

Technical Note #5: Other Environmental Statutes Under Which  
Reproductive Health Hazards Can Be Regulated

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY  
ACT (CERCLA)<sup>1</sup>

CERCLA, also known as Superfund, was enacted in December 1980. It provides the government with the authority and funding to take action against actual and threatened releases of hazardous substances, “and to recover cleanup costs and natural resource damages from the responsible parties. Unlike most other federal environmental statutes, CERCLA employs liability, rather than “command and control” regulation, as the incentive for pollution control.

The Act establishes a \$1.6 billion fund, generated over a five-year period by a tax on petroleum and chemical feedstocks (87.5 percent) and by governmental appropriations (12.5 percent). The purpose of the fund is to provide “up-front” financing of cleanup costs and resource damages where responsible parties are uncooperative, unknown, or insolvent. The liability provision of the Act (§ 107) is intended to ease the ability of the government to sue for the recovery of fund monies expended.

At the core of CERCLA is the National Contingency Plan (NCP).<sup>2</sup> This plan includes: 1) a list of priority sites to be addressed by the government; 2) the rules setting priorities among sites; and 3) the cleanup procedures to be followed. In general, all governmental actions under CERCLA must be consistent with the NCP. Failure to follow the NCP may jeopardize the ability of the government to recover its cleanup costs from responsible parties.

With one exception (see section below on “Pollutants or Contaminants”), CERCLA does not explicitly refer to reproductive health hazards. However, the statutory language clearly can be interpreted to embrace reproductive health hazards. And as discussed below, Congress intended EPA to consider such risks in its decisionmaking. The most important statutory sections bearing on EPA’s ability to control reproductive health hazards under CERCLA deal with:

- o the definition of hazardous substances,
- o the setting of “reportable quantities,”
- o the definition of “pollutants or contaminants,” and
- o the ranking of sites according to the risks they pose.

Section 101(14): Definition of Hazardous Substances

CERCLA primarily addresses “hazardous substances,” which comprise a broader category of chemicals than hazardous wastes. Section 101(14) of the Act defines “hazardous substance,” in part, by cross-referencing other federal pollution control statutes.<sup>4</sup>

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1. 42 U.S.C. §§ 9601-9657 (1982).

2. 42 C.F.R. § 300 (1984).

3. 42 U.S.C. § 9601(1982).

4. Sec. 101(14), 42 U.S.C. § 9601(14):

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In all, over 600 specific substances are covered. However, for the following three reasons, an indeterminate number of chemicals and chemical risks, including reproductive health hazards, may actually be considered "hazardous" substances under CERCLA: 1) the cross-referencing of other EPA statutes in CERCLA means that when a new chemical is regulated in specified ways under these other laws, it automatically becomes a CERCLA hazardous substance; 2) EPA's definition of hazardous wastes under the Resource Conservation and Recovery Act, included under CERCLA, is itself open-ended. Thus any wastes that are considered ignitable, corrosive, reactive, or toxic, according to EPA-specified tests, are automatically considered hazardous.<sup>5</sup> While waste chemicals posing reproductive health hazards do not necessarily meet the RCRA definition of hazardous waste, hazardous wastes may include wastes presenting reproductive risks. And, 3) EPA has the authority to designate additional substances as "hazardous" under § 102 of CERCLA. EPA is considering numerous other chemicals as "candidates" for such a designation.<sup>6</sup> These candidates include a wide variety of chemicals that may pose reproductive health hazards, such as:

- 1) 600 pesticide active ingredients;
- 2) listed hazardous constituents of RCRA hazardous wastes;
- 3) chemicals recommended for priority consideration under S 4(e) of TSCA;
- 4) substances within a broad group of chemicals regulated by other agencies; and
- 5) substances for which EPA "has demonstrated some concern."<sup>7</sup>

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- A. any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act,
  - B. any element compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA,
  - C. any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress),
  - D. any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act,
  - E. any hazardous air pollutant listed under section 112 of the Clean Air Act, and
  - F. any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substance Control Act. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

5. 40 C.F.R. § 261.20-24 (1984).

6. 48 Fed. Reg. 23,602 (1983).

7. Id. at 23,603-04.

On its face, therefore, the CERCLA definition of “hazardous substance” does not suggest a major role for the Act in addressing reproductive health hazards in the workplace. However, by cross-referencing other statutes that may target such risks, and by its open-ended nature, CERCLA’S definition of a “hazardous substance” may clearly include numerous reproductive health hazards within its ambit. In keeping with this implicit statutory emphasis, EPA has considered reproductive health hazards in implementing CERCLA. (See section below on “Reportable Quantities,” § 102). Moreover, as is also discussed below, legislative authority to control reproductive risks explicitly appears in another provision of the Act (see section on “Pollutants and Contaminants,” § 104).

#### Section 102: Setting and Adjusting Reportable Quantities<sup>8</sup>

Section 102 of CERCLA requires EPA to set a “reportable quantity” (RQ) for each hazardous substance. A release in excess of the RQ by a vessel or facility triggers a requirement to notify the government.

Where a hazardous substance already has an RQ under the Clean Water Act, that number is considered the RQ for purposes of CERCLA, unless EPA adjusts this figure. EPA has published a list of “adjusted” RQ’s under CERCLA.<sup>9</sup> In making these adjustments, EPA has stated that it will consider six primary criteria: 1) aquatic toxicity, 2) mammalian toxicity, 3) ignitability, 4) radioactivity, 5) carcinogenicity, and 6) other toxic effects.<sup>10</sup> Reproductive health hazards are explicitly included among the “other toxic effects” to be weighed by the Agency in adjusting RQ’s.

#### Section 104(a): Definition of Pollutants or Contaminants<sup>11</sup>

Under § 104(a) of CERCLA, EPA is authorized to take action, where the parties responsible will not address a chemical problem, when there is a release or a substantial threat of a release into the environment of:

- 1) a hazardous substance; or
- 2) a pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare.

The definition of a “hazardous substance” has been discussed above, and incorporates by reference many reproductive health hazards. The definition of “pollutant or contaminant,” however, is more explicit in addressing reproductive risks. Section 104(a)(2) of CERCLA states:

For the purposes of this section, “pollutant or contaminant” shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, *genetic*

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8. 42 U.S.C. § 9602 (1982).

9. 48 Fed. Reg. 23,551 (1983).

10. Id. at 23,562.

11. 42 U.S. C. § 9604(a).

● *utation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such organisms or their offspring*<sup>1 2</sup> (emphasis added).

The definition of a “pollutant or contaminant,” therefore, is much broader than the definition of “hazardous substance.” The principal practical distinction between the two terms relates to EPA’s ability to recover cleanup costs and resource damages from responsible parties. Under § 104 EPA can take action against both “hazardous substances” and “pollutants or contaminants.” But the Government can only recover cleanup costs and resource damages from responsible parties with respect to releases of hazardous substances. Cleanup costs and resource damages resulting from releases of pollutants or contaminants (unless they are also considered hazardous substances) must be paid for by the Superfund.

#### THE SOLID WASTE DISPOSAL ACT, AS AMENDED BY THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)<sup>13</sup>

The Resource Conservation and Recovery Act (RCRA), enacted in 1976 as an amendment to the Solid Waste Disposal Act, reflects Congressional concern over the mounting problems with the disposal of solid and hazardous wastes. The act requires EPA to regulate hazardous wastes from cradle to grave, thereby governing the treatment, storage, transportation, and disposal of hazardous wastes which have adverse effects on health and the environment.

#### Section 3001(a): Identification of Hazardous Wastes<sup>15</sup>

Section 3001 describes the criteria for the identification and listing of hazardous wastes. Specifically, the act directs State and Federal regulators to take into account “toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics.”<sup>1 6</sup>

While the RCRA statutory language does not specifically address reproductive hazards, the regulation of hazardous wastes provides some protection from hazards to reproduction. Moreover, EPA has considered reproductive risks in its RCRA regulations. One of EPA’s criteria for listing wastes as hazardous is whether the waste contains:

any of the toxic constituents listed in Appendix VIII [of the RCRA rules] unless, after considering [a variety of listed factors], the Administration concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed...<sup>17</sup>

In turn, EPA’s rules on listing the constituents in Appendix VIII state:

12. Section 104(a)(2), 42 U.S.C. § 9604(a)(2).

13. 42 U.S.C. §§ 6901-6987 (1982).

14. RCRA, Sec. 1002(b), 42 U.S.C. § 6922 (1982).

15. 42 U.S.C. § 6921.

16. RCRA, Sec. 3001(a).

17. 40 C.F.R. S 261.11(a)(3) (1984).

Substances will be listed on Appendix VIII only if they have been shown to have toxic, carcinogenic, *mutagenic or teratogenic* effects on humans or their life forms. (Wastes listed in accordance with these criteria will be designated Toxic wastes)<sup>18</sup> (emphasis added).

EPA's original approach toward toxic wastes, including reproductive health hazards, was to bring them into the RCRA regulatory scheme if they possessed certain broad characteristics. In its final rules on hazardous waste identification, EPA explained its shift to a listing approach toward toxic wastes:

EPA is not fully confident that it can suitably define and construct testing protocols for the characteristics of organic *toxicity*, carcinogenicity, mutagenicity, *teratogenicity*, bioaccumulation potential, phytotoxicity, radioactivity and infectiousness, and is consequently relying on the listing mechanism to bring wastes exhibiting these properties into the system. One negative aspect of this change in approach is that it shifts to EPA the primary burden for identifying, analyzing and evaluating these wastes with the result that it may take longer to achieve full regulatory coverage. This negative aspect is substantially offset however, by the greater flexibility and assurance which the listing approach provides, especially when accompanied by the delisting procedure<sup>19</sup> (emphasis added).

In addition to controlling reproductive health hazards through the hazardous waste identification process, EPA may be able to regulate exposure to reproductive health hazards under RCRA by exercising its abatement authority, under § 7003. Section 7003 authorizes the Administrator to bring suit against any person involved in the generation, transport, or disposal of hazardous waste which "may present an imminent and substantial endangerment to health or the environment."<sup>20</sup> Specifically this provision might be used to abate risks posed by the disposal of chemicals on-site. Reproductive health hazards at a waste site presumably could constitute such an "endangerment," allowing EPA to obtain judicial relief. These disposal practices may also present occupational exposure, but it is unclear whether authority under RCRA would provide a cause of action in such an instance.

#### SAFE DRINKING WATER ACT (SDWA)<sup>21</sup>

The Safe Drinking Water Act (SDWA) is designed to ensure that safe, disease-free drinking water is delivered by public water systems nationwide. The Act was passed largely in response to increasing concern over long-term exposures to low levels of carcinogens in water, coupled with news of several outbreaks of acute disease caused by waterborne organisms. The goal of providing safe drinking water at the consumer's tap is to be achieved by national standards implemented and enforced through a State-Federal regulatory mechanism. States are encouraged to assume primary responsibility (or "primacy") for implementation, enforcement, and monitoring of national guidelines and standards. EPA also issues health advisories on drinking water contaminants. While the SDWA does not expressly address reproductive health hazards, various programs under the Act maybe designed to address the issue of general health concerns. In addition, the programs may be of direct relevance in establishing farmworker safety programs.

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18. 40 C.F.R. § 260.11(a)(3)(xi).

19. 45 Fed. Reg. 33,107 (1980).

20. 42 U.S. C. § 6973.

The SDWA does not explicitly address reproductive health hazards. However, in setting National Interim Primary Drinking Water Regulations,<sup>22</sup> EPA has occasionally considered reproductive effects. For example, in establishing recommended maximum contaminant levels (MCL's) for volatile synthetic organic chemicals (VOC's), EPA noted some reliance on evidence of mutagenicity to suggest that a chemical may also be a carcinogen:

Many carcinogens are capable of altering DNA; chemically induced alteration of DNA in germinal cells can also cause mutable changes, or mutations; thus, when a chemical shows a positive response in short-term mutagenicity tests, there is a concern that it could also be a carcinogen.<sup>23</sup>

In addition, EPA specifically noted the VOC mutagenicity data on trichloroethylene,<sup>24</sup> tetrachloroethylene,<sup>25</sup> 1,1,1 trichloroethane,<sup>26</sup> carbon tetrachloride,<sup>27</sup> vinyl chloride,<sup>28</sup> benzene,<sup>29</sup> and 1,1 dichloroethane.<sup>30</sup> Perhaps even more importantly, in addition to setting MCLS, EPA often issues informal health advisory on drinking water contamination. Called "Suggested No Adverse Response Levels" (SNARLS) these advisories are frequently based, in part, on reproductive effects. While not enforceable standards, SNARLS are often relied upon by governmental officials charged with protecting drinking water. They could thus be used for providing technical guidance for establishing enforceable drinking water standards for water supplies used by farmworkers. (See discussion below).

#### FEDERAL WATER POLLUTION CONTROL ACT (FWPCA)<sup>31</sup>

The Federal Water Pollution Control Act (FWPCA) is a comprehensive statute intended to clean-up the nation's surface waters. The FWPCA sets water quality and use goals and deadlines for achieving them, as well as detailing major programs to achieve these goals.

The Act rarely addresses reproductive health hazards explicitly. An exception is in granting or modifying the application of certain effluent limitations to a particular point source. A brief examination of EPA's use of effluent limitations for toxic chemicals is illustrative of how the agency can (and occasionally does) reach reproductive health hazards under the FWPCA.

EPA is required under the Act to issue technology-based effluent guidelines and limitations for water pollutants. EPA must establish effluent guidelines and limitations for conventional pollutants, and special requirements governing toxic pollutants and certain other discharges. "

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21. 42 U.S.C. § 300.

22. 42 U.S.C. § 300.

23. 49 Fed. Reg. 24,329 (1984).

24. *Id.* at 24,340.

25. *Id.* at 24,341.

26. *Id.*

27. *Id.* at 24,342.

28. *Id.*

29. *Id.* at 23,343.

30. *Id.*

31. 33 U.S.C. §§ 1251-1376 (1982).

In regulating toxic pollutants, EPA is required to take into account:

the toxicity of the pollutant, its persistence, degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms<sup>32</sup> and the nature and extent of the toxic pollutant on such organisms....

Not infrequently, EPA does consider reproductive health hazards in regulating toxic pollutants under the FWPCA. For example, in denying an industry petition to remove certain substances from EPA's toxic pollutant list<sup>33</sup> EPA specifically cited data on the potential reproductive effects of such chemicals.<sup>34</sup> Thus, even in the absence of statutory language on reproductive health hazards, a number of provisions in the FWPCA can readily be interpreted to authorize EPA control of such risks.

#### THE CLEAN AIR ACT<sup>34</sup>

Congress passed the Clean Air Act in 1977 with the intent of protecting and enhancing "the quality of the nation's air resources so<sup>35</sup> to promote the public health and welfare and the productive capacity of its population." Although the act does not explicitly provide for control of reproductive hazards, its broad mandate to protect public health and welfare can also be construed as protection against such hazards.

#### Section 109: The National Ambient Air Quality Standards<sup>36</sup>

Section 109 directs the Administrator to prescribe national ambient air quality standards (NAAQS) for each of the designated criteria pollutants. The legislative history of the Clean Air Act does not reveal any specific Congressional intent to control reproductive hazards in particular. However, there does not appear to be any limitation on the use of this provision for setting NAAQS to protect reproductive health because of the section's broad language respecting the protection of public health and welfare. Nevertheless, it is most unlikely that a worker could rely on EPA's ability to set NAAQS for governing workplace exposures since it is very clear from the Act itself that it was intended to prevent health risks from outdoor "ambient" exposures of chemicals.

One aspect of the development of the NAAQS may be important to workers who suspect that they have been exposed to a reproductive hazard, however. The criteria documents assembled and periodically revised by EPA, and subject to extensive peer review within EPA and by its Clean Air Scientific Committee, consider occupational exposures to the criteria pollutants as one indicator of what the NAAQS should be. They also bring together and assess and compare in vivo and in *vitro* toxicological studies which may include multi-generational mutagenicity studies and others affecting target reproductive organs. This information may be of help in establishing legal causation in actions to recover compensation for injury or to enjoin certain types of occupational exposure. The main limitation, however, is that these documents are only available for the criteria pollutants: 1) ozone/oxidants, 2) sulfur dioxide, 3) nitrogen oxides, 4) total suspended particulate, 5) carbon monoxide, and 6) lead. A standard for short-term exposures to NO<sub>x</sub> is currently being developed within EPA which treats reproductive

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32. 33 U.S.C. § 1011.

33. 46 Fed. Reg. 2265, 2271, 2278 (1981) (the substances were ethylbenzene, dichlorophenol, 2,4,5 trichlorophenol, and pentachlorophenol (phenol)).

34. Pub. L. No. 91-604, 85 Stat. 1676 (codified at 42 U.S.C. §§ 7401-7642 (1981)).

35. 42 U.S.C. § 7401(b)(1) (1982).

36. 42 U.S.C. § 7409 (1982).

hazards from exposure to the compound. That standard probably will not be proposed in the near future. In addition, the lead criteria document that is presently being revised addresses many reproductive characteristics of lead transfer to the fetus and infant.

#### Section 112: NESHAPS<sup>37</sup>

Under § 112, particularly dangerous air pollutants are subject to more rigorous regulatory requirements than are the conventional "criteria" pollutants. Congress intended § 112 to allow stringent, uniform and relatively quick federal regulation of substances that pose risks of particularly serious illness at relatively low concentrations in the ambient air through the establishment of national emission standards for hazardous air pollutants (NESHAPS). The Act defines a hazardous air pollutant as a substance which, in the judgment of the Administrator, 'causes, or contributes to, air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in a serious irreversible or incapacitating reversible illness."<sup>38</sup>

Because this section deals more explicitly with hazards to human health than other sections of the Clean Air Act and because it was designed to respond to trace amounts of air pollutants, NESHAPS are more likely to be used to regulate any noncriteria air pollutants that are considered to be reproductive hazards. The legislative history of the Clean Air Act amendments shows that Congress was cognizant of the effects of at least four substances on reproduction, and it singled out the occupational reproductive hazards of vinyl chloride in its discussion of this section.

#### Sections 202 to 211: Mobile Sources<sup>39</sup>

Section 202 directs the Administrator to establish standards for motor vehicle emissions 'which in misjudgment cause or contribute to, air pollution which may reasonably be anticipated to endanger public health and welfare.<sup>40</sup> This section does nonspecifically govern reproductive hazards but neither are there any limitations placed on the definition of the meaning of endangerment of public health and welfare. However, pursuant to these sections EPA proposed a ban on lead in gasoline, in part based on studies demonstrating the fetal toxicity of lead, and is considering regulatory action on benzene, another potential reproductive hazard to which workers are exposed in relatively high concentrations. The health assessment documents prepared by EPA on these actions may provide information on hazards to these chemicals.

#### Section 303: Imminent Hazard Authority<sup>41</sup>

This section empowers the Administrator to take civil action against a source or combination of sources that is imminently and substantially endangering human health the appropriate State or local authorities have not taken action. empowers the Administrator to issue an order against the alleged offender if it is not practicable to assure prompt protection of the health of persons solely by commencement of such a civil action.<sup>43</sup> Presumably, this authority could extend to the emergency control of an outdoor air pollutant that is allegedly causing reproductive hazards, although Congress did not specifically address the issue in the legislative history.

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37. 42 U.S.C. § 7412 (1982).

38. 42 U.S.C. § 7412(a)(1) (1982).

39. 42 U.S.C. §§ 7521, 7545.

40. 42 U.S.C. § 7521(a)(1).

41. 42 U.S.C. § 7603.

42. 42 U.S.C. § 7603(a).

43. Id.