

OPTIMIZED PLANT OPERATING REGION AND ALARM LIMIT ADVISORY

ABSTRACT

Operation of an industrial plant is simulated based on a range of values of process variable input parameters to produce a range of values of simulated output parameters. An optimum operating region of the plant is defined where the plant operates more economically, such as increasing the yield of a product meeting specification while keeping the operating cost minimum. Identifying the location of the optimum operating region at any moment is of fundamental importance. Finding this region includes collecting process variables such as outputs from a plant historian relevant to the process or asset. A digital twin of the same process is created to analyze the optimal region of assets using simulation software, recommend improvements for the process operation, generate online simulation of nuisance alarm reductions, and provide optimized alarm limits to maintain operation of the industrial asset.

FIG. 1