

August 31, 2026

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted electronically

Re: CRC Comments on “Discussion Draft Performance Standards for Continuously Operating Emissions Detection Systems Required by California Senate Bill 1137 for Upstream Oil and Gas Production Facilities in Health Protection Zones” July 16, 2026, Workshop

Dear Chair and Board Members:

California Resources Corporation (CRC) appreciates the opportunity to comment on the California Air Resources Board’s (CARB’s) “Discussion Draft Performance Standards for Continuously Operating Emissions Detection Systems Required by California Senate Bill 1137 (2022) for Upstream Oil and Gas Production Facilities in Health Protection Zones,” discussed at the July 16, 2026, workshop. CRC is an independent energy and carbon management company committed to providing affordable, reliable energy to Californians while advancing the State’s climate objectives. We support California’s goal of achieving net-zero greenhouse gas emissions by 2045 and are actively investing in the technologies necessary to help achieve that goal.

CRC supports many of the objectives of SB 1137 and recognizes the value of well-planned health protection zones and effective leak detection measures for communities near oil and gas operations. Successful implementation, however, requires a framework that focuses regulatory resources where they provide meaningful benefits while accounting for differences in facility configuration, emissions composition, receptor proximity, existing regulatory controls, and available technology.

CRC supports prompt detection, investigation, and correction of unintended emissions. Our comments are intended to help CARB establish a program that is protective, practical, technology-neutral, and capable of successful implementation across California’s diverse oil and gas operations. Several provisions of the current discussion draft are unnecessarily prescriptive and could impose unintended delays, substantial cost, and implementation burdens without a corresponding improvement in monitoring objectives.

Many of CARB’s proposed provisions regulate the entire LDRP development and approval process, not merely EDS performance. They therefore intrude upon functions assigned to

operators and CalGEM and exceed CARB's limited statutory role. The applicable provisions of SB 1137 authorizes CARB to establish the performance an emissions detection system must achieve. It does not authorize CARB to dictate every technical, analytical, and administrative step by which an operator must demonstrate that performance, much less to create an independent permitting and compliance program administered by CARB. CARB's citation to its general rulemaking authority under California Health and Safety Code section 39600 does not cure this problem; general rulemaking authority cannot enlarge the specific authority conferred by SB 1137.

This distinction is reinforced by California Government Code section 11346.2(b)(4): when an agency proposes specific technologies, actions, or procedures, it must consider performance standards as a less-prescriptive alternative. CARB cannot avoid that obligation merely by labeling an extensively prescriptive program a "performance standard."

The California Administrative Procedures Act also expressly requires an agency mandating particular technology or equipment to explain why prescriptive standards are required. Government Code § 11346.2. Government Code section 11342.2 provides that an implementing regulation must be consistent with the statute and reasonably necessary to effectuate its purpose. Regulations that alter, amend, enlarge, or impair the scope of a statute are invalid. Under Government Code section 11349(a), "necessity" requires substantial evidence in the rulemaking record demonstrating the need for the regulation.

The California Administrative Procedures Act further requires CARB to evaluate reasonable alternatives, including alternatives that are less burdensome and equally effective. The regulatory economic analysis must use as its baseline the most cost-effective measures that are equally effective in achieving the statutory purpose. Government Code § 11346.3.

CRC respectfully requests that CARB revise the discussion draft prior to initiating the formal rulemaking process to:

- Allow representative chemical composition sampling by field, reservoir, production zone, or other materially similar configurations;
- Require monitoring only for constituents demonstrated to be present and relevant at the applicable operation;
- Establish standardized default methods for setting alert thresholds without mandatory site-specific dispersion modeling;
- Replace mandatory recurring third-party audits with operator certification and risk-based agency oversight;
- Provide greater flexibility for performance verification methods, including alternatives to exact-threshold NIST-traceable standards;
- Address equipment, installer, calibration, and laboratory availability through phased and contingency compliance provisions;

- Recognize existing health risk assessments and air-district-approved modeling and provide an HRA-based alternative compliance pathway where emissions cannot reasonably reach a sensitive receptor at concentrations of concern;
- Allow aerial, drone, satellite, mobile, scanning, and other spatially resolved monitoring technologies, including hybrid monitoring approaches and risk-based alternative monitoring frequencies;
- Clearly distinguish unintended leaks from permitted, planned, or necessary operational and maintenance emissions; and
- Demonstrate that the incremental benefits of each prescriptive requirement justify its incremental costs.
- To the extent of the prescriptive requirements CARB retains following this public comment period, demonstrate, with substantial evidence, the necessity of such requirements and evaluate reasonable alternatives.

CRC believes CARB can achieve the objectives of SB 1137 most effectively through multiple risk-based compliance pathways rather than a single monitoring architecture. The program should build upon existing regulatory analyses and proven technologies, allow technically sound alternatives where they provide equivalent protection, and focus resources on measures that produce meaningful community benefits. CARB's economic analysis should similarly evaluate whether the incremental benefit of each prescriptive requirement justifies its incremental cost. These revisions would advance, rather than diminish, the objectives of SB 1137 by creating a program that is protective, cost-effective, operationally feasible, and adaptable to evolving technology.

I. Background

CRC operates oil and gas fields throughout California and supplies in-state refineries that produce fuels relied upon by Californians. CRC's operations include the San Joaquin, Los Angeles, Ventura, and Sacramento Basins, and the company will be significantly affected by the emission detection system (EDS) requirements developed under SB 1137. CRC recognizes that SB 1137 requires continuously operating EDS within health protection zones. That statutory directive, however, does not eliminate the need to ensure that the implementing requirements are necessary, effective, and proportionate to their costs.

II. CARB Must Evaluate the Incremental Cost and Benefit of Each Requirement

CARB should evaluate regulatory alternatives across a range of performance levels and identify where increasing stringency begins to produce diminishing returns. If, for example, one alternative is expected to detect 90 to 95 percent of qualifying releases under defined conditions and a substantially more expensive alternative increases expected detection to 98 percent, CARB should quantify the incremental public health benefit associated with that additional detection capability and compare it with the incremental statewide cost. The relevant inquiry is not

whether greater stringency could theoretically improve performance, but whether the additional requirement produces a commensurate, measurable improvement in achieving the objectives of SB 1137.

That analysis should also consider whether expenditures required to achieve marginal improvements in theoretical detection certainty could be more effectively directed toward measures that provide greater community protection, such as reliable system operation, rapid investigation of alerts, prompt leak repair, maintenance, and deployment of monitoring at higher-risk locations. CARB should not assume that the most technically stringent alternative is necessarily the most protective or cost-effective; it should demonstrate that each material increase in regulatory burden produces a commensurate and measurable improvement in health protection.

The same analysis should be applied to third-party auditing. If a mandatory private verification program would impose substantially greater statewide costs than a targeted agency audit program, CARB should demonstrate that the private audit system would produce materially greater data quality, system reliability, or emission detection. CRC is not asserting that CARB must always select the least expensive option. CARB should identify the baseline protection provided, the incremental benefit and cost of each additional requirement, available lower-cost alternatives, and the point at which additional expenditures produce diminishing public health benefits.

This is particularly important for the discussion draft's overlapping requirements for detection probability, downtime, instrument sensitivity, precision, quarterly testing, site-specific sampling, modeling, meteorological monitoring, and independent auditing. Those requirements should be evaluated both individually and cumulatively through the rulemaking economic analysis and, as applicable, the Significant Regulatory Impact Analysis.

These considerations are also consistent with the Administrative Procedure Act, which requires agencies to avoid unnecessary or unreasonable compliance requirements, evaluate reasonable less-burdensome alternatives, and assess regulatory choices against the most cost-effective set of measures that are equally effective in implementing the statutory policy.

III. CARB Should Allow Representative Sampling Rather Than Require Site-Specific Sampling at Every Location

SB 1137 neither requires air dispersion modeling at every site nor the overly broad specific sampling and analytical protocols set forth in the proposed regulations. Sections 93504(a) and (b) require site-specific natural gas composition testing to identify the toxic of highest concern. The draft further requires at least three samples from each applicable production-process category, including well or wellhead processes, storage equipment, processing equipment, and glycol dehydration processes. The testing must be repeated when the leak detection and response plan (LDRP) is updated. This approach will require extensive sampling across large numbers of wells and facilities, in cases even where operations produce fluids and gases from

the same reservoir or production zone and have materially similar composition and processing configurations.

Requiring this sampling at every location would create substantial cost and administrative burden even where wells and facilities produce from the same field, reservoir, or production zone and have materially similar composition and processing characteristics. CRC therefore requests that representative composition data be allowed for groups of wells or facilities where the operator demonstrates a common CalGEM field, reservoir, or production zone; materially similar produced-fluid and associated-gas composition; and no material differences in treatment or chemical additives across the oilfield's components (i.e., the wells, storage equipment, etc.). Site-specific sampling should be required only where available information provides a technical basis to conclude that an individual site is materially different from the representative group.

CRC requests that CARB revise section 93504(b) to provide that an operator may establish the chemical composition and toxic of highest concern for a group of wells or production facilities using representative analytical data where the operator demonstrates that the grouped sources have materially similar reservoir, production, composition, and processing characteristics. Site-specific sampling shall be required only where available data indicate material compositional variability that could affect selection of the detection target or alert threshold.

IV. CARB Should Distinguish Source Characterization from Continuous EDS Monitoring

The proposed regulations contain overly broad targets for chemical identification that are not required under SB 1137. Table 1 identifies seven potential toxic constituents. Section 93504(b)(1)(B) requires source-sample analysis capable of detecting all seven constituents at one ppmv. By contrast, sections 93504(a)(3) and (e) contemplate continuous EDS monitoring of the site-specific toxic of highest concern or methane as a surrogate. SB 1137 likewise states that not all oilfield chemical species must be detection targets, and that methane "may serve as a surrogate" for constituents that cannot be continuously monitored and stated that not every chemical species must be a detection target. CARB's mandatory sampling, process-category requirements, lowest-ratio requirement, modeling protocol, and equipment-specific calculations could make the statutory surrogate option impracticable or economically infeasible. This is not merely as added detail but as a potential impairment of flexibility expressly preserved by the Legislature. CRC supports a targeted EDS and requests that CARB make this distinction explicit.

The final regulation should require the EDS to monitor only the selected toxic of highest concern or an approved surrogate that reliably indicates the selected toxic. It should not be interpreted to require continuous monitoring, modeling, or separate alert thresholds for every Table 1 compound.

In addition, repeated full-suite sampling should be required only after a material change reasonably expected to affect composition, such as production from a different reservoir, a significant process modification, or introduction of a new chemical treatment. Routine five-year plan renewal alone should not automatically trigger complete resampling where operations and composition remain materially unchanged.

CARB should also explain the basis for requiring a uniform one-ppmv analytical capability for every Table 1 constituent. Analytical reporting limits should be tied to the concentration necessary to make the applicable risk and monitoring determination. A single analytical limit may be unnecessarily stringent for some compounds.

The purpose of source characterization should be to identify the constituent that drives risk at a production site, not to create an ongoing obligation to monitor every compound that might occur anywhere in California oil and gas production. Once the relevant constituent is identified, continuous EDS monitoring should be limited to that constituent or an approved surrogate.

V. Methane and Other Appropriate Surrogates Should Be Readily Available Compliance Options

Where representative composition data establish a reliable relationship between methane and the toxic of highest concern, methane should be presumptively available as the detection target if the proposed EDS can reliably detect methane at the applicable threshold. Requiring direct monitoring of a toxic constituent when an effective surrogate is available would unnecessarily limit technology options without improving protection.

CARB should also allow process-specific ratios or a statistically supported representative ratio rather than automatically requiring the single smallest observed methane-to-toxic ratio across all applicable process categories, unless CARB demonstrates that use of the minimum ratio is necessary to achieve the required level of protection.

VI. CARB Should Establish Standardized Default Alert-Threshold Methods

SB 1137 does not require AERMOD dispersion monitoring, specific REL-level leak-rate calculations, or prescriptive EDS siting and alert threshold methodology. Sections 93504(e), (f), and (h) require operators to calculate REL-level leak rates, conduct EDS siting and threshold analyses, and perform site-specific AERMOD dispersion modeling for production equipment monitored by the EDS. The modeling must include detailed source inputs, receptor configurations, meteorological and terrain data, isopleth maps, and sensitivity analyses.

SB 1137 requires an EDS designed to identify leaks “before emissions impact the surrounding communities.” CARB’s proposed regulations convert that language into a requirement to detect leaks before the “toxic of highest concern” exceeds its acute reference exposure level at any sensitive receptor.

The statute does not designate an OEHHA acute REL as the definition of “impact,” direct CARB to conduct health-risk regulation under SB 1137 or make modeled REL exceedances the controlling design criterion. CARB is therefore arguably creating a substantive health-risk standard that the Legislature did not enact, rather than merely specifying EDS performance.

Requiring individualized dispersion modeling for every covered location will impose substantial consulting and administrative costs. It may also produce inconsistent results among otherwise

similar sites because modeling outcomes can depend heavily on assumptions regarding source location and geometry, release height and orientation, release temperature, leak rate, duration, meteorological data, terrain, receptor grids, averaging periods, and model version and configuration.

Many of those variables are inherently uncertain for an unplanned leak. Therefore, CARB should establish one standardized statewide methodology with conservative default options. Reasonable approaches could include default alert thresholds by constituent, lookup tables based on receptor distance, default thresholds by equipment or facility class, representative modeling by field or facility configuration, standard source assumptions, standard meteorological datasets, and CARB-developed modeling templates.

Operators should be permitted to use these default methods without conducting individual site-specific modeling. Site-specific modeling should be optional or required only where an operator seeks a less conservative threshold, the site has materially unusual terrain or meteorology, the operator proposes an alternative monitoring configuration, or CARB identifies a documented site-specific reason that the default method is not protective.

CRC recommends language providing that “CARB-approved default alert thresholds, lookup tables, representative modeling, or standardized calculation methods may be used without additional site-specific dispersion modeling. Site-specific modeling shall be required only where the operator proposes a less conservative alternative or where CARB or CalGEM determines, based on substantial technical evidence, that the default method is not appropriate for the site.”

CARB should also recognize existing health risk assessments and regulatory modeling as acceptable compliance tools rather than require duplicative site-specific analyses. California’s existing air toxics regulatory framework has long relied on health risk assessment and dispersion modeling to determine whether emissions from stationary sources present a material risk to nearby receptors. CRC facilities have been subject to health risk assessment and modeling through local air district programs, including AB 2588 and air permitting. Where an existing district-reviewed HRA or other approved regulatory analysis evaluates the same or materially similar sources, constituents, receptors, and operating conditions, CARB should allow operators to rely upon that analysis rather than require a new site-specific modeling exercise solely for purposes of the LDRP.

CRC further requests an HRA-based alternative compliance pathway. Where an existing or updated HRA, using CARB- and OEHHA-accepted methods and conservative assumptions, demonstrates that a release from the applicable equipment would not cause the target constituent to exceed the applicable acute health-based threshold at a sensitive receptor, the HRA should satisfy the corresponding dispersion-modeling, siting, and threshold-setting requirements. In such circumstances, CARB should also allow a reduced or alternative EDS configuration commensurate with the demonstrated receptor risk.

VII. The Draft's Overlapping Performance Requirements Require Further Cost-Effectiveness Review

The draft combines requirements governing measurement frequency, downtime, detection limits, precision, quarterly testing, detection probability, meteorological measurements, and alert timing. Although each requirement may appear reasonable independently, their combined effect creates overlapping margins of conservatism and substantial cost without a corresponding improvement in community protection. CARB should evaluate these requirements cumulatively and compare reasonable combinations of detection probability, uptime, sensitivity, precision, alert timing, and verification frequency to identify where additional stringency produces diminishing public health benefit.

VIII. The NIST-Traceable Standard Requirement Is Overly Prescriptive

SB 1137 does not include NIST-traceable testing requirements. CRC supports appropriate performance verification, but requiring quarterly testing with a NIST-traceable standard at the exact alert threshold is unnecessarily prescriptive. The requirement could necessitate custom calibration standards for site-specific thresholds, increase costs and procurement lead times, constrain the pool of available equipment and vendors, and create additional demand for specialized technicians and calibration materials during statewide implementation. It is also poorly suited to technologies such as open-path, OGI, LiDAR, scanning, and optical-reference systems that may require different methods of performance verification.

CARB has not demonstrated that testing at the exact alert threshold provides a material benefit over certified standards that bracket the threshold, manufacturer-specified testing, reference instruments, controlled releases, automated verification, or other scientifically valid technology-specific methods.

CRC requests that section 93504(d)(3)(A) be revised substantially as follows:

~~(A) Testing shall be performed using a NIST traceable standard at concentration(s) equal to the alert threshold(s) of the detection target.~~

(A) Performance testing shall use a certified reference material, reference instrument, controlled-release method, optical or electronic reference, or other scientifically valid procedure approved in the LDRP. Where a reference material is used, the resulting measurement shall have documented metrological traceability to the International System of Units through NIST, another recognized national metrology institute, or another technically appropriate reference accepted by CARB. The test concentration may bracket or otherwise demonstrate performance at the applicable alert threshold and need not equal the alert threshold exactly.

CARB should also allow testing within an appropriate range around the threshold, recognize SI-traceable standards from other national metrology institutes, allow technology-specific performance verification, reduce testing frequency after a system demonstrates stable

performance, allow temporary alternatives during documented standard shortages, and evaluate statewide calibration-gas, technician, and equipment availability.

IX. Mandatory Third-Party Audits Are Duplicative, Not Required under SB 1137 and May Not Be Cost-Effective

SB 1137 does not include an audit mandate. Section 93504(n) requires an independent performance audit within 12 months after installation, every 36 months thereafter, and following certain material modifications. These audits would be required in addition to agency approval of the LDRP, CARB concurrence, operator attestation, a quality assurance project plan, quarterly performance testing, calibration and maintenance records, annual reporting, ten-year records retention, and agency authority to review records and inspect facilities.

CRC supports effective oversight; however, CARB has not demonstrated why mandatory, recurring private audits are necessary for every EDS or why agency inspections, records reviews, witnessed performance tests, and risk-based audits would not provide equivalent assurance.

Before imposing universal audits, CARB should estimate the number of EDS audits, qualified auditor capacity, per-audit cost, and expected error-detection benefit. It should compare that approach with targeted audits based on system failures, complaints, data anomalies, novel technologies, or elevated risk.

CRC recommends that mandatory third-party auditing be removed. Independent audits should be reserved for circumstances such as repeated or unresolved performance failures, material noncompliance, novel alternative monitoring systems, significant modifications affecting monitoring performance, or enforcement matters requiring enhanced oversight.

X. CARB Should Address Equipment and Workforce Availability

The implementation schedule creates substantial procurement and installation risk. Operators must submit LDRPs for all applicable sites / facilities by July 1, 2028, CalGEM has until July 1, 2029, to approve plans or identify deficiencies, and covered operations must fully implement approved plans by July 1, 2030. The draft also provides that production and injection operations within a health protection zone must be suspended beginning July 1, 2030, unless an approved LDRP is fully implemented. An operator receiving final approval near July 1, 2029, may have as little as one year to complete engineering, procure monitoring and hazardous-location equipment, obtain permits, install power and communications infrastructure, secure qualified contractors, configure data and alarm systems, perform field testing, establish QA/QC procedures, and commission the system.

Statewide simultaneous demand by operators across California may exceed the available supply of monitoring instruments, meteorological equipment, calibration standards, qualified installers, electrical and civil contractors, software integration specialists, laboratories, calibration technicians, replacement sensors, and third-party auditors.

CARB should complete a market-capacity assessment before finalizing the regulation. The final regulation should allow phased installation based on risk and receptor proximity, advance approval of standardized system designs, credit for qualifying existing monitoring systems, and shared or networked systems serving multiple facilities. It should also permit conditional approval so operators can begin procurement before final administrative approval, allow substitution of equivalent equipment and temporary alternative monitoring, provide safe-harbor protection for equipment ordered on time but delayed beyond the operator's control, recognize contingency plans for installer or equipment shortages, and protect operators from regulatorily-imposed shutdown where they have acted diligently and implemented approved interim monitoring.

More broadly, CARB should maximize the number of technically sound compliance pathways available to operators during implementation. CRC supports the objectives of the health protection zone requirements, but successful implementation across thousands of geographically and operationally diverse sources will require flexibility rather than a one-size-fits-all monitoring design. CARB should allow operators to select from approved fixed, shared, mobile, aerial, remote, surrogate, and hybrid monitoring approaches based on facility risk, receptor proximity, source characteristics, existing regulatory information, and technology availability. Providing multiple compliance pathways will facilitate timely implementation while allowing operators and regulators to focus resources on locations where monitoring provides the greatest benefit.

Temporary measures could include increased OGI inspections, Method 21 monitoring, mobile monitoring, portable sensors, or other alternatives until permanent equipment becomes available.

XI. "Continuously Operating" Should Be Defined as Performance Availability, Not Perfect Uptime

The draft permits up to 10 percent operational downtime on a rolling 12-month basis. However, section 93504(c)(2)(B) appears to treat the EDS as down whenever any sensor or monitor fails to collect or transmit data or is out of control. For a large sensor network, one failed redundant sensor could therefore count as downtime for the entire EDS even where the remaining sensors continue to meet the approved monitoring objective. Downtime should be based on the loss of required monitoring capability, not failure of an individual component.

CRC recommends: An EDS shall be considered operational where the system, including any available redundant components, continues to satisfy the approved detection performance standard. Failure of an individual sensor or component shall not constitute EDS downtime where remaining components maintain required monitoring coverage.

The regulation should also distinguish between planned maintenance, calibration, power outages, communications outages, vendor-cloud outages, sensor malfunction, failed quality checks, and loss of required detection coverage.

A monitoring system outage should not be treated as evidence that an emissions event occurred. Operators should receive a reasonable repair period and be permitted to use approved interim monitoring.

CARB should ensure that “continuously operating” does not effectively prescribe a dense network of fixed point or open-path sensors. Performance standards should accommodate technologies that provide spatial as well as temporal coverage, including mobile, aerial, drone, scanning, satellite, and other remote-sensing technologies where they can satisfy applicable performance objectives. CARB should also expressly allow hybrid systems combining fixed or surrogate detection with periodic spatial monitoring.

Where an approved HRA demonstrates that a facility presents low receptor risk, CARB should establish an alternative compliance pathway allowing periodic remote monitoring, including drone or aerial surveys at an approved frequency, in lieu of unnecessary fixed monitoring infrastructure.

XII. Alert Validation, Source Attribution, and the Definition of a Leak Must Be Addressed

An alert-threshold exceedance should trigger investigation, not create an irrebuttable presumption that a leak occurred. The regulation must distinguish an unintended release from another emission source and from permitted, authorized, planned, or necessary operating and maintenance activities.

CARB should expressly distinguish an unintended leak from emissions associated with permitted, authorized, planned, or necessary operating and maintenance activities. Routine maintenance, equipment depressurization, blowdowns, calibration and testing activities, startup or shutdown activities, and other necessary operational events may result in detectable emissions while being conducted in accordance with applicable permits, regulations, and safe operating procedures. Such intentional and authorized events should not be classified as leaks solely because the EDS detects a target constituent.

Operators should be allowed to identify planned operational and maintenance events in the EDS data system, so resulting measurements can be properly classified. Such events should not trigger leak-response or community-notification requirements unless an unintended release occurs, applicable permit or regulatory limits are exceeded, or emissions continue beyond the authorized activity. The regulation should similarly provide a process for determining that an elevated measurement originated from another operator or unrelated source and closing the event accordingly.

XIII. Shared Monitoring and Meteorological Systems Should Be Allowed

A separate meteorological station and complete sensor system should not be required at every individual well where a shared system provides equal or better coverage. The regulation should expressly allow one representative meteorological station to serve multiple nearby facilities, shared meteorological data among operators, shared perimeter or open-path systems,

networked monitoring across multiple wells or facilities, use of existing compliant meteorological stations, substitution of nearby representative data when appropriate, and common data acquisition and alarm platforms.

Additionally, the regulation should recognize the availability of regional institutional weather data (e.g. NOAA or National Weather Service).

XIV. CARB Should Clarify Data-Retention Requirements

The draft requires EDS to store at least five years of continuous instrument data but elsewhere requires EDS data and non-operation records to be retained for ten years. CARB should clarify that data older than five years may be transferred to an electronic archival system and need not remain on field instruments or within the original EDS, provided the records remain retrievable and reproducible.

XV. Public Data Must Be Validated and Properly Characterized

Any public reporting system should distinguish among raw and validated data, confirmed and unconfirmed alerts, calibration periods, maintenance periods, instrument errors, background events, non-operator sources, corrected data, confirmed leaks, and invalid or incomplete records. Raw, unvalidated readings should not be publicly characterized as operator emissions or confirmed leaks.

The final regulation should also address cybersecurity, sensitive facility information, proprietary algorithms, correction procedures, data-retention formats, operator explanatory information, and agency data-system capacity.

XVI. CARB's Economic Analysis Should Include Full Lifecycle Costs

The economic analysis should evaluate the full lifecycle cost of compliance, not merely the purchase price of the monitoring equipment. This assessment should include chemical sampling and laboratory analysis; dispersion modeling and engineering; civil, electrical, power, telecommunications, software, data hosting, alarm integration, and cybersecurity infrastructure; calibration, performance testing, maintenance, replacement sensors, field investigations, third-party audits, plan updates, reporting, training, contractor availability, equipment replacement, and potential production interruptions.

CARB should separately evaluate impacts on marginal and low-rate wells, small and remote facilities, operations with limited electrical or communications infrastructure, and facilities with low or nondetectable concentrations of the listed toxics. At the asset and field level, cumulative monitoring, modeling, testing, and verification costs may render otherwise viable production uneconomic and accelerate well shut-ins or field abandonment. The analysis should also consider whether resulting reductions in California production would increase dependence on imported crude oil, exposure to supply disruptions and price volatility, and associated transportation impacts without reducing underlying petroleum demand.

To make this analysis decision-useful, CARB should estimate costs by facility type and disclose assumptions for sensor density, modeling, sampling, calibration, data systems, useful life, replacement rates, labor, and downtime. CARB should prepare a Standardized Regulatory Impact Analysis if estimated statewide impacts exceed the statutory major regulation threshold.

Conclusion

CRC supports practical and reliable monitoring that promptly identifies unintended leaks and enables timely corrective action. CRC respectfully requests that CARB implement SB 1137 through risk-based, technology-neutral pathways that recognize representative sampling and existing HRAs, provide practical default thresholds and alternatives to duplicative site-specific modeling, accommodate surrogate and remote monitoring technologies, establish proportionate QA/QC and audit requirements, distinguish leaks from authorized operational emissions, and provide realistic implementation contingencies.

These revisions would advance the objectives of SB 1137 by focusing resources on reliable detection, rapid investigation, and prompt corrective action rather than prescriptive requirements that provide little incremental benefit to EDS performance.

CRC appreciates CARB's consideration of these comments and looks forward to continued engagement as the regulatory language is developed.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Marshall'.

Jason Marshall

Vice President – Regulatory Affairs

California Resources Corporation