LEVEL CONTROL SYSTEM DESIGN ON MONITORING OF OIL AND GAS WELL PRODUCTION USING PID CONTROLLER AT PT PERTAMINA EP REGION JAVA, FIELD SUBANG - TAMBUK

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Abstract

In monitoring the production of oil-gas wells, fluid from the well has been separated by monitoring facility known as multiphase flow meter (mpfm). Flow-rate of the wells are often changing so significantly affect the level of liquid in the horizontal pipe, it is necessary to control the level of planning in the liquid so that the process of monitoring the well production took place as required. Controlling liquid level in the tank liquid is done by manipulating the liquid flow rate, in order to obtain suitable liquid level 0.2 meter. Set point on PID control mode using Tyreus-Luyben method intended to obtain the values of $K_p = 4.45$; $T_i = 15.56$; and $T_d = 1.11$ better than using trial and error method. In the liquid level control applications in mpfm, acquired the characteristics of the system response following step disturbance; $M_p = 20\%$; $T_s = 40$ seconds and $E_s = 1.95\%$

Key word : mpfm, level control, PID controller, Tyreus-Luyben Methode