prepared to notify the affected community in languages that are easily understood by community members.

The requirement for this plan is designed to be responsive to health concerns related to air emissions from oil and gas operations and to close potential routes to contamination via the air pathway. These health concerns, such as asthma and other respiratory problems associated with air pollution, may be exacerbated by emissions traveling from the operation into the surrounding community. This regulation is necessary not only to ensure that emissions-creating leaks are detected and repaired as quickly as possible, but also to verify the absence of leaks where maintenance, testing, and inspection regimes are effective.

Section 1766.1. Vapor Venting Prevention

Proposed new section 1766.1 would require vapor venting prevention systems on all equipment that may emit vapors into the air if that equipment is located within the SMA. Systems should be designed or approved by a professional engineer to ensure they are fit for their purpose and are correctly installed and functioning; systems already approved by the local air district would be accepted if these standards are met. These systems would also need to be inspected annually, and documentation of the results of the inspection should be submitted to CalGEM within 60 days. Operators would have two years from the effective date of the regulation for the system to be installed and operational.

A vapor venting prevention system⁷ would capture any vapors that are escaping from a tank or other equipment holding petroleum liquids or produced water, and operators would then report the volume and disposition of those vapors. This will ensure that any emissions that can be captured by the vapor recovery system are contained and disposed of without additional risk of contamination of the community through the air pathway. It will also provide data regarding the types of vapors that are collected that can increase our knowledge of the potential pathways and sources of contamination.

⁷ U.S. EPA. Installing Vapor Recovery Units on Storage Tanks.
<https://www.epa.gov/natural-gas-star-program/installing-vapor-recovery-units-storage-tanks>

Section 1766.2. Baseline Water Sampling and Testing

Proposed new section 1766.2 would require operators to provide property owners and tenants located near approved drilling operations, an opportunity to request testing of their surface water or water well both before drilling activity takes place and after it is complete. The goal of this water sampling and testing section is to ensure that a water well or surface water owner or rightful tenant user would be able to verify that ground or surface water contamination did not occur as a result of nearby drilling.

Operators executing a permit to drill would need to contact owners and tenants of parcels within 1500 feet of the wellhead and offer the testing, unless the operator can demonstrate that the delay in well work would likely result in harm to public health or the environment. Sampling and testing would be done by qualified personnel and certified laboratories, with results submitted to the owner, the requesting tenant, the operator, CalGEM, and the state and regional water boards.

The purpose of this requirement is to identify potential pathways to contamination of ground water that may lead to contamination of water wells, and to verify whether contamination has taken place as a result of a specific activity or operation. This data will provide us with additional information on the conduits for that contamination consistent with the concerns of the U.S. EPA regarding subsurface migration of fluids as discussed in the water and soil pathways discussion above. This requirement is necessary to ensure that property owners and tenants would be able to verify that contamination is not occurring as a result of drilling operations in the area.

Section 1766.3. Sound Controls⁸

Proposed new section 1766.3 would provide that sound levels at an oil and gas operation located within the SMA shall remain below 45 decibels during the nighttime hours of 8 pm to 7 am. In addition, diesel engines shall not enter the operation during these hours, vehicle back-up alarms shall be disabled, and no oil shall be removed by truck from the site. The operator must provide for continuous monitoring of sound levels during the restricted hours and must maintain the records for review upon request.

This provision is directly responsive to concerns about noise levels at night, which may cause sleep disturbance and is associated with increased cardiovascular disease. It is necessary to ensure that residents in the SMA can avoid the health consequences of disturbed rest.

⁸ Federal Highway Administration. ND. Effective Noise Control During Nighttime Construction. https://ops.fhwa.dot.gov/wz/workshops/accessible/schexnayder_paper.htm

During all hours of the day and night, the use of a diesel engine to power a pumping unit would be prohibited. Not only would this prohibition address impacts associated with the noise of a continuously running diesel engine, but it would also help to reduce diesel particulate emissions which can exacerbate air pollution related health impacts.

Section 1766.4. Lighting Controls⁹

Proposed new section 1766.4 would require operations located within the SMA to minimize light traveling beyond the property boundaries. Compliance with this requirement would include lighting only as needed for safety and security during nighttime hours and lighting that is hooded so it shines onto the operation and not onto adjacent properties or into the sky. Operators would have one year from the effective date of the regulation to comply with the lighting requirements.

Exposure to artificial light at night (ALAN) is associated with symptoms of mental health, increased risk of mortality, and sleep deprivation, which can cause secondary effects such as reduced cognitive function and reduced productivity. In addition, exposure to ALAN has been associated with elevated incidence of cancer, including breast cancer, as well as metabolic and mood disorders. Similar to sound, the proposed restrictions on lighting usage are necessary to protect the community from the health impacts of sleep deprivation.

Section 1766.5. Dust Control¹⁰

Proposed new section 1766.5 would require operations within the SMA to employ measures to prevent dust and particulates from migrating beyond property boundaries. Dust and particulate matter are components and exacerbators of air pollution and can be a direct indicator of environmental health in a community. Measures that would be required include limiting vehicle speeds on unpaved roads and covering and containing of sands, muds, and excavated soil.

Section 1766.6. Gas Sampling and Analysis

Proposed new section 1766.6 would require operations within the SMA to maintain a gas analysis that is representative of the gas content of all the wells in their field or distinct geologic area. A well that is more hazardous, because it may contain hydrogen sulfide for example, shall be individually sampled and analyzed. Sampling would be

⁹ Collaborative effort by the Permian Basin Petroleum Association, the Texas Oil and Gas Association, the American Petroleum Institute, University Lands, and the McDonald Observatory. (2018). Recommended Lighting Practices.

<https://www.api.org/oil-and-natural-gas/environment/environmental-performance/recommended-lighting-practices>

¹⁰ California Air Resources Board in cooperation with Local Air Pollution Control Districts. (2019). Fugitive Dust Control Self-Inspection Handbook.

http://media.metro.net/projects_studies/sustainability/images/3_Fugitive_Dust_Handbook_from_CARB.pdf

done by a certified laboratory and would identify the constituents of the gas. Sampling and analysis would be updated annually by January 31 of each year.

Collection and reporting of this chemical information are necessary to properly assess, characterize, prevent, and respond to air pollution from normal and off-normal release events. Effective risk management of normal and off-normal conditions in oil and gas development infrastructure requires timely, accurate, and publicly available data on the chemical composition of emissions from said infrastructure. This regular sampling would increase not just the specific knowledge of a single operation but provide data on gas content statewide in a database that could be used for future research to improve regulatory and health outcomes.

Section 1766.7. Produced Water Sampling and Analysis

Proposed new section 1766.7 would require operators to provide a representative chemical analysis for produced water transported away from the oilfield. It would be filed within three months of the first transport and whenever the source of produced water was changed. Like the gas sampling and analysis requirement, this collection and reporting of chemical information would allow for effective response to air and water pollution hazards from normal and off-normal release events associated with produced water.

This proposed regulation is necessary to ensure that the chemicals contained in produced water are known and can be acted upon as necessary to protect public health and the environment from contamination through the air, soil, and water pathways. Groundwater contaminated by spills and releases of produced water containing unknown chemical constituents could affect municipal, domestic, and irrigation wells and intercept rivers, streams, and surface water resources. Contaminated water that reaches plants (including food crops), humans, fish, and wildlife can introduce contaminants into the food chain. Pathways of direct human exposure include skin contact via accidental exposure (e.g., falling into a pond) and inhalation of volatile compounds present in produced water from ponds.

Also, like the gas sampling requirement, this data submission by the operators would allow for the development of a database of the chemical constituents of produced water and how they have changed in a specific field over time that could be used in future research. This data would contribute to our knowledge of the impacts of produced water and lead to better engineering controls to mitigate those impacts.

Section 1766.8. Non-Emergency Spill Reporting

Proposed new section 1766.8 would require operators to report spills of oil and produced water that take place within the SMA within three days. The spill reporting levels set here are half of the levels that are used by the Governor's Office of Emergency Services in requiring emergency spill reporting. They are lesser because the primary purpose of this proposed regulation is to identify the content of spills that may travel the contamination pathways to reach and affect the public health. This data will ensure that any specific hazards identified by the testing can be mitigated through good handling and disposal practices before they can become a hazard to public health.

A database of spills would be created by these reports within the CalGEM WellSTAR database and would provide an opportunity for examination of patterns of behavior for individual operators as well as industry wide practices that may need to be modified to reduce spills that can lead to contamination. More importantly, this data would provide community members with access to specific information regarding chemical constituents that may be present at a nearby oil and gas operation, ensuring that the community remains on notice as to potential hazards and can respond appropriately to protect their health. The data would also allow for the tracking of contamination that may be discovered in the SMA and should lead to the development of processes and procedures that will reduce contamination of pathways to public health impacts through better spill control and best practices.¹¹

Section 1773.1. Production Facility Secondary Containment

The amendment proposed to existing section 1773.1 would strengthen existing secondary containment requirements for operations within the SMA by removing an exemption from secondary containment for some production facilities, such as valves, headers, pumps, and compressors. It further would provide that gravel may not be used as a sole means of secondary containment, and that secondary containment shall be inspected weekly.

Secondary containment is designed to ensure that fluids do not reach the soil and are contained for future safe disposal. By ensuring fluids do not reach the soil, both soil contamination and resulting groundwater contamination are prevented. In addition, although gravel has been used in some secondary containment designs, as a permeable material it is inappropriate for use as the sole containment method, again to protect from soil and groundwater contamination.

¹¹ Allison, E., and Mandler, B. (2018). Petroleum and the Environment, Part 14/24. American Geosciences Institute. <https://www.americangeosciences.org/geoscience-currents/spills-oil-and-natural-gas-fields>

Section 1773.1.1. Wellhead Containment

Proposed new section 1773.1.1 would require secondary containment for the wellhead similar to that required for the production facilities. Where a well is located in the SMA, drilling, workover, and abandonment operations would require a well cellar or berm to function as secondary containment around the wellhead and to capture any fluids released. To prevent soil contamination within a berm, a ground covering would be used to catch any fluids as well as a ground covering under the rig.

In cases where fluid was generated, it would need to be removed and safely disposed in accordance with applicable waste management requirements. As with all secondary containment, the goal is to protect the soil from contamination, and to avoid any subsequent ground water contamination. By ensuring that this contamination does not make it into the environment, the proposed containment will reduce potential health impacts from the soil and water pathways, such as health impacts associated with exposure to benzene and other petroleum hydrocarbons. Where no fluid release is possible, the requirement for this containment could be waived.

Section 1773.1.2. Stuffing Box Containment

Proposed new section 1773.1.2 would require secondary containment for the stuffing box on a well pumping unit, if the wellhead is located within the SMA. The stuffing box containment unit would require an automatic shut-off that would shut off the pumping unit if fluid is detected. The operator would then be required to determine and correct the cause of the leak before reactivating the pumping unit.

Like the other containment provisions, fluids contained must be safely disposed in accordance with applicable waste management requirements, with the goal of preventing contamination of soil and water and the resulting impacts to public health.

Section 1773.2 Tank Construction and Lead Detection

The amendment proposed for existing section 1773.2 would require a tank bottom leak detection system for all tanks within the SMA that do not have a foundation with an impermeable barrier. Tanks that were not previously required to have a leak detection system would have two years from the effective date to meet the requirement.

Previously this detection system was required on a case-by-case basis after considering factors such as age of the tank, fluid service, and proximity to groundwater. To mitigate health impacts associated with soil and groundwater contamination that may be coming from tanks within the SMA, this system would now be required for all tanks in that zone.

Leaks from tank bottoms can result in air emissions and contamination of soil and groundwater. Ensuring early detection of any tank bottom leaking will help to close the pathways to health impacts that may be caused by the release of chemicals stored in tanks to the environment. These chemicals can have significant health impacts, including benzene, a known human carcinogen and hematological toxicant, and chronic exposures to ethylbenzene, toluene, and xylene which have been associated with carcinogenicity, neurotoxicity, nervous system effects, and reproductive toxicity. These BTEX compounds have been associated with endocrine activity and can affect hormone production, mimic hormones, or inhibit hormone signaling. Prevention of these impacts using leak detection systems on tanks is necessary to close the potential pathways to contamination associated with tank leakage.

Section 1773.4. Tank Testing and Minimum Wall Thickness Requirement¹²

The amendment proposed for existing section 1773.4 similarly would help to close pathways to contamination associated with tanks by requiring tanks within the SMA to be internally inspected and tested no less than once every 20 years. Tanks that were not previously subject to this requirement and have not been inspected within the last 18 years, would complete an internal inspection within two years of the effective date of these proposed regulations or the operator would be required to take the tank out of service.

This requirement serves the same purpose as the tank bottom leak detection system: ensuring that a tank does not leak vapors or fluids into the air or soil, by ensuring that it remains fit for its containment purpose consistent with CalGEM standards. Prior to this change, some tanks located outside of sensitive and urban areas were exempted from this requirement; the amendment to this section would ensure that wells within the SMA are not exempt even if they had previously qualified for such as exemption. This should close existing pathways to contamination that may be associated with tanks as described above.

Section 1773.5. Out of Service Production Facility Requirements

The amendment proposed for section 1773.5 would require out-of-service production facilities to be restored to an in-service condition or be completely removed within five years. Facilities that have been out-of-service for five years or more would be removed within two years of the effective date of the regulation.

¹² United States Environmental Protection Agency Office of Emergency Management. (2013). Spill Prevention, Control and Countermeasure Plan (SPCC) Program, Bulk Storage Container Inspection Fact Sheet.
<https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/spill-prevention-control-and-countermeasure-11>

Although CalGEM's regulations already require operators to drain and secure out-of-service production facilities, removing facilities that have been out-of-service for many years is important to reduce the health impacts associated with soil and water contamination that can result from corrosion and loss of structural integrity in unused equipment. Contaminants released into the environment may leach into underlying groundwater resources, seep up to the surface where they may volatilize, contact water resources, or become airborne as particulates from excavation or exposure due to erosion, with the resulting health impacts from human exposure to that contamination via the soil, water, and air pathways.

Section 1774.1. Pipeline Inspection and Testing

The amendment proposed for section 1774.1 would require pipeline repair records for pipelines within the SMA to be maintained for the life of a pipeline to ensure that data on repair and integrity history is available for each pipeline to inform the regulatory and hazard mitigation process. Repairs to pipelines to mitigate active leaks, if only rated for temporary use, would not be permitted to remain in place for more than 60 days before being replaced with a permanent repair.

Pipelines engaged in active transport may leak, with resulting contamination and potential health impacts via the air, soil, and water pathways depending on the contents of the pipeline. Ensuring that repair records are maintained would provide a body of data that could be used to evaluate the overall integrity of a pipeline so that hazardous pipelines with a history of smaller leaks could be removed from service before a significant leak takes place. The use of repair technologies intended for permanent rather than temporary use will reduce the likelihood of these leaks and provide for lower overall contamination released into the environment to harm human health.

Section 1776.1. Pipeline Cleanup and Abatement

Proposed new section 1776.1 is also concerned with pipelines, but in this case, with pipelines that are being abandoned in place or removed at the end of their use within the SMA. Buried pipelines that would remain in place must be cut off with short portions removed, would be purged, cleaned, and filled with inert fluid or impermeable material, and plugged or capped. Pipelines would then be tagged on each buried end, with information reported that would assist in identification of the pipeline in CalGEM's records upon future discovery.

A freshwater flush sample would be required to be performed to demonstrate that not-visible solids and total hydrocarbon concentration are below the acceptable limit.

Testing for naturally occurring radioactive material (TENORM/NORM) and polychlorinated biphenyls (PCBs) would also be required, to ensure that pipelines contaminated with these hazards are not abandoned in place without a full risk assessment.

Potential hazards associated with the in-place abandonment of pipelines that would be mitigated by these requirements include pipeline drainage and subsequent contamination of soil and water, ground subsidence due to failing structural integrity, and exposure damage from erosion, geohazards or hydrotechnical hazards. Contamination with TENORM/NORM, PCBs, and asbestos are of particular concern due to gamma radiation exposure, the intrusion of radon gas into buildings and subsequent inhalation by inhabitants, and the potential for contamination of soil with asbestos and other chemicals which may still be present when future development on the site takes place.

Section 1777. Maintenance and Monitoring of Production Facilities, Safety Systems, and Equipment

The amendment proposed for section 1777 would increase the required frequency of visual inspections of aboveground production facilities (excluding pipelines) for leaks and corrosion for operations within the SMA from monthly to daily. These external visual inspections would be performed by operator personnel carrying a portable multi-gas detection meter that would be used to detect leaks that cannot be identified with the naked eye. Leaks identified would be repaired and reported within 7 days or sooner if otherwise required.

More frequent visual inspection would provide another layer of protection for the avoidance of leaks and emissions that could contaminate air, soil, and water and cause health impacts via these pathways. With a goal of total emissions elimination, this requirement is likely to improve correlated health outcomes for populations living near oil and gas development. The requirement for daily visual inspection facilitates this emissions-free environment and provides an opportunity to identify and repair potential sources of contamination before they can cause health impacts to the community.

Section 1722.4. Cementing Casing¹³

The amendment proposed for section 1722.4 would require a cement log, temperature survey, or other survey to determine cement fill behind casing for all wells within the

¹³ King, G. and King, D. (2013). Environmental Risk Arising from Well-Construction Failure-Differences Between Barrier and Well Failure and Estimates of Failure Frequency Across Common Well Types, Locations, and Well Age. Society of Petroleum Engineers.

SMA where casing is being cemented across a USDW or freshwater zone. It would additionally require wells within the SMA to be cemented with sufficient cement to fill the annular space from the shoe to the surface. This cementing would be required during drilling, redrilling, deepening, sidetrack, or rework with new intermediate or production casing.

Cementing of wells and verification of cement fill will reduce the hazards associated with subsurface migration of fluids as identified by the U.S. EPA. These subsurface fluids can travel to contaminate ground or surface water, and where they may be released to the surface can volatilize into the air. Subsurface fluids that may be released from a wellbore that has not been fully cemented may contain many substances of concern for public health including petroleum hydrocarbons, naturally occurring reservoir chemicals, chemical additives and other chemicals used in oil and gas development. Exposure to these chemicals is known to induce negative health effects, including benzene, a known human carcinogen and hematological toxicant, and chronic exposures to ethylbenzene, toluene, and xylene which have been associated with carcinogenicity, neurotoxicity, nervous system effects and/or reproductive toxicity.

Section 1722.6. Drilling Fluid Program

The amendment proposed for section 1722.6 would require greater care in the selection of drilling fluids to ensure fluids used in drilling and testing do not pose a threat of degradation of water quality. Consistent with this requirement to prevent degradation, oil-based muds would not be used within the SMA unless approved for safety reasons in a specific geologic setting. Fluid, including drilling muds and additives, that has the potential to degrade water quality would be prohibited. Where these fluids are contained or stored in ponds, operators would be required to employ vapor recovery systems and to collect vapors for safe disposal.

These additional standards for fluid quality would reduce the potential contamination of soil and groundwater that may result from the use of fluids and their constituent chemicals that are needed during drilling operations. The requirement for vapor recovery systems would ensure that any chemicals which were volatilized from a container or pond would be prevented from reaching the atmosphere and therefore prevented from causing human health impacts associated with the air pathway.

Section 1723. Plugging and Abandonment – General

<https://onepetro.org/PO/article-abstract/28/04/323/204985/Environmental-Risk-Arising-From-Well-Construction?redirectedFrom=fulltext>

The amendment proposed for section 1723 would provide a clear definition for the term “well cleanout” to identify the depth necessary for plugging and abandonment of a well, and to protect all strata including USDW and freshwater from the infiltration or addition of any detrimental substance that could cause a health impact to the public. The isolation of all strata, including the protection of USDW, is defined as necessary to meet the statutory standard of Public Resources Code 3208 for plugging and abandonment. Finally, this proposed section would require operators plugging and abandoning wells within the SMA to place cement from cleanout depth to surface.

Like the annular cementing that would be required in section 1722.4, ensuring a good cement fill from depth to surface will prevent contamination via subsurface migration of fluids that might use the well as a conduit. The increase in protections for ground water would reduce the potential for contamination via the water and soil pathways and protect beneficial sources of water from degradation.

In urban and residential areas, methane from abandoned wells can migrate and accumulate in confined spaces, becoming an explosion and fire hazard. Multiple instances of gas seepage from both natural faults and abandoned wells have been documented, as well as chemical contamination from TENORM, PCBs and asbestos, with the resulting potential impacts through the water, soil, and air pathways. These additional cementing requirements for wells within the SMA would reduce potential hazards to surrounding communities from abandoned wells that meet this standard.

CONCLUSION

The purpose of the DOC/CalGEM public health rulemaking process has been to identify policies and regulations to address potential harm to people and communities living in close proximity to oil and gas production operations by mandating new operational requirements, monitoring and mitigating pollutants, and minimizing pathways of exposure to noise, emissions, odors, vibrations, spills, and hazardous materials associated with the production, storage, and transmission (within CalGEM's jurisdiction) of oil and gas.

The proposed draft regulations that accompany this summary aim to address the pathways through which oil and gas development may cause negative health impacts, including through air, soil, and water contamination, or where the specific causes of contamination are unknown. These regulations would accomplish this purpose within the setback mitigation area by ensuring that:

- emissions are detected and minimized, so that emissions do not travel beyond the operational fence line and into the community;
- light, sound, and dust are controlled to avoid the impacts associated with exposure to light, sound, and air pollution;
- the chemical makeup of gas and produced water are regularly sampled and analyzed so that contamination can be studied and better understood both in the context of a single spill and as a broader issue for health impact analysis;
- spill impacts are reduced using secondary containment and are promptly reported when they do occur;
- tanks are properly constructed and maintained to ensure ongoing containment of all fluids and vapors;
- pipelines are safely abandoned, and temporary pipeline repairs are truly temporary;
- operators perform daily visual inspections including the use of a gas meter;
- potential subsurface fluid migrations are reduced by requiring that cement to surface of the annulus or wellbore is used to improve isolation in both active wells and plugging and abandonments to reduce potential subsurface migration of fluids, and a cement log is performed to confirm that isolation is achieved;
- drilling fluids that would degrade water quality, including oil-based drilling muds are not used; and
- communities have access to information regarding chemical constituents found in reservoir gas and produced water.

Comments received on the proposed rule will be reviewed to determine what issues and concerns may require modifications to the proposal. Work on the content of the proposed rules will continue until the rule is submitted for the formal rulemaking process.

Once the rule is ready to be formally proposed, the Standardized Regulatory Impact Assessment can be prepared by DOC/CalGEM, along with the Initial Statement of Reasons and Notice of Proposed Action which will be released with the proposed rules, documents relied upon, and other materials as part of the formal rulemaking process. This formal process, required under the Administrative Procedures Act, begins when the rulemaking package is submitted to the Office of Administrative Law, and ends when the rule has been approved and submitted to the Secretary of State to become effective.

The proposed draft regulations and additional materials regarding the DOC/CalGEM public health rulemaking process are available for review at the Department of Conservation website at <https://www.conservation.ca.gov/publichealth>.

Please submit your comments to calgemregulations@conservation.ca.gov by
December 21, 2021
Recommendations and alternative proposals welcome!