

ELECTRON BEAM PURIFICATION OF WASTEWATER (BRA/8/025) F1 New

CORE FINANCING

YEAR	Experts		Equipment	Fellowships		Scientific Visits		Training	Sub-contracts	Misc. Comp.	Total US \$
	m/d	US \$	US \$	m/d	US \$	m/d	US \$	US \$	US \$	US \$	
1995	1/0	11,400	10,000	4/0	13,200	-	-	-	-	-	34,600
1996	2/0	24,000	82,000	2/0	6,900	-	-	-	-	-	112,900

First Year Approved: 95

OBJECTIVES: To study the effectiveness of the electron beam technique for purifying wastewater and to determine whether the establishment of large scale plants is justified.

BACKGROUND: The Institute for Nuclear Energy and Research (IPEN) has set up a basic pilot plant to study the efficiency of the electron beam (EB) technique in removing and degrading pollutants from wastewater. IPEN has been collaborating closely with the Sanitation Company of the State of Sao Paulo (SABESP), which is conducting a programme to decontaminate the main rivers and water reservoirs close to industrial areas and is, therefore, interested in exploring the effectiveness of this technique. The Hydrology Department of the University of Sao

Paulo has also been participating in the studies. The Government requested Agency assistance to complete the pilot plant and conduct comprehensive studies on the efficiency of removing and degrading toxic and refractory pollutants, mainly of industrial origin, in waste and drinking water. IPEN will conduct the studies on radiation parameters and, together with SABESP and the University, evaluate the efficiency of the process.

NATIONAL COMMITMENT: The pilot plant at the EB facility; staff; equipment and supplies; operating costs.

AGENCY INPUT: Expert services and training in radiation chemistry and EB wastewater treatment; analytical and control equipment including a spectrophotometer.

IMPACT: If the technique is found to be effective and is introduced on an industrial scale, environmental and social benefits would result. There would also be economic gains since it is less expensive than the less efficient conventional systems.