

March 11, 2018

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Re: HB 305 and SB 158: **"An Act relating to oil and hazardous substances and waiver of cost recovery for containment and cleanup of certain releases..."**

I have reviewed the published literature, minutes, and audio regarding proposed SB 158 and HB 305. I support DEC's waiver of expenses charged to homeowners for fuel spill oversight, and agree a few more spills may then be reported to DEC. However, I fear the bill as written may perversely increase total health risks. Simply clarifying and strengthening AS 46.09.020(a)ⁱ could fix this bill.

I've spent over three decades assessing and remediating Alaskan fuel spills, and believe residential fuel spills present the greatest health risk in DEC/SPAR's jurisdiction. This is due to the "full time" exposure of residents, especially children. We kids in 1950's Palmer had access to the dirt under the heating oil tanks, where the gravity line sediment bowl would be emptied (or dripped) on the dirt; stay away or get spanked (mom could smell). Cumulative exposure of all kids was probably less than one day per year, instead of playing half naked in the contaminated dirt for 270 days/yr for six years, the threshold exposure assumed by DEC's cleanup levels.

Such unreported residential releases of a few gallons/yr are still endemic wherever gravity feed tanks are used. Sen. Wielechowski testified "this happens all the time" in his district with a lot of trailers. Reported spills are generally ~50-500+ gallons, usually resulting from equipment failure or vandalism. Since tanks are placed adjacent to homes, and the fuel line enters it, a spill usually impacts the foundation and underlying soil.

If the spill is inside or the foundation is impacted, health risks from inhaling inside air often start at "immediately dangerous to life or health", then slowly decline; this is usually the greatest health risk, mitigated by inside remodeling and extended airflow control. Neither is required by DEC. Further, DEC does not require damaging the house to remove the contaminated soil, which they do regulate, which contaminates inside air, which they don't regulate.

The migration to groundwater pathway risk is the most stringent default soil cleanup level (CL). The threshold health risk is based on soil at that CL leaching contamination to groundwater, thus contaminating a drinking water well in excess of the Maximum Contaminant Level (MCL) as a sole drinking water source for 6 years (child) or 20 years (adult).

SPAR records indicate ~2000 spills are reported annually (~ half are diesel), ~50 were from residences, with the rest from regulated facilities. So, in the past 30 years that SPAR has records, there have been ~30,000 diesel spills with ~1500 from residences, and many more unreported.

Excavation of a diesel spill large enough to cause health risks is rarely timely enough to prevent the fuel from impacting foundations or migrating to groundwater through thawed soil.

Although several diesel spills have impacted groundwater, DEC managers knew of no drinking wells impacted by diesel. DEC claimed insufficient funds to research the site records to identify if any such wells existed. I then spent several days searching the online records, finding only two drinking water wells (one was not in use) impacted by diesel exceeding any MCL. The water was reportedly not consumed at either site, since diesel odor and taste is quite detectable below the MCLs. The low chance of diesel impacting a drinking water well, coupled with the quick detection and avoidance of such contamination, indicates the average diesel spill has far less than one per million chance of resulting in a threshold dose, and thus causing an adverse health effect (sickness, not a fatality).

Regardless of the actual risks, DEC still requires soil cleanup to the most stringent level. The most common DEC recommended cleanup is excavation and hauling to a soil burner. Health risks caused by the cleanup can be accurately tallied based on government labor and transportation accident databases. A 200 gallon diesel spill beyond Wasilla could entail 100 hours of onsite labor, excavating ~200 tons of soil, hauling to Anchorage, disposal, backfilling, etc., requiring 2250 miles total truck transport. The labor fatality rate of 0.15 per million hours plus the transportation fatality and serious accident rates of 2 and 50 per 100 million miles respectively result in estimated fatalities of 19 per million and serious accidents of 112 per million (ignoring the accidental risks to residents and children). The risks of this ~\$50,000 cleanup would far exceed the no-action <1 per million chance of adverse health effects.

A homeowner who has done her homework, read the statutes, and wants to minimize net threats to human health would not report this spill to DEC, unless confident the expensive cleanups causing increased health risks would not be required or encouraged.

DEC does not dispute that aggressive remediations at many sites cause more threats to human health than no action. Instead, DEC/SPAR now claims their role is to protect from contamination, but reducing health risks is addressed by other agencies' regulationsⁱⁱ. This apparent abdication of risk responsibility contradicts AS 46.09.020(a)(3).

I believe the solution starts with the legislature affirming AS 46.09.020(a)(3) applies to the DEC commissioner and designees. Because many aggressive cleanups cause more harm than good, a determination under this clause for each site seems prudent.

This harm vs good analysis is simple risk management, similar to the regulatory term "to the extent practicable", nominally required for DEC/SPAR's decisions, but lacking in guidance. Fortunately, there is technical and regulatory guidance provided by ITRCⁱⁱⁱ, who provide several other guidance used by DEC. This or other similar guidance could be used as is or modified for Alaska conditions.

DEC/SPAR already has a powerful tool, institutional controls (ICs), that could help implement risk management decisions. Expanding IC usage could set site specific alternative cleanup conditions and confidently reduce risks.

Thank you for your consideration,

Sincerely,



Ralph Hulbert, P.E.

ⁱ Sec. 46.09.020. Containment and cleanup of a released hazardous substance.

(a) A person who causes a release of a hazardous substance shall make reasonable efforts to contain and clean up the hazardous substance promptly after learning of the release, unless the commissioner determines

(1) after consulting the Environmental Protection Agency or appropriate public safety agencies, that containment or cleanup is technically infeasible;

(2) that containment or cleanup would cause greater environmental damage than if the release were not contained or cleaned up; or

(3) that containment or cleanup would pose a greater threat to human life or health than if the release were not contained or cleaned up.

ⁱⁱ Summary of Proposed Modifications and Public Comments with DEC Responses 18AAC75.325-390, June 8, 2006
Comment - Contaminated site cleanups often create more human health threats than remediation.

Response – *DEC's mandate is to protect human health and the environment from releases of oil and hazardous substances. Worker safety and transport of hazardous substances are addressed by other State and Federal regulations.*

ⁱⁱⁱ Technical/Regulatory Guidance; Project Risk Management for Site Remediation
The Interstate Technology & Regulatory Council Remediation Risk Management Team, 2011