

Senior Design Project Description for SPRING 2016

Project Title: Generator Rotor Assembly Blade Sequencing (SIEM_ROTOR)

Supporter: Siemens

Supporter Technical Representative: ASSIGNED

Faculty Mentor: _____ ASSIGNED TBD (check one)

Single Team Dual Team _____ (check one)

Personnel (EN/ET): 2 E, _____ Cp, _____ Cv, _____ M, 2 SE

(Complete if the number of students required is known)

Expected person-hours: (250 per student)

Description of Project:

For generator rotor manufacturing the fan blades are not included in the final balance of the rotor. This requires that the each blade for a given row be balanced and sequenced in a manner where negligible imbalance is created by the assembly of the blades. This is done by individually weighing the blades and sequencing their locations. The individual blade weights are then input into a sequencing program to determine the optimum locations. Occasionally a blade needs machining and resequencing.

This project would integrate scale measurements and blade sequencing into a fully automated process. Resultant quality data will be automatically uploaded into the Siemens quality database without the need for human interference. This will minimize human error in the assembly of the blades.

Initial Project Requirements (e.g. weight, size, etc.):

The system will interface with the new scale recently purchased by Siemens to weigh the blades. The design must take and process the information from the blade scale. The system must interface with the existing IT structure: MES (OIL system) and InfoPath (eQCI).

Expected Deliverables/Results:

The deliverable will be a complete system to weigh blades, automatically sequence blades, and auto-populate quality data in database.

List here any specific skills or knowledge needed or suggested (If none please state none):

None