Chemical Hazards at Brownfield Sites

A Factsheet for

Workers, Unions and Community-Based Organizations

What are brownfields?

Brownfields are idle or abandoned commercial or industrial sites that can’t be used because they are contaminated.

These sites are often too contaminated to be redeveloped without cleanup but are not contaminated enough to be regulated by the most stringent environmental laws such as Superfund. According to EPA, typical brownfield contaminants include petroleum hydrocarbons, lead, asbestos, PCBs, creosote, cadmium, chromium, and arsenic.

How are brownfields regulated?

Although environmental regulations usually require total site cleanup to standards based on health-based benchmarks, brownfield regulations allow for partial cleanup. The amount of contamination that can remain on site depends on how the site will be used – higher levels of contamination can remain on sites for industrial use than on sites for residential use.

In November 2006, New York State approved new regulations that govern cleanup and construction at brownfield sites. In general, brownfield development is good for New York because it results in a reduction in levels of toxic contaminants. In addition, it preserves skilled environmental cleanup jobs and creates new jobs.

Worker health and safety

There is concern that the new regulations do not adequately protect workers against toxic exposures. These workers can be either

• brownfield cleanup workers, or
• workers in new facilities located on cleaned-up brownfield sites.

As a result, workers may be unnecessarily exposed to avoidable health risks.

What to watch out for...

Workers and unions need to be aware of shortcomings in the new Brownfield regulations:

For brownfield cleanup workers –

• The brownfield regulations require the removal of hazardous substances from Brownfield sites. However, they do not address cleanup methods or worker health and safety.

• By contrast, another state regulation, NYS Industrial Code Rule 56, not only requires the removal of a hazardous substance (asbestos) in order to protect the public health, it explicitly establishes work methods that must be followed by workers and contractors.
This ensures not only that environmental cleanup is adequate but also that the safety and health of the workers doing the cleanup are protected. The brownfield regs have no such requirements.

- The regulations do not refer to or require applicable OSHA protective standards. Especially important is the OSHA Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), the most protective standard for workers at hazardous waste sites.

- The brownfield regs assume rather than require that OSHA standards will be adhered to or enforced. The omission of reference to HAZWOPER and other OSHA regs makes it less likely that contractors will provide the highest levels of health and safety training and protection. It may also make enforcement less likely.

For workers employed at brownfield sites that have already been cleaned up -

- Because contaminants at cleaned-up brownfield sites will not be completely removed or contained, workers in new facilities on cleaned-up brownfield sites may be exposed to toxic volatile chemicals that seep into buildings from the soil. This is called "soil vapor intrusion."

- OSHA standards in general do not take into account or regulate hazardous chemicals that enter the workplace from external environmental sources. As a result, it may be difficult for contaminant levels to be monitored or for workers to be protected against exposures.

For both brownfield cleanup workers and workers in new facilities located on cleaned-up brownfield sites -

- In many cases there are no OSHA exposure standards for the harmful contaminants likely to be encountered by workers at brownfield sites. These include dioxins, volatile and semi-volatile organic compounds, and pesticides.

**Precautions**

Workers at brownfield sites need to be aware of these important health issues. Unions that represent these workers and community-based organizations that train or employ these workers should also know about these health concerns.

Remember, cleanup workers at brownfield sites, and workers employed at cleaned-up brownfield sites, may be exposed to multiple toxic contaminants. Observe the following precautions:

- Obtain and review the site characterization and hazard assessment documents. These should tell you what toxic substances and other hazards may be present.

- If workers are exposed or potentially exposed to toxic substances, make sure they receive appropriate respiratory and personal protection, whether or not the toxic substances are regulated by OSHA, and that they are properly trained, qualified, fit-tested, and medically evaluated, when necessary.

- Ensure that OSHA standards, such as the Respiratory Protection Standard and the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) are being adhered to, if appropriate.