prohibited under the LDR dilution prohibition: (1) Wastes that, at the point of generation, or after any bona fide treatment such as cyanide destruction prior to combustion, contain hazardous organic constituents or cyanide at levels exceeding the constituent-specific treatment standard for UTS; (2) organic, debris-like materials (e.g., wood, paper, plastic, or cloth) contaminated with an inorganic metal-bearing hazardous waste; (3) wastes that, at point of generation, have reasonable heating value such as greater than or equal to 5000 Btu/lb (see 48 FR 11157, March 16, 1983); (4) wastes co-generated with wastes that specify combustion as a required method of treatment; (5) wastes, including soil, subject to Federal and/or State requirements necessitating reduction of organics (including biological agents); and (6) wastes with greater than 1% Total Organic Carbon (TOC). An "inorganic metal-bearing waste" is one for which EPA has established treatment standards for metal hazardous constituents, and which does not otherwise contain significant organic or cyanide content. (See 40 CFR Appendix XI proposed in today's rule for a list of waste codes which EPA tentatively believes satisfies this definition.) The foregoing six categories of waste typically would contain sufficient organic content to indicate that combustion can be a reasonable means of treating the wastes prior to land disposal. EPA solicits comments on whether there are other inorganic wastes that would technically justify combustion as a means of complying with BDAT. For example, are there metal bearing organic wastes or complexing agents not covered by the above criteria that prevent effective stabilization of metals due to the presence of unregulated organics? However, as noted above, mixing practices such as fuel blending to add organics to inorganic metal-bearing hazardous wastes ordinarily would be considered to be impermissible dilution. This is because, under current rules, the dilution prohibition applies at the point a hazardous waste is generated. CWM v. EPA 976 F.2d at 22-3; see also 48 FR 11158, 11159 and nn. 2 and 4 (March 16, 1983); 53 FR at 522 (Jan. 8, 1988) determinations of legitimacy of recycling are made on a waste-by-waste basis before any blending occurs.

The Agency is aware of a practice within the foundry industry that recycles foundry sand by thermally oxidizing impurities. It is EPA's view that this process would violate the policy against combustion of inorganics, unless the foundry sand being oxidized contains toxic organic constituents or has a significant organic component (as described above).

## 3. Cyanide-Bearing Wastes and Combustion

A commenter questioned why EPA allows the presence of cyanide to justify combustion when there are adequate alternative treatment methods. This approach was adopted because cyanide is destroyed by combustion. Existing LDR rules, in many cases, identify combustion as an appropriate BDAT for destruction of cyanide-bearing wastes. The May 27, 1994 policy statement did not change BDAT determinations and thus reflected that combustion could be appropriate for destroying certain cyanide-bearing wastes. EPA, however, solicits comments on whether the cyanide criterion should be dropped.

While cyanide is effectively treated in combustion devices, EPA has received comments that non-combustion technologies such as alkaline chlorination are available to effectively treat metal bearing wastes that contain cyanide and that BDAT for these wastes should not include combustion. EPA solicits comments on the relative effectiveness and risks of combustion versus alkaline chlorination in treating cyanides in inorganic metal bearing wastes.

4. Table of Inorganic Metal Bearing Wastes

The table being proposed in 40 CFR part 268, Appendix XI today indicates the list of waste codes for which EPA regulates only metals and/or cyanides that would be affected by this proposed rule. Except for P122, this list is identical to the list originally published in the aforementioned Policy Statement on this subject. The Agency is removing P122 (Zinc Phosphide greater than 10%) from the list of restricted inorganic metal-bearing wastes, because the Agency has previously promulgated a treatment standard of INCIN for the nonwastewater forms of this waste. See 40 CFR 268.40. The policy memo was in error on this point. The Agency solicits comment on this issue, particularly with respect to costs associated with the segregation of these wastes.

5. The Addition of Iron Dust To Stabilize Characteristic Hazardous Wastes: Potential Classification as Impermissible Dilution

The Agency has become aware that certain industries may be adding iron dust or iron filings to some characteristic hazardous wastes as a form of treatment. For example, foundries are known to mix iron dust or filing with the D008 waste sand generated from their spent casting molds, viewing this practice as a form of stabilization. The Agency believes, however, that such stabilization is inadequate to minimize the threats posed by land disposal of metalcontaining hazardous wastes, and is today proposing to clarify that this waste management practice is "impermissible dilution" under 40 CFR 268.3, for reasons discussed below.

In particular, when iron dust or filings are added to a characteristic waste foundry sand, it is considered "treatment" under the definition in 40 CFR 260.10. Nevertheless, the Agency does not believe it to be adequate treatment; rather, it is merely the addition of material as a substitute for adequate treatment, and thus constitutes impermissible dilution. See § 268.3(b), 54 FR at 48494 (Nov. 1989), and 55 FR at 22532 (June 1, 1990). The Agency believes it is unlikely that any chemical reactions are taking place when iron dust or iron filings are added, because the waste foundry sand would likely contain only lead, silica, microscopic pieces of castings, and binders (clays, phenols, and tars) from the molds. The Agency does not believe that simply adding iron would provide treatment for either the lead or the organics (i.e., phenol and tar).

While it is arguable that iron could form temporary, weak, ionic complexes with silica and/or phenate, so that when analyzed by the TCLP test the lead appears to have been stabilized, the Agency believes that this "stabilization" is temporary, based upon the nature of the complexing. In fact, a report prepared by EPA on Iron Chemistry in Lead Contaminated Materials (Feb. 22, 1994), which specifically addressed this issue, found that iron lead bonds are weak, adsorptive surface bonds, and therefore not likely to be permanent. Furthermore, as this iron-rich mixture is exposed to moisture and oxidative conditions over time, interstitial water would likely acidify, which could potentially reverse any temporary stabilization, as well as increase the leachability of the lead from the foundry sand. Therefore, the addition of iron dust or filings to characteristic waste foundry sand does not appear to provide long-term treatment.

Another related concern is that the addition of iron has been demonstrated to result in false negatives for lead when wastes are analyzed by means of the