EQUIPMENT CRITICALITY CLASSIFICATION MODEL BASED ON AHP

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Abstract: *The objective of this research is to develop equipment classification model based on multi criteria approach and feedback loop mechanism. Model which is developed based on hybrid criteria, representing combination between serial criteria and parallel criteria. Serial criteria consist of "government regulation" and "public services", while parallel criteria consist of "safety", "production", "reliability", "spare availability", "frequency of failure", and "applicability of condition monitoring technique". Then both models are used to assess equipment criticality rating (ECR) by using real data of 125 equipments in a company. The results of ECR assessment are classified into four classes, those are: ECR1, ECR2, ECR3, and ECR4. It supports decision maker especially in prioritizing equipment monitoring when the number equipments are enormous. So, the decision maker could give more attention to equipment which are included in ECR1 class, those are equipment which has the highest criticality rating.*

Keywords: multi criteria, equipment classification, AHP, hybrid criteria, ECR, decision model.