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**PEER REVIEW REPORT FOR
CALIFORNIA SAFER CONSUMER PRODUCT ALTERNATIVE REGULATION**

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Thank you for the opportunity to conduct a peer review of the California Safer Consumer Product Alternative Regulations (CCSPAR). My comments respond to the materials sent to me on July 19, 2012. The review is organized as follows: responses to the four specific Peer Review Points; several general observations about the regulations as a whole, in response to the Big Picture questions; and finally a brief summary of my qualifications as a reviewer.

A. Peer Review Points

1. Use of Chemical Lists

I understand this point to ask two questions: Is the use of lists appropriate? Are these the appropriate lists? I answer both in the affirmative.

The safe products legislation commits DTSC to taking on major new responsibilities with (I assume) limited new resources. This makes it incumbent on the CCSPAR to find efficient ways to regulate, and one obvious method is to avoid duplicating prior efforts. While the federal regulation of chemicals has in many ways been deficient in the United States under the federal Toxic Substances Control Act (TSCA), as further discussed below, much effort has gone into identifying hazardous chemicals at the federal and state levels in other contexts. Moreover, European and other international bodies have expended a great deal of effort to identify hazardous chemicals using deliberate, evidence-based methodologies. Thus, there are a great many existing lists of chemicals with hazardous properties, and it makes absolutely no sense to “reinvent the wheel” in defining the universe of chemicals to which the CCSPAR presumptively applies.

In addition to efficiency, the use of others’ lists provides affirmative benefits to regulators and regulated entities. Convergence of chemicals of concern across programs, states, and countries allows regulators to focus their energies on a better defined group of

chemicals for the purposes of research and control strategies. This should result in better information and more effective and efficient controls. Regulated entities can likewise focus their own research and development efforts – learning more about adverse effects, for example, or alternative ways of using or alternatives to the chemicals – on a well defined set of chemicals. Moreover, harmonization of regulatory activities and standards across programs and governmental units simplifies the compliance efforts of enterprises that have a multi-state or multi-national presence.

Turning to the question whether these are the right lists, in my view the existing lists are comprehensive and well considered. DTSC clearly benefited from the extensive analytical work by the European Commission in advance of its REACH (**R**egistration, **E**valuation, **A**uthorisation and **R**estriction of **C**hemical substances) legislation, and also from the very active discussion of the implications for TSCA reform in the industrial, NGO, and academic communities. In fact, much of the European and American work has focused on the advantages of harmonizing various national and international regulatory regimes. As to the quality of the lists, when they come from or are sponsored by expert state, national, or international governmental agencies, these analyses can be counted on to be grounded in science, to be reliable, and to have been transparently adopted. There is nearly always room for debate concerning any individual chemical – this remains, of course, an area of great scientific complexity and residual uncertainty – and the amount of available information varies considerably. Nevertheless, these lists provide as firm a basis as exists for creating the initial universe of chemicals for consideration and for regulating products on a large scale and in a timely manner. (Obviously, one could demand exacting proof as to each endpoint of each chemical, but this requirement has been a (or *the*) major contributor to TSCA's widely acknowledged ineffectiveness; California is obviously determined not to go down the TSCA path.)

No process of adopted lists can be perfect, of course, and the CCSPAR make provision for updating and for additions and deletions to the initial list of “chemicals of concern” (CoCs) (§§ 69502.2(b), 69502.3). The criteria for additions and deletions are clearly appropriate, risk-based, and relevant to the goals of the CCSPAR. The proposed regulations also emphasize the availability of reliable information as the basis for adjusting the list, which is an appropriate limitation and one that should be taken seriously by DTSC. Moreover, the CoC list is itself the first step in a substantial process of priority setting, alternatives analysis, exemptions, and regulatory response – allowing, as a practical matter, many opportunities to reconsider the inclusion of a particular chemical in the list and the appropriate level of concern about the chemical.

2. Use of Prioritization Criteria

The statement of the prioritization criteria peer review point appears to reference the two prioritization steps of § 69503.2: (a) determination of adverse impacts and exposures connected with a product (or types of products), and then (b) establishing whether it is a priority product under the “key” priority criteria and procedure.

In responding to the first part of the issue, the criteria and process for initial determination are certainly sufficient as they relate to effects and exposures. As in article 2, article 3 is comprehensive in describing the effects of concern and the possible routes of exposure. Appropriately, the exposure provisions (§ 69503.2(a)(1)(B)) also allow for consideration of aspects of products that reduce or control exposure. That is, the exposure analysis is not based on mere presence, which would obviously be overinclusive.

I am uncertain, however, how DTSC will obtain information about products containing CoCs in a comprehensive or systematic way. DTSC is empowered to *request* product information and to publicize the names of those who fail to respond (and who did respond) (§ 69505.4); the agency is open to all kinds of publicly available information about products; and of course the petitions procedure (article 4) opens up avenues for gathering information. While these are important ways of obtaining information about products and product categories, they are partial methods, quite different and far less defined than, say, the use of existing lists to create a universe of relevant chemicals. This appears to be a regulatory gap. However, as a practical matter, it may not be particularly problematic, since DTSC’s resources for undertaking this regulatory enterprise are limited. Availability of information may be a *de facto* prioritization factor for listing of priority products (and subsequently alternatives analysis and regulatory response), in addition to the formal priority setting for products about which more is known (§ 69503(a)(2)).

The second part of the peer review issue references the “key prioritization factors” (§ 69503(b)) that go into the Priority Products List. Here, the regulations opt for simplicity, and they essentially reference hazard and exposure, the key elements of human health and environmental risk. This seems eminently sensible: placement on the priority list should depend on the degree of potential hazard and the amount of potential exposure. If either is very low, the product or product type is not worth pursuing, especially in a resource-constrained environment.

What is missing in § 69503(b), as elsewhere in the CCSPAR, is a statement of a clear standard for placement on the list or not. The regulations come closest to a precise in the threshold (exemption) procedure (§ 69503.6), but the overall regulatory strategy is to emphasize casting a wide net, multi-step processes, exhaustive enumeration of relevant

factors, and professional judgment. This approach will trouble those who seek a bright-line approach to environmental, health, and safety regulation. They would prefer a fixed number or other characteristic that definitively separates the regulated from the unregulated or which a regulated entity or activity must meet. In principle, this makes sense, but our experience in environmental regulation has uniformly been that bright lines are exceptionally difficult, time-consuming, or ultimately impossible to establish, and compliance with those bright lines is often equally challenging. The CCSPAR approach is, in my view, superior, because it forthrightly recognizes data gaps and uncertainty, it considers all available and reliable information, and it establishes a multi-stage procedural framework that allows for discussion, deliberation, and negotiation. The Proposition 65 process is clearly a model for the CCSPAR, and it has worked quite well. And even if the CCSPAR approach is not superior in theory, it is certainly the only way that DTSC will be able to fulfill its legislative mandate within a reasonable period of time.

3. Alternatives Analysis Threshold Principles

The alternatives analysis threshold is another way in which CCSPAR reflects Proposition 65. Early provisions of the regulations achieve identification of chemicals and products that contain them, thus signaling consumers in much the same way that Proposition 65 does. Likewise, in the threshold exemption, the regulations permit product sellers an exit from the main burdens of the legislation by means of the alternatives analysis and the regulatory responses based on the analysis. Finally, and again like Proposition 65, the exemption is not self-executing, and so the responsible entity must make application to DTSC and bears the burden of proof (§ 69503.6(b)).

As noted above, the threshold principles are also the main location where DTSC must establish specific standards that products must meet. The peer review point asks whether the principles for the threshold exemption are “scientifically understood.” As a non-scientist, I will focus on their coherence as regulation of toxic chemicals. The fundamental standards, as the Initial Statement of Reasons (attachment 5, p. 104) makes clear, is “protective” of public health and the environment, and “technically feasible.” These are frequently used statutory and regulatory terms. While they resist mechanical application, environmental and health protection agencies have used them successfully for decades. Moreover, as the Initial Statement of Reasons explains, one reason for replacing the term “de minimis” in the first version of the regulatory language, with “alternatives analysis threshold,” was to avoid limiting the exemption to trivial risks (p. 103). Thus, like other uses of the protectiveness and feasibility standards, the DTSC is asked to use its judgment to evaluate the seriousness of the risk and to weigh it against the practicality and reasonableness of making changes.

Subsections (c)-(d) of § 69503.5 can be understood as explications of the concepts of protective and feasible. Subsection (c) is concerned with feasibility. It lists several ways in which a CoC can come to be contained in a product. The regulators are thorough in identifying these, and they are clearly guided by the principle that it is more important that the CoC is present than how exactly it got there. Nevertheless, the paragraphs in (c) offer various justifications for an exemption based on the difficulty of avoiding contaminants in raw materials, catalysts, etc. One of the more interesting paragraphs is recycling ((1)(C)), which recognizes that the benefits of recycling may outweigh the danger of contaminants that inevitably accompany recycled materials. This is the kind of balancing that any sensible regulatory system must do, and the conclusion here is eminently justifiable. Likewise, the specific provision for detection limits ((c)(2)) is reasonable; it considers feasibility not only in manufacture, but also in enforcement.

The enumerated evidence for safety (note again that the burden is on the responsible entity) is likewise thorough and reasonable. It lists impacts of special concern in risk (toxicity and exposure) analysis, such as bioaccumulation, cumulative exposures, sensitive subpopulations, and others. Here, too, and consistent with CCSPAR's practice of avoiding duplication of others' effort, the regulations are prepared to adopt (or at least consider) pre-existing thresholds ((c)(3)(H)).

In sum, the principles for the threshold exemption are "scientifically understood" in that they deploy frequently used terms and concepts in a rational way. The use of the terms of concepts is also logical in the context of the overall structure of the threshold exemption provision, described above.

4. Protectiveness of the Term "Adverse Impacts"

This point seeks review of the adequacy of the term "adverse impacts," as defined in the CCSPAR and generally used, in order to protect human health and the environment. The reviewers are pointed to the use of the term in alternatives analysis, Article 5, and to the general use of the term in the CCSPAR. There are two aspects to such a determination: the breadth of coverage of the relevant impacts, effects, or endpoints; and the degree of harm that the term contemplates.

The coverage is broad. "Adverse impacts" are defined in various ways in §69501.1(a)(3)-(10).¹ They comprehensively cover all environmental media (air, water, groundwater, soil, disposed waste) and objects of protection (ecosystems, human health,

¹ Attachment 2, p. 4, refers to § 69301.2 for definitions of "adverse impacts," but § 69501.1 seems to have been intended.

environmental control systems). While some environmental statutes seek to protect aesthetic or cultural values (*e.g.*, the federal Clean Air Act), there is no reason to object to the CCSPAR's apparent conclusion that they are not especially implicated by CoCs in products.

The definitions of "adverse impacts" are similarly broad with respect to degree of harm. The definitions are not parallel. For example, the air impacts definition lists chemicals rather than impacts. However, most refer exhaustively – directly or by reference to other regulations – to the kinds of effects that one is concerned about in relation to the media and objects of protection.

The use of "adverse impacts" in article 5 does not appear to limit the breadth or utility of the term. The alternatives analysis is ultimately a detailed set of comparisons of products in terms of the chemicals they contain and the levels of exposure they create or could achieve. The comprehensiveness of "adverse impacts" means that the analysis will contain comparisons on essentially any human health or environmental impact that might be of concern. I therefore conclude that the term, as used in the CCSPAR, is adequate to protect public health and the environment. This conclusion is reinforced by the breadth of the criteria for identification of COCs and prioritization of products, as described above. Assuming adequate reliable information (and this is always a limitation), very little will escape the attention of the CCSPAR because of the way that the regulations are written.

Indeed, the real issue with alternatives analysis in Article 5 is not the use of the term "adverse impacts," but rather the absence of an explicit standard for a responsible entity to choose or reject an alternative (§§ 69505.4(c), 69505.5(j)(2)(B)), or for DTSC to accept or reject the responsible entity's choice (§ 69505.6(a)-(b)). The Initial Statement of Reasons (p. 140) states that an alternative is to be selected if it is "safer" and "viable" (p. 140), and in fact "safer alternative" is a defined term in the definitions (69501.1(a)(56)). However, that language appears nowhere in Article 5. While the CCSPAR is permeated with evidence-based judgment – and the assumption of Article 5 seems to be that the alternatives analysis will clearly point to the need to adopt a safer alternative (or not) – the absence of a standard for evaluating options seems to be a gap. Requiring a safer alternative appears among the regulatory responses (§§ 69506.6, 69506.9 (prohibition of sales, green chemistry)) if the DTSC disapproves the AA, but this seems at best an awkward way to express a standard, especially since the regulatory response would typically *follow* the unguided disapproval.

B. Big Picture Questions

a) Additional Scientific Issues

The CCSPAR represent a well thought out regulatory structure for addressing a lingering environmental and public health problem – the use of untested chemicals in consumer products – and for taking on such a large problem with very limited governmental resources for doing so. No system is perfect, and we will surely understand it better when it has been implemented. Nevertheless, the CCSPAR contains several very interesting and innovative features that are worthy of note, in addition to the specific peer review points.

(1) The Three Gaps

The regulations are based on an analysis that identified three gaps in the current management of the hazards of chemicals in consumer products: a data gap, a safety gap, and a technology gap. The data and safety gaps were in fact express targets of the federal Toxic Substances Control Act (TSCA) of 1976. Congress nearly four decades ago recognized that very few of the tens of thousands of chemicals in commerce were well understood in relation to their toxic properties, giving rise to the concern that workers and the public were being harmed by exposure to the chemicals. TSCA created a theoretically elegant regulatory regime for chemicals, but for many reasons that regime has been highly ineffective. There was some hope that the European REACH legislation would bring some movement on the perennial topic of TSCA reform, but so far that has not happened. The CCSPAR – like Proposition 65 – must therefore be seen as a state response to federal regulatory failure in relation to these gaps.

TSCA's elaborate mechanisms for gathering new data have been almost entirely ineffective primarily because the burden of proving the need to generate the information ultimately falls on the U.S. Environmental Protection Agency (EPA), and there are few incentives for industry to do so. Proposition 65 went a long way toward reversing the incentive system, and it is widely regarded as a success in sensible control of the emissions of certain toxic chemicals. At the federal level, though, the data gap remains, and the CCSPAR seek a new paradigm for protection from toxic chemicals.

As with data, the burden of demonstrating danger under TSCA lies with EPA, and key federal court rulings have if anything heightened the regulator's burden. Without the needed hazard data, and with a high burden to justify regulation, very few chemicals have been controlled under TSCA. This is the safety gap. The CCSPAR address this gap directly in several ways, including making the most of existing data from many sources, and adopting

a regulatory scheme that does not demand as much data. By relying heavily on listing and priority setting, for example, the proposed regulations limit the need to generate large amounts of information for each particular regulatory action.

The technology gap identified by the background materials in many ways post-dates TSCA. While early federal pollution control statutes were regarded as “technology-forcing” (that is, they were intended to require technological capacity to meet safety standards, and not vice versa), TSCA adopted a very different approach. As a result, subsequent developments in alternatives analysis and green chemistry have no place in TSCA, and the proposed regulations expressly seek ways to promote them. In sum, the proposed regulations are directly responsive to the concerns – the “gaps” – that drove the enactment of the safer consumer products legislation in the first place.

(2) Efficiency

It cannot be doubted that the safer products legislation and the CCSPAR envision a major undertaking to identify potentially dangerous chemicals, identify the products containing COCs, and take appropriate regulatory action. There is not, as far as I am aware, a major additional funding stream to support these activities, nor does it seem likely that large amounts of general state funds will be available. Therefore, the CCSPAR must use existing resources as much as possible, and the regulations do so in four significant ways.

First, the CCSPAR make extensive use of existing data, rather than seeking to generate data specifically for this regulatory regime. The most important aspect of using others’ data is the adoption of the lists of chemicals of concern from other regulators, other California and federal regulatory regimes, and indeed other countries (§ 69502.2). (A related instance is the use of existing regulations to define “adverse impacts” (§ 69501.1(3)-(10)).) This makes great sense, since (as noted above) there are many existing regimes for chemical regulation. While TSCA has been underproductive, many other statutes and regulators have examined chemicals for a variety of hazardous endpoints, and there is simply no reason to duplicate their work. Moreover, given the broad standard (“significant ability to contribute to” (§ 69503.2(b)(1))), the use of the lists as a first step in a multi-step process, and reliance on priorities and judgment throughout the CCSPAR, others’ lists provide sufficient information to proceed. (This technique was pioneered in the 1980 CERCLA (Superfund) legislation, and it has generally served EPA well in identifying the hazardous chemicals for remediation; there has been little need to list new chemicals or de-list existing ones.) Further listing of chemicals based on available, reliable information (§ 69502.3) is likewise a good technique for moving forward expeditiously.

The CCSPAR do not have a mandatory provision for gathering information from industry at the outset of the regulatory process (though it has an extensive request process backed up by public praise or shame (§ 69501.4)). Nor does it have a pre-market authorization provision, which is generally considered the most effective way to obtain information about the properties of chemicals. (For example, REACH uses the phrase “no data, no market” to emphasize the importance of pre-market authorization to its data-collection scheme.) The overall system of public listing and a threshold – techniques clearly borrowed from Proposition 65 – will help to create the needed incentive for data disclosure and generation, but it is a limited mechanism.

Second, the CCSPAR relies heavily on setting priorities (art. 3) for alternatives analysis (art. 5) and further regulatory response (art. 6). In some ways, this simply recognizes the obvious: in a resource-constrained environment, priority setting is a necessity. However, by making it a central aspect of the regulatory system, the CCSPAR can use priority setting to refine the broad, hazard-based approach of the chemical identification article, into a narrower risk-based (hazard x exposure) approach to priority setting (§ 69503.2(b)). The risk-based approach is today the dominant form of environmental regulation of chemicals in all media, and it has been criticized for demanding too much data to allow regulation to move forward expeditiously and at scale. The criticism is fair in situations, like TSCA, where the burden of proof is on the regulator and where precise quantification of risks is expected. In CCSPAR, however, risk is not required to be quantified, and so adoption of a risk-based approach usefully limits regulatory action to products that have the greatest likelihood to do the greatest harm. Similarly, the process for establishing the alternatives analysis threshold exemptions (formerly the *de minimis* exemption) serves to focus regulatory and compliance efforts on chemicals and products that are most likely actually to pose a risk based on either the amount of hazardous material or the degree of exposure (§ 69503.5(a)-(d)).

Third, as in Proposition 65, the intended impact of the CCSPAR is plainly to incent makers of products – rather than an elaborate and prescriptive system of regulatory controls – to adopt safer chemicals or product configurations. The listing of chemicals of concern, the further listing of products, the threshold exemption, and the alternatives analysis encourage a manufacturer at multiple points and in multiple ways to change or even abandon a product that contains chemicals of concern. Throughout the process, the responsible entity has opportunities to decide whether, given the requirements of the CCSPAR, to alter or continue in its prior course of business, based on the necessity of using the chemical of concern and the market for the product as currently configured. While sometimes this will undoubtedly seem to be a Hobson’s choice, there are also certain to be many situations in which the chemical composition or physical configuration had not been fully analyzed in terms of risk, and a safer alternative can be adopted. The CCSPAR

approach conserves public resources by emphasizing manufacturer analysis and choice of response.

Fourth, consistent with its generally non-prescriptive approach, the CCSPAR relies heavily on professional judgment in the stages of listing, priority setting, alternatives analysis, and regulatory response. (It has this in common, generally speaking, with Canadian toxics legislation, which has been successful in addressing far more chemicals than TSCA.) As described above, the CCSPAR avoids the use of specific, express risk standards at each step of the regulatory process. This stands in sharp contrast to TSCA, which ties all regulatory activities to the “unreasonable risk” standard, but is very like the way that Proposition 65 has worked in practice. It is a sensible choice: while TSCA has achieved little, Proposition 65 has resulted in the setting of regulatory standards for many, many chemical pollutants. The carefully structured approach of listing, priority setting, and detailed alternatives analysis gives manufacturers both the opportunity and incentive to revise products without resource-intensive regulatory action.

Taken together, these four techniques offer reason to believe that the complex regulatory system created by the CCSPAR can be implemented in an era of extremely constrained resources.

(3) Innovation

The drafters of the CCSPAR have clearly learned from the experience and analysis of environmental regulation in the last two or more decades. The focus on priority setting is a good example. As noted above, this step has multiple uses, such as introducing risk and offering opportunities for manufacturer decisionmaking. Together with the threshold exemption, it focused regulators on the products of greatest public health significance. Together, they also address the “last ten percent” problem, identified by Justice Breyer and others as a failing of much federal regulation. Statutes often expect regulators not only to address the entire universe of potential concern, but to require extremely high (though not absolute) levels of protection. In fact, regulatory action that quickly addresses *the great majority* of a problem has a much greater impact than total control that takes time, takes resources from other objects of concern, and is sometimes never completed. With a focus on priorities, an outlet exemption, and heavily judgment-based standards, DTSC is poised to be able to focus its energies on the worst problems and the majority of the problem expeditiously, leaving perfection to a later day.

Alternatives analysis is also a relative newcomer to the chemical regulation armory. REACH incorporates it, and several years ago Massachusetts enacted the Toxics Use Reduction Act (TURA) which required an alternatives analysis by enterprises that

manufactured or used certain toxic chemicals. TURA did not, however, require that a safer alternative actually be adopted. The California legislation and the CCSPAR take that next step. A crucial advantage of alternatives analysis is that it is by definition *feasible* chemicals control. While it does not force technology in the way that chemical bans or near-absolute standards do, it creates a strong incentive to innovate toward safety – the goal of Green Chemistry.

The use of alternatives analysis can also encourage a culture of iteration and continuous improvement. In many areas of environmental regulation, from ecosystem management to radioactive waste management, commentators have advocated a step-by-step approach that examines the impact of incremental regulation and makes adjustments on the basis of the greater knowledge obtained from experience. The CCSPAR is not expressly incremental, but alternatives analysis allows both manufacturer and regulator to examine products thoroughly, discover areas where innovation might yield benefits, and then, say, replace a particular chemical when it becomes feasible.

b) Scientific Basis of Regulations

The ultimate question posed to the CCSPAR peer reviewers is whether the proposed regulations are “based on sound scientific knowledge, methods, and practices.” In my view, the answer is clearly in the affirmative. The overarching structure of the CCSPAR is a logical model of regulatory decisionmaking. The process begins by defining the universe of chemicals that will and will not be considered. The exclusion of chemicals used as pesticides and prescription drugs (§ 69501(a)) avoids, at the outset, duplicative and potentially inconsistent regulation. It then narrows the universe of chemicals to those “of concern,” using a variety of easily accessed sources. The process then connects chemicals to products, in keeping with the focus of the underlying legislation.

Having delineated the universe of concern – CoCs and products that contain them – the CCSPAR analyze that universe, first through priority setting based on risk (discussed above), then through an exemptions process also based on risk, and finally a detailed alternatives analysis using criteria relevant to the comparability of products for their intended uses. As a last step, the CCSPAR authorizes regulatory action based on the foregoing analysis. The primary focus is safer alternatives, but additional regulatory responses are also provided to assure public health and safety. In sum, the regulatory process proceeds in a coherent, rationale series of well defined steps that are calculated to effectuate the purposes of the safer products legislation and the proposed regulations.

Within this structure, the CCSPAR have adopted many approaches and techniques which, as described above, creatively address the problem of limited regulatory resources,

cope with limited data, permit expeditious regulatory decisionmaking, incent new technologies, and encourage a reasoned, evidence-based, and collaborative approach.

Finally, the CCSPAR constitute a responsible precautionary approach to chemicals regulation. Recognizing throughout that chemical hazards data are scarce by comparison to the number of chemicals, the number of products, and the number of relevant toxicological endpoints, the CCSPAR are at pains to make progress possible by emphasizing the use of existing lists and data, incenting the creation of relevant data (*e.g.*, to qualify for a threshold exemption), requiring careful analysis of alternatives *before* deciding on regulatory action, and above all by relying on professional judgment based on available, reliable evidence. The charge to peer reviewers states: “some proposed actions may rely significantly on professional judgment where available scientific data are not as extensive as desired to support the statute requirement for absolute scientific rigor. In these situations, the proposed course of action is favored over no action” (Attachment 2, p. 5). This surely demonstrates that the Precautionary Principle – often unjustly derided as anti-scientific – can indeed co-exist with sound science. In CCSPAR, scientific evidence is unquestionably the starting point and constant goal of the regulatory structure. However, in the absence of certainty, deliberate protective action is facilitated and not obstructed.

C. Reviewer’s Qualifications

I am a professor of law at the Indiana University Maurer School of Law in Bloomington, Indiana. I have taught at the Maurer School since 1998, and before that taught at the University of Cincinnati College of Law for eleven years. A current *vita* can be found at http://info.law.indiana.edu/pub/libs/images/usr/5944_h.pdf. I have focused on environmental law in my teaching and research throughout my academic career, as well as previously in private law practice.

My main area of expertise in environmental law is the regulation of toxic substances and hazardous wastes. I am the lead author of casebook in the area. I have authored other books and many articles, and given many academic presentations, on the subject. Since 1991, I have written regularly about the federal Toxic Substances Control Act (TSCA), most recently (2008) comparing it to European Union’s REACH chemicals legislation. My work with chemicals regulation is directly relevant to the proposed CCSPAR, as both respond to failures in federal chemicals regulation (which I have identified in my own work) and adopt (with significant changes) some ideas in REACH. I have also written in related areas, such as hazardous waste, the role of science in environmental law and policy, quantitative risk assessment, and public participation in environmental decisionmaking.

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Again, thank you for the opportunity to review the California Safer Consumer Product Alternative Regulations. I will be happy to clarify any of the foregoing comments or address other issues, should that be of assistance.