

Student Name	Ian Kennedy
Company	F G Wilson
Research University	Belfast
Academic Supervisor (s)	Dr Richard Cooper Dr Ricky Curran
Title	Enclosed Generator Set Performance Prediction with a Systems Engineering Approach
Abstract	<p>FG Wilson is the largest generating set manufacturer in the UK, manufacturing both open and enclosed diesel and gas fuelled sets. An enclosed generator set is a system which consists of an engine, alternator, cooling system, silencer, electrical control unit and enclosure. Accurate prediction of product performance is an essential part of the product development process. Currently Queen's University Belfast are involved on a major FG Wilson driven programme on developing design tools which predict the performance of particular generating sets, allowing more efficient designs to be realised. The goal of this EngD project is to develop a process to enable increased accuracy of product performance predictions, making best use of currently available design tools and techniques. This process should facilitate better informed concept selection and more efficient product optimisation. The approach will start with an evaluation of current predictive techniques and their accuracy. An improved process will then be developed to aid prediction of product performance using systems engineering techniques. This process will then be applied in a physical pilot in order to demonstrate improved techniques/accuracy. The aim is to pull together the various design technologies into a coherent design philosophy enabling the physical design of generators to be optimised against performance, legislative and cost constraints.</p>