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Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street 7th Floor
Boston, MA 02108
Attn: Ms. Elizabeth Callahan

Dear Ms. Callahan,

Please accept the following remarks as part of the public comment on the proposed amendments to the Massachusetts Contingency Plan.

Construed strictly, certain of these new provisions would substantially weaken the MCP and reduce the 21E program's protection of human health, public welfare, and the environment.

My first concern is with the proposed broad exemptions for historic fill material.

The current draft proposal includes the following definitions…

> Natural Background means those levels of oil and hazardous material that would exist in the
> absence of the disposal site of concern, are ubiquitous and consistently present in the environment at and in the vicinity of the disposal site of concern, and are attributable to geologic or ecological conditions.
>
> Anthropogenic Background means those levels of oil and hazardous material that would exist in the absence of the disposal site of concern and which are:
> (a) attributable to atmospheric deposition of industrial process or engine emissions;
> (b) attributable to Historic Fill;
> (c) associated with sources specifically exempt from the definitions of disposal site or release as those terms are defined in MGL c. 21E and 310 CMR 40.0006;
> (d) releases to groundwater from a public water supply system; or
> (e) petroleum residues that are incidental to the normal operation of motor vehicles.
>
> Historic Fill means non-indigenous material, deposited to raise the topographic elevation of the site that:
> (a) may contain metals and/or semi-volatile compounds (excluding PCBs) typical of weathered materials, including construction and demolition debris, dredge spoils, incinerator residue, fly ash, coal ash, wood ash or other non-hazardous solid waste material;
> (b) was contaminated prior to emplacement;
> (c) is not connected with the operations at the location of emplacement;
> (d) is not hazardous waste, chemical production waste, or waste from processing of metal or mineral ores, residues, slag or tailings; and
> (e) was not a result of illegal disposal of waste material at the time of placement.

The 'anthropogenic background' and 'historic fill' definitions pose two problems. First, it is overly broad. Many industries generated wastes that were historically used as fill; for example, manufactured gas plants frequently generated solid waste materials that were used as fill, sometimes from a matter of convenience, and other times as a means of disposal. Under all five criteria, off-site buried gasworks waste including cyanide oxide box wastes and tar-contaminated solids such as retort firebrick could be characterized as anthropogenic background rather than a

regulated release. I direct your attention to the various off-site dumps created by the Colonial Gas Company in the city of Lowell. Most of these were located in residential areas and were the occasion of much public outcry when discovered in the late 1980s; all of the known sites became 21E Disposal Sites under the 1988 MCP.

Second, the five criteria proposed for identifying anthropogenic background are difficult to satisfy.

- For (a), the references to SVOCs and metals and the omission of VOCs and other compounds implies that concentrations of VOCs or other contaminants will preclude the material from this exemption, but this is nowhere stated clearly. Asbestos, which may also be present in fill material, is likewise not mentioned.

- The (b) and (c) criteria should be elaborated upon in Departmental guidance.

- In (d), the term 'residues' is not defined. In addition, notwithstanding the reference to 'hazardous waste' in (d), the 'non-hazardous' reference in (a) should be clarified; it is unclear whether this term refers to RCRA hazardous waste status or to 'hazardous materials' as defined in the MCP. For example, ferric ferrocyanide is a hazardous substance under the federal CERCLA statute and under the MCP, but is not likely to be a RCRA listed or characteristic hazardous waste.

- The criterion in (e) will be very difficult to satisfy. In many cases, the time of placement of the fill will not be determinable except on a scale of decades, contingent on the use of topographic and fire insurance maps. Furthermore, it will be extremely difficult to ascertain whether or not the placement of the material was illegal at the time; this presupposes an encyclopedic knowledge of federal, state, and local building codes and solid waste legislation over a 150-year period. Focusing only on the few decades since the MassDEP's solid waste 'watershed year' of 1971 (the passage of 310 CMR 19.00) defeats the apparent purpose of the criterion, but it is highly likely that the consultant community will be forced to make blanket judgments on whether the material was placed before or after this date. Also, since the criterion requires determining whether the filling was illegal at the time of placement, in any case where illegality is not proven, the filling will essentially be deemed to have been legal by default.

I raise the following additional concerns germane to the same issue.

First, the relationship between 'exempt' contaminants and risk has historically been less clear than it could be in the MCP. Under 310 CMR 40.0370, property owners and other parties are required to conduct response actions for "releases or threats of release of oil and/or hazardous material that do not require notification under 310 CMR 40.0300 if the releases or threats of release pose a significant risk to health, safety, public welfare, or the environment." Although it is not the intent of the regulation as written, the exemption to the notification requirements for coal ash, pesticide residues, etc. is commonly understood as a 'do nothing' situation by laymen. As is well know, in some instances anthropogenic concentrations of exempt contaminants such as arsenic (e.g. as pesticide residues applied to orchards) may be present at concentrations that would otherwise constitute an Imminent Hazard.

Second, many determinations of exemption are made prior to or without notification to MassDEP; for example, areas of historic fill encountered during due-diligence investigations. The Department will therefore be able to review and validate only those determinations of exemption that are incorporated into MCP filings for a regulated release.

In order to balance the new criteria for historic fill and the existing exemptions, the Department and other stakeholders should consider taking this opportunity to strengthen the requirements for managing exempt materials

My second concern is with the changes to the regulatory status of "background," with respect to the following Note to Reviewers from the draft proposal:

> *Note to Reviewers: The changes to the provisions in 310 CMR 40.0902 eliminate the reference that equates "Background" with "No Significant Risk" and replaces this provision with a statement that OHM "need not be included in the disposal site Risk Characterization" if it is at or below Background.*
>
> *This change is consistent with consideration of Background as the "absence of the disposal site of concern" and allows for leaving Background constituents out of the risk calculations. The corresponding amendments to 310 CMR 40.1020 indicate that the existence or achievement of Background conditions mean that no further Response Actions are required; with this change it is not necessary to define Background as equivalent to No Significant Risk. This approach addresses the potentially misleading risk communication issue of defining all Background as No Significant Risk, which can be confusing in cases such as Anthropogenic Background at concentrations that would be considered a risk, but from a source not regulated under 21E.*

This new understanding of background recognizes that compounds in natural or anthropogenic background do not necessarily pose zero risk. It is therefore toxicologically questionable to have a risk at a site that is not evaluated in the Risk Characterization simply because it comes from a source not regulated by the MCP; if the risk characterization only addresses certain contaminants at certain exposure points, the end results do not represent the total exposures to the receptors at the site and could potentially underestimate risk. If anthropogenic background concentrations are of sufficient magnitude to constitute a risk or to exacerbate an existing a risk, particularly a significant risk, they should be included in the Risk Characterization. For example, a residential site that only qualifies for closure by a slim margin could potentially fail a Risk Characterization if PAHs from coal ash are included in the data set; the site would pass the Risk Characterization if the PAHs were left out, allowing the site to close, but the actual exposures of the site residents would actually reflect the 'fail' scenario.

Third, while I appreciate the effort made to streamline the Tier Classification process, I note that the proposed version of the process is entirely focused on human health exposures, with four trigger conditions including pollution of a potable water supply, an Imminent Hazard, a Critical Exposure Pathway, or an IRA condition necessitating a containment or removal action. The current version of the process devotes a significant section of the Numerical Ranking System to the evaluation of ecological receptors including surface water bodies, endangered species habitats, and the like. Given that the MCL c. 21E and the MCP are built around protecting the trifecta of human health, public welfare, and the environment, it seems highly questionable to omit one entire component of the MCP's protection remit from the Tier Classification process.

Many of the Commonwealth's current Tier I sites involve significant ecological damage, including (to speak of water bodies alone) the Holyoke Gas & Electric manufactured gas plant, where the bed of the Connecticut River is contaminated with coal tar, Hocomonco Pond in Westborough, the Housatonic River downstream of the former General Electric plant in Pittsfield, New Bedford Harbor, the Mystic River, and Gloucester Harbor. To date, MassDEP has negotiated Natural Resource Damage settlements at 10 MCP sites, seven of which were Tier I sites. There is therefore significant regulatory precedent for using ecological hazards as a Tier I trigger criteria.

In addition, an Imminent Hazard of CEP can be mitigated (if not eliminated) with relative ease, while significant ecological damage can take decades to repair.

I also wish to bring the following additional issues to the Department's attention:

- With respect to the revised protocols for LNAPL and DNAPL, will the Department be proffering through guidance one or more preferred methods for modeling NAPL behavior

and demonstrating NAPL mobility or stasis? Given the prevalence of NAPL sites among the MCP program's population and the numerous available methods for conducting such evaluations, guidance endorsing one or two particular methods may prove advantageous to all parties; the Department's reviews of these calculations will be greatly simplified, and LSPs who are not hydrogeologists by training will have a common set of procedures to rely on, without fear of selecting a method of which MassDEP does not approve.

- Under the provisions of a 'permanent solution with conditions,' a site with a vapor intrusion CEP that requires an ongoing SSDS and monitoring regime will be able to attain closure. Will a site with impact to private wells (also a CEP) that is less than GW-1 or MMCL standards, with a point-of-entry treatment system but where the drinking water exposure is not mitigated to the maximum extent possible, also be able to attain regulatory closure with conditions and a permit maintained with MassDEP? This could be a critical issue for many gasoline stations in rural areas currently in ROS or Class C status due to concentrations of MTBE in groundwater used by public and private water supplies.

- The proposed unique 'bifurcation' of the Method 1 lead standard for soil is potentially confusing. As the 200 mg/Kg unrestricted use threshold will ultimately become the action level for parties seeking an unrestricted closure, and since anything over 200 mg/Kg requires either 'conditions' or an AUL (if over 300 mg/Kg), the difference between 200 mg/Kg and 300 mg/Kg appears too insignificant to be worth the potential confusion.

- The Department may think it advisable to clarify the exemption for releases under 40.0317 (3) as it pertains to former industrial wastewater lagoons and other historic discharges that were permitted under regulations applicable in the 1970s. In at least one prominent instance that resulted in MassDEP and EPA enforcement action, the exemption as currently written was misinterpreted to mean that the RCRA-hazardous sludge in a closed historic lagoon was exempt from MCP notification requirements.

- The proposed changes in the Comprehensive Response Action timelines appear unnecessary. Given the large number of proven remedial technologies available to LSPs and their own greater depth of experience, compared to the status quo of 1993, it is far easier and less time consuming to conduct a Phase III alternatives analysis and design a Phase IV program. The longer time lag between stages of the project may prove counterproductive by allowing remedial projects to lose momentum. Finally, the opportunity still exists to request a justified extension in the timeline if further work becomes necessary.

- An update to COMM-97 may be necessary given the expanded lists of analytes (e.g. MCP-14 vs RCRA 8) now required for analysis at MCP sites, which can create difficulties when trying to manage soil containing contaminants for which there is no COMM-97 daily cover standard (e.g. vanadium), or for compounds for which regulatory standards are changing (e.g. PCBs).

I appreciate this opportunity for public comment.

Sincerely,

Thomas B. Speight, CHMM