

REQUEST FOR CLARIFICATIONS CDigital
ATTABAD LAKE HYDROPOWER PROJECT (54 MW)

SN	Reference	Tender Specifications	Clarification Requested
4	Turbine Specifications - 1.1.15 (Site Efficiency Tests & Weighting) and Appendix-A, Table 8-6 – Guaranteed Weighted Average Efficiency	Appendix-A, Table 8-6: “Guaranteed Turbine weighted average efficiency shall be greater than 92.8%”, computed across the 100% / 80% / 60% / 40% turbine output points with weighting factors 0.59 / 0.20 / 0.12 / 0.09 (Clause 1.1.15).	For a low-output, medium-head Francis turbine, a guaranteed weighted-average efficiency above 92.8% is not available from qualified turbine manufacturers for this class; the best-efficiency-point efficiency already approaches the technological limit for this specific speed, and the weighted average is necessarily reduced by the inherently lower part-load (60% / 40%) efficiencies. For the Attabad Lake project (turbine output about 18.94 MW, rated net head 104 m, 375 rpm), we request to amend the guaranteed turbine weighted-average efficiency requirement to 92.15%, for a turbine that otherwise fully meets the guaranteed rated output, the minimum rated-point efficiency (Table 1-2) and all functional and technical requirements.