3004(m), is that dilution does not reduce or destroy hazardous constituents, and thus does not prevent those constituents from entering the environment. Id. at 22, 24, 29–30; see also id. at 23 n. 8 stressing the court's holding that total mass loadings of pollutants "entering the environment" must be reduced in order to comply with section 3004(m).

Moreover, the court distinguished a number of times between temporary placement of diluted wastes in impoundments for treatment and permanent disposal in land disposal units, stating that only the temporary placement represents a satisfactory accommodation between RCRA and the CWA. Id. at 24, 25. To the extent hazardous constituents leak or volatilize from impoundments, it can be argued that permanent disposal of untreated hazardous constituents is occurring.

The schedule for issuing the LDŘ Phase III and IV rules are both subject to settlement agreement, and, according to the schedule established by these settlement agreements, will be proposed only six months apart. Therefore, industry will be able to evaluate the LDR Phase III proposed end-of-pipe equivalency requirements while keeping in mind the upcoming LDR Phase IV rule which must consider sludges, leaks, and air emissions from treatment surface impoundments. The Agency has not yet decided how to pursue the potential equivalency issues related to sludges, leaks, or air emissions; however, the Agency is taking this opportunity to discuss the issues and potential options in these three areas. Furthermore, the Agency solicits data characterizing sludges, leaks, and air emissions from surface impoundments,

a. Sludges. Characteristic wastewaters managed in CWA and CWA-equivalent impoundment-based systems invariably are treated to generate a sludge. Under EPA's existing interpretations of the rules, such sludges are usually considered to be prohibited wastes only if they are themselves hazardous. 55 FR at 22661. This is because generation of a new treatability group is considered to be a new point of generation for purposes of determining where LDR prohibitions attach. The Agency has not determined whether the court decision could or should be read to invalidate this interpretation (although the Agency adopted a "waste code carry through" approach for the characteristic wastes addressed in the emergency interim final rule). This will be an issue that must be resolved in the LDR Phase IV rule.

In addressing this issue, it should be noted that the LDR treatment standards

for nonwastewaters and wastewaters are by now well established. There are 521 hazardous waste codes subject to LDR technology-based treatment standards. In instances where analytical methods are available, these hazardous wastes are subject to UTS that were promulgated in the LDR Phase II final rule (UTS are, however, based on treatment standards that have been in effect, in some cases, since 1986 and thus are well established). While no decision has been made on whether to regulate these sludges, if the Agency decides to control sludges from CWA and CWA-equivalent surface impoundments, the treatment standards (UTS levels) are already in place.

EPA believes that the likely impact of such an approach would be mixed-that is, some facilities will continue to use surface impoundments and remove and treat the sludge, if necessary, while others will move away from the use of surface impoundments. For example, aggressive biological treatment, such as that typically used by the petroleum refining industry, may achieve UTS levels as generated. Sludges from primary treatment in surface impoundments are more likely to exceed UTS levels. If the Agency decides to control sludges, such an approach may impose significant costs on the facility. Subjecting sludges to UTS may encourage pollution prevention and recycling alternatives to be used prior to placement of wastes in the impoundment, so that sludge treatment standards are not triggered. Comments are solicited on these issues.

b. Leaking Surface Impoundments. While hazardous wastes entering surface impoundments constitute temporary land disposal (because they are being placed there for treatment), leaks from such impoundments constitute permanent land disposal. Such permanent land disposal was clearly a concern of the court. 976 F. 2d at 25–6.

The Agency is considering the following additional controls if the decision is made to address leaking surface impoundments:

EPA already has UTS limits that could be applied to the influent into the surface impoundment when it is determined that it leaks underlying hazardous constituents at levels above UTS. Applying UTS to the influent would assure that only wastes that have been treated in a manner equivalent to RCRA treatment are land disposed.

EPA is also considering applying some of the subtitle D municipal solid waste landfill criteria to address leaking surface impoundments (Municipal Landfill Rule (56 FR 50978, October 9, 1991). The impacts of such an approach on aggressive biological surface impoundments may not be significant. On the other hand, facilities with leaking impoundments engaged in primary treatment could have to perform some type of action such as retrofitting, remediating groundwater, or switching to tank treatment.

A third option being considered is using triggering controls based on the potential risk of any leak. The Agency could require as a performance standard that owners demonstrate that the expected leaks would pose a low level of risk to nearby receptors. Facilities would have the flexibility to change the influent, install engineering controls, or limit potential exposure in order to comply with this performance standard.

c. Air Emissions. Achieving wastewater or nonwastewater standards by merely transferring hazardous constituents to the air may be inconsistent with the court opinion in that excessive, uncontrolled volatilization could be viewed as unequivalent treatment, or unsafe treatment conditions. For example, treatment of volatile organic compounds in surface impoundments may achieve compliance with a wastewater treatment standard by simply transferring pollutants to the air.

If EPA should determine that the court's opinion should be read to require control of excessive volatilization from impoundments to demonstrate equivalent treatment, one option is deferral to CAA NESHAP standards, such as the Benzene Waste Operations NESHAPs and the HON. The Benzene NESHAPs were promulgated on January 17, 1993, and the HON was promulgated on April 22, 1994 (59 FR 19402). The Agency will explore further whether the CAA standards for hazardous air pollutants provide equivalent protection or control of the hazardous constituents of concern.

Another option is extend the applicability of existing air emission controls in RCRA—the recently promulgated RCRA Air Emission Standards (59 FR 62585 (Dec. 6, 1994)). The RCRA Air Emission Standards are self-implementing and are applicable to 90-day units at hazardous waste generator sites. These standards do not apply to surface impoundments which receive waste that was hazardous at the point of generation but was "decharacterized" (i.e., rendered

nonhazardous) before being placed in the surface impoundment.

The approach EPA is considering in the second option is a "target mass removal", which would ensure that hazardous constituents are effectively