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DATA RECONCILIATION AND GROSS ERROR DETECTION IN LPG PLANT PERTAMINA P. BRANDAN

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ABSTRACT

Evolutionary optimization of LPG Plant P. Brandan requires a computer program which can do evaluation, simulation and optimization of the plant. The first step to execute this activity is making a data reconciliation program.

Reconciliation of process measurements consists of adjusting those data in some minimal sense, so that the adjusted values obey the conservation laws and any other constraints imposed on the process. The problem is how to reconcile the measurements so that they satisfy the constraints and how to use the reconciled values to detect gross error.

LPG Plant P. Brandan is one of the most complex and compact facilities that has potential of application for error detection and data reconciliation techniques. LPG Plant P. Brandan consists of two main process units, which are a compressed feed gas unit and a fractionation hydrocarbon carbon unit (de-ethanizer and debutanizer).

This paper describes a computer program of data reconciliation and shows how it can be applied to reconciling mass balances and estimating unmeasured data in LPG Plant P. Brandan. Prior to this data reconciliation process, it is important to detect, identify, and eliminate gross error contained in them.

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