

December 11, 2025

Michael Conway, Commissioner, and
Jason Lapham, Deputy Commissioner of Property and Casualty Insurance
Colorado Division of Insurance
1560 Broadway, #110
Denver, CO 80202

Submitted via email to DORA_INS_RulesandRecords@state.co.us

Re: APCIA Comments on Smoke, Soot, and Ash Remediation Study – Draft Study Report

Dear Commissioner Conway and Deputy Commissioner Lapham:

On behalf of the American Property Casualty Insurance Association (APCIA) and its member companies, we appreciate the opportunity to provide comments in response to the Colorado Division of Insurance (DOI) Study on Remediation of Smoke, Soot, Ash, and Other Particulates draft report (“*Draft Report*”), pursuant to Colorado House Bill 24-1315. APCIA represents the broadest cross-section of home, auto, and business insurers in the nation, including nearly two-thirds of the Colorado property casualty market. Our comments reflect extensive input from member companies, technical experts, and leading voices in fire science, toxicology, and restoration. We are committed to supporting the development of effective, science-based, and practical standards that protect consumers, ensure fair claims handling, and maintain a stable and affordable insurance market in Colorado.

APCIA is concerned that the study process leading to the creation of the *Draft Report* was marked by significant shortcomings in transparency, stakeholder engagement, and scientific rigor. Unfortunately, the science underpinning the *Draft Report* is neither sound nor defensible for policymaking. Further, we have significant concerns about cost and broader market impacts that may result from the recommendations presented.

Concerns on Study Process

APCIA has significant concerns regarding the study process that produced the *Draft Report*. Key issues include:

- **Industry Input Not Considered:** Despite submitting extensive written feedback and expert recommendations to the Division of Insurance (DOI), APCIA’s comment letters¹ and referrals were not shared with the study vendor. This omission was discovered during a stakeholder interview on November 5, 2025, less than two weeks before the *Draft Report* was released, raising serious concerns about the integrity of the process.
- **Last-Minute Vendor Outreach:** Outreach by the vendor to industry occurred mere weeks before the *Draft Report* was released, likely after the report’s narrative and recommendations were largely set.
- **Narrow Reflection of Stakeholder Feedback:** The *Draft Report* provides an extensive summary of verbal feedback provided during a single one-hour stakeholder meeting, held four weeks before its release, during which various substantive questions were posed to attendees. However, there is no mention of, or apparent consideration given to, the substantial written feedback submitted by APCIA and other industry stakeholders prior to or after the stakeholder meeting.

¹ APCIA submitted a comment letter to the DOI on July 19, 2024 in response to five questions posed during a June 27, 2024 stakeholder meeting. APCIA submitted an additional comment letter to the DOI on October 27, 2025 in response to an October 20, 2025 stakeholder meeting.

- **Lack of Engagement with Recognized Scientific Experts:** While the *Draft Report* references a wide range of documents, there is no evidence of direct outreach for substantive engagement with recognized scientific experts in fire toxicology, industrial hygiene, or restoration—despite APCIA’s repeated referrals of such experts.
- **Inadequate Public Comment Period and Process Confusion:** Although the DOI later extended the public comment period to four weeks, the initial two-week public comment window, scheduled over a holiday period, severely limited meaningful peer review of a highly technical and lengthy report. Multiple versions of the *Draft Report* were uploaded in quick succession, creating confusion and requiring stakeholders to spend additional time comparing changes.

Collectively, these procedural flaws—ranging from inadequate comment handling and rushed timelines to insufficient expert consultation—undermine the credibility of the study and raise concerns about the scientific foundation of its recommendations.

Concerns on Draft Report

The *Draft Report* uses methods and standards that don’t fit real-life situations in homes after wildfires. It relies on flawed science and ignores better ways to assess and clean up smoke damage.

The *Draft Report* briefly acknowledges several established reports in its technical review, including the Institute of Inspection, Cleaning, Restoration, and Certification (IICRC) S700 Standard and the American Industrial Hygiene Association (AIHA) Technical Guide for Wildfire Impact Assessments, both developed over a period of years and released within the last 12 months, yet largely dismisses them on the grounds that they do not address the full scope of contaminants that the *Draft Report* deems necessary. The IICRC and AIHA reports maintain that soot, char, and ash are appropriate surrogates for assessing smoke impacts, given current constraints.

Instead, the *Draft Report’s* findings and recommendations are fundamentally anchored in the framework and methodologies presented in the Rocky Mountain Association of Public Adjusters (RMAPIA) report, *Fire Protocols*, developed for and representing the interests of public adjusters.² As highlighted in our previous submissions to the DOI, APCIA and its member companies have identified substantial concerns with the scientific basis and risk assessment approaches outlined in *Fire Protocols*³.

Our review found that the methodologies and toxicological interpretations adopted in *Fire Protocols*—and repeated by the same authors elsewhere⁴—are deeply flawed. These documents misapply regulatory standards, lack robust exposure modeling, and fail to appropriately contextualize risk for residential wildfire smoke impacts.

The protocols advanced in the *Draft Report* pose significant challenges for the insurance market. They threaten to shift the burden of proof onto insurers, increase claim severity, destabilize market availability, and introduce new legal risks. The absence of scientific rigor, transparency, and comprehensive stakeholder engagement raises the risk that these protocols could be leveraged in litigation, with adverse consequences for both insurers and policyholders.

² J. Nieuwma and D. Phalen. (2025) *Fire Protocols* published by Rocky Mountain Association of Public Adjusters.

³ APCIA submitted emails to the DOI on November 5, 2025 and November 10, 2025 in response to the stakeholder interview on November 5, 2025.

⁴ J. Nieuwma and D. Phalen. (2025) *Industrial hygiene method for assessing toxic contamination in smoke and fire-damaged homes*, published in *Toxicology Mechanisms and Methods* (“TMAM”).

Given that proposals in the *Draft Report* rely almost exclusively on the Fire Protocols framework, our comments first identify flaws in Fire Protocols (and the related research article) and then explain how these same flaws appear in, and influence, the *Draft Report's* recommendations.

1. Technical Flaws in Scientific Views and Methodologies in Fire Protocols

A. Misapplication of Standards and Thresholds

Our observations of Fire Protocols (and related research article):

- **Regulatory Thresholds Misapplied:** Applies EPA hazardous waste methods and OSHA occupational exposure limits to residential wildfire smoke impacts. These standards are designed for occupational or hazardous waste settings, not for residential environments, leading to inappropriate risk assessments and invalid interpretations.
- **International Standards Misapplied:** The use of European DNELs (Derived No-Effect Levels) and World Health Organization (WHO) dietary intake limits is problematic. These benchmarks are not directly applicable to U.S. residential exposures, nor do they account for the unique exposure pathways in homes.

How these flaws appear in the *Draft Report*:

The *Draft Report* uses rules meant for workplaces or hazardous sites to judge safety in homes. These rules don't match how people live or what they're exposed to in their own houses, so the results can be misleading.

For example, it references Occupational Safety and Health Administration (OSHA), U.S. Environmental Protection Agency (EPA), and international standards as "potential comparison standards" for fire-related chemicals of concern (COCs)—and acknowledges these are not directly applicable to residential exposures.

The *Draft Report* states:

"OSHA standards are not directly applicable to residential exposures and should not be as such. ... OSHA PELs can be a contributor to decision-making, to the limited extent that is meaningful to our purpose of determining contamination inside residential structures." *Draft Report*, p. 30.

"...residential, risk-based standards should be developed for post wildland/range and WUI fires applications for those COCs without current United States Environmental Protection Agency (US EPA) Regional Screen Levels (RSLs)." *Draft Report*, p. 8.

Despite these admissions, the *Draft Report* still inappropriately relies on these occupational and international standards as the only available benchmarks for many COCs, and does not provide a new, scientifically justified residential standard.

For example, the *Draft Report* misapplies EPA regional screening level (RSLs) developed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund) for hazardous waste applications and other inappropriate thresholds developed by the OSHA to fire-related COCs in residential wildfire smoke impacts. Further, the *Draft Report* references EPA ambient outdoor air quality standards for particulate matter as a surrogate for Soot/Ash/Char concentrations found inside residential premises, a gross misapplication of federal outdoor air quality standards. Ambient outdoor air pollution standards, CERCLA regional screening level

values, and occupational health standards are irrelevant as they were not developed in the context of residential environments, leading to inappropriate risk characterization and fundamentally flawed impact assessments.

Scientific standards must be grounded in evidence and tailored to the specific context, not used arbitrarily for circumstances for which they were not designed; otherwise, they risk leading to flawed conclusions and unjustified actions.

B. Sampling and Exposure Assessment Deficiencies

Our observations of Fire Protocols (and related research article):

- **Arbitrary and Unrepresentative Sampling:** The protocols rely heavily on wipe sampling and subjective interpretation, often condemning entire properties based on limited or poorly contextualized data. There is no clear rationale for sample site selection, timing, or representativeness, nor is there detail on whether samples are composites or replicates.
- **No Exposure Pathway Modeling:** The research article presents contaminant concentrations in dust but fails to model actual exposure (ingestion, inhalation, dermal contact), bioavailability, or dose conversion. Health-based standards are expressed in dose units, but the article only presents concentrations, making risk claims unsupported.
- **Absence of QA/QC and Detection Limits:** There is a lack of reporting on limits of detection, quantification, surrogate recoveries, blanks, replicates, and instrument specifics. This omission undermines the reliability of trace-level contaminant measurements.

How these flaws appear in the *Draft Report*:

The *Draft Report* highlights possible health risks from dioxins and furans. However, there are no scientific studies that directly measure how much of these chemicals people living in wildfire-affected homes are actually exposed to. Most available research focuses on firefighters or uses indirect methods to estimate risk, so we simply don't know the real level of danger for residents.

To illustrate, the *Draft Report* prescribes a minimum sampling protocol (e.g., five samples per level, one air sample), but this is still a "one-size-fits-most" approach, not tailored to actual exposure pathways or risk modeling. There is no explicit modeling of exposure (ingestion, inhalation, dermal), nor conversion of concentrations to dose. The *Draft Report* references standard industrial hygiene methods and laboratory protocols, but does not provide detailed QA/QC procedures, detection limits, or uncertainty quantification for the recommended sampling and analysis.

It is critical to recognize that, despite the *Draft Report's* emphasis on the health risks of dioxins and furans in post-wildfire environments, there are currently no peer-reviewed scientific studies that directly measure acute or chronic dioxin or furan exposure in residential occupants following wildfire events. The existing body of research is limited to occupational exposures—such as firefighter biomonitoring during structure fires—or relies on surrogate metrics like PM_{2.5} to infer potential health impacts. While these studies confirm the presence of dioxins in fire environments, they do not provide direct evidence or quantification of risk for individuals re-occupying smoke-impacted homes. As a result, the risk narrative presented in the *Draft Report* is based on extrapolation and indirect evidence, rather than on robust, occupant-specific scientific data.

C. Toxicological Errors and Overextensions

Our observations of Fire Protocols (and related research article):

- **Dioxin Toxicity Mischaracterized:** The protocols treat all dioxins and furans as equally hazardous, ignoring established toxicological science that wildfire-produced dioxins are orders of magnitude less toxic than industrial dioxins. The omission of Toxic Equivalency Quotient (TEQ) calculations leads to gross overestimation of risk.
- **Lead Exposure Misinterpreted:** The protocols conflate lead measured in solid materials (e.g., wood) with airborne lead standards, an "apples-to-oranges" error. OSHA limits are based on inhalation, not solid content.
- **Lack of Contextualization:** The methodology does not contextualize risk based on contaminant source or form, nor reference peer-reviewed literature supporting such distinctions. It applies occupational and hazardous waste standards to residential settings without scientific justification, compounding the risk of flawed conclusions.

How these flaws appear in the *Draft Report*:

The *Draft Report* treats all types of dioxins as equally dangerous and doesn't use the right scientific methods to figure out actual risks. This can make the dangers seem worse than they really are.

For example, the *Draft Report* repeats much of the Fire Protocols' language on dioxins/furans, emphasizing their toxicity and persistence, but does not provide a TEQ-based risk assessment or differentiate between dioxin congeners. The *Draft Report* states fire residues may contain dioxins (p. 4), among other compounds, and refers to dioxins as an emerging contaminant with extremely toxic properties (p. 18). In wildfire smoke, dioxins bind to smoke, ash, and char particles. The *Draft Report* fails to adequately consider the well-established practices for cleaning and restoring homes affected by smoke, ash, and char—materials that may contain dioxins—which significantly reduce potential exposure.

For lead and other metals, the *Draft Report* lists OSHA and EPA standards but does not clarify the distinction between solid-phase and airborne exposures in the context of residential risk. Further, the cited EPA lead dust standards are only applicable to homes built prior to 1978 or for childcare centers, while air and soil sample limits are RSLs developed under CERCLA; both applications are irrelevant for wildfire smoke in residential premises.

The *Draft Report* also does not adequately account for the extensive body of research on indoor air quality and background contamination. Well established literature indicates indoor environments are never "clean"—volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs, which include dioxins/furans), and particulate levels in homes often exceed outdoor concentrations by orders of magnitude, even in the absence of wildfire or WUI fire exposure.^{5,6} Sources such as furniture, construction materials, cooking, cleaning, personal

⁵ <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>

⁶ Rivera et al. (2025), Investigation of Influences on Indoor and Outdoor SVOC Exposure, International Journal of Environmental Research and Public Health, <https://www.mdpi.com/1660-4601/22/4/556>

hygiene products, vehicle emissions, fireplaces, wood stoves, and industrial activities all contribute to elevated indoor pollutant levels.⁷ Lawrence Berkeley National Laboratory states:

“SVOCs are included as active ingredients in cleaning agents, pesticides, and personal care products, as well as substantial additives in floor coverings, furnishings, and electronic components. Food can also be a substantial, and sometimes, dominant sources of people’s uptake of SVOCs.”

“The SVOC situation indoors is complex and continually changing. There are multiple SVOCs, multiple routes of exposures to SVOCs...”⁸

In fact, air pollutant concentrations in homes frequently surpass industrial limits for VOCs set by OSHA, NIOSH, EPA, and state agencies.⁹ Pollution levels may be elevated in any indoor space near major roads due to tire wear and combustion byproducts, and common building materials like Douglas fir emit acrolein and other “fire VOCs” as they age.¹⁰ Furthermore, many of the COCs identified in Table 1 of the *Draft Report* (e.g., guaiacol; cresols; naphthalene; 2-Methylnaphthalene & 1-Methylnaphthalene; PCBs; Dioxins/furans; Acenaphthylene & other PAHs, etc.) have multiple indoor sources other than wildfire smoke infiltration, including incomplete combustion in wood stoves and fireplaces, tobacco smoke, cooking, flame retardants, mothballs and pesticides, deodorizers, plasticizers, sealants/caulks/paints, and air pollutant infiltration from garages and outdoor industrial sources. Discussion of these sources and their contributions to preexisting chemical contamination is completely ignored in the *Draft Report*.

These phenomena are well-documented in scientific literature yet are not accounted for in the *Draft Report’s* risk assessments or remediation recommendations. Notably, the *Draft Report* cites the EPA as a primary reference for Soot/Char/Ash and other compounds (see Table 1 Chemicals of Concern References), though the EPA does not have regulatory thresholds for fire related pollutants in indoor environments. Instead, as noted above, Table 1 inappropriately references EPA ambient outdoor air quality standards, CERCLA screening levels, and other nonapplicable thresholds.

In 2012, the EPA set its threshold for safe dioxin exposure at a toxicity equivalence (TEQ) of 0.7 picograms per kilogram of body weight per day.¹¹ However, it is important to note that this is based on a lifetime daily exposure rate, and intended to be used to develop future regulations or site-specific risk-based cleanup levels at Superfund (CERCLA) sites.¹² In 1979, the EPA banned the manufacture of products containing polychlorinated biphenyls (PCBs), significantly reducing exposure to dioxin-like compounds in the U.S. The World Health Organization indicates that over 90% of human exposure from dioxins is primarily through the consumption of meat, dairy products, and fish and shellfish, which bioaccumulate dioxins.¹³ APCA is aware of health concerns increasingly raised by industrial hygienists citing exposure to dioxins, though upon closer examination, the links between dioxins and serious illness often stems from chronic exposure to compounds like Agent Orange or other herbicides during military service or long-term exposure to industrial waste sites. For example, the National Institute of

⁷ Yu et al. (2020), Correlation between Indoor and Outdoor Particulate Matter Concentration in Urban Residential Buildings, https://link.springer.com/chapter/10.1007/978-981-13-9520-8_61

⁸ <https://iaqscience.lbl.gov/svocs-and-health>

⁹ <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>

¹⁰ <https://www.epa.gov/system/files/documents/2021-07/epa-region-10-lumber-drying-ef-january-2021.pdf>

¹¹ Royal Society of Chemistry (2012), EPA sets safe dioxin level, https://blogs.rsc.org/em/2012/02/24/epa-sets-safe-dioxin-level/?doing_wp_cron=1765314841.7553129196166992187500

¹² <https://www.epa.gov/superfund/risk-assessment-dioxin-superfund-sites>

¹³ <https://www.who.int/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health>

Environmental Health highlights a 2022 breast cancer study, which found long-term exposure to airborne dioxin emissions for those living in proximity to industrial emissions facilities may be linked to higher breast cancer rates.¹⁴

While public health concerns regarding dioxin exposure are valid and deserve careful consideration, it is essential to distinguish between the chronic, long-term exposures typically associated with industrial emissions or contaminated food sources, and the acute, short-term exposures that may result from wildfire smoke events. Conflating these distinct exposure scenarios risks overstating the health risks from wildfire-related dioxins and may lead to unnecessarily extreme remediation recommendations.

Despite these limitations, omissions, and inappropriate use of pollutant thresholds, the *Draft Report* recommends standardized testing for SVOCs, heavy metals, and dioxins/furans “as the starting point for any claim of impact from fire” (p. 47). Yet the current state of science does not support this level of analysis and disregards other well-established methods for assessing and remediating smoke damage. The report also proposes creating a “central database of sampling data to establish accepted background standards” (p. 47), overlooking the fact that every home is unique in structure, materials, furnishings, and indoor environment—meaning no two homes share the same baseline concentrations. Mandating insurance claim testing to build such a database would impose a significant operational and financial burden on insurers, requiring extensive resources for inconclusive and costly testing regimes. Attempting to establish science-based standards through selective data collection and aspirational language cannot compensate for the absence of robust scientific evidence. Implementing these measures risks unnecessary disruption to the insurance market, with little benefit to consumers or public health.

D. Lack of Scientific Rigor and Peer Review

Our observations of Fire Protocols (and related research article):

- **No Statistical Analysis or Uncertainty Quantification:** Fire Protocols provides no reporting of variability, standard deviations, or treatment of nondetects, which is essential given the heterogeneity of fire residues.
- **Overreliance on Secondary Sources:** The reference lists include websites and industry blogs, which are not suitable for foundational toxicological claims.
- **Peer Review or Consensus Lacking:** The Fire Protocols report lacks input from recognized experts in combustion toxicology and fire remediation. Insurers and experts express concern about the rigor of peer review by the related TMAM academic journal article¹⁵, and potential bias due to undisclosed financial conflicts of interest and affiliations with TMAM.
- **Dismissal of Restoration Industry:** The Fire Protocols report questions the reliability of the restoration industry, generalizing about technician competence and dismissing cleaning and remediation as fundamentally flawed.

¹⁴ <https://www.niehs.nih.gov/health/topics/agents/dioxins>

¹⁵ J. Nieuwsma and D. Phalen. (2025) *Industrial hygiene method for assessing toxic contamination in smoke and fire-damaged homes*, published in *Toxicology Mechanisms and Methods* (“TMAM”).

How these flaws appear in the *Draft Report*:

The *Draft Report* doesn't use strong scientific methods and lacks review by independent experts. It relies too much on websites and opinions instead of solid research. It includes a bibliography and references to peer-reviewed literature but does not consistently cite sources upon which broad and generalized statements are based. For example, the *Draft Report* states:

*“The many papers reviewed as part of this study consistently identified fire-related COCs in the categories discussed in Section 4.3... **almost all parties appear to believe** it is critical to test for fire-related COCs in particulates that coat surfaces and the indoor air following a fire. Similarly, **most papers concluded...**”* (p. 26, bold added for emphasis)

Meanwhile, no citations for these statements and assumptions are given.

The *Draft Report* does not present statistical analysis of sampling data, uncertainty quantification, or a peer review process for its own recommendations, which lack sufficient scientific basis. For example, the entire Sampling Protocol outlined in Section 4.6 appears to be an arbitrary methodology, relying on an unfounded number of samples and sampling locations with insufficient scientific justification. The assumption that such an approach would streamline and improve claims handling is without merit, given the absence of a sound scientific foundation. The *Draft Report* acknowledges the lack of enforceable standards and the evolving nature of the science in many instances but continues to rely on the same sources and flawed methodologies as Fire Protocols.

The *Draft Report* does reference the restoration industry's position—specifically a working paper from IICRC, RIA, and CIRI¹⁶, developed in lieu of the IICRC S760 standard—which strongly rejects destructive remediation as a default solution.¹⁷ These organizations represent the collective expertise and consensus of the leading professional bodies in the restoration industry. Their guidance is grounded in evidence-based cleaning protocols and best practices, and they are advocates for practical, science-driven approaches to fire and smoke remediation.

Ultimately, the *Draft Report* marginalizes the restoration industry's collective, expert-backed position and fails to incorporate the balanced, consensus-driven recommendations of these authoritative bodies. The IICRC, RIA, and CIRI *Technical Guide for Wildfire Restoration Version 2: December 9th 2025* (published after the *Draft Report* was released) offers a more science-based, consensus driven method for wildfire restoration, complementing the *Technical Guide for Wildfire Impact Assessments for the OEHS Professional, 2nd edition (2025)* published by AIHA earlier this year.

¹⁶ Institute of Inspection, Cleaning and Restoration Certification (IICRC), Restoration Industry Association (RIA) and Cleaning Industry Research Institute International (CIRI)

¹⁷ https://iicrc.org/wp-content/uploads/2024/01/IICRC-S760-Standard-Draft_Second-PR-and-CB-Final-Approval-Ballot_Jan-2024.pdf

E. Unsupported and Extreme Recommendations

Our observations of Fire Protocols (and related research article):

- **Default to Replacement:** The Fire Protocols report advocates for full property replacement, dismissing cleaning, remediation, and encapsulation without supporting evidence. Encapsulation is described as ineffective, but this is not substantiated by comparative studies.
- **Arbitrary Classifications and Universal Testing:** Introduces unsupported property classifications and soil sampling requirements. The "Universal Fire Testing Method" could classify nearly all smoke-impacted homes as toxic, regardless of actual risk, leading to systematic overestimation of loss.

How these flaws appear in the *Draft Report*:

The *Draft Report* suggests replacing whole homes and belongings without enough evidence that this is needed. These recommendations could lead to bigger insurance claims and higher costs for everyone.

To illustrate, the *Draft Report* seeks to formalize a 50% floor area threshold for replacement, justifying it with references to a law firm's blog post, unrelated building code thresholds, and other hypothetical scenarios, but does not provide new empirical evidence that this threshold is appropriate for fire-related COC contamination. Relying on an arbitrary percentage does not account for the actual distribution or severity of contamination and may lead to inconsistent or inappropriate remediation decisions. The "universal" minimum sampling/testing protocol is recommended for all claims, with the rationale that it will reduce disputes and speed up claims, but this is not supported by outcome data.

Rigid application of thresholds such as the proposed 50% floor area impact rule risks unnecessary full replacement of structures (and all contents therein), even when repairs may be feasible and cost-effective. We recommend that any framework allows for nuanced assessments by experienced claims professionals, with clear guidelines for evaluating repair versus replacement, considering the nature of the damage, efficacy of remediation, and compliance with current building codes.

To further illustrate, as described in the *Draft Report* (p. 33), a fire on the first floor of a three-level house may require replacement of floors, walls, ceilings, and structure members in the affected zone, as well as anything attached to those members—even if outside the containment zone. Such broad recommendations lack empirical support and risk excessive indemnity spend.

The *Draft Report* recommends that, for lots equal to or less than 0.5 acres, all structures and contents be treated as impacted if the primary structure is impacted. While the document attempts to justify the 0.5-acre threshold based on typical lot sizes and theoretical dispersion of smoke and water, this distinction appears arbitrary and based on overly simplistic water and smoke flow modeling. The selection of 0.5 acres as a cutoff lacks empirical validation or scientific study – there is no cited research demonstrating that smoke or contaminant impacts change meaningfully at this specific lot size. Environmental factors such as wind, topography, building orientation, and fire dynamics can vary widely, making a one-size-fits-all acreage threshold scientifically indefensible. A more evidence-based approach would consider site-specific conditions rather than relying on a generalized acreage cutoff.

In summary, the same questionable recommendations from Fire Protocols persist, now proposed as state guidance.

F. Potential Bias

Our observations of Fire Protocols (and related research article):

- **Conflict of Interest:** The Fire Protocols report was published by an association of public adjusters, whose financial interests align with larger claim settlements. The strong bias toward replacement and the framing of recommendations as "standards of care" for litigation purposes further undermine objectivity.
- **Advocacy Tool Disguised as Science:** The protocols use scientific terminology and charts to mask their nature as advocacy pieces, not objective, evidence-based standards. The Fire Protocols report devotes 39 of its 85 pages to the two authors' resumes.

How these flaws appear in the *Draft Report*:

The *Draft Report* discloses that the primary authors of the Fire Protocols are also consultants/authors for the DOI study but does not address the inherent conflict of interest or the risk of advocacy bias.

2. Insurer Concerns and Implications for Claims Handling and the Insurance Market

A. Claims Handling and Financial Impact

Our observations of Fire Protocols (and related research article):

- **Burden of Proof Shifted to Insurers:** The Fire Protocols report ignores longstanding insurance law principles and insurance policy language, placing the burden on insurers to prove a property is safe, rather than on policyholders to prove it is unsafe. A single positive test above threshold can trigger a requirement for full replacement, increasing claim severity and cost.
- **Resource Constraints:** The push for universal testing and strict toxic thresholds would strain available laboratory and expert resources, potentially displacing policyholders from homes for extended periods. Recent wildfire events in California, such as the Eaton and Palisades Wildfires, resulted in significant laboratory backlogs, highlighting the resource constraints associated with current testing methodologies. The *Draft Report's* recommendations risk exacerbating these constraints, leading to worse delays in claims resolution and increased costs.
- **Cost Implications:** The methodology proposed in Fire Protocols would result in more claims being classified as total losses rather than partial losses, with corresponding increases in costs for all insureds.
- **Legal and Regulatory Risks:** The methodology is structured as an authoritative standard, potentially establishing a "standard of care" in legal disputes that could be used to expand insurer liability.

How these flaws appear in the *Draft Report*:

Implementation of the *Draft Report's* recommendations would risk introduction of unwarranted complexity and additional costs into the claims process, ultimately threatening insurance affordability and availability for homeowners.

The *Draft Report* explicitly states that more claims will be classified as total losses under the proposed protocols, and that initial costs for sampling/testing will increase. It argues that these costs will be offset by reduced disputes, legal costs, and ALE, but provides no empirical data to support this claim, nor address resource constraints for laboratory and testing capacity in detail. More critically, the *Draft Report* perpetuates the same

reversal of burden of proof found in Fire Protocols, signaling a profound shift away from established insurance law principles. If implemented, this change would necessitate fundamental changes to claims handling practices and threaten to redefine the legal obligations of insurers under Colorado law.

While the *Draft Report* acknowledges the risk of increased claim severity and frequency, it suggests that standardization will ultimately benefit insurers and policyholders. However, a review of Section 5.0 INSURANCE ASSESSMENT & Attachments (described in more detail further below) indicates a fundamentally flawed and incomplete analysis.

For example, based on extensive claims experience, APCIA member companies estimate that mandatory testing requirements could increase indemnity spend by \$4,000–\$6,000 per test panel, at minimum and potentially much higher. We urge the DOI to adopt a risk-based approach to testing, tailoring requirements to the severity and nature of wildfire impacts rather than imposing blanket mandates. This proportionality is essential to maintain financial sustainability for both insurers and policyholders.

B. Market Stability and Availability

The *Draft Report's* proposals could have a destabilizing effect on the insurance market, similar to past experiences with mold and asbestos. Insurers may be forced to withdraw from markets or raise premiums, reducing availability and affordability of coverage. Insurers have raised significant concerns about market destabilization¹⁸ which are not substantively addressed.

3. Flawed Cost Analysis Presented in Section 5.0 INSURANCE ASSESSMENT (& Attachments)

The *Draft Report* doesn't accurately estimate how much its recommendations would cost. It leaves out important details and makes assumptions that don't match real-world experience.

In particular, Section 5.0 and its attachments offer an analysis that is both incomplete and fundamentally flawed, lacking quantitative rigor, omitting critical cost drivers, and failing to incorporate insurer feedback or actuarial modeling. As a result, the conclusions are unreliable and likely underestimate the true impact on premium and claims, raising serious concerns about the practical, financial, and operational feasibility of the proposed framework for both insurers and policyholders.

A. Viewpoint and Analytical Flaws

- **Qualitative, Not Quantitative:** The premium impact analysis does not include actual insurer loss data to support the claim that increased upfront costs will be offset by downstream savings—the main premise of the proposed framework. Instead, it relies on broad, unvalidated assumptions about claim frequency, severity, and cost offsets, and thus may not reflect actual claims experience, cost drivers, or actuarial impacts.
- **Uniform Insurer Behavior Assumed:** The *Draft Report* fails to address the diversity in policy forms, claims philosophies, and regulatory environments.
- **Coverage Limit Variability:** The analysis assumes typical coverage limits (e.g., Coverage B at 10% of Coverage A, Coverage C at 75%), but actual policy offerings in Colorado are highly variable.

¹⁸ APCIA comment letter to the DOI on October 27, 2025 in response to an October 20, 2025 stakeholder meeting.

- **Exclusions and Endorsements Overlooked:** Policy exclusions, sublimits, and endorsements that may affect coverage for smoke, ash, or COC contamination are not adequately addressed.

B. Technical Cost Analysis Flaws

Testing

- **Cost Estimates Understated:** Sampling, testing, and reporting costs of \$2k-\$4k are underestimated (actual costs are \$4-6k, with tests for heavy metals reaching \$15k-\$20k per claim¹⁹).
- **Resource Constraints Ignored:** The impact of increased testing requirements on resource availability is omitted, risking significant delays (akin to crime lab backlogs) and higher costs.
- **Coverage Investigation and Dispute Risk:** In addition to resource constraints, expanded testing requirements may delay coverage investigations and create coverage disputes, particularly if test results trigger policy exclusions such as pollution exclusions. This could result in increased litigation, which is detrimental to both insureds and carriers.
- **No Plan for Questionable Claims:** There is no discussion of how late-filed claims or claims submitted far from the fire would be handled differently or how testing requirements would be distinguished for such claims. For example, the Technical Guides from AIHA²⁰ and IICRC, RIA and CIRI²¹ identify three distinct zones of smoke impact—the "burn zone" (areas directly affected by combustion and heat), the "near field" (areas adjacent to the burn zone, subject to elevated heat, pressurization, and concentrated smoke chemistry), and the "far field" (areas further from the fire, where smoke residues are more diffuse and chemical composition differs due to cooling and dilution). Each zone presents unique chemical profiles and risk factors, requiring tailored sampling and remediation approaches. Additionally, the Draft Report does not address the timing of testing for VOCs, many of which rapidly decay and may not present a risk weeks or months after a fire. To illustrate, recent media coverage has inappropriately raised public health concerns associated with cyanide; however, studies on cyanide exposure typically pertain to firefighters during active structure fires, not to lingering smoke residues following wildfires. Thus, it is typically unnecessary to test for certain VOCs, such as cyanide, long after the fire event. The Draft Report does not address how testing protocols should be adapted to account for these differences, nor does it provide guidance for claims arising from properties located outside the impact zones or submitted well after the event.

Structure

- **Disaster Coverage Expansion Omitted:** The *Draft Report* omits consideration of the requirement that, following a declared disaster resulting in total loss, coverage benefits are expanded, potentially resulting in higher claim severity.
- **Demolition & Debris Removal Costs Missing:** The additional cost of demolition and debris removal for still-standing homes is not addressed—only ALE impact—though this may present a significantly higher expense than debris removal for other total loss properties.
- **Inflation & Demand Surge Not Modeled:** Additional inflationary impacts and demand surge on reconstruction labor and materials costs are not accounted for, despite their significance after large-scale disasters.
- **No Sensitivity or Actuarial Modeling:** There is limited sensitivity analysis to account for property size, fire severity, or regional cost differences, nor any actuarial modeling to support premium impact conclusions.

¹⁹ APCA comment letter to the DOI on October 27, 2025 in response to an October 20, 2025 stakeholder meeting.

²⁰ Technical Guide for Wildfire Impact Assessments for the OEHS Professional, 2nd edition

²¹ Technical Guide for Wildfire Restoration Version 2: December 9th 2025

- **Partial to Total Loss Conversion Unvalidated:** The assumed conversion rate from partial to total loss is a critical modeling assumption that requires direct insurer validation.
- **Missing Reinsurance & Catastrophe Modeling:** The analysis does not address how changes in claims handling, loss severity, or regulatory standards would affect reinsurance costs, catastrophe modeling, or insurer capital requirements. For example, the analysis does not appear to account for a regulatory bulletin adopted on October 20, 2025 disallowing smoke sublimits (Bulletin B-5.53).

Personal Property and ALE

- **Minimal Cost Impact for Coverage C Unrealistic:** The *Draft Report* projects minimal cost impact for Coverage C from “testing,” yet specifies all contents are to be replaced if the 50% threshold is reached. There is no distinction between hard and soft goods—which vary in ability to successfully remediate and restore—nor a nuanced estimate of contents replacement costs.
- **ALE Estimates Unrealistic:** ALE calculations assume no year-over-year change in rental rates for years 2 and 3, ignoring market volatility and post-disaster demand surge.

C. Other Factors

- **Legal Exposure:** The framework’s cost projections depend heavily on anticipated claims efficiency and reduced legal expenses to offset higher costs from expanded testing and destructive remediation. However, it fails to account for the potential increase in legal exposure—such as court and mediation fees, legal damages, and expert/lawyer costs—which may arise under the proposed *Draft Report*. This omission risks underestimating the true financial impact and complexity of implementing these changes.
- **Increased Claims Frequency:**
The *Draft Report* presents a single, highly aggressive framework—developed by the authors of Fire Protocols—that may incentivize increased “smoke chaser” activity and higher claims frequency. This approach could potentially financially benefit the Fire Protocols’ authors and public adjusters more broadly. The *Draft Report* also fails to account for the risk of morale hazard (e.g., policyholders who may choose to intentionally leave windows open to collect coverage benefits to replace personal property, such as furniture and electronics) and artificially inflated claims.
- **Lack of Consideration of Alternative Approaches:**
The *Draft Report* does not consider more conservative, cost-effective alternatives, such as establishing statewide certification programs for laboratories to ensure consistency and reliability of results, licensing recommendations for restoration contractors to reduce inconsistent remediation outcomes, or alternative frameworks (e.g., *Evaluating Residences Impacted by Smoke and Products of Combustion, Second Edition*). These measures could potentially improve outcomes and reduce unnecessary claims, but were not evaluated in the study.
- **Data Call Costs:**
The *Draft Report* recommends future data calls to enable quantitative analysis of cost implications. However, conducting data calls on smoke claims would require labor-intensive manual review of individual claim files, imposing a substantial operational and financial burden on insurers—costs that are not accounted for in the analysis.

Suggested Alternative Approaches

There are better, more practical ways to handle smoke damage that would protect homeowners without causing unnecessary costs or confusion.

Recent scientific studies—including research from Colorado State University, the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado, and FEMA’s Marshall Fire MAT Homeowners Guide—demonstrate that volatile organic compounds (VOCs) from wildfire smoke naturally dissipate over time, and that surface cleaning is the most effective method for restoring indoor air quality. These findings support a scaled, evidence-based approach to remediation, rather than defaulting to costly and destructive interventions.

APCIA recommends the DOI further explore alternative approaches, which were not adequately considered in the *Draft Report* but are supported by technical experts and industry experience:

- **Laboratory Training and Certification:** Establish a statewide certification program for laboratories conducting fire-related contaminant testing. This would include mandatory training, proficiency testing, and periodic audits to ensure consistency and reliability of results.
- **Inter-Laboratory Calibration:** Require regular inter-lab calibration exercises to harmonize methodologies and reduce discrepancies in contaminant measurements.
- **Facilitate Future Study Using Existing Laboratory Samples:** To support future research and policy development, we recommend leveraging existing saved samples from laboratories. Utilizing archived samples for retrospective analysis may help establish baseline contamination levels and inform standards, without requiring new testing for every property. This approach would reduce costs and make more effective use of available scientific resources.
- **Tiered Testing Protocols:** Adopt tiered testing protocols that distinguish between trace, moderate, and severe contamination, with clear thresholds for coverage and escalation. This may include targeted visual and sensory initial inspections to identify the presence of combustion byproducts and assess key risk factors, with escalation to onsite sampling by qualified industrial hygienists and laboratory analysis when initial findings warrant further investigation. This practical, cost-effective approach helps ensure resources are focused where truly needed and avoids unnecessary testing for minor exposures. This approach is consistent with the IICRC/RIA/CIRI Technical Guide for Wildfire Restoration, which recommends initial evaluation and targeted escalation based on risk factors and stakeholder needs.
- **Vendor Licensing and Oversight:** Implement licensing requirements for remediation vendors and consultants, with minimum standards for training, experience, and ethical conduct. This would help reduce variability in remediation outcomes and protect policyholders from substandard practices.
- **Stakeholder Engagement and Peer Review:** Establish a formal process for stakeholder input and independent peer review of any proposed scientific standards, thresholds or protocols before adoption.
- **Discourage Moral Hazard and Bad Actors:**
The study should include measures to discourage policyholders from making unnecessary or exaggerated claims simply because coverage is available, and prevent vendors or adjusters from submitting frivolous or fraudulent claims. This might include implementing controls on solicitation practices, requiring standardized disclosures, and establishing reasonable caps on fees for public adjusters and restoration contractors. Such safeguards will help curb fraud, abuse, and alarmist marketing, protecting both insurers and consumers. Effective consumer protection requires actively deterring and penalizing abuse of the claims and litigation process.

- **Enhance Consumer Education:**

Recommend developing standardized materials or an online resource with FAQs to inform policyholders about the typical claims process for smoke remediation, including an overview of testing and remediation that may occur. These resources, developed in partnership with public health agencies, should also provide clear, science-based public health guidance on potential smoke exposure and practical steps for mitigation to help counteract fear-driven narratives and inconsistent information in media and public forums.

Closing

APCIA and its member companies must express strong opposition to the framework proposed in the *Draft Report*. The methodologies and recommendations outlined in the *Draft Report* risk destabilizing the insurance market in Colorado, undermining both affordability and availability of coverage for homeowners.

We respectfully urge the DOI to reconsider these recommendations and to engage with industry stakeholders and scientific experts to develop standards that are both effective and feasible.

APCIA and its member companies appreciate the opportunity to participate in this process. We reiterate our commitment to supporting the development of standards for smoke, soot, and ash remediation that are grounded in scientific rigor, safety, operational feasibility, and that promote a stable and affordable insurance market in Colorado. We look forward to continued collaboration with the DOI and Partners Environmental Consulting.

Respectfully submitted,



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