

DEQ Tech Work Group Meeting

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I. General Information/Inquiries

- The reports from June and July will be released at an unspecified time in the future.
- There was a troubling thematic construction around health and risk-based assessments. Perhaps in consideration of public commentary from the last meetings, they decided to incorporate “health based” into their lexicon of verbiage, but the group largely brought it forth with an understanding that the two were the exact same thing.
- Ian made a note of the necessity in making a distinction between the actual emissions of a facility and their permitted ones.
- A slight discussion around consumer monitoring data and how it could be coalesced with the data individual agencies were accumulating.
- There were notes of how development times ought to be taken into accounting.
- Longitudinal epidemiological studies help inform health science for regulations.
- EPA has fence line monitoring programs upcoming.
- Sarah Armitage on involving facilities in risk communication:
 - Advance notices from the agency are important (notification procedures part of the rules)
 - Limit surprises
 - CA version of NEPA process done with facility representatives, shared responsibility
 - Include legislators, other agencies, industry and employees in public processes

II. Cumulative Risk Pros and Cons (Presented by David Farrer)

- How to set risk based concentrations
- Seeking to clarify public concerns about risk-based analysis rather than health-based by saying that with risk their assertions were constructed around the risk to human health. Public health protection is the framework for risk analysis in their view.
- Cumulative exposure pathways may come from different sources. In California, each of these sources is governed by a different agency, making cumulative risk assessment difficult.
- Historical exposure is real and needs to be looked at as a cumulative whole when taking into account past exposures, despite the difficulty in quantification.
- TOSHI (target organ hazard specific indexes). This EPA program allows for flexibility in terms of looking at risk and helps in looking at particular facilities (are they having respiratory effects? Kidney? Liver? Etc.)
- Cumulative risk assessment is done by assuming additivity. Thusly, perhaps screening shouldn't be done by an individual pollutant but rather by the summed risk of all pollutants.
- A difficulty is the built-in conservatism of assumptions in looking at existing facilities (can only look at existing facilities). New facilities can be more easily regulated.
- Rhode Island doesn't consider accounting for risk from multiple (permanent) sources within an area. Washington defines it as 1.5 km from each other. New York integrates it into calculations of maximum off-site air concentrations, which are then compared to risk-based levels.
- Other states can use census block data, or monitoring (establish a site, but that arrives with the following cons: limited on # of pollutants monitored, costly/difficult to pinpoint source data, applicants don't usually wait a year for a permit so this option is almost never selected).
- A concern is that traffic pollutants aren't addressed (other background concentrations from non-sedentary sources). Ted suggests building cumulative risk into the threshold.
- Ian: Cumulative risks are handled differently. In South Coast some of the monitoring shows risks that modeling doesn't pick up is as high as 900 in a million. Fugitive emissions are a concern, but nevertheless getting accurate

emissions inventories are incredibly important. Can be coupled with modeling successfully.

- Cumulative risk priorities” thinking about community gardens in low-income communities. Before these gardens start, they need to have a toxics inventory (cross-sectional and historical legacy of the past needs to come into play here).

III. Interconnectivity Issues

- Ian: “We need to understand the interactions between various chemicals, which are not taken into account with risk-based assessment.”
- Marjorie (paraphrase): With permitting and otherwise, multiple toxics needed to be taken into account as well as the myriad of effects of a singular toxic.
- With existing sources, there is modeling and monitoring together. Thresholds are set by regulations, which don’t change as a result of monitoring results.
- Ian: “Some pollution control technology creates new pollution.”
- Agencies need to have regulatory tools available to deal with sudden pollutants that may appear during the course of monitoring.
- P2 Act (1990)
 - Air ends up as the endgame quite often (waste problem —> incineration)
 - Washington has a regulation that requires P2 to be considered if it meets certain requirements (BACT comes into play here).
 - P2 has a lot of opportunity for the “carrot” to industry (reduced fees, “good neighbor” reputation).
 - There is a general agreement that P2 is great but the elephant of the room is its actual implementation into a program. With voluntary approaches, there needs to be incentives and recognitions.

IV. Facilities & Flexibility

- A mention that risk needed to be calculated for both new and old facilities.
- Wanting of more flexibility with permitting, so it's not locked in for a decade, for example.
- Considerations when setting significant emissions rates:
 - Background and nearby sources
 - Conservative modeling conditions
 - Fence line vs sensitive public receptors
 - "Quick checks" for small facilities
- For a shorter average time, they(?) need a shorter risk-based benchmark.
- If you are emitting pollutants, you are not subject to the requirements of the rule.
- Facilities that are close to their thresholds via modeling are prime candidates for monitoring. Have to have action levels to accompany data (real-time monitoring is an example).
- The purpose of SERs are to determine if more refined risk assessment screenings should be conducted.
 - Emission rate at which a source, if below, won't threaten crossing the threshold benchmark concentrations
 - Consider: (background and nearby sources, conservative modeling conditions, fence line vs. sensitive public receptors).
- Screen 3 is an EPA approved model, still used but no longer the primarily regulatory model, which is now AirScreen. Model produces 1 hr- impacts, that result is then used to produce 3-hr, 24-hr, and annual screening results.
- Rather than looking at stacks of tables of SER's, come up with a spreadsheet with some kind of tools that facilities can enter their rates into and contrast with the desired threshold- take advantage of technology [South Coast, Ted from EPA ("T-Rex Tool", which gives distance from fence line to source,) Ted reiterates that background should be built into criteria←]
- Emission rates may be scaled by operational hours of facility (9-5, 5 days a week), but if it's an acute emission rate you wouldn't want to scale it.
- The downside with models and tools is that they get out of date, just like SERs. What happens when your EJ tool changes and an area that was not sensitive becomes sensitive? Or a hospital, nursing home, moves, etc.? Things

rarely stay the same. Models are great, they give you good information but I don't know how they move forward.

- Answer: Every time you renew a permit, have to rerun the analysis b/c you can't see the future. Predictions can be factored into conservative estimates.

V. State RBCs

- EPA IRIS listing on risk based concentrations are “quite old and not valid anymore”
- There was a correlation between the ideas of flexibility and work, which can be fairly misleading.
- When comparing other programs to Cleaner Air Oregon, a special note must be made of how other programs may not have all of the contaminants under consideration as toxics.
- Marjorie (paraphrase): “There are outdated and possibly invalid data points in the EPA’s information. We ought to get key sources from outside the US as well, especially the EU.” (<http://www.tera.org/iter/>)
- 15,000 biomedical publications on Cadmium in the past 10 years provide a great avenue for other toxins
- Michigan using Precautionary Principle for setting ABCs using current science, requiring polluter prove safety.
- Kentucky STAR Program most protective.
- New safety factors couldn’t be added into a program without analyzing updated data.
- Kumar: “The values in the EPA data might remain the same, but the methods have changed significantly.”
- Default toxicity values: there has to be caution here, a trigger to determine if something is toxic or not.
- Morgan on default toxicity values: “How realistic are these default protective criteria?” The response was to err on the side of caution.
- There was a mitigated discussion on a sliding hazard classification scale using the labels “extremely toxic” to “nontoxic”.
- A mention of the difference between chronic and acute RBCs. Chronic and acute exposures are based off different values, so it is important to remember that if any person is at a critical stage in development that acute exposure may apply to them.
- From a non-cancer perspective, when you are comparing a chronic to an acute ration it can be very difficult to prepare an accurate ratio.
- There was a fairly heavy discussion on which journal articles should be used and which ones should be eschewed. Chuck Lambert and Kumar made notes of the not-as-stringent-as-people-assume peer-reviewing process. Lambert

made a note of not limiting one's self to peer reviewed process as it was much smaller and industry does a lot of studies (there was a note of the SIDS program). Kumar pushed back, noting the transparency in peer reviewed studies. Frankly industry will always find the most favorable research and data points for their bottom line.

- At this juncture, Washington assumes that toxics only travel through inhalation, which in and of itself fails to take into account bioaccumulation of certain particles.
- The screening tools must be conservative enough to protect RBC and public health. They should also be functional enough to successfully screen out sources at progressively more refined levels of analysis.
- California prioritizes actual risk to the community and requires risk reduction. They also use a maximum lifetime cancer risk assessment of 1 in a million with BACT and 10 in a million without it. If a single receptor shows risk above threshold, it is considered a trigger to take action.

VI. Environmental Justice

- To what populations do you model? Where do you place a monitor?
- Ian making a note that environmental justice can be addressed outside of a policy perspective through a technical lens.
- Morgan: “This is purposefully not within the purview of this group.”
- DEQ otherwise “fully committed” to EJ being considered during the CAO process and is currently consulting with a variety of national EJ groups.

VII. Programs

- DEQ LAER: incentive/alternative to costly TBACT or MACT
- TBACT most cost effective for new sources
- RACT (the R is for Reasonably) usually applied to existing sources
- EPA uses MACT or LEAR
- BACT usually tied to criteria pollutants & toxics.
- BARetrofitT criteria pollutants & toxics.
- LAER generally used in non-attainment areas.

VIII. T-BACT

- Wanting details on how this program can be implemented (An incentive option to industry?). When BACT is applied as a policy issue, the group has to note that BACT is often tied to criteria pollutants. South Coast has its own guidelines which will be sent to the group.
- Marilyn: Don't just look at BACT. Look at the gaps and note how they can be changed. In other notes, prevent pollution before it occurs, rather than automatically resorting to adding control technology.
- In regards to toxins, the program can be looser and trickier.
- Ian:
 - Cost per ton of toxin/cancer-based doesn't make sense considering the sheer quantity of toxins to being with
 - \$4 million per cancer case avoided
- Facility can request an extension in a program bringing down cancer burden due to costs of implementation
- Finding more facilities with a cancer risk of over 1 in a million(?)
- Retrofit Control Technology: health risk of the community is the focus
- Industry and trade associations are already a part of the process, sharing clean technology (concern here is that this might be an industry-only solution, with community stakeholders shut out of the process).
- Industry wide assessments are based on risk, with potential amalgamations of control technology for similar industries.
- There was a suggestion that videos and workshops be created to ensure the proper implementation of this program, but there was no specification as to whom would be invited to these workshops.

IX. Levels of Allowable Risk

- EPA approach is based on two barometers: 1 in a million is considered to be safe, with no types of additional controls. If you are above 1 but below 100, EPA takes into considerations cost, control feasibility, EJ considerations, and non-cancer effects. With a multi-pathway, multi-contaminant situation, it is easier to cross the 1 in a million threshold, so those multiple factors become vital.
- Based on size of population exposed? Seems like a terrible barometer to use, frankly. It's too simplistic of a measurement to base any type of technical work or policy on. South Coast is the only district that looks at population risk for both new and existing facilities.
- EPA also doesn't have numbers for a case by case basis.
- Environmental justice should be a component, but this aspect as expected lacked conversational depth.
- "How many residences are impacted above 100 in a million?" and "I don't know if it has to be written into the rule." were key queries in this section.
- There was a note that the comparison of populations to nearby facilities had to be taken into account.

X. Pollution Lists

- Very difficult for EPA to make changes to the pollutant list. As such, there was a want to develop a dynamic pollutant list that allows for a much more flexible system. Ted from the EPA suggested that there be the construction of a mandatory timeframe, updated every 3 or 5 years or so. That way the agency can plan for it.
- Washington has only revised pollutant list twice in the past 45 years. It falls into, ludicrously, the lower tier of state priorities in consideration of other rules.
- Part of that is because the public comments period. Anytime the list needs to be revised, it requires rule makers, meetings, and commissions and as such, other priorities simply get the pull.
- Marjorie made a note of CA Proposition 65 in accordance with pollutant lists.
- A note that more than one person per agency has to keep up with the new information.

XI. Fugitive Emissions

- Hard to define, quantify, control
- Some industries have pushback mechanisms against fugitive emissions
- You either have to stick a monitor on their property or right outside
- South Cal relies on monitoring data to ensure that fugitive emissions can be used at all in relation to curbing facility emissions.
- Washington: “We can’t quantify them, but we try to control them.”
- EPA: Potential coordination with OSHA?

XII. Risk Communication

- When assessing the risk of a carcinogen, assuming that a single molecule can begin a process that increases the risk of cancer. There can't be a singular approach in regards to measuring carcinogens (not exactly sure what they meant by this).
- "Preventing a significant increase in risk to human health."
- Personal thought: If new facilities are being constructed with the health of nearby residents in mind, then why not base the parameters on public health?
- "It is difficult to perceive what these numbers mean." (In regards to the public's understanding of the data, I believe).
- "Breathing is not a choice." Risks associated with toxics are involuntary in that regard. Most people view risk as being safe/unsafe.
- "We need to communicate with the public in regards to risk assessments."
- "How can we address community concerns through the risk assessment program?"
- Community meetings were "at the bottom of effectiveness for risk assessment." One on one or small group meetings were preferred. There was, as is often the case with these meetings, no mention of whom these "preferred" meetings would actually include.
- Public meetings need at least 2 weeks advance notice, regardless of whatever the meeting's purpose in and of itself is. In the same vein, making resources available online ahead of time is helpful. South Coast has a media manager, but Ted from the EPA seemed to confuse having a media manager and people otherwise at the agency being liable for questioning in the media.
- Marjorie: "Safest is in the eyes of the beholder." She noted the vitality of being straightforward, noting that the agencies have to be clear with what they do and don't know. This was in conjecture with a note that the agencies had to show the public that their concerns were understood.
- "Stakeholder meetings ahead of community meetings are important." Stakeholders were undefined.
- Ian noted their public town halls, where there are 15-20 minute presentations and then about three hours of public testimony. Translation services were also provided (looking at language needs, within a 10% threshold), in specific geographic areas.

- There was a note of having difficulties with some facilities who are doing a decent job so they don't want to speak and others where there is a singular dominant facility in town.
- There seems to be some troubling confusion about whom ought to speak to the press in matters of public concern, etc.
- “[Meetings] help the facilities do better work.” Which isn't quite helpful considering that there is little to no public notice ahead of time on these meetings.
- “Half of the time public notices end up in legal papers that people don't read.”
- “The agency can only encourage communication between the community and the facility.”
- Ted from the EPA noted that regardless of science and tech, if there is a failure in risk communication, there is a complete failure of the agency.
- There is quite a bit of understanding at the DEQ/EQC over restoring public trust, but a frustrating part of their concern lies instead with their lack of communication skills, not their failure of regulation.