DETERMINING CRITICAL PATH OF OVERHAUL ENGINE MANUFACTURE USING FUZZY PERT AND IDENTIFYING POTENTIAL FACTORS WHICH CAUSE ENGINE FAILURE USING GREY FMEA (CASE STUDY: ENGINE CFM56-3 AT ENGINE MAINTENANCE UNIT OF PT.GMF AERO ASIA)

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Abstract
The main Key Performance Indicator (KPI) of Engine Maintenance Unit at PT GMF Aero Asia has not been accomplished because the dealine of engine manufacture can not be fulfilled. Also there is engine serviceable damage which has been repaired before the deadline. This research is conducted to determine the critical path of engine manufacture, so it can be used to determine achievable total manufacture time and identify potential factors which cause engine serviceable damage.

Fuzzy PERT approach is used to determine critical path and total time of engine manufacture, meanwhile Grey FMEA approach is used to identify potential factors which cause engine serviceable damage.

This research results critical path of overhaul engine CFM56-3 manufacture which total manufacture time is 872.34 hours. Furthermore, main potential factors which cause engine serviceable damage is outsource repair, in house repair, and assembly.

Keywords : Key Performance Indicator, Engine Serviceable, Critical Path, Fuzzy PERT, and Grey FMEA
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