removed or destroyed and that standards are not achieved through dilution or air emissions. A key to this approach is that all waste streams commingled with the hazardous waste streams are accounted for, and calculations are made to ensure that dilution is not credited toward achieving the standard. The target mass removal approach is to identify a hazardous waste at its point of generation and determine the mass of hazardous constituents that must be removed to meet UTS. The mass of constituents removed can be calculated by comparing a post-treatment waste determination to the point of generation waste determination. An alternative is to calculate the percent reduction of hazardous constituents that is required to meet the standard, and ensure that associated treatment devices operate at that level of efficiency. Application of this approach could also address the issue of nonamenable waste discussed in Section VI of this preamble. Comments are solicited on the application of this approach.

The likely impacts of establishing air emission requirements are that facilities will pursue pollution prevention, recycling, steam stripping or other treatment to remove volatile organics prior to treatment in surface impoundments. Under this approach, hazardous constituents would either need to be removed prior to entering the surface impoundment, or the impoundment would have to be retrofitted in a way that prevents escape of air emissions.

Comments and data are solicited on options for addressing these three areas of potential cross media transfer from wastewater treatment surface impoundments. Comments and data are also solicited on potential costs and human health benefits.

## B. The Hazardous Waste Identification Rule (HWIR)

A recurring concern expressed by many commenters is the relationship between technology-based and riskbased RCRA limits. EPA has established technology-based limits for all LDR rules and will continue to do so in the LDR Phase III rule. The Agency is considering the establishment of riskbased levels, however, under the HWIR that is scheduled to be proposed in the fall of 1995.

The integration of the two approaches could impact how facilities comply with all LDR treatment standards. For example, if the HWIR risk-based limits are determined to minimize threats to human health and the environment, when they are higher than the LDR standards (less stringent), they will satisfy RCRA section 3004(m) and the waste would not have to be treated to meet the LDR technology-based limits. HWTC III, 886 F. 2d at 362. Integration of the LDR and HWIR will be further addressed in the HWIR rulemaking process.

## *C. Water Rules—the Pulp and Paper and Pharmaceutical Industries Rules*

The LDR Phase III end-of-pipe RCRA wastewater treatment standards (i.e., the standards which will satisfy the end-ofpipe equivalence standard enunciated by the court) being proposed today will be applied at the same location that CWA effluent limitation guidelines and pretreatment standards are currently applied. EPA is currently amending effluent limitation guidelines and standards for two industries that use surface impoundments extensively: the pulp and paper and the pharmaceutical industries. Both of these rules are considering in-process limitations of the highly-volatile constituents.

The combined CWA and CAA Pulp and Paper rule was proposed on December 17, 1993 (58 FR 66077). The Pharmaceutical Industry effluent guidelines are scheduled to be proposed by February 1995. One key issue, with respect to both of these industry categories, is the timing of these amended effluent guidelines and standards in relation to promulgation of LDR Phase III standards. EPA believes that these amended guidelines and standards should establish end-of-pipe equivalence. However, these amended rules may not be promulgated or effective until after this LDR Phase III rule takes effect. For reasons discussed later in today's preamble, however, EPA is proposing to wait until the amended rules for these industrial categories take effect before establishing end-of-pipe equivalence standards for these industries.

## **IV. End-of-Pipe Treatment Standards**

A. EPA's General Approach to Setting Treatment Standards and Its Relation to the End-of-Pipe Standards Proposed Today

In the recently-promulgated LDR Phase II rule, EPA significantly simplified the existing treatment standards by adopting Universal Treatment Standards (UTS). 59 FR 47982 (September 19, 1994). These standards apply the same concentration limit for the same constituent in all prohibited wastes. The Agency believes these standards are typically achievable for all prohibited wastes, and greatly improve the implementation of the LDR program by reducing the numbers of different treatment standards from thousands to essentially one per constituent.

That being said, however, the Agency is nevertheless proposing today that UTS not apply to hazardous constituents in decharacterized wastewaters discharged by CWA facilities subject to the rule so long as the facility is subject to an appropriate CWA technology-based or water qualitybased standard or limitation for that hazardous constituent. As explained more fully in section B below, the Agency believes that such CWA limitations and standards satisfy RCRA section 3004(m) requirements and therefore that the best means of integrating RCRA and CWA requirements is to have the CWA limitation or standard be the RCRA treatment standard as well. This choice by the Agency, should it be finalized, should not be viewed as any retreat from general applicability of UTS. Indeed, as proposed elsewhere in this preamble, EPA is proposing to apply UTS to various newly identified and listed wastes, as well as to prohibited decharacterized wastes injected into Class I nonhazardous injection wells.

## *B. End-of-Pipe Treatment Standards for Clean Water Act and Equivalent Wastewater Treatment Systems*

As discussed before, EPA must impose treatment standards on wastes that heretofore have not been subject to RCRA regulation. Both RCRA and CWA programs require treatment notification, monitoring, and enforcement; however, they do so using different procedures. This rule proposes an approach, discussed in the following subsections, that integrates requirements under both statutes to the maximum extent possible.

The nonhazardous waste surface impoundments in CWA and CWAequivalent systems currently have no RCRA permit. For CWA systems, the discharge into navigable waters are subject to a NPDES permit, while discharges to POTWs are subject to pretreatment standards. EPA is today proposing to require that the treatment standard be met at the same point that the NPDES and pretreatment limits are required to be met: Generally, at end-ofpipe. CWA-equivalent systems may be subject to state or local permits, and would be subject to the treatment standards before final discharge to the land.