



**Comments of the American Chemistry Council
On the Implementation of the
Pilot Voluntary Children's Chemical Evaluation Program**

January 19, 2007

Docket ID Number EPA-HQ-OPPT-2006-0341

EXECUTIVE SUMMARY

At this mid-point in the Voluntary Children's Chemical Evaluation Program (VCCEP) Pilot, the American Chemistry Council believes the program is proceeding well. EPA should conclude in this evaluation, that the basic structure of the pilot is sound and that only minimal improvements are needed to address program efficiencies through the remainder of the pilot. Industry has lived up to its commitments under this voluntary program and the ACC believes EPA and industry should follow through on their commitments related to the pilot.

The VCCEP pilot has successfully utilized a risk-based, tiered approach to evaluate potential risk from chemical exposures and to determine what additional information or data, if any, would be needed to reduce scientific uncertainty to better characterize potential risks to children.

The VCCEP Pilot has successfully furthered EPA's and industry's understanding of how to evaluate chemicals and characterize their risks to children. Experience thus far has demonstrated that the VCCEP framework – of integrating hazard and exposure information -- has worked well to provide extensive, reliable information related to children's health that will enable EPA to determine whether additional testing and/or exposure data are needed to adequately characterize potential risks to children, with a reasonable degree of scientific certainty.

ACC strongly believes that EPA should maintain the current tiered approach in VCCEP because tiered testing provides the most efficient and therefore health protective, mechanism to obtain needed information. Tiered testing provides a scientifically supportable method for assessing chemical risks. ACC objects to EPA's recent proposal to expedite the VCCEP pilot by collapsing Tier 2 and Tier 3 into a single Tier. While we understand the Agency's desire to complete the pilot as expeditiously as possible, proposing to change the framework in this way raises questions about EPA's commitment to the program's original three-tiered framework. These questions in turn could create more problems for the future of VCCEP, or other voluntary programs, than the proposal aims to solve.

The innovative nature of the VCCEP evaluation approach has shown that a hazard based "data gap" is not necessarily a "data need" with respect to characterizing children's potential risks. Devoting resources to toxicity "data gaps" irrespective of whether the specific information is actually needed (that is, data or information which is viewed as necessary to characterize children's risks with an adequate degree of scientific certainty), would be scientifically unjustifiable. The risk-based evaluative process imbedded in the VCCEP Pilot holds much promise to demonstrate how risk-based decision making can maximize risk information, and at the same time minimize laboratory animal testing, without compromising the scientific certainty needed for decision-making.

The VCCEP Peer Consultation process has been open, transparent, timely and useful as a forum for scientists and experts from various stakeholder groups. It has been scientifically rigorous. It has been a key area of success of this program. EPA should continue to support and fund the peer consultations under the VCCEP pilot.

While there have been complaints about the timeliness of the VCCEP pilot, ACC reminds the Agency that many of the new processes and details of this pilot required more time for industry, for the peer consultation facilitator and for EPA than originally anticipated. Most importantly, however, because many of the chemicals that EPA selected for the pilot were relatively data rich, this has meant that industry sponsors developed data submissions that were more extensive and therefore more time consuming to prepare than originally anticipated. The result, however, has been that the sponsors' submissions moved chemical risk characterization further along and overall, saved time. ACC further reminds the Agency to keep in perspective what time it would have taken to conduct the complex toxicity studies if EPA had issued (as originally planned) a hazard based only test rule on children's health. Finally, ACC notes that EPA has in many instances taken longer than expected to reach its data needs decisions under the program. ACC is hopeful that as this program proceeds, performance efficiencies in all aspects of the program can be realized. will become more timely.

In addition to working to improve the timeliness of this program overall, ACC thinks EPA should enhance its communications about VCCEP – to the public, to other EPA program offices and to other Federal and State agencies. In addition, EPA should make the information generated under this program more accessible. EPA should also discuss with other EPA program offices how the information it is receiving under VCCEP will be reflected in chemical risk assessments such as those in the Air and Water offices and in IRIS assessment updates.

Because only about 30% of the pilot chemicals have gone through all three major components of the program (data submission, peer consultation and EPA's data needs decision) thus far, a multi-stakeholder meeting to discuss the pilot would probably be more beneficial to EPA at the conclusion of the pilot, rather than now at this mid-point. We believe it is possible for 17 of 20 substances (85%) to complete all VCCEP pilot elements, including Agency data needs decisions, by mid-2008. If EPA decides to hold a multi-stakeholder meeting during this mid-course evaluation, however, ACC would be pleased to present its views on this important program.

**Comments of the American Chemistry Council
On the Implementation of the
Pilot Voluntary Children's Chemical Evaluation Program**

January 19, 2007

Docket ID Number EPA-HQ-OPPT-2006-0341

The American Chemistry Council (ACC) is pleased to have this opportunity to submit comments on the Voluntary Children's Chemical Evaluation Program (VCCEP) pilot.¹

As EPA is aware, ACC member companies have been devoting considerable time and resources to fulfill their commitments under the VCCEP pilot since its inception in 2001. Pursuant to EPA's request for comments concerning operations and experiences related to the VCCEP pilot to this point, 71 Fed. Reg. 67121 ("Request for Comment"), ACC provides below a number of general comments related to the Program followed by responses to EPA's specific questions presented in the Request for Comment.

I. Introduction

ACC shares the goal of EPA and other stakeholders of protecting children's health. The chemical industry's commitment to children's health is reflected not only in its products and technologies that contribute to public health and safety, but also in its strong commitment to health and environmental research. In that regard, ACC supports the use and continued improvement of scientifically valid risk assessment methods for evaluating

¹ The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is a \$520 billion enterprise and a key element of the nation's economy. It is one of the nation's largest exporters, accounting for ten cents out of every dollar in U.S. exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure

and prioritizing health, safety and environmental risks and for making risk-based decisions. As a result, ACC members have a strong interest in and have committed to EPA's VCCEP.

Throughout the development and implementation of the VCCEP pilot, ACC and its members have maintained that EPA should adhere to a series of guiding principles for ensuring a scientifically credible children's health evaluation program that would be useful for assessing and managing potential risks. Among those principles are:

- Testing data should be generated for the express purpose of assessing risk and informing risk managers.
- Existing information should be used to indicate data needs.
- Tiered testing provides an efficient mechanism to obtain needed health protective data.
- Both toxicological and exposure data should be used to set testing priorities and to trigger additional testing.

Consistent with the above principles, ACC believes that EPA should continue to adhere to essential features of the VCCEP, which include:

- A true tiered process with endpoint-specific decisions (or triggering) about the need for developing additional hazard and/or exposure information.
- A risk based process in which at various decision points hazard information is evaluated in conjunction with exposure information to reduce uncertainties in characterizing potential risk.
- Three independent tiers. Each should have a separate point of commitment.
- A peer consultation process.

ACC agrees with EPA's goal for the program: review and integration of hazard and exposure information for evaluation to adequately characterize potential risks of chemical exposure to children. In that regard, we believe that the major outcome of this program, or any other chemical evaluation program, should be adequate information for risk-based decision making. The operative question should not be whether there is adequate exposure and hazard information for every possible endpoint and circumstance, however remote, but whether the hazard and exposure information taken together are adequate to assess potential risks to children. Generating data simply for the purpose of having an exhaustive database is not an acceptable method to improve public health protection. At best such an approach would squander scientific and laboratory animal resources, at worst, it would potentially misdirect resources from higher priority concerns to those of lower priority.

The VCCEP pilot program is proceeding well, and industry has lived up to its commitments. We believe the VCCEP pilot has successfully utilized a risk-based, tiered approach to evaluate potential risk from chemical exposures and to determine what additional information or data, if any, would be needed to reduce scientific uncertainty to better characterize potential risks. We also believe the Pilot has furthered EPA's understanding of how to evaluate chemicals and characterize their potential risks to children. For these reasons, ACC urges EPA to continue its commitment in the Pilot to

the three-tiered approach. EPA should signal, for the benefit of the VCCEP sponsors and the public, its strong support for the VCCEP program, consistent with its support for other voluntary programs that are part of the tools the Agency uses to implement the Toxic Substances Control Act.

ACC is concerned, however, about EPA's recent proposal to compress VCCEP's Tiers 2 and 3 into a single commitment step and a single decision. We believe that proposal undercuts the foundation principles on which the program was based and therefore could have serious repercussions for future voluntary efforts. As described in more detail later in our comments, we believe that because the chemicals chosen for the VCCEP pilot had extensive existing hazard data it may appear as if three separate tiers are amenable to compression. However, this is really an artifact of the datasets of the selected chemicals. For other substances, with less extensive data sets², the three-tiered approach is necessary. Since a "data gap" is not necessarily a "data need," the three-tiered approach, which integrates exposure with hazard data at each tier to yield risk characterization, is an approach that fosters scientifically appropriate and valid reductions in the number of laboratory animals, without diminishing the degree of scientific certainty necessary for hazard evaluations and risk characterizations.

The Agency should see the VCCEP pilot to completion and continue its active role in and support for the program, including financial support for the peer consultation process. For a significant portion of the VCCEP pilot substances, the highly relevant Agency data needs decisions, integral components of the VCCEP pilot, are not yet available. At this point in time, only six of the 20 chemicals (30%) volunteered for VCCEP pilot have gone completely through the pilot's three components: data submission, peer consultation and EPA data needs decision. An additional 7 chemicals have completed all steps up to and including issuance of peer consultation reports, but EPA's data needs decisions have yet to be issued. Several more substances are slated for peer consultation before August, 2007. Therefore, ACC believes that only minimal changes should be made to improve the program's efficiencies at this time. At the end of the pilot, (or at a time when all components of the VCCEP, including Agency data needs decisions, are available for 75% or so of the pilot chemicals, which we believe can be accomplished by mid-2008³) EPA and all stakeholders would be better informed and better able to consider some of the more basic questions about the program. It's at that time, rather than at this mid-point, that ACC believes a multi-stakeholder meeting to discuss the pilot should be convened.

² For example, for substances with the equivalent of an OECD SIDS dataset, there will be a need for two additional tiers.

³ See Table 2 and <http://www.tera.org/peer/VCCEP/VCCEPpilotchemicals.html>. To date, EPA data needs decisions have been issued for only 6 of 20 (30%) VCCEP chemicals. An additional 7 chemicals have completed all VCCEP pilot steps, except EPA has yet to issue data needs decisions for these substances. Based on responses from Sponsors, we understand an additional 4 substances (ethylbenzene, alpha-pinene, p-dioxane, and p-dichlorobenzene) are slated for submission and peer consultation by August 2007. Therefore, we believe it is possible for 17 of 20 substances (85%) to have completed all VCCEP pilot elements, including Agency data needs decisions, by mid-2008, provided in going forward, the Agency is more efficient in issuing data needs decisions.

II. ACC's General Comments

A. The VCCEP Pilot has Successfully Furthered EPA's and Industry's Understanding of How to Evaluate Chemicals and Characterize Their Risks to Children

VCCEP represents an important partnership between EPA and industry. ACC believes the VCCEP pilot has greatly furthered EPA's understanding of how to evaluate chemicals and characterize their potential risks to children's health, both efficiently and credibly. A recent publication in the scientific literature illustrates the accomplishments to date of the VCCEP⁴.

1. Experience thus far demonstrates the VCCEP pilot works to provide extensive, reliable information related to children's health.

Under the VCCEP pilot, chemical makers have been providing extensive dossiers of both hazard and exposure information on the chemicals selected by EPA – dossiers which, in most cases, go well beyond the Tier 1 information that chemical manufacturers originally committed to provide. This information has been rigorously reviewed by an independent panel of scientists in a peer consultation. ACC believes the process has worked well to provide extensive, reliable information related to children's health that will enable EPA to determine whether additional testing and/or exposure data are needed to adequately characterize potential risks to children, with a reasonable degree of scientific certainty. In many cases, the program has provided sufficient information to allow EPA to characterize risks to children, without the need for additional toxicity studies.

To date, the comprehensive industry submissions, which contained hazard and exposure information, were sufficient in every instance for the Peer Consultation panel to make recommendations regarding the possibility of risks to children. In most cases it was possible to conclude that risks were negligible. As expected in the program design, uncertainties in the assessments were noted in a few instances, for which the information or data needs were identified and could be subsequently addressed. By combining hazard and exposure information, decisions based upon risk can be made by EPA and the Sponsors, and interested lay people, physicians and public health workers can make informed, risk-based, choices based on a firm foundation of best available science..

2. The VCCEP pilot is demonstrating that a tiered, risk-based approach works.

The VCCEP pilot has been seen as an innovative and pragmatic alternative to EPA's original approach to children's health testing, which would have evaluated only

⁴ P.R.D. Williams, J. Patterson and D.W. Briggs, VCCEP Pilot: Progress on Evaluating Children's Risk and Data Needs. Risk Analysis 26: 781- 799 (2006).

theoretical hazards. In 1998, EPA contemplated a TSCA test rule to develop hazard data to understand the impacts of chemicals on children's health. The test rule would have been an extensive, expensive, animal-intensive, one-size-fits all approach. EPA had proposed a slightly modified FIFRA pesticide active ingredient toxicity testing approach. Such an approach would have cost up to approximately \$12 million dollars per substance (EPA's estimate of costs for data for a 40 CFR Part 158 (food-use) data set)⁵, and would have required extensive use of laboratory animals.⁶ Furthermore, even after conduct of such extensive toxicity testing, EPA would not have information necessary for risk-based decision making, since the testing data alone provides only knowledge of a chemical's inherent toxicity or hazards. Since risk is a function of both hazard and exposure, a hazard only approach would be insufficient to address concerns related to potential risk to children.

After extensive stakeholder dialog, which included input from environmental groups, industry, and the animal welfare community, EPA decided to abandon the proposed toxicity testing approach in favor of the VCCEP pilot approach which, unlike a test rule, could address the critical question: Are health risks to children from chemical exposures adequately characterized? ACC believes VCCEP has answered, and will continue to answer, this question faster and more economically without compromising the science. This is due primarily to the fact that VCCEP integrates toxicity and exposure information to evaluate potential health risks – information EPA can use to characterize risks to children.

Experience thus far demonstrates the VCCEP pilot has provided better information that is more protective of public health than a check-every-box, hazard-based approach. For almost all of the chemicals evaluated to date, integration of exposure assessment with the hazard data was the critical factor in deciding whether there could be risks to children. These chemicals already had solid toxicology data sets supporting them; conducting additional toxicity studies, particularly when there were no signals in the existing data set to trigger them, would have been a waste of resources and time and would not have had nearly the value for public health and assessing risk to children. In one instance (some of the PBDEs), in which additional toxicology data were needed, the tiered risk-based approach indicated "data needs" for additional work to reduce the uncertainty around potential risks to children.

⁵ US EPA (2002) Guidance document on methodology for determining the data needed and the types of assessments necessary to make FFDC 408 safety determinations for lower toxicity pesticide chemicals. http://www.epa.gov/oppfead1/cb/csb_page/updates/lowertox.pdf

⁶ For example, an EPA 870.3800 toxicity test (Reproduction and Fertility Effects (rats) would require approximately 3500 laboratory animals; an EPA 870.6300 toxicity test (Developmental Neurotoxicity (rats) would require approximately 1300 laboratory animals; an EPA 870.4300 toxicity test (combined chronic toxicity and carcinogenicity in two species (rats and mice) would require approximately 1000 laboratory animals.

B. ACC Strongly Believes EPA Should Maintain the Current Tiered Approach

1. Tiered testing provides the most efficient, and therefore health protective, mechanism to obtain needed information.

ACC believes that a tiered evaluation, one that combines tiered toxicity testing with a tiered approach to collection of exposure information, is the most effective way to develop the data necessary to make critical risk-based decisions in a timely fashion. The tiered testing approach to chemical evaluation places key emphasis on children's health protection and focuses resources on those substances of greatest potential concern to children's health, identifies and directs resources to those specific, higher tiered toxicity tests that are the most important for reducing uncertainty about potential risks to children by integrating available exposure information with hazard data.

A single, "one size fits all" inflexible battery of tests with a specific checklist of studies does not fit all chemicals. Chemicals differ in physical/chemical characteristics and in many other ways that influence toxicity and risk. In particular, certain substances such as pesticides and pharmaceuticals are designed or developed to exert biological activities, while commodity chemicals and pesticide inert ingredients, with some exceptions, generally do not possess this same kind of biological activity. Since risk is a function of both inherent toxicity and exposure, production processes and use patterns that influence exposure will ultimately influence potential risks to human health. Any single mandated battery of tests beyond the screening tier (e.g., beyond Tier I) would not permit flexibility to set rational testing priorities based on anticipated toxicity and exposure potential.

Many testing and evaluation programs currently rely on tiered approaches. For example, the FDA bases its tiered approach for obtaining data on direct food additives and color additives on the principle that the degree of effort expended to reduce uncertainty about the safety of a direct food additive or color additive should relate in a logical way to the likelihood that use of the substance poses a health risk to the public. Similarly, EPA's approach to evaluating the toxicity study data requirements for assessing potential human health hazards from exposures to inert pesticide ingredients, antimicrobial pesticides, and biopesticides is flexible and tiered such that the required data are deemed by EPA to be commensurate with the potential exposure and risks associated with that use patterns (EPA 2002)⁷.

Although there may be differences among different tiered testing frameworks, in general, the tiered testing approach involves sequential testing, in which data are evaluated and decision criteria are applied to determine whether to proceed or not to proceed with further testing, and to determine which specific type of test should be conducted. Some features of tiered testing strategies that confer advantages over non-stratified batteries of

⁷ US EPA (2002) Guidance document on methodology for determining the data needed and the types of assessments necessary to make FFDCA 408 safety determinations for lower toxicity pesticide chemicals. http://www.epa.gov/oppfead1/cb/csb_page/updates/lowertox.pdf

toxicity tests include: (1) more efficient use of resources, animals and time to identify chemicals that are of highest concern for public and environmental health; (2) more flexibility to allow tailoring of testing for specific toxicities, populations, or other risk assessment and risk management needs; (3) readily interpretable testing results because tests are pre-sorted into levels according to sensitivity and selectivity; (4) timely evaluation and identification of chemicals that may pose unacceptable risks; and (5) rapidly available results for chemicals that present low potential for serious toxicity.

2. Tiered testing and toxicity triggers provide a scientifically supportable method for assessing chemical risks.

One of the most significant accomplishments of the VCCEP pilot is that it has clearly shown that the tiered evaluation process, in which hazard information is integrated with exposure information, provides a strong scientific basis for deciding whether children's risks have been adequately characterized. However, because EPA chose data rich chemicals (i.e., Tier 2 and Tier 3 data were available for many of the pilot chemicals) for the VCCEP pilot, the toxicity triggers have not yet been fully tested in the Pilot.

Under the VCCEP pilot, chemical makers have been providing extensive dossiers of both hazard and exposure information on the chemicals selected by EPA – dossiers that in most cases go well beyond the Tier 1 information that chemical manufacturers committed to provide. Since many of the substances EPA selected for the VCCEP pilot are relatively data rich, Sponsors also submitted available information relevant to Tier 2 and Tier 3 endpoints in a single submittal. In some cases, Sponsors developed and provided new Tier 2 and 3 data with their Tier 1 submission. In comparison to a Tier 1 effort, such assessments contain information on many, if not all, of the most complex, time consuming and costly toxicity testing endpoints, such as multigeneration reproduction, developmental neurotoxicity and chronic toxicity/carcinogenicity. While proceeding in that manner with data rich chemicals provided invaluable information and allows much quicker risk characterizations, the toxicity triggers have not been fully tested in the Pilot.

To address this issue, we have recently undertaken a study of the toxicity triggers to determine their suitability for determining when specific endpoints and tests warrant further evaluation of the chemical. Although the chemical dossiers originally submitted by sponsors did not array and evaluate toxicity and risk in terms of the specific VCCEP tiers, we have used the dossiers for the initial seven chemicals⁸ that had already undergone the VCCEP evaluation to validate toxicity triggers within the tiered testing framework.⁹ After review of the sponsor submissions, the data for each chemical were

⁸ These seven chemicals were: acetone, methylethylketone (MEK), decabromodiphenyl ether (DBDPO), the n-alkanes (n-dodecane, undecane, decane), octabromodiphenyl ether (octaBDE), pentabromodiphenyl ether (pentaBDE), and vinylidene chloride (VDC).

⁹ Tiered Toxicity Testing: Evaluation of Toxicity-Based Decision Triggers (Richard A. Becker, Laura M. Plunkett, Joseph F. Borzelleca, and A. Michael Kaplan) Submitted August 25, 2006. This manuscript is

organized into a table that listed the studies in terms of the Tier (1, 2 or 3) that it applied to and included a brief listing of the critical aspects of the study that would allow for validation of the tiered testing paradigm. Once the studies for phase II were organized and tabulated for each of the chemicals, the performance of the toxicity triggers was evaluated by determining the predictive ability of the toxicity triggers applied to Tier 1 tests to account for results seen in Tier 2 tests and the predictive ability of toxicity triggers applied to Tier 2 tests to account for results seen in Tier 3 tests. In addition, we evaluated the concordance of the results from applying the toxicity triggers to the decisions reached for these seven VCCEP chemicals.¹⁰

This comparison is presented in the Table 1. While the current study evaluated only hazard data, incorporation of exposure information is envisioned in order to permit a risk appraisal screening, as an additional enrichment of a tiered testing evaluative process. For example, together with exposure information, toxicity testing results would be considered in a comprehensive manner using a weight of evidence approach and a margin of exposure (MOE) could be calculated. In this manner, a decision about whether or not to undertake additional testing could incorporate considerations about exposure along with toxicity hazard in order to define risk more clearly.

The predictive capability of the proposed toxicity decision triggers and the scientific foundation for use of these triggers in a tiered toxicity testing approach is supported by our earlier work consisting of analysis of the toxicity databases of nine chemicals representing different classes of compounds¹¹, and by our current analysis using seven chemicals that were part of the VCCEP pilot. The toxicity triggers have been shown to identify appropriate higher tier tests and to be reasonably predictive of the results expected in higher tiered tests. The combined use of the proposed tiered testing strategy and toxicity triggers provides a practical and scientifically supported method for developing toxicity data and conducting human health hazard evaluations.

3. Data gaps are not necessarily data needs.

The innovative nature of the VCCEP evaluation approach has shown that a hazard based “data gap” is not necessarily a “data need” with respect to characterizing children’s potential risks. A “data gap” indicates information that is lacking, and can refer to data, analyses or presentation; not every “data gap”, however, is a “data need.” In the VCCEP pilot, “data needs” are those specific “data gaps” requiring additional work before the

still under review and has not yet been accepted for publication; as soon as the manuscript is accepted and finalized, an ‘in press’ copy will be sent to EPA’s VCCEP staff.

¹⁰ EPA reached formal decisions for six of the seven phase 2 substances evaluated in this paper in 2005 (VDC, acetone, MEK, DBDPO, octaBDE, and pentaBDE in 2005) (EPA, 2006). The Peer Consultation report for the n-alkanes (n-dodecane, undecane, decane) has been posted by TERA, but EPA has yet to issue the Agency’s finding.

¹¹ See ACC. 2000. [Retrospective Validation of Tiered Toxicity Testing Triggers](http://www.tera.org/peer/VCCEP/triggers.htm). February 23, 2000. <http://www.tera.org/peer/VCCEP/triggers.htm>

potential risks can be adequately characterized.¹² Devoting resources to toxicity “data gaps” irrespective of whether the specific information is actually needed (that is, data or information which is viewed as necessary to characterize children’s risks with an adequate degree of scientific certainty), would be scientifically unjustifiable, require unnecessary animal testing and unwarranted costs.

Importantly, as illustrated with VCCEP, having an up-to-date, guideline toxicity study for every possible endpoint and life stage is not required to reach a scientifically robust conclusion regarding potential hazards and risks to humans. Many substances can be shown to be adequately characterized with respect to potential hazards and risk to humans by use of a tiered testing and assessment framework, comprised of appropriate studies examining key endpoints and life stages, coupled with biologically-based decision criteria and exposure assessments.

A tiered risk-based approach is an approach that fosters scientifically appropriate and valid reductions in the number of laboratory animals, without diminishing the degree of scientific certainty necessary for hazard evaluations and risk characterizations. Devoting resources to such toxicity “data gaps” irrespective of whether the specific information is actually needed (that is, data or information which is viewed as necessary to characterize children’s risks with an adequate degree of scientific certainty), would be scientifically unjustifiable, require unnecessary animal testing and unwarranted costs.

The VCCEP process has helped the Agency distinguish data gaps and data needs. For example, the Data Needs Decision Documents of VCCEP chemicals, issued by EPA, have provided strong support for tiered, risk-based testing and decision making, stating: “EPA agrees with the approach of using quantitative estimates of risk to help inform decisions about the potential impact of additional exposure or toxicity studies, and therefore assisting determining whether “data gaps” are actually data needs.”¹³ ACC agrees with this statement. At the conclusion of the VCCEP Pilot, EPA, industry and stakeholders will have a clear understanding of the distinction between data gaps and data needs, and this promises to foster improved risk-based approaches to data collection, both within the Agency and in the private sector. The risk-based evaluative process imbedded in the VCCEP Pilot holds much promise to demonstrate how risk-based decision making can maximize risk information, and at the same time minimize laboratory animal testing, without compromising the scientific certainty needed for decision-making.

C. ACC Objects to EPA’s Proposal to Expedite the VCCEP Pilot by Collapsing the Tiers

Consistent with our previous comments concerning the benefits of a tiered testing approach, ACC objects to EPA’s proposal to expedite the VCCEP pilot by collapsing

¹²See, for example, TERA (page 19)

<http://www.tera.org/peer/VCCEP/ACETONE/Acetone%20Peer%20Consultation%20Meeting%20Report.pdf>.

¹³ EPA VCCEP: Data Needs Decision Document of Acetone, April 2005, page 8.

<http://www.epa.gov/chemrtk/vccep/pubs/finalacetone.pdf>

Tier 2 and Tier 3 into a single Tier. EPA sent letters dated October 11, 2006 to the VCCEP volunteers, announcing the Agency's proposal to collapse the tiers. EPA has also suggested collapsing the tiers in its Request for Comment. Although improvements might be made to make the Pilot more efficient, the tiered approach should not be altered. We believe it is very important at this stage in the program to maintain the integrity of the pilot program and its original objectives which resulted from a two-year, multi-stakeholder dialogue process.

To that end, the Agency's recent proposal to collapse Tiers 2 and 3 is unwise, even if some of the remaining sponsors do not object with respect to their chemicals because of their existing plans to submit both Tier 2 and 3 supplemental data with their Tier 1 submission. We understand the Agency's desire to complete the Pilot as expeditiously as possible, but proposing to change the framework for a voluntary program at this stage raises questions about EPA's commitment to the program's original three-tiered framework. These questions in turn could create more problems for the future of VCCEP, or other voluntary programs, than the proposal aims to solve. For substances which have lesser degrees of data than the substances selected by EPA for the VCCEP Pilot, ACC believes it is necessary to retain all three Tiers. ACC believes that at the end of the VCCEP Pilot, all of the submitted data and assessments can be analyzed and the issue of appropriate number of Tiers, and the specific tests in each Tier can be revisited.

For these reasons, we strongly urge the Agency to (1) maintain the integrity of the VCCEP pilot; (2) continue to permit volunteers to make individual decisions as to whether to submit a Tier 1 assessment, or whether to submit a more comprehensive assessment spanning all three tiers; and (3) take steps to assure that EPA staff working on VCCEP (and other voluntary programs) appreciate the unique features and challenges these voluntary programs present with respect to proposals for fundamental changes mid-course and with respect to overall communications.

D. EPA Should Address Misperceptions Concerning the Timeliness of the VCCEP Pilot

The VCCEP pilot has successfully evaluated many important chemicals to date, including brominated flame retardants, vinylidene chloride, benzene, acetone, n-alkanes, methyl ethyl ketone, and xylenes. Many of the processes employed in the VCCEP program were new when the Pilot was initiated. As might be expected, many details needed to be clarified and worked out. It required additional time for industry, the Peer Consultation facilitator and EPA to meet commitments and deadlines.

In some instances, consortia spent more time and effort than originally anticipated to prepare and submit their information. Since many of the substances EPA chose for the Pilot are relatively data rich, sponsors went well beyond Tier 1 to provide available information relevant to Tier 2 and Tier 3 or new information to ensure more complete initial submissions. This required changes to original Tier 1 submission schedules. In those cases, EPA was notified of scheduling changes. Industry acted responsibly by submitting available Tier 2 and Tier 3 data at an earlier date. Indeed, companies would

have been criticized if they had not submitted that data. Those companies' actions to submit higher tier data in initial submissions moved chemical risk characterization ahead and, overall, saved time. ACC strongly rejects notions that industry did not act responsibly or timely. Rather, we believe that the fundamental problem was the criteria the Agency used to select chemicals for the Pilot - EPA's selection of data rich chemicals ultimately led to any perceived delays.

In addition, when considering the VCCEP timeline, it's important to include perspective on what it would have taken to conduct all of the complex toxicity studies such as the Reproduction and Fertility Effects Study, the Developmental Neurotoxicity Study and the Combined Chronic Toxicity and Carcinogenicity Study, if EPA had simply issued a hazard based test rule on children's health. It often takes two to five years from inception to receipt of final reports for such studies. Within the VCCEP Pilot, EPA has received comprehensive toxicity assessments on these endpoints for the majority of chemicals participating in the Pilot to date. Furthermore, by integrating exposure information with the hazard assessment, EPA received from the VCCEP Pilot risk-based information, information sufficient for the Agency to decide whether potential risks to children had been adequately characterized, information that would have been lacking if only a hazard-based, toxicity testing approach had been implemented.

Further, the exposure assessments were much more challenging than expected. The Chemicals EPA chose for the Pilot have multiple sources. For example, acetone is not only found in consumer products (many to which children have no exposure); it is also found in the ambient environment and is produced by the human body (as much as 387 mg/kg/day acetone is produced endogenously via normal metabolism in some children). Still, in order to be complete and fully transparent, the Sponsors developed extensive exposure assessments – assessments that were expensive and time consuming. This increased the time to prepare submissions.

Less extensive exposure assessments are scientifically justified in many cases and would streamline the VCCEP process. Although there is no single method or "cookbook" for developing exposure assessments applicable to all substances and all circumstances, adequate exposure assessments can be derived by an approach that utilizes a tiered, iterative process. The critical aspect of the exposure assessment is that it must support a scientifically sound and satisfactory risk-based characterization for a given chemical for a given tier. There are three critical components of an exposure assessment, at any tier; these are scientific quality, completeness and transparency. The goal of a tiered exposure assessment framework is to begin with less complex, default-driven, screening methods and to proceed, when necessary, to more complex, data-driven, chemical- and scenario-specific methods that reduce the uncertainty in estimates of exposure. ACC supports use of conservative screening methods of exposure assessment for use in screening-level risk characterizations. EPA itself is on the record¹⁴ in supporting tiered exposure assessment approaches:

¹⁴ <http://www.epa.gov/opptintr/exposure/>

“Screening-level assessments that allow one to quickly prioritize exposures for further work; these assessments are based primarily on readily available data, conservative assumptions and simple models.

“Advanced assessments which focus on higher priority exposures that attempt to represent actual environmental conditions and exposures; these assessments require more data and make use of more sophisticated models or ideally, a well-designed monitoring study.”

Although the underlying principles to develop exposure assessments will be similar for different chemicals, each assessment will be unique. Therefore, it is particularly important for independent human exposure experts to serve on the peer consultation panels. Their participation provides assurance to the Sponsors, the Agency and the general public that the VCCEP exposure assessments meet the scientific standards of quality, completeness and transparency. At the conclusion of the Pilot, a review of the assessments submitted will permit evaluation of the effectiveness of various exposure assessment approaches.

Timeliness is certainly a critical part to ensuring the success of voluntary programs. However, in the VCCEP pilot, ACC believes it is more important to focus on the value and quality of the submitted data. In comparison to a Tier 1 effort, assessments that included higher tier data contained information on many, if not all, of the most complex, time consuming and costly toxicity testing endpoints, such as multigeneration reproduction, developmental neurotoxicity and chronic toxicity/carcinogenicity. The value added and the time and effort saved in transaction costs, to both EPA and the sponsors, by proceeding in this manner with data rich chemicals should be readily apparent. It is important to note, however, that this approach for data rich chemicals should not be viewed as implying the tiered process is not valuable. Rather, it demonstrates the value of flexibility in approaching concerns using a risk-based framework. The tiered approach will be imperative for less data rich chemicals.

It must also be acknowledged that EPA has taken longer than expected to reach data needs decisions under the program. In some cases, Agency decisions were not finalized until more than two years after completion of the independent Peer Consultation meetings. This is likely due to the “pilot” nature of this program and the fact that the information provided in the Tier 1 assessments, as discussed above, was far more extensive than originally anticipated. ACC understands that delays by the Agency in reaching decisions on the first few chemicals in the pilot program were to be expected and that this too had an impact on the overall timeliness of the initial phase of this pilot program. We expect EPA will improve its performance in reaching more timely data needs decisions in the second half of the VCCEP pilot.

In sum, rather than focusing solely on concerns that the program is moving too slowly, or suggesting that the sponsors caused the delay (as EPA appears to do in the Request for Comments), the Agency should acknowledge that both the pilot nature of this program

and the data rich nature of most of the chemicals selected has resulted in a longer timeline for Tier 1. It should also acknowledge that, in many cases, EPA has frequently received sufficient information in Tier 1 to complete a chemical assessment, resulting in a shortening of the overall timeline for assessing chemicals.

E. EPA Should Enhance Agency Communications of the VCCEP and Make Information Generated in the Program More Accessible

EPA should publicly acknowledge the successes to date of the VCCEP pilot program. Voluntary programs are a key component of TSCA implementation. It is important to note that voluntary programs must receive the Agency's attention to thrive. They require the Agency to encourage the volunteers toward continued participation. They require regular communications – both internal to the Agency and external to the public and to the chemical sponsors. Unfortunately, EPA has done very little with respect to communicating the merits of this pilot program. EPA's communications efforts to date appear to be mostly passive, consisting of posting information and materials in the OPPT Right-To-Know web site. ACC believes the Agency can do much more in terms of outreach across Agency programs and to the States and public at large to communicate about the VCCEP.

Although EPA posts, cites and links to information on its Right-To-Know web site, that information can be difficult to find and retrieve. EPA should make the information generated in the VCCEP program more accessible to the public, other EPA offices and other agencies. In addition to making information easier to find, EPA should provide lay summaries for chemicals that are examined in VCCEP pilot. The summaries should provide an Agency determination concerning the sufficiency of submitted data and of potential risks posed to children's health.

EPA should also openly discuss how the information it receives will be reflected in health assessments, not only within OPPT and OPPTS, but across all relevant EPA programs and offices. Much time, effort and expense has been, and will continue to be, exerted by industry to generate VCCEP submissions. Chemical sponsors expect EPA, (the Agency as a whole, not just OPPT), to utilize the information it submits. After all, when EPA issues its "Data Needs" determinations, these are based on Agency-wide deliberations. For example, EPA should utilize information (including risk assessments and risk characterizations) in its Air, Water and other programs. The information also should be used in EPA IRIS assessment updates.

F. EPA and Industry Should Maintain Their Commitments to VCCEP through the Conclusion of the Pilot

ACC believes that the VCCEP pilot has been a successful and valuable tool for assisting EPA to characterize the potential risks certain chemicals pose to children's health. Much effort has been put into developing the program, generating information and reviewing submissions. Additional work is underway and promises to provide EPA additional important information that it can use to assess risks to children's health. For these reasons, we believe EPA and industry should follow through on their commitments related to the VCCEP pilot. In that regard, it is important that EPA continue to support the Pilot through the peer consultation process and keep its commitment to conduct and fund Peer Consultations. It would be unfair to require some sponsors whose chemicals have not yet completed the process to conduct and fund Peer Consultations – this was not their agreement when they volunteered for the program. ACC is also concerned that the program could lose momentum if EPA does not continue its full commitment to the VCCEP pilot. The program should finish as strongly as it started.

G. A Public Meeting Would Be More Useful at the End of the Pilot Rather Than at this Mid-Point.

EPA's Federal Register notice on this evaluation asks whether that Agency should also hold a public meeting on the VCCEP pilot implementation. As discussed above, ACC thinks a public meeting would be more beneficial at the end of the pilot, or when all of the components of the VCCEP are available for 75% or so of the pilot chemicals, rather than now. We think that can be accomplished by mid 2008. If the Agency decides to hold a public meeting as part of this mid-course evaluation of the pilot, however, ACC would of course be interested in participating.

III. ACC's Responses to EPA's Specific Questions

- 1. Have the hazard, exposure, and risk assessments submitted by the sponsors provided sufficient information to enable the Peer Consultation panel to adequately evaluate these aspects as they relate to children from the chemicals in question? Have the Data Needs Assessments prepared by the sponsors been fair and unbiased?**

Yes, the hazard, exposure, and risk assessments submitted by the sponsors provided sufficient information to enable the Peer Consultation panel to adequately evaluate these aspects as they relate to children from the chemicals in question. The sponsors were committed to developing quality assessments. Submissions were extensive and complete. In every instance, the submissions were sufficient for the Peer Consultation panel to make recommendations regarding the possibility of risks to children. Sponsors provided all of the information they could amass. For some of the chemicals that was an enormous undertaking that went well beyond what was envisioned for Tier 1 and, in some cases,

even for Tiers 2 and 3. For example, although the VCCEP pilot program did not contemplate the need for a PBPK-based risk assessment, one was completed for toluene. In sum, the sponsors of chemicals have done an excellent job of pulling together hazard and exposure data and integrating these into a suitable risk assessment. That was apparent from the feedback from and questions raised by the Peer Consultation panel that demonstrates the effort was appropriately exhaustive and current for the panel's needs.

Yes, the Data Need Assessments prepared by the sponsors have been fair and unbiased. Overall, the comprehensive Sponsor submissions on each substance were made publicly available and subjected to thorough review and analysis by a panel of independent expert scientists through the peer consultation process. The Peer Consultation panel reports provide independent verification that a submission is scientifically sound, comprehensive, transparent and unbiased. For the data rich chemicals EPA selected for the Pilot, it was an enormous undertaking to amass and analyze hazard and exposure data. As EPA knows from its experiences in conducting risk assessments (e.g., in IRIS) it is a timely and difficult task to sift through large amounts of data and to decide which data to rely on in assessing risk. Sponsors provided a rationale for why their assessments relied on certain data and not on others. Sponsors attempted to be fair and unbiased when preparing assessments.

2. Has the Peer Consultation process been open, transparent, timely, and useful as a forum for scientists and experts from various stakeholder groups to exchange views on sponsors' assessments and recommended data needs? How might it be improved?

Yes, the Peer Consultation process has been open, transparent, timely, and useful as a forum for scientists and experts from various stakeholder groups to exchange views on sponsors' assessments and recommended data needs. The Peer Consultation meetings were an excellent forum for a critically needed exchange of ideas on how to best assess a chemical's risk to children. The meetings were professionally run and moved through the reviews at an appropriate pace. The Peer Consultation process was balanced, provided ample opportunity for stakeholder involvement, and was transparent. The Peer Consultation provided a very good review and assessment of the VCCEP assessments. One of the strengths of the Peer Consultation is that the panel did not attempt to reach consensus, but rather focused on free and open discussion of the assessments and data needs. ACC strongly believes the Peer Consultations should continue and EPA should continue to conduct and fund the Peer Consultations.

Some improvements could be made to the Peer Consultation process. For example, it would have been helpful for the panel to better distinguish data needs from data gaps within the overall context and framework of the VCCEP Pilot Tiers. In some cases, discussion seemed to range somewhat far afield. In that regard, it may be beneficial, for EPA, in consultation with TERA and industry Sponsors, to discuss the possibility of developing appropriate guidance to help keep the peer consultation discussions focused on the VCCEP programmatic objectives. In addition, the time from the issuance of the

Peer Consultation written report until issuance of the EPA data needs assessment report appears to continue to be rather extensive. See Table 2. This was likely due to the “pilot” nature of the program and the fact that the information provided in the Tier 1 assessments was far more extensive than originally anticipated. Efforts should be made to shorten these time periods as the Pilot progresses.

3. Has the Peer Consultation process been efficient? If not, what improvements could be made?

Yes, the Peer Consultation process generally has been efficient. Importantly, the process has worked well. TERA should be complimented for its excellent job in managing the program. TERA has done a good job in choosing the panelists, based on their scientific expertise, to cover the range of disciplines needed to provide comprehensive reviews and critical analyses of the VCCEP pilot submissions. TERA has also performed exceptionally well in managing the meetings, circulating documents and capturing comments. The panelists were well informed and appeared well prepared to discuss the substances and sponsor submissions. As stated by an EPA scientist “Peer consultation has provided an independent rigorous scientific review.”¹⁵

4. Has the Peer Consultation panel adequately considered both toxicology and exposure information in developing its results?

Yes, the Peer Consultation panel adequately considered both toxicology and exposure information in developing its results. Since TERA ensured both disciplines were included in the panels, both toxicology and exposure were adequately considered.

5. Does the Peer Consultation process provide a scientifically rigorous and effective means for eliciting comments and opinions from the assembled experts on the Peer Consultation panel and those attending the public meeting, and for assisting EPA in developing decisions?

Yes, the Peer Consultation process provides a scientifically rigorous and effective means for eliciting comments and opinions from the assembled experts on the Peer Consultation panel and those attending the public meeting, and for assisting EPA in developing decisions. The Peer Consultation process provided an excellent vehicle for a chemical sponsor to hear the perspective of independent experts and stakeholder concerns. Each expert on the panel provided their own comments and opinions, thereby providing a broad range of input. The process allowed questions from the panel to be clarified during the meeting, which facilitated important exchanges of information and views.

¹⁵ Dr. Jennifer Seed, “Future Challenges Facing the VCCEP,” SRA presentation, December 6, 2004.

6. Have the communications related to the Peer Consultation process, activities and outcomes been effective and have they facilitated public understanding and use of the information generated from this process?

It is unclear whether there has been adequate communication following the Peer Consultation process and whether outcomes of the Peer Consultation have facilitated public understanding and use of information. As noted above, TERA and the Peer Consultation panelists did an excellent, efficient job. Information from the Peer Consultation and the submissions themselves has been made publicly available on the internet by TERA and EPA's web site provides links to TERA... However, as discussed in our general comments, the existence of the submissions and Peer Consultations are not well known among US regulators and public health officials who have been looking at issues concerning some of the VCCEP compounds. Indeed, the information does not appear to be well disseminated within EPA. Further, little effort has been made to make the information available and understandable to the public. These matters, however, are not a deficiency of the Peer Consultation process. Rather, ACC believes EPA should communicate the successes of the VCCEP and make information generated in the program more accessible by providing lay summaries of the information, disseminating information to the public and health professionals, and using the information within EPA. EPA should also openly discuss how the information it receives will be reflected in health assessments, both within OPPT and more widely, across all other relevant Agency program and offices. Please see our general comment II.E., above.

7. Should the time allowed for sponsor commitment remain the same, i.e., 6 months to commit to Tier 1, and 4 months to commit to subsequent Tiers? (The commitment period is the time for the sponsor to decide whether to participate in VCCEP, form a consortium, and notify the Agency.)

Yes, the time allowed for sponsor commitment should remain the same. Please see our comments III. A. above (ACC Objects to EPA's Proposal to Expedite the VCCEP Pilot by Collapsing the Tiers). To paraphrase, we understand the Agency's desire to complete the Pilot as expeditiously as possible. However, proposing to unilaterally change the framework for a voluntary program mid-stream would send the wrong message to volunteers. A change in mid course, enacted by EPA alone, without negotiation and agreement from the volunteering parties could create more problems for the future of VCCEP, and other voluntary programs.

The time periods for Sponsor commitment are appropriate and should not be changed. For Data Needs decisions in higher Tiers, the complexity of the studies requires adequate time for development and agreement by all parties including EPA in many cases, on study design issues. The VCCEP time periods are needed to review the Agency's Data Needs decision document, to consider alternative approaches to collecting the desired information and data, to develop time lines and cost estimates for such studies to evaluate the alternatives, decide upon the best course of action and to develop appropriate partnerships and consortia to participate collectively.

8. How can the timeliness of activities under the VCCEP pilot be improved? Should specific due dates be established for each step in the process? If so, how should a missed due date be addressed?

As discussed above (please see general comment II.D.), any perceived delays in the VCCEP pilot can be attributed to: (1) EPA's selection of data rich chemicals, which necessitated the generation of Tier 2 and Tier 3 information for Tier 1; (2) the newness of the VCCEP process, which affected sponsors, the Peer Consultation and EPA; and (3) EPA's delay in finalizing decisions, which might be expected given the pilot nature of the program. ACC expects the process to proceed more quickly and smoothly as less data rich chemicals are assessed and as all parties become more familiar with the VCCEP process. ACC believes that setting and enforcing due dates would not have expedited the process and, if anything, would have resulted in the generation and submission of less information. In any event, given the great variability in chemicals and available data, setting hard due dates would be arbitrary and might discourage participation in the program. We believe industry has demonstrated its commitment to the VCCEP program and has, if anything, exceeded expectations in providing information under the program.

Further, as discussed in our general comments (see general comment II.D.), the exposure assessments were much more extensive, and therefore more challenging, than expected. The chemicals EPA chose for the Pilot have multiple sources. Many are naturally occurring, produced endogenously or released into the environment from sources other than chemical manufacturing and use. Sponsors felt obligated to develop extensive exposure assessments – assessments that were expensive and time consuming, in order to meet the standards of scientific quality, completeness and transparency. This increased the time to prepare submissions. Again, the primary cause of perceived delays was EPA's selection and prioritization process for the Pilot. ACC believes it was not advisable to rely so heavily upon environmental and biomonitoring data, and production volume to prioritize chemicals for the Pilot. When prioritizing chemicals, EPA should consider potential toxicity and potential real exposures to children.

In many cases, it has taken considerable amount of time for EPA to issue the formal Agency Data Needs Decisions. See Table 2. We believe it would be beneficial for the Agency to consider ways in which this time frame could be reduced. However, as noted above, rather than focusing solely on concerns that the program is moving too slowly, or suggesting that the sponsors caused the delay, the Agency should acknowledge that both the pilot nature of this program and the data rich nature of most of the chemicals selected has resulted in a longer timeline for Tier 1. It should also acknowledge that, in many cases, EPA has frequently received sufficient information in Tier 1 to complete a full assessment and characterization of a chemical with respect to the potential risk posed to children. As discussed above, it often takes two to five years from inception to receipt of

final reports for many of the complex, higher tiered toxicity studies. Within the VCCEP Pilot, EPA received comprehensive toxicity assessments on these endpoints for the majority of chemicals participating in the Pilot to date. Furthermore, by integrating exposure information with the hazard assessment, EPA received risk-based information from the VCCEP Pilot, information sufficient for the Agency to decide whether potential risks to children had been adequately characterized, information that would have been lacking if only a hazard-based, toxicity testing approach had been implemented.

9. Should the sponsor be requested to commit to more than one tier at a time? Is it better to run the VCCEP pilot with commitments at each tier, i.e., three commitments, or to run the VCCEP pilot with two commitments, i.e., to Tier 1 and to Tiers 2/3?

As discussed in our general comments above (please see general comments II.B. and C.), sponsors should not be requested to commit to more than one tier at a time. ACC believes EPA should maintain the current tiered approach with commitments at each tier. ACC also objects to EPA's proposal to expedite the VCCEP pilot by collapsing Tiers 2 and 3 into a single tier.

EPA should maintain the current tiered approach.

ACC believes that a tiered evaluation, one that combines tiered toxicity testing with a tiered approach to collection of exposure information, is the most effective way to develop the data necessary to make critical risk-based decisions in a timely fashion. The tiered testing approach to chemical evaluation places key emphasis on children's health protection and focuses resources on those substances of greatest potential concern to children's health, identifies and directs resources to those specific, higher tiered toxicity tests that are the most important for reducing uncertainty about potential risks to children and facilitates risk management by integrating available exposure information with hazard data.

Not only does tiered evaluation accommodate the wide spectrum of physical/chemical properties and biological activities of commodity chemicals, it incorporates the need to prioritize compounds for evaluation, facilitates the goal of reducing and optimizing the use of laboratory animals, and better utilizes available laboratory capacity. One of the most significant accomplishments of the VCCEP pilot is that it has clearly shown that the tiered, risk-based evaluation process, in which hazard information is integrated with exposure information, provides a strong scientific basis for deciding whether children's risks have been adequately characterized.

As discussed more fully in our general comments, because EPA chose data rich chemicals (i.e., Tier 2 and Tier 3 data were available for those chemicals) for the VCCEP pilot, the toxicity triggers have not yet been fully tested in the Pilot. For the reasons discussed above, Sponsors utilized all available information in their Tier 1 submissions. The Peer Consultation utilized all of the submitted data to determine whether additional

data were necessary. In many cases it was not necessary to apply toxicity triggers to determine the need for further testing.

We have recently expanded our study of the toxicity triggers to determine their suitability for determining when specific endpoints and tests warrant further evaluation. In our initial evaluation, the toxicity triggers were evaluated using published information for nine chemicals, representing diverse classes. We have recently completed a study using the first seven chemicals which had completed the VCCEP pilot through peer consultation (with 6 of these 7 having completed the Agency Data Needs Determination step as well). The triggers were shown to identify appropriate higher tier tests and to be reasonably predictive of the results expected in higher tiered tests. In sum, the toxicity triggers appeared to be suitable for identifying which specific endpoints and tests warrant further evaluation, and which do not, and for documenting the scientific basis for such decisions. (Please see general comment II.B.2., above.)

EPA should not collapse Tiers 2 and 3 into a single tier.

ACC objects to EPA's proposal to expedite the VCCEP pilot by collapsing Tier 2 and Tier 3 into a single Tier. Although improvements might be made to make the Pilot more efficient, the tiered approach should not be altered. We believe it is very important at this stage in the program to maintain the integrity of the pilot program and its original objectives which resulted from a two-year, multi-stakeholder dialogue process.

As sponsors have demonstrated, where it is efficient and feasible to collapse tiers, sponsors will do so. That feasibility will depend greatly on the amount of available exposure and hazard information for a chemical and, therefore, the feasibility to collapse tiers cannot be prejudged. Again, the ability to collapse tiers in chemicals that have gone through the VCCEP pilot thus far stems from EPA's choice of data rich chemicals for the Pilot. As less data rich chemicals are addressed, it will become much more efficient to keep the three-tiered approach intact.

To that end, the Agency's recent proposal to collapse Tiers 2 and 3 is unwise, even if some of the remaining sponsors do not object with respect to their chemicals because of their existing plans to submit both Tier 2 and 3 data in their Tier 1 submission. We understand the Agency's desire to complete the Pilot as expeditiously as possible, but proposing to change the framework for a voluntary program at this stage raises questions about EPA's commitment to the program's original three-tiered framework. These questions in turn could create more problems for the future of VCCEP, or other voluntary programs, than the proposal aims to solve.

10. Are there any ways in which EPA's contributions to the VCCEP pilot's evaluation and data needs decision process could be improved or made more effective?

EPA should be commended for its commitment to the VCCEP pilot and for providing the means for carrying out the Peer Consultation. ACC believes, however, that there are a number of ways that EPA can improve its contribution.

- EPA should strive to provide data need decisions in a timelier manner. As we noted, delays were to be expected due to the amount of information submitted and the newness of the program. ACC anticipates that the process will move more quickly as the program progresses and less data rich chemicals are addressed. (Please see general comment II.D.)
- It would be helpful to have EPA be present in person at all of the Peer Consultations to clarify issues as needed (such as the distinction between data needs and data gaps) and to hear the discussions first hand. EPA has participated in person at some of the peer consultation meetings, but by web casts at others. Further, not only should OPPT staff be present to listen to the details of the data submissions and the peer consultation discussions, but it would be beneficial if representatives of other EPA program offices (offices which have an interest in a particular substance and who engage in the discussions about EPA's data needs decisions), were also present or participating via the web casts. (Please see general comment II.B.3.)
- EPA should better communicate to the public, other agencies, health care professionals, and other offices within EPA, the merits of the VCCEP pilot program and its conclusions. EPA should make the information generated in the VCCEP pilot program more accessible and should provide lay summaries for chemicals examined in the program. EPA should also openly discuss how the information it receives will be reflected in health assessments and utilize that information in its risk assessments throughout the Agency. (Please see general comment II.E.)

11. Has the VCCEP pilot made significant progress with respect to its objectives?

Yes, the VCCEP pilot has made significant progress with respect to its objectives. As discussed more fully above (see general comment II.A.), ACC believes the VCCEP pilot thus far has been a success. Industry, EPA and other stakeholders have learned much about working together cooperatively and voluntarily to assess the risk to children from chemical exposures. All parties have learned much concerning the chemical assessment process and about risks posed by specific chemicals. EPA and the sponsors should be commended for their willingness to undertake this new approach to assessing the risk of chemicals to human health.

EPA and industry now have a number of case studies that illustrate ways to conduct exposure and risk assessment on existing chemicals, and a documented process for evaluating the potential effects of chemicals on children. At the same time, we have learned that these assessments are generally of a very large scale – requiring extensive expenditures and time. We believe EPA should take note of this finding and carefully assess how it will select future chemicals for the program, possibly focusing on chemicals

of greatest concern. Criteria for selecting chemicals for the VCCEP must have a firm scientific foundation. Substances that pose the highest potential to affect children's health, based on potential high exposure or due to unique sensitivity of children, should be the primary determinant. EPA's selection criteria for the VCCEP Pilot were heavily weighted by monitoring data demonstrating presence in human tissues or blood and presence in environmental media that children may come into contact with. Overall, we believe that chemical selection must focus on unique aspects of children and their exposures based on their activities and behaviors. Further, biomonitoring data should not be characterized as the "gold standard" of exposure data. Biomonitoring and environmental monitoring databases should be viewed as one selection factor, not as automatic mechanisms for chemical selection. In addition, as demonstrated by a number of the substances already evaluated in the VCCEP Pilot, there is a need for EPA to employ a reality check of the candidate chemicals to ensure those selected are actually chemicals to which children are likely exposed and that additional testing and/or exposure assessment is both necessary and appropriate.

12. The VCCEP pilot was designed to ensure that health effects, exposure, and risk information are made available to the public to enable a better understanding of the potential health risks to children associated with certain chemical exposures. Does the VCCEP website provide easy access to and adequate explanation of the information generated by the VCCEP pilot?

As we note above (see general comment II.E. and response to question 10), one of the shortcomings of the VCCEP program is EPA's failure to adequately communicate, disseminate and use the information generated in the program. Although EPA posts information on VCCEP on their RTK web site (including links to TERA), EPA should enhance its communications efforts to make the information generated in the VCCEP more accessible to the public, other EPA offices and other agencies. In addition to links to industry submissions, findings and conclusions of the Peer Consultation and TERA, and EPA's own data need decisions, EPA should provide lay summaries for chemicals that are examined in VCCEP. The summaries should provide an Agency determination concerning the sufficiency of submitted data and of potential risks posed to children's health.

IV. Conclusion

ACC believes the VCCEP pilot has been an excellent pilot of risk-based approaches to chemical evaluation, integrating hazard and exposure information, and an excellent demonstration through the peer consultations of the contributions independent scientists can make to EPA's own assessment of data needs. However, because EPA chose data rich chemicals (i.e. where Tier 2 and 3 data were available), for the VCCEP pilot, the toxicity triggers and tiered exposure assessments have not been fully tested in the pilot yet. When more data are available, a more complete review of the toxicity triggers and exposure assessments will be possible, in a manner similar to the study cited in footnote 8 above. We believe that by mid-2008, if EPA improves in issuing the Agency data needs

decisions, it will be possible for 17 of the 20 VCCEP sponsored chemicals (85% of the sponsored chemicals) to have completed all the elements of the VCCEP pilot. It's at that time that ACC believes a multi-stakeholder meeting to discuss the VCCEP pilot would be most useful to the Agency.

Looking ahead, we believe the VCCEP pilot will be important to explore ways in which testing and assessment efforts can be better integrated and coordinated. For the benefit of voluntary programs generally, and the VCCEP in particular, we believe it is time EPA went on record about the merits of this program. The VCCEP pilot has successfully utilized a risk-based, tiered approach to evaluate potential risks from chemical exposures and to determine what additional information or data, if any, would be needed to reduce scientific uncertainty to better characterize potential risks. Furthermore, by integrating exposure information with the hazard assessment, EPA received risk-based information from the VCCEP Pilot, information sufficient for the Agency to decide whether potential risks to children had been adequately characterized, information that would have been lacking if only a hazard-based, toxicity testing approach had been implemented. The risk-based evaluative process imbedded in the VCCEP Pilot demonstrates how a tiered, risk-based, evaluative process can maximize risk information, and at the same time minimize laboratory animal testing, without compromising the scientific certainty needed for decision-making.

The VCCEP pilot represents a true partnership between industry and EPA. ACC continues to support this program and its objective of characterizing risks to children's health in a tiered, risk-based chemical evaluation framework. If we can provide any additional information on ACC's perspective on this important program, please do not hesitate to contact Sarah Brozena (703-741-5159) Sarah_Brozena@americanchemistry.com or Rick Becker (703-741-5210) Rick_Becker@americanchemistry.com.

TABLE 1

Comparison of EPA's VCCEP Decisions to Results of the Toxicity-Based Decision Triggers			
Chemical Name	EPA's Findings	Results of Toxicity-Based Triggers	Comments
VDC	Certain toxicity tests not available: immunotoxicity study, neurotoxicity battery and DNT, but "EPA does not consider the toxicology "data gaps" to be actual "data needs" at this time."	Immunotoxicity study not triggered Neurotoxicity battery not triggered DNT study not triggered	Concordance
n-Alkanes	EPA has yet to issue Agency Findings	No studies triggered	NA
Acetone	Certain toxicity tests not available (carcinogenicity, 2-generation reproduction, DNT) but the Agency's finding is that no further toxicity tests are recommended.	Chronic toxicity/ carcinogenicity test not triggered 2-generation reproduction study not triggered DNT not triggered	Concordance
MEK	Certain toxicity tests not available (immunotoxicity, chronic toxicity/ carcinogenicity, neurotoxicity screening battery and DNT), but the Agency's finding is that no further toxicity tests are recommended.	Immunotoxicity study not triggered Chronic toxicity/ carcinogenicity test not triggered Neurotoxicity battery not triggered DNT study not triggered	Concordance
DBDPO	Certain toxicity tests not available: developmental toxicity in second species, immunotoxicity study, 2-generation reproduction study, neurotoxicity screening battery and DNT. Agency will evaluate DNT study required by EU started in 2005	Immunotoxicity study not triggered 2-generation reproduction study not triggered Neurotoxicity battery not triggered DNT study not triggered	Concordance in all instances with possible exception of DNT

octaBDE	<p>Certain toxicity tests not available (chronic toxicity/ carcinogenicity, immunotoxicity, 2-generation reproduction, neurotoxicity screening battery DNT). Agency's finding is 2-generation reproduction study is clear data need; immunotoxicity test not needed; other tests will be evaluated at later stage of VCCEP</p>	<p>Toxicity trigger indicates chronic tox/ carcinogenicity test may be warranted Immunotoxicity study not triggered Toxicity trigger indicates 2-generation study may be considered (because of thyroid effects) Toxicity trigger indicates neurotoxicity screening battery and DNT may be considered (because of thyroid effects)</p>	Concordance
pentaBDE	<p>Certain toxicity tests not available (chronic toxicity/ carcinogenicity, immunotoxicity, 2-generation reproduction, neurotoxicity screening battery DNT). Agency's finding is 2-generation reproduction study is clear data need; immunotoxicity test not needed; other tests will be evaluated at later stage of VCCEP</p>	<p>Toxicity trigger indicates chronic tox/ carcinogenicity test may be warranted Immunotoxicity study not triggered Toxicity trigger indicates 2-generation study may be considered (because of thyroid effects) Toxicity trigger indicates neurotoxicity screening battery and DNT may be considered (because of thyroid effects)</p>	Concordance

Table 2. Milestone Dates for VCCEP Chemicals

Chemical	Date of Sponsor Submission	Date of the TERA Peer Consultation Meeting	Date the TERA Peer Consultation Report was Issued	Date EPA Data Needs Decision Issued
Acetone	9/10/2003	11/18-19/2003	3/5/2004	8/25/2005
Benzene	3/30/2006	6/15-16/2006	8/8/2006	Not Issued Yet
Vinylidene Chloride	12/3/2002	1/29-30/2003	6/30/2003	8/25/06
Methyl Ethyl Ketone	12/4/2003	2/19/2004	4/19/2004	8/25/2006
o-Xylene	10/6/2005	12/13-14/2005	2/23/2006	Not Issued Yet
m-Xylene	10/6/2005	12/13-14/2005	2/23/2006	Not Issued Yet
Toluene	9/29/2006	11/7-8/2006	Not Issued Yet	Not Issued Yet
n-Dodecane	6/17/2004	9/14/2004	1/7/2005	Not Issued Yet
Decane	6/17/2004	9/14/2004	1/7/2005	Not Issued Yet
Undecane	6/17/2004	9/14/2004	1/7/2005	Not Issued Yet
Decabromodiphenyl ether	12/20/2002	4/2-3/2003	9/30/2003	8/25/2005
Pentabromodiphenyl ether	4/21/2003	6/3-2/2003	1/22/2004	8/25/2006
Octabromodiphenyl ether	4/21/2003	6/3-2/2003	1/22/2004	8/25/2006
Ethylbenzene	12/12/2006	Scheduled for 2/2-23/2007	NA	NA