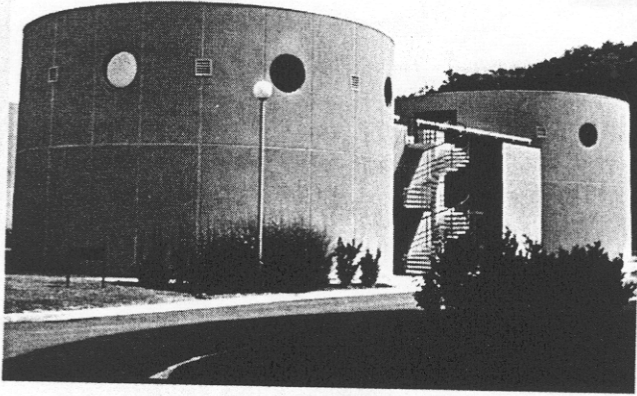


## No shock to the system



Shock loadings of industrial effluent can no longer reach Cergy Pontoise treatment works, 25km north-west of Paris, thanks to an automatic monitoring system which ensures that effluent is diverted before it reaches the works.

The works, built by OTV and the Societe Francaise de Distribution d'Eau, serves the town of Neuville sur Oise. Cergy Pontoise is OTV's show plant for its BiostYr treatment system - a downflow biological filter with a medium of polystyrene balls.

The plant treats a 200,000 m<sup>3</sup> per day with output standards of 20mg/litre for BOD, 30mg/litre for

suspended solids and 90mg/litre for COD. The site is unusual because, for odour control, the plant is completely covered and designed so that air is drawn into it.

About 25% of the flow arriving at the plant comes from the industrial zone of Saint-ouen l'Aumone. Unexpected industrial discharges can shock the treatment plant, so a rapid monitoring system was seen as the key to protecting it. There had been an incident prior to installation of the monitoring plant. This saw a fuel oil or hydrocarbon enter the system, probably as a result of a spill. 81 Other potential contaminants include cadmium, phenols and solvents.

Effluent from the industrial zone takes 45 minutes to reach the treatment works. A monitoring system has been installed just downstream of the industrial zone to measure conductivity, pH and respiration. If flow is found to be potentially toxic it is diverted to a 100m<sup>3</sup> tank. Toxic material is then either oxygenated and released slowly into the system or transported away for treatment elsewhere.

The monitoring system was designed by Compagnie Generale des Eaux's research centre, Anjou Recherche. Anjou Recherche is acting as technical consultant to SADE, constructor of the FFr3.3M diversion system.

At the heart of the monitor is an analyser that can determine the likely effect of the effluent on the respirometry of the biological treatment system in three minutes. The continuous short-time BOD M3 measurement system comes from STIP Siepman und Teutscher of Germany.

The wastewater is inoculated with highly active microorganisms cultured in the analyser. Oxygen consumption is subsequently monitored.