Simulasi metode analisis resiko dan perhitungan contingency cost dengan recommended practice AACE untuk proyek EPC design build = Risk analysis simulation and contingency cost calculation with recommended practice AACE for EPC design build project / Rizky Feryansyah

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Abstrak

Proyek konstruksi yang dikelola dengan model EPC (Engineering, Procurement, and Construction) Design & Build memiliki banyak resiko dan ketidakpastian yang dialami oleh kontraktor EPC. Hasil analisa resiko mendapatkan 17 jenis resiko. Resiko akan menimbulkan dampak biaya yang disebut biaya contingency. Perhitungan biaya contingency dilakukan dengan metode yang diusulkan AACE yaitu range estimating, expected value, dan parametric estimating. Perhitungan basis biaya contingency menghasilkan angka Rp. 19,580,136,424. Metode range estimating yang dikombinasikan dengan perangkat lunak crystal ball menghasilkan biaya contingency antara 2,82% sampai 4,21% sedangkan metode expected value yang dikombinasikan dengan perangkat lunak crystal ball menghasilkan biaya contingency antara 2,98% sampai 3,25%. Metode parametric estimating menghasilkan rumus untuk perhitungan biaya contingency dari komponen dasar biaya proyek. Resiko keterlambatan jadwal proyek adalah resiko yang paling sensitif di antara faktor - faktor resiko yang teridentifikasi sedangkan resiko inflasi adalah resiko yang kurang sensitif di antara faktor - faktor resiko tersebut.
<hr>Construction project managed by the model EPC (Engineering, Procurement, and Construction) Design & Build has many risks and uncertainties faced by the EPC Contractor. The results of risk analysis is 17 types of risk. Risks will have impact to the cost which called contingency cost. Contingency cost calculation performed by the recommended practice of AACE which are range estimating, expected value, and parametric estimating. Calculation of the basis of contingency cost is Rp. 19,580,136,424. Method of range estimating which combined with software crystal ball generates contingency cost between 2.82% to 4.21% to net project cost, while the expected value method combined with the software crystal ball generates contingency cost between 2.98% to 3.25% to net project cost. Parametric estimating method produced a formula for calculating the cost contingency from basic cost components of the project. The risk of delays in the project schedule is a risk that the most sensitive among the risk factors identified for the project while the inflation is the risk that is less sensitive among the risk factors