Coordination of NJDEP and USEPA PCB Remediation Policies

Updated March 3, 2011

The Site Remediation Program has established residential and non-residential direct contact Soil Remediation Standards (SRS) for polychlorinated biphenyls (PCBs) based upon a legislatively mandated 1 X 10^{-6} cancer end-point. The residential SRS (RSRS) is 0.2 ppm and the non-residential SRS (NRSRS) is 1 ppm.

For the Impact to ground Water pathway, the default Soil Screening Level of 0.2 ppm may be used as a site specific Impact to Ground Water standard. Alternatively, other procedures, most notably the Synthetic Precipitation Leaching Procedure, may be implemented to determine a site specific standard which in most cases will be greater than the default Soil Screening Level. It should be noted that even when PCBs are present at the screening or site specific IGW standards, or at concentrations exceeding the site specific IGW standard, there may be enough of a buffer between the deepest concentrations and the water table to preclude the PCB contamination reaching the water table. This can be demonstrated by using the SESOIL transport model or the Immobile Chemicals option. In such an instance remediation may not be necessary, providing the direct contact pathways have been addressed satisfactorily. These and other options are detailed in the IGW guidance at http://www.nj.gov/dep/srp/guidance/rs/ .

It is recommended that the Impact to Ground Water Introduction document at http://www.nj.gov/dep/srp/guidance/rs/igw_intro.htm be reviewed prior to conducting any sampling for this pathway.

Under current Site Remediation Program policy, PCBs detected below 0.2 ppm would not require remediation. In a residential use scenario, PCBs above 0.2 ppm and less than 1 ppm requires institutional (deed notice) and engineering (cap) controls. In a non-residential or restricted use scenario, PCBs found above 0.2 ppm requires a deed notice and when above 1 ppm, requires a deed notice and cap. Site Remediation Program policy since 1993 allows for contaminants with appropriate institutional and engineering controls to be non-permanently remediated as long as the remedy is found to be protective of human health and the environment.

The Department does not routinely allow capping for the IGW pathway, except where technically impractical. However as discussed above, even when PCBs are present at the site specific IGW standard concentrations or at concentrations exceeding the site specific IGW standard, there may be enough of a buffer between the deepest concentrations and the water table to preclude the contamination reaching the water table, and if this is demonstrated using the options detailed in the IGW guidance at http://www.nj.gov/dep/srp/guidance/rs/ no remediation will be necessary, providing the direct contact pathways have been addressed.

The USEPA Toxic Substances Control Act (TSCA) provides federal PCB remediation policy that must be coordinated with Site Remediation Program policy during PCB remediation projects. This coordination often will allow for and in fact require permanent remediation of PCBs dependent on future use and concentrations detected. The TSCA regulations also known as the “Final PCB Rule” or the “Mega Rule” dealing with the remediation of soil as “bulk remediation waste” are principally

found in 40 CFR 761.61(a – c). TSCA does not regulate PCBs at concentrations less than 1 ppm. Above 1 ppm PCBs, TSCA stipulates a range of self-implementing cleanup levels based upon future high and low occupancy scenarios that are identified in 40 CFR 761.61 (a) 4. These self-implementing remediation scenarios fall within PCB soil contamination ranges from 1 to 100 ppm. Where concentrations above 100 ppm are present or where the occupational use requirements will not be met, risk-based disposal approval proposals must be submitted to the USEPA and a written response must be received before proceeding.

It is important to note the low and high occupancy self-implementing cleanup criteria are differentiated by the anticipated future use exposure time frame, by an individual not wearing dermal and respiratory protection, for more or less than an average of 6.7 hours/week. Self-implementing PCB remediation requires a minimum 30-day advance written notification by the party conducting the remediation to the USEPA Regional Administrator and other involved regulatory agencies. The party submitting the notification may assume that the proposed remediation is acceptable if the Regional Administrator does not respond within 30 calendar days of receiving the notice.

TSCA Self-Implementing Criteria In Defined High Occupancy Areas – PCBs may remain between 1 and less than or equal to 10 ppm with a cap. This would be applicable to residential, unrestricted use or other uses where occupancy will exceed an average of 6.7 hours/week.

TSCA Self-Implementing Criteria In Defined Low Occupancy Areas – Where occupancy will not exceed an average of 6.7 hours/week, PCBs up to 25 ppm may remain without engineering or institutional controls. PCBs may remain at between 25 and 50 ppm when access is restricted by fencing and warning signs are provided. PCBs may remain at levels between 25 and 100 ppm when appropriately capped (note no fencing required). 40 CFR 761.61(a)7 defines a cap as being a minimum of 6" of asphalt or concrete (or similar material), or 10" of compacted soil. The TSCA cap requirements may be somewhat different than that required by the Site Remediation Program in terms of other geotechnical properties. A consultant or responsible party proposing to cap a PCB contaminated site should state that their proposal is in compliance with 40 CFR 761.61(a)7 to cover any potential additional EPA geotechnical requirements.

Site Remediation Program policy does not recognize these occupancy and concentration based scenarios and requires a deed notice above 0.2 ppm and a cap when PCBs exceed 0.2 ppm or 1 ppm residential/non-residential scenarios, respectively. Where post-excavation sampling is being conducted to assure attainment of Site Remediation Program/TSCA soil cleanup criteria, the guidance provided in N.J.A.C. 7:26-6.4(a) must be followed. Note that when EPA is directly involved in a PCB cleanup they may have additional sampling and post-excavation PCB sampling requirements.

TSCA Risk-Based Disposal Approval

Taking into account a future low occupancy use scenario with appropriate deed notice and engineering controls, PCB concentrations up to 100 ppm may remain on site under both Site Remediation Program and TSCA guidelines. A responsible party may elect to request a risk-based disposal approval under 40 CFR 761.61(c) from the USEPA Regional Administrator for any situation not covered by the self-implementing cleanup guidance. This requires submission of a request and a written response from the EPA Regional Administrator before any remedial actions may be taken. Such risk-based disposal proposals may include requests to waive the more

restrictive high occupancy limitations or to leave PCB concentrations in excess of 100 ppm. However, please note that the federal regulations pertaining to risk-based disposal approvals are silent on the issue of occupancy level, and there is no need by the responsible party to request a specific occupancy level. All risk-based approvals as well as other questions on TSCA PCB issues should be coordinated with the EPA. The EPA regional contacts are Henry Mazzucca and James Haklar. Henry can be contacted at mazzucca.henry@epa.gov or (732) 321-6669, and Jim can be reached at haklar.james@epa.gov or (732) 906-6817.

Other PCB Coordination Issues - Concrete

Another Site Remediation Program/TSCA PCB coordination issue that frequently arises is how to sample and remediate contaminated porous materials such as concrete. The Mega Rule acknowledges that surficial wipe sampling and decontamination of concrete is only applicable where a spill has occurred within a 72-hour time frame. Beyond that time frame, PCBs will have soaked into the concrete making decontamination unsuccessful and wipe sampling unreliable. The Mega Rule establishes cleanup levels for concrete in the same manner as for soil as a bulk remediation waste. As such, concrete sample results can be compared to both the NJDEP SRS and TSCA bulk remediation waste regulations in 40 CFR 761.61(a) 4.

In normal site remediation situations where contaminated concrete is suspected, sampling must include core (depth to be site specifically determined) or chip samples to evaluate the horizontal and vertical extent of contamination in concrete. Remediation that achieves the RSRS of 0.2 ppm would warrant issuance of an NFA, as would levels meeting the 1 ppm NRSRS with deed notice on an industrial site.

Where someone wishes to continue using concrete contaminated by spills of liquid PCBs, the concrete may be cleaned, covered and labeled in accordance with 40 CFR 761.60(p). Such cover may include a solid barrier or a double layer of solvent resistant coatings (ex. epoxy paint) applied in contrasting colors to provide a visual indication of wear. When the contaminated concrete is eventually taken out of service as in demolition, disposal must be in accordance with the bulk remediation waste criteria. Subsequent to the Mega Rule, guidance has been provided by EPA that has eased the restrictions that were in place for the sale of structures with contaminated concrete.

Note that disposal and/or reuse of PCB contaminated concrete should be done in conjunction with the current Guidance for the Sampling and Analysis of Concrete available at http://www.nj.gov/dep/dshw/resource/techman.htm#concrete. The EPA PCB Q&A Manual (revised 2009) is a good source for answers related to PCB site remediation and disposal questions. This document can be found at http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/qacombined.pdf

See figures that follow

Soil Remediation Standards

NJDEP Soil Remediation Standards for PCBs

(Last Revised as N.J.A.C. 7:26D - 6/2/2008)
http://www.nj.gov/dep/srp/guidance/rs/

- **Residential Soil Remediation Standard**
  - **RSRS = 0.2 mg/kg**
- **Non-Residential Soil Remediation Standard**
  - **NRSRS = 1 mg/kg**
- **Impact to Groundwater Soil Remediation Std.**
  - **Site specific but screening levels available**

Impact to Ground Water Standards

- ✓ **No soil numbers promulgated as standards**
- ✓ **IGW Soil Screening Levels is 0.2 ppm, when exceeded, the pathway needs to be evaluated**
- ✓ **Capping is not allowed as a remedy when the site specific IGW Site Remediation Standard is exceeded unless remediation is determined to be technically impracticable.**

To derive a site specific standard above the 0.2 ppm Soil Screening Level:

See http://www.nj.gov/dep/srp/guidance/rs/igw_intro.htm

Some options include:

- ✓ **Possibility of higher standard using SPLP**
- ✓ **Possibility of higher standard because adequate buffer zone exists between contaminant and water table**
- ✓ **Other options (ex. transport modeling and incorporating site specific parameter values…)**

TSCA Bulk Remediation Waste Cleanup Criteria

CFR 761.61 – Bulk Remediation Waste

- **(a)4 – Self-Implementing Cleanup Criteria**
  - ≤ 1 ppm – Unrestricted Use for High Occupancy: > 6.7 Hours per Week
  - > 1 - ≤ 10 ppm - High Occupancy Requires Cap, Deed Restriction

TSCA Bulk Remediation Waste Cleanup Criteria

- Low Occupancy < 6.7 hours per week
  - ≤ 25 ppm – Unrestricted Cleanup Level
  - > 25 ppm and ≤ 50 ppm – Fence, Signs
  - > 25 ppm and ≤100 ppm – Cap and Deed Restriction
  - > 100 ppm – Risk-Based Disposal Approval
    Pursuant to CFR 761.61(c) – Not self-implementing. Requires Written Approval

Coordination of NJDEP/TSCA PCB Soil Standards

- < 0.2 ppm RSRS – Unrestricted use
- > 0.2 ppm IGW Soil Screening Levels must be evaluated
- > 0.2 ppm – Residential Use – Cap, Deed Notice
- > 0.2 to 1 ppm – Non-Residential Use – Deed Notice
- ≤ 1 ppm - TSCA Cleanup Level for Unrestricted High Occupancy Use
- > 1 ppm - Non-Residential Use - Cap, Deed Notice
- > 1 - ≤ 10 ppm – TSCA Cleanup Range for High Occupancy Use with a Cap and Deed Restriction
- 100 ppm – Maximum TSCA Self-Implementing criteria
- > 100 ppm – Requires TSCA Risk-Based Disposal Approval