

ABSTRACT

Waste problem Indonesia is one of problems that quite difficult to be resolved. Bandung is one of the cities that has a quite serious waste problem. It can be proved by lots of waste that piled up in some main point in Bandung. Then, additional waste treatment is needed for undistributed wastes for reducing wastes accumulation that happens continuously. One types of incinerator is Solair Incinerator that developed by Bandung Techno Park. In this incinerator usage, was found problems related to operator's body posture and work accident possibilities in the operational usage.

By referring to Ulrich-Eppinger product development process that consisted of some stages of development matched with user reuirements, will be generated improvement incinerator concepts for reducing possibilities of problems likely to be happen in usage related to user operator. Improvement concepts obtained from data gathering, analysis and discussions with stakeholders referring to existing Solair Incinerator condition for generating recommendation of improvement incinerator concept for reducing possibilities of problems related to operator's body posture, and work accident in this Solair Incinerator usage.

The result of the design improvement tested using RULA and Finite Element Analysis. The score of RULA assessment is 2 and the load applied to the design still in the feasible range that makes the design considered as feasible to be applied. The design applying automated screw conveyor to distribute the wastes and using chamfered inclined plane to prevent the wastes being messed up.

Keywords— Waste Treatment, Incinerator, Design Improvement, Bandung Techno Park, Product Development, Concept Generation, Finite-Element Analysis, Solidworks 2012.