

## PROCESS CONTROLLERS OPTIMALITY CONTROL FOR PROCESS STEAM CONDENSATE IN POWER PLANT AND UTILITIES

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### ABSTRACT

The research presents process controller investigated for optimal function using process steam condensate stream of power plant and utilities of Port Harcourt refinery industrial data. Flow control institute [FCI] formula for sizing and design was applied for the studies for literature comparison. Various parameters control checks were mathematically verified for optimum in succession of 9-stepwise approach on the cavitation situation through subcritical gas streams flow to critical vapor flow; and is eventually a three-parameter-bound research of process controllers. The plots of the relationships in figures 1, 2, 5, 7 single-parameter plot and composite plots of figures 3, 4, 6, 8, 9, 10, 11, 12, 13 and 14 explicates better comparison of the parameters behaviors. From the studies the profiles shows good trends of optimality and hence, models simulations showed better performance in controllers in process streams plant operations.

**Keywords:** Process controller, flow control institute formula, Parameters control, process steam condensate, simulations.