

Part 201 TAG 2 Meeting 4

Exposure Pathway Assumptions and Data Sources

Thursday, July 31 | 1 PM–4 PM
Public Sector Consultants

AGENDA

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| I. Welcome and Overview | Coscarelli |
| a. Meeting 3 Summary | |
| II. Mutagens and ADAF's (Clarify request to TAG 1) | Coscarelli |
| III. White Paper Questions | Group |
| a. Question 3 – Refer to Table A: December 2013 Non-residential Exposure, Factors Table B: December 2013 Residential Exposure Factors, TAG inputs) | |
| b. Question 5 – (refer to White Paper Appendix E, Current Direct Contact Criteria Exposure Assumptions, Background Information: Nonresidential Land Use/Receptor, EPA Table 1. Standard Default Factors) | Group |
| c. Question 6 – (refer to Question 5 resources above) | |
| d. Question 7 – (open for discussion, start with background Information: Nonresidential Land Use/Receptor) | Group |
| e. Question 8 – (refer to White Paper Appendix E) | |
| IV. Next Steps | Coscarelli |
| a. Questions 4, 9, 10, 11 | |

PART 201 Technical Advisory Group 2: *Exposure Pathway Assumptions Meeting 4 Summary*

Thursday, July 31, 2014 | 1:00 PM–4:00 PM
Public Sector Consultants, Lansing, Michigan

Attendees

TAG Members

Steve Zayko	PM Environmental
Donal Brady	EnviroSolutions
Christene Jones	Barr Engineering
Patricia Koman	University of Michigan
Francis Ramacciotti	ENVIRON Corporation
Kory Groetsch	Department of Community Health
Christine Flaga	Department of Environmental Quality

MDEQ Staff

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Project Staff

Mark Coscarelli	Public Sector Consultants
Katie Van Dorn	Public Sector Consultants

INTRODUCTION

TAG 2 met on Thursday, July 31, 2014, at the Public Sector Consultants, Inc. (PSC) office. Mark Coscarelli welcomed the TAG members and went over the agenda. The group then reviewed the TAG 2 meeting 3 summary, discussed TAG 1's response to mutagens and ADAF's, and then continued the discussion on the White Paper questions.

REVIEW OF MEETING 3 SUMMARY

The TAG began reviewing the summary from the third TAG 2 meeting. One TAG member provided comments to the meeting summary document via email. Coscarelli reviewed these suggested edits and others offered additional clarifications during the review. Comments and changes will be compiled into a final summary.

MUTAGENS AND ADAF'S

In a previous TAG 2 meeting, TAG 2 asked TAG 1 to examine the list of mutagenic chemicals and develop criteria for how and why a chemical is on this list. TAG 1 responded that the list of mutagenic chemicals are those carcinogens with a mutagenic mode of action identified by U.S. EPA, evaluated by the MDEQ as needed. Furthermore, TAG 1 recommends that ADAFs are used for toxicity values for those carcinogens identified as mutagenic by the EPA and evaluated by the MDEQ as needed.

There is one chemical on the list of mutagenic chemicals that was provided to TAG 2—Chromium VI—that is not on the EPA's website list of mutagenic carcinogens. TAG 1's response gives the MDEQ the

ability to add or remove chemicals from the list of mutagenic chemicals. Some TAG 2 members would like more transparency and further explanation when the MDEQ deviates from the EPA's website list. Other TAG 2 members stated that TAG 1 has proposed a process for public and stakeholder review that would require a transparent and detailed explanation when a chemical is added or removed from the DEQ mutagenic chemical list.

TAG 2 reaffirmed the recommendation from their third meeting that ADAFs should be used for mutagenic carcinogenic chemicals. TAG 2 recommends that the MDEQ routinely use the most up-to-date list from the EPA, and that a review of the list of mutagenic chemicals should be included in PART 201's 4-year update process, as proposed by TAG 1. Including a review of this list in the update process will ensure that the MDEQ uses updated information reflecting the best available science.

WHITE PAPER QUESTIONS

The TAG continued its discussion from the previous meeting regarding questions outlined in the White Paper.

Question 3: What is the most appropriate nonresidential scenario for workers that is indoor, outdoor, or a combination of both?

The majority of the TAG's conversation was spent reviewing Table A: December 2013 Nonresidential Exposure Factors. TAG members provided recommendations for Table A's exposure factor values and their rationale for these values via email prior to the meeting. These values were compiled into a master table that was provided to TAG members at the meeting. Many members gave multiple values for each exposure factor because the values differed if the receptor was an indoor worker, an outdoor worker, or a construction worker.

Members discussed the merits and challenges of using a reasonable maximum exposure (RME) scenario and the need to be protective of the most susceptible workers, such as those of reproductive age and pregnant women. It was reiterated that site-specific criteria can be generated to replace generic criteria for a given site. A TAG member indicated that the generic criteria should protect most workers (the reasonable maximum exposed worker, or approximately 95% of the worker population) such that the department will not have to communicate which workers are not protected by the generic criteria. One member recommended that the generic, nonresidential receptor should be an indoor worker. Several members recommended the worker be an outdoor worker, and one member suggested looking at the values for both an indoor worker and an outdoor worker.

The group agreed to go through the list of Table A exposure factors without first agreeing on the receptor, acknowledging that the difficulties of the logical order of a framework might help guide the data gathering. As noted in the previous TAG 2 meeting, there were residential, industrial, and commercial receptor categories for the soil-direct contact pathway prior to 2010. The commercial receptor had four subcategories: residential-like (commercial I), industrial-like (commercial II), low-soil-intensive (commercial III), and high-soil-intensive (commercial IV). These were streamlined in 2010 into one, nonresidential receptor with exposure assumptions adopted to represent an industrial receptor, who was assumed to be exposed to outdoor soils.

The group agreed that after selecting a value for indoor workers and another for outdoor workers, they will review these values all together to determine how significant the differences are between the end results. One method of comparison is to select the higher exposure as protective of other exposure scenarios for generic criteria. This will guide the TAG's decision on choosing one set of values for all nonresidential workers, or to recommend having two sets of values. If the group recommends that there should be two separate receptor values—one for indoor workers and one for outdoor workers—the

recommendation may need to go to the Legal Group, or the CSA, because adding an additional column in Table A could be a change to the current law and may require an amendment to the authorizing legislation. The TAG decided against identifying a unique set of values for construction workers because a construction worker's exposure duration would be much less than the outdoor worker in most cases. Therefore, the outdoor worker generic criteria should be protective enough for the construction worker, in most cases, because the data for construction workers is not as robust for several exposure factors such as ingestion, toxicity, dispersion, and admission.

The group discussed each member's recommended values for each exposure factor, with each member offering their rationale for their values. The group re-affirmed that the U.S. EPA Regional Screening Level (RSL) exposure parameters is a good starting point for consideration and discussion. As a group, TAG members agreed to exposure parameter value(s) for an indoor worker and separate values for an outdoor worker; for some parameters, this was the same value (e.g., body weight). It was noted that a decision would need to be made as to whether the exposure assumption value should be an upper end or an average value. The group's recommended values are captured in a working master version of Table A. The group discussed the importance of documenting the source(s) for the values, and using a set of specific sources—such as the U.S. EPA OSWER Directive—on which to base their values. However, the group also stated it makes sense to consider Michigan-specific factors (e.g. Michigan's winter) when considering values—especially for outdoor workers. Other Region 5 Midwestern states do not make these adjustments from the national values.

The group discussed the drinking water ingestion rate for workers. It was noted that the EPA does not calculate a drinking water criterion for workers. A TAG member informed the group that a nonresidential drinking water criterion could create inconsistency with DEQ's programs, specifically with the drinking water program, since they protect all drinking water sources in the same manner for residential use.

TAG members were unable to get through all of the exposure factors in Table A during this meeting. TAG members agreed to review their rationales for their recommended values for the remaining exposure factors before the next meeting, and to send any revisions to their recommendations ahead of the next TAG 2 meeting.

Next Steps

- TAG 2 members will review the remaining values in Table A and will send any revisions to these values, including ambient and indoor air values for the Adjusted Inhalation Rate, to PSC by noon on Thursday, August 7, 2014.
- PSC will compile revisions to Table A and have this available for the next TAG 2 meeting.
- The fifth TAG 2 meeting will be held at PSC's office on Friday, August 8, 2014, from 8 a.m. to noon.
- A sixth TAG 2 meeting is tentatively scheduled for Tuesday, August 26, 2014 from 9:00 a.m.–12:00 p.m. The group also discussed the possibility of convening via conference prior to August 26, if necessary.

The meeting was adjourned at 4:20 p.m.