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New EPA Guidance Will Bring Some Needed Scrutiny of Institutional Controls at Toxic Sites, But Still Doesn't Require Checking That People are Actually Protected

by **Catherine O'Neill**

At a growing number of contaminated sites across the nation, "cleanup" means that toxic contaminants are left in place while environmental agencies look to institutional controls (ICs) to limit human contact with these contaminants. Agencies hope that ICs such as deed restrictions or advisory signs will inform people about the continued presence of contaminants at a site and help them steer clear, thus avoiding exposure. Yet agencies have done little to ascertain whether these hopes are well-founded, particularly over the long term. Against this backdrop, EPA released guidance last month that for the first time seeks to systematize its evaluation of ICs. The guidance directs EPA investigators conducting five-year reviews to determine whether ICs called for as part of site cleanups have actually been implemented and maintained. This guidance is a welcome first step. But larger questions remain about agencies' increased reliance on ICs and other forms of "risk avoidance."

Contaminated site cleanup tends to conjure images of so-called engineering measures such as dredging or excavation. These measures actually remove contaminated substances from the site or treat them so that they become less toxic. With toxic contaminants no longer present, risks to humans and the environment are reduced. Institutional controls, by contrast, are administrative or legal measures intended to address those instances in which toxic contaminants have been permitted to linger at a site, such that risks to humans and the environment remain. According to EPA, "ICs typically work by limiting land or resource use and/or by providing information that helps modify or guide human behavior at the site." Institutional controls include proprietary controls, such as restrictive covenants or easements; government controls, such as zoning ordinances or ground water use regulations; legal tools such as consent decrees that limit permitted activities at a site; and informational measures, such as state registries of contaminated sites, posted signage, and fish and wildlife consumption advisories.

Agencies once viewed IC's as interim measures meant to limit human exposure until cleanup at a site could be completed, but now rely on ICs in the long term, as a partial or total substitute for remediation. Thus the National Contingency Plan (NCP), which guides cleanups under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), now contemplates the use of ICs for short- and long-term use at contaminated sites. To the extent that the chosen remedy allows wastes to remain in place and does not result in "unlimited

use and unrestricted exposure" at a site, the NCP directs EPA to conduct five-year reviews to evaluate implementation of the remedy and assess whether it is protective of human health and the environment. EPA's new guidance, *Recommended Evaluation of Institutional Controls: Supplement to the 'Comprehensive Five-Year Review Guidance,'* issued on September 13, aims to ensure that five-year reviews of these sites consider "the IC component of remedies in a manner similar to the review of engineering and other remedy components."

Institutional Controls are part of a larger category of what I have termed risk avoidance measures. With risk avoidance approaches, agencies ask people to alter their practices in order to protect themselves from contamination permitted to remain in the environment. Other examples of risk avoidance measures include ozone alerts; fish and wildlife consumption advisories; pesticide and herbicide contact warnings; beach advisories and closures; and boil-water notices. Risk avoidance stands in contrast to risk reduction, which addresses environmental risks by preventing, reducing, or cleaning up contamination at the source. Risk avoidance leaves contamination unabated, in whole or in part. It places responsibility on those exposed to avoid the fish, water, soils or air left polluted.

Proponents of risk avoidance tout the potential for cost savings. Although the magnitude of the potential savings is a matter of some dispute (particularly if one considers the long period over which ICs and other forms of risk avoidance must be maintained, i.e., in perpetuity), it is likely that erecting a fence, posting a warning sign, or devising a website entails a modest sum compared to the price tag for risk reduction.

But risk avoidance introduces a raft of perils. Risk avoidance measures focus only on the targeted human health risk. This approach, then, foregoes the web of ancillary benefits of remediation for human and ecological health, for current and future generations. Risk avoidance introduces other risks: as people change their practices in accordance with warnings and advisories, they lose the nutritional, health, and other benefits of their former lifeways (e.g., consuming fish or exercising outdoors). Risk avoidance is often unjust, disproportionately burdening tribes and their members, people of color, and low-income people, and it may offer alternatives for avoidance that are unrealistic or even impossible from the perspectives of those burdened. Finally, risk avoidance is notoriously ineffective: in order for risk avoidance to work, advisories must be received and understood by their intended audience, restrictions must be monitored and enforced, and ultimately, human behaviors must be changed. But, study after study has shown, for example, that fish consumption advisories frequently fail to reach or to be understood by their intended audiences. Even when these hurdles are overcome, people may decline to follow advisories' recommendations: whether for economic, cultural, or other reasons, people may not be able to alter the way they prepare their fish or may not have the option to travel "elsewhere" to fish in less contaminated waters. Similarly, evidence has shown that deed restrictions fail to get filed, fences routinely get breached, "no trespassing" signs go missing, and property owners (or their lessees) are unaware of restrictions on digging or other activities in their yards.

Despite these and other perils, environmental agencies are increasingly under pressure to enlist risk avoidance measures in the name of cost-effectiveness. It is perhaps not surprising that regulated sources are advocates of an enlarged role for risk avoidance in lieu of risk reduction. In the case of ICs, industry representatives have applauded the normalization of this approach in CERCLA cleanups. For example, a representative of the American Petroleum Institute and other industries lauded a separate EPA guidance issued earlier this year for its

"sophistication in recognizing the important role" that institutional controls play in the overall remediation project (BNA Daily Environment Report, 2/9/11).

But risk avoidance measures are only truly "cost effective" if they deliver the same result – protection of human and environmental health – at a lower price. To the extent that agencies have relied upon ICs, it behooves them to learn whether these strategies have any hope of performing as agencies have assumed they will. Indeed the Government Accountability Office (GAO) in 2005roundly criticized EPA for its failure to follow up at those sites at which the remedy included ICs and learn whether the ICs were being implemented and maintained. The GAO's independent inquiry, moreover, suggested reason for concern, as it discovered numerous sites at which ICs were being ignored. At one site, an IC prohibited any use of groundwater without prior written approval from EPA, but subsequent inquiry revealed that more than 25 million gallons had been pumped for use as drinking water in the previous year alone and that this use may have been occurring for some time during the previous five years as well. At another site, the IC required monitoring for worker safety during and digging operations at the site. A GAO visit, however, found active unsupervised digging. At a third site, the GAO observed "significant evidence of trespassing at the site," but a refusal on the part of the responsible official to monitor the site.

Separately, the state of Kansas reviewed 41 sites at which ICs had been employed and found that only 27 out of the 41 were "fully compliant." While the Kansas study concluded that none of the breaches that it found were reason for concern, the number and variety of failures is illuminating. EPA's new guidance is thus a welcome and necessary effort to elevate these concerns and to systematize follow-up when ICs are relied upon to address lingering contamination.

Yet EPA's guidance falls short of actually inquiring into the efficacy of ICs – of examining whether ICs in fact deliver the same amount of protection for humans and the environment. For example, the guidance suggests that EPA staff conducting a five-year review ascertain whether restrictive covenants and similar deed restrictions actually got filed. This is a real issue, given that four of the breaches identified by the state of Kansas in its review resulted from a failure to file such restrictions as promised. But the guidance doesn't require these reviews to ask the next question: whether property owners and lessees are thereby actually made aware of the relevant restriction and its contours. The Kansas study found that residential owners, in particular, were unaware of the boundaries of any prohibitions on digging or other activities on their property – or even that there were any restrictions at all: "[i]n a number of cases, such owners stated they thought all the contamination was resolved on their property and seemed surprised there were still restrictions." In a similar vein, the guidance suggests that agency staff determine whether anticipated informational measures such as websites or advisory materials have in fact been developed and maintained. But the guidance doesn't mention further efforts to ascertain whether such informational measures are being accessed and understood by the people likely to be exposed and whether, ultimately, people have changed their behaviors so as to comply with the relevant warnings. Moreover, the guidance anticipates a site inspection – which would reveal physical breaches such as signs covered with vegetation or fences in disrepair – and an interview with such officials as the site manager and the owner of the property. But the guidance makes no mention of discussions with the affected community to enlist their local knowledge about the realities of day-to-day occasions for exposure, such as children playing in the dirt or people fishing or harvesting shellfish nearby.

EPA's new guidance is a welcome call for more systematized scrutiny of ICs as part of EPA's five-year reviews. EPA needs to broaden its inquiry, however, so

that it can test the assumption that it uses to justify leaving contaminants unabated on site: do ICs in fact provide the same amount of protection from these lingering toxics?

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