achievable effluent reductions for unmixed wastes.

B. Waste Treatment Processes

As the Agency learned from data and information collected as a result of the 1991 Waste Treatment Industry Questionnaire, CWTs accept many types of hazardous and non-hazardous industrial waste for treatment in liquid or solid form. In 1989, approximately 1.1 billion gallons of industrial waste were accepted for treatment of which 53 percent were hazardous and 47 percent were non-hazardous.

1. Metal-Bearing Waste Treatment or Recovery

In 1989, 709 million gallons of metalbearing wastes were accepted for treatment by 56 facilities. This metalbearing waste comprised the largest portion of the waste treated by the Centralized Waste Treatment Industry. The typical treatment process used for metal-bearing wastes was precipitation with lime or caustic followed by filtration. The sludge generated was then landfilled in a RCRA Subtitle C or D landfill depending upon its content. A small fraction of facilities recovered metals from the waste using selective metals precipitation or electrolytic metals recovery processes. Most facilities that recovered metals did not generate a sludge that required disposal, instead, the sludges were sold for the metal content.

2. Oily Waste Treatment or Recovery

Approximately 223 million gallons of oily waste were accepted for treatment by 35 facilities in 1989. A wide range of oily wastes were accepted for treatment and the on-site treatment scheme was determined by the type of oily waste accepted. The oily waste accepted for treatment could typically be classified as either: (1) stable oil-water emulsions, such as coolants and lubricants; or (2) unstable oil-water emulsions, such as bilge water. Stable oil-water emulsions are more difficult to treat because the droplets of the dispersed phase are so small that separation of the oil and water phases by settling would occur very slowly or not at all and required a chemical process to break the emulsion to adequately treat the waste. From the data collected in the 1991 Waste Treatment Industry Questionnaire, chemical emulsion breaking processes were the most widely-used treatment technology at the 29 oil recovery facilities, and, therefore, EPA believes that these facilities primarily accept for treatment stable oil-water emulsions. The wastewater effluent resulting from the emulsion-breaking process was

typically mixed with wastewater from other CWT subcategories or stormwater for further treatment prior to discharge. Six facilities did not operate oil recovery processes and used only dissolved air flotation (DAF), a technique used to separate oil and suspended solids from water by skimming, to treat the oily waste receipts. Consequently, EPA concluded that these facilities were receiving for treatment less stable oil-water emulsions that were amenable to gravity separation or dissolved air flotation, and did not require chemical emulsion breaking treatment processes. EPA's sampling program focused on facilities that treated the more concentrated and more difficult to treat stable oil-water emulsions as reported by waste manifest forms and facility records. In August 1994, EPA conducted additional sampling at an oily waste treatment facility to further characterize the types of oils accepted for treatment and the technologies used. The data has not been reviewed at the time of this proposal, but the data is included in the rulemaking record and will be evaluated prior to promulgation. EPA solicits comments with detailed information and data on the concentrations of pollutants and type of oily wastes accepted for treatment by these facilities so that EPA can develop a more thorough understanding of the facility operations. Any new information used to establish the basis for the final regulation will be made available for public comment.

3. Organic Waste Treatment or Recovery

In 1989, 22 facilities accepted 147 million gallons of organic wastewater for treatment. Most facilities with treatment on-site used some form of biological treatment to handle the wastewater. Most of the facilities in the Organics Subcategory have other industrial operations as well, and the CWT wastes are mixed with these wastewater prior to treatment. The relatively constant on-site wastewater can support the operation of conventional, continuous biological treatment processes, which otherwise could be upset by the variability of the off-site waste receipts.

IV. Summary of EPA Activities and Data Gathering Efforts

A. EPA's Initial Efforts to Develop a Guideline for the Waste Treatment Industry

In 1986, the Agency initiated a study of waste treatment facilities which receive waste from off-site for treatment, recovery, or disposal. The Agency looked at various segments of the waste management industry including centralized waste treatment facilities, landfills, incinerators, fuel blending operations, and waste solidification/stabilization processes (Preliminary Data Summary for the Hazardous Waste Treatment Industry, EPA 1989). EPA conducted a separate study of the Solvent Recycling Industry (Preliminary Data Summary for the Solvent Recycling Industry, EPA 1989).

Development of effluent limitations guidelines and standards for this industry began in 1989. EPA originally studied centralized waste treatment facilities, fuel blending operations and waste solidification/stabilization facilities. EPA has decided not to propose nationally applicable effluent limitations guidelines and standards for fuel blending and stabilization operations because, even though these operations are integral to a facility's waste management practices, wastewater generation and disposal practices are not similar to the operations of centralized waste treatment operations. Most fuel blending and stabilization processes are "dry," i.e., they generate no wastewater. Therefore, EPA decided to limit this phase of the proposed rulemaking to the development of regulations for the Centralized Waste Treatment Industry.

B. Wastewater Sampling Program

In the sampling program for the Hazardous Waste Treatment Industry Study, twelve facilities were sampled to characterize the wastes received and the on-site treatment technology performance at incinerators, landfills, and hazardous waste treatment facilities. Since all of the facilities samples had more than one on-site operation, the data collected can not be used for this project because data were collected for mixed waste streams and the waste characteristics and treatment technology performance for the hazardous waste treatment facilities cannot be differentiated.

Between 1989 and 1993, EPA visited 26 of the 85 centralized waste treatment facilities. During each visit, EPA gathered information on waste receipts, waste and wastewater treatment, and disposal practices. Based on these data and the responses to the 1991 Waste Treatment Industry Questionnaire, EPA selected eight of the 26 facilities for the wastewater sampling program in order to collect data to characterize discharges and the performance of their treatment system. Using data supplied by the facilities, EPA applied four criteria in initially choosing which facilities to sample. The criteria were as follows: