PCBs in BUILDING MATERIALS

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PCBs in Building Materials

KEY ELEMENTS FOR PROJECT SUCCESS

- Project Strategy
- Technical
- Regulatory
- Communications
- Risk Management
PCBs in Building Materials

- Why is this topic worth discussing now?
- When to consider investigating?
- What situations should trigger awareness?
- Where to investigate?
PCBs in Building Materials

- How to investigate?
- How to manage risks if PCBs are present?
- What are the key issues for a successful project?
AWARENESS OF THIS ISSUE IS GROWING

- Regulatory websites
- Technical conferences
- Press releases/TV
  - High profile cases
- Social media
- Disposal facilities
- Scientific research
EXAMPLES OF GROWING AWARENESS

Number of Publications Listed in Academic Search Engines

Increase in Scientific Studies

- PubMed
- Web of Science
WHY DISCUSS NOW? THE RISKS!

- **Legal**
  - Regulatory compliance
    - Unauthorized use
    - Disposal requirements
  - Claims potential
    - Personal injury
    - Class action
    - Insurance?

- **Financial**
  - Project cost
  - Lost use of assets
  - Business interruption
  - Construction delays

- **Reputational risk**
WHEN TO CONSIDER INVESTIGATING?

The Age of the Building Materials is Relevant

- Construction or renovation from 1929–1979+

Situations that should trigger awareness:

- Renovations or demolitions
- Due diligence for acquisitions/divestitures
- Site assessments; Brownfields
- Property condition assessments
WHEN TO CONSIDER INVESTIGATING?

Situations that should trigger awareness:

- Liability valuation
  - Financial accruals
  - Asset Retirement Obligations (FAS 143/Acctg. Stds. Codification 410)

- Stakeholder concerns
  - Lease/mortgage obligations
  - Occupational health
  - Exposure potential
  - Owner/employer/employee/tenant/contractor/lender/other

- Crumbling/deteriorated building materials

- Old fluorescent light ballasts
WHAT TO CONSIDER INVESTIGATING?

Partial list:

- Caulk/glazing/joint compounds (primary source)
- Old fluorescent light ballasts (primary source)
- Paints
- Lacquers, varnishes
- Laminating adhesives, tapes, mastics
- Flame retardants
- Waterproofing coatings
- Sealants
WHERE TO CONSIDER INVESTIGATING?

Indoor and outdoor environments:

- Indoor sources
- Indoor media: air, surfaces
- Outdoor sources
- Outdoor media: soil, sediment, catch basins
HOW TO INVESTIGATE

Decide if, and how, you want to sample

- **Direct (source) sampling**
  - Evaluates sources first

- **Indirect sampling** – air samples (for volatilized PCBs); wipe samples (for PCBs in dust)
  - Evaluates exposure routes first
  - Opposite of common approach

- **No sampling** – PCBs assumed present

There can be significant risks in investigating – and not investigating – PCBs in building materials that should be carefully considered in forming an overall project strategy.
HOW TO INVESTIGATE?

- Develop inspection and sampling plans
- Use proper procedures (regulations and policies)
  - Sampling (location and collection requirements)
    - Characterization
    - Verification
  - Decontamination
  - Laboratory methods (including extraction)
  - Data validation
  - Communicate with CTDEEP and EPA Regional PCB Coordinators
HOW TO MANAGE RISKS IF PCBS ARE PRESENT?

➢ Know the CT and TSCA requirements for cleanup and disposal

  ▪ PCB bulk product waste
    ✓ Solid waste landfills
    ✓ Performance-based
    ✓ Risk-based

  ▪ PCB remediation waste
    ✓ Self-implementing (prescriptive cleanup goals)
      • High vs. low occupancy areas
    ✓ Performance-based
    ✓ Risk-based
HOW TO MANAGE RISKS IF PCBS ARE PRESENT?

- **Source removal (examples)**
  - Bulk removal (caulk, porous materials)
  - Sandblasting (paint, concrete)
  - Scarification (concrete)
  - Sawcutting (concrete, caulk)

- **Mitigation (examples)**
  - Engineering controls
    - Encapsulation, physical barriers, ventilation
  - Administrative controls
    - Best management practices
AN EXAMPLE OF HOW TO INVESTIGATE?

**Simplified decision tree: Suspect PCB-containing building materials**

- **Assume >1 ppm**
  - **Abate**
  - **Mitigate**
    - Bulk (source) sampling
      - Abate and/or mitigate if >1 ppm
      - No Action if <1 ppm
    - Air and/or wipe sampling*
      - Determine Exposure Limit (EL)
        - Eng. and Admin. controls if > EL
        - Direct sampling if > EL
        - No action if < EL
  - **Resample**

* Not recommended for renovations or demolitions

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SIGNIFICANT COST POTENTIAL FOR THESE PROJECTS

Not a lot of consistent data yet (caulk example)

- 100’s to 1,000’s of samples (~$65–$130 per sample)
  - Characterization and verification
- Caulk removal w/ disposal (~$50–$170 per linear foot)
- Substrate removal (~$55-$120 per linear foot)
- Caulk & substrate repairs (~$50-$125 per linear foot)
- Encapsulation (~$55 per linear foot)

Excludes other building materials, consultant & attorney fees

Total remediation costs (several MA and NYC schools):

~$3MM - $8MM per school
KEY ELEMENTS FOR PROJECT SUCCESS

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KEY ISSUES TO FOCUS ON

- **Collaboration on strategy development**
  - Regulatory approach
  - Minimization of legal, financial, reputational risks

- **Risk communication planning and execution**

- **Stakeholder involvement**
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- Collaboration on strategy development
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 Client

 Regulators

 Stakeholder

 Stakeholder

 Stakeholder

 Lawyer

 Consultant
KEY ISSUES TO FOCUS ON

- Contractual considerations
  - P&S, leases
- Mortgage/lease notification obligations
- Business interruption
SUMMARY

- Growing awareness of the issue
- Significant legal, financial, and reputational risks
- PCBs can exist in multiple inside/outside locations
- Situations that should trigger awareness
- Engage subject matter experts

Legal, regulatory compliance, site investigation, human health/ecological risk assessment, remediation, construction, data validation, communications
SUMMARY

These projects demand a strategic plan which considers:

- Risks of investigating/not investigating
- Project cost and schedule
- Optional regulatory pathways available in some cases
- Characterization and verification approach
- Risk assessment/cleanup goals
- Remediation/mitigation methods
- Risk communication

A successful project requires integration of many key issues
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