THE EFFECTIVENESS OF A FAILURE MODE AND EFFECTS ANALYSIS ON A COGENERATION PLANT

A Major Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

Haley Hayden

Kelsey McGlashan

Date: April 16, 2015

Approved:

Professor Stephen Kmiotek, Major Advisor

This report represents the work of WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see http://www.wpi.edu/academics/ugradstudies/project-learning.html
This MQP contains information deemed confidential to the business interest of the industrial sponsor. Please contact Stephen Kmiotek at sjkmiotek@wpi.edu for additional information.
Abstract

A Failure Modes and Effects Analysis (FMEA) is an organized procedure used to determine where an industrial process requiring improvement. An FMEA identifies the components or pieces of equipment in a process that are most likely to fail as well as the components that will have the greatest impact on the process if failure occurs. This project illustrates how to utilize an FMEA on an industrial process to identify and rank problem areas. An FMEA was conducted on a sample plant and the results were used to identify the effectiveness, advantages and disadvantages of using an FMEA as a process safety tool.