UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE *of* ENGINEERING

Senior Design Project Description

Company Name	Siemens Energy	**Date Submitted**	April 24, 2017
Project Title	Precision hole drilling positioning and verification for milling operations (SIEMENS_DR)	**Planned Semester**	Fall 2017

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project. 250 hours are expected per person. Complete the following table if this information is known, otherwise the Senior Design Committee will develop based on the project scope:

Discipline	**Number**	**Discipline**	**Number**
Mechanical	4	Electrical	
Computer		Systems	
Other ( )			

Project Overview:

A set of drilling operations requires precise positioning with respect to existing component geometry. Considering errors in machine indexing, asymmetric part stiffness, and tolerance of geometry with respect to the overall component, it is believe that a new method for determining actual feature location is necessary.

Initial Project Requirements:

Approximately 40" diameter shaft and prismatic feature target for multiple drilling operations. This shaft is part of the stator assembly and is quite long (~25'), slots are milled out of it and then the drilling operations in question are performed.

Expected Deliverables/Results:

A prescribed method and measurement technology necessary to accurately and repeatedly position drilling.

Disposition of Deliverables at the End of the Project:

Hardware developed is the property of the Industry Supporter. Please deliver final work product

to Michael Jones after the conclusion of the Expo.

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

Precision Metrology, machining experience