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UASB TECHNOLOGY FOR SEWAGE TREATMENT IN INDIA: 20 YEARS EXPERIENCE

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Abstract

This paper presents an overview of 20 years experience of use of UASB (Upflow Anaerobic Sludge Blanket) technology for sewage treatment in India with special focus on YAP (Yamuna Action Plan). So far, more than 20 full-scale UASB sewage treatment plants (STP) treating about 1200 MLD (120,000m3/day) of sewage are in operation at various towns & cities and same numbers are in pipeline in next 4-5 years. Most of the plants have been built under funding from a national scheme of the Central Government of India through its nodal agency National Rivers Conservation Directorate (NRCD) to prevent pollution entering into the major rivers in India. Institutional framework was the key element in the implementation of these plans. Some of the plans like YAP received a soft loan from a foreign agency under which about 16 UASB plants were built. The performances of the UASB STPs in combination with some adequate post-treatment have been found satisfactorily. The performance results of few YAP UASB plants, design criteria of UASB reactors established over the years, construction modifications, operation & maintenance and other emerging issues are also summarized in this paper.

Keywords: sewage, anaerobic treatment, UASB reactors, operation and maintenance, low strength wastewater

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