



## UREA FERTILIZER FACTORY LIMITED

### Water and Energy Conservation in Water Distribution System

#### SUMMARY OF THE OPTION

Urea Fertilizer Factory Ltd (UFFL) is a government owned producer of ammonia and urea fertilizer in Bangladesh with an installed production capacity of 470,000 tons per year.

The following observations were made during the assessment of the plant:

- The water is collected from the nearby river at a rate of 1200 tons per hour and is being treated into various stages, i.e., primary treated water (sedimentation), treated water (after sedimentation), pure water (passed through 1<sup>st</sup> stage demineralization) and polished water (passed through 2<sup>nd</sup> stage demineralization).
- 20% of all water used at the plant is apparently being wasted or drained from different sections of the plant
- Leakages and water spillages were observed in several Hydrant points, taps, valves, fittings, etc in the water circuit
- There is a huge pipeline network for water distribution and since the plant is relatively old, it is only expected that there are lots of leaks/ pilferage in the water circuit

To stop this wastage, plant staff fixed many leaks in condensate and water lines and installed valves and fittings where this was possible without disrupting the production process. Investment costs could not be determined because repairs were done as part of the existing maintenance budget and using valves and fittings that were in stock. Despite higher production and (at time of writing) only a partial implementation of this option, water consumption of the plant has decreased from 29.99 t/t urea to 29.57 t/t urea. Therefore annual water savings are 159,600 tons, and electricity savings are 17 MWh. and chemical cost from water treatment. Total value of the savings was around US\$ 85,985 (Tk 5,159,070) from electricity and water reduction. Chemical use and costs from reduced water treatment were also reduced. Greenhouse gas emission reductions are 9 tCO<sub>2</sub> per year. Further repairs were planned for a major plant overhaul in the second half of 2005.

#### KEY WORDS

Chemicals, Bangladesh, Pumps and pumping systems, Fertilizer, Water distribution

#### FOR MORE INFORMATION

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