solicits comment on proposing aggressive biological treatment as BDAT for these wastes. However, because monitoring is required under CWA permits, EPA is also soliciting comment on whether a reduction in the number of constituents monitored is significant. The data which API submitted demonstrate that aggressive biological treatment in the industry may consistently meet UTS. There was one observation, however, for which a constituent exceeded UTS, and other observations which involved detection limits which exceeded UTS. This data is available in the docket for today's rule.

B. Dilution Prohibition

Under the existing LDR dilution prohibition (40 CFR 268.3), burning inorganic metal-bearing hazardous wastes can be a form of impermissible dilution. On May 27, 1994, the Assistant Administrator for the Office of Solid Waste and Emergency Response issued a Statement of Policy which clarified this point (59 FR 27546–7). Today the Agency is proposing to codify and quantify these principles.

1. Dilution Prohibited as a Method of Treatment

Under RCRA, the LDR prohibition on dilution states generally that no person "shall in any way dilute a restricted waste * * * as a substitute for adequate treatment to achieve compliance with (a treatment standard for that waste)". 40 CFR 268.3(a). This prohibition implements the requirement of section 3004(m) of RCRA, which requires that hazardous constituents in hazardous wastes be destroyed, removed or immobilized before these wastes can be land disposed. Hazardous constituents are not destroyed, removed or immobilized if they are diluted. CWM v. EPA, 976 F.2d at 16, 17, 19-20; see also S. Rep. No. 298, 98th Cong. 1st Sess. 17 (1983) ("the dilution of wastes by the addition of other hazardous waste or any other materials during waste handling, transportation, treatment or storage is not an acceptable method of treatment to reduce the concentration of hazardous constituents'').

Consistent with these authorities, the Agency has stated that the dilution prohibition serves one chief purpose— "to ensure that prohibited wastes ¹⁴ are treated by methods that are appropriate for that type of waste." (55 FR 22532, June 1, 1990). Impermissible dilution can occur under a number of circumstances. The most obvious is

when solid wastes are added to a prohibited waste to reduce concentrations but not volumes of hazardous constituents, or to mask their presence. Impermissible dilution also may occur when wastes not amenable to treatment by a certain method (i.e., treated very ineffectively by that treatment method) are nevertheless 'treated' by that method (55 FR 22666, June 1, 1990) (biological treatment does not effectively remove toxic metals from wastes; therefore, prohibited wastes with treatment standards for metals ordinarily would be impermissibly diluted if managed in biological treatment systems providing no separate treatment for the metals). See also 52 FR at 25778-79 (July 8, 1987) (impoundments which primarily evaporate hazardous constituents do not qualify as section 3005(j)(11) impoundments which may receive otherwise-prohibited hazardous wastes that have not met the treatment standard).

This proposed rule gives a general distinction between "adequate treatment" and potential violations of the dilution prohibition. The Agency has evaluated the listed wastes and has determined that 43 of the RCRA listed wastes (as set forth in 40 CFR 261) typically appear to be such inorganic hazardous wastes; i.e., they typically do not contain organics, or contain only insignificant amounts of organics, and are not regulated for organics 15. BDAT for these inorganic, metal-bearing listed wastes is metal recovery or stabilization. Thus, impermissible dilution may result when these wastes are combusted

This proposed rule reflects the Agency's concerns about the hazard presented by toxic metals in the environment. When an inorganic metalbearing hazardous waste with insignificant organics is placed in a combustion unit, legitimate treatment for purposes of LDR ordinarily is not occurring. No treatment of the inorganic component occurs during combustion, and therefore, metals are not destroyed, removed, or immobilized. Since there are no significant concentrations of organic compounds in inorganic metalbearing hazardous wastes, it cannot be maintained that the waste is being properly or effectively treated via combustion (i.e., thermally treated or destroyed, removed, or immobilized).

In terms of the dilution prohibition, if combustion is allowed as a method to achieve a treatment standard for these

wastes, metals in these wastes will be dispersed to the ambient air and will be diluted by being mixed in with combustion ash from other waste streams. Adequate treatment (stabilization or metal recovery to meet LDR treatment standards) has not been performed and dilution has occurred. It is also inappropriate to regard eventual stabilizing of such combustion ash as providing adequate treatment for purposes of the LDRs. Simply meeting the numerical BDAT standards for the ash fails to account for metals in the original waste stream that were emitted to the air and for reductions achieved by dilution with other materials in the ash. (In most cases, of course, the metalbearing wastes will have been mixed with other wastes before combustion, which mixing itself could be viewed as impermissible dilution).

These inorganic, metal-bearing hazardous wastes should be and are usually treated by metal recovery or stabilization technologies. These technologies remove hazardous constituents through recovery in products, or immobilize them, and are therefore permissible BDAT treatment methods.

There are eight characteristic metal wastes; however, only wastes that exhibit the TC as measured by both the TCLP and the EP for D004-D011 are presently prohibited (see 55 FR 22660-02, June 1, 1990). Characteristic wastes, of course, cannot be generically characterized as easily as listed wastes because they can be generated from many different types of processes. For example, although some characteristic metal wastes do not contain organics or cyanide or contain only insignificant amounts, others may have organics or cyanide present which justify combustion, such as a used oil exhibiting the TC characteristic for a metal. Thus, it is difficult to say which D004-D011 wastes would be impermissibly diluted when combusted, beyond stating that as a general matter, impermissible dilution would occur if the D004-D011 waste does not have significant organic or cyanide content but is nevertheless combusted.

2. Permissible Dilution

EPA ordinarily would not consider the following hazardous wastes to contain "significant organic or cyanide content", for which combustion would otherwise be impermissible dilution (the Agency is adding criteria beyond that included in the May 27, 1994 policy memorandum to clarify situations raised in comments received). Combustion of the following inorganic metal-bearing wastes is therefore not

¹⁴A "prohibited" hazardous waste is one which is actually subject to a prohibition on land disposal without first being treated, or disposed in a nomigration unit. See 54 FR 36968 (Sept. 6, 1989).

¹⁵ To the extent that these wastes or residues of these wastes (i.e., biological treatment sludges) contain significant organic content, combustion may be an appropriate treatment technology. See later discussion regarding this point.