The objective of the project was to design, construct, and test a device which will determine the performance of shell and tube heat exchangers with and without using low-finned tubes. Heat exchangers in the steam methane reforming facilities consist of low-finned tubes, a performance upgrade from bare finned tubes. The low-finned tubes did not produce the increase in performance as the correlations predicted. Further analysis of this system was required. The test rig consists of an inlet duct which has a 12"X8" flow straightener that helps keep the flow within the test section laminar. The tube section consists of a combination of 12 low-finned tubes distributed 1” center-to-center. The Pump system, located on top of the tube section, pumps and circulates hot water (55°C) through the tube section tube and serves as a substitute for the boiler feed water flowing through the actual heat exchanger. The outlet duct was designed to reduce turbulence of the air before it reaches the fan. The inline fan pulls the air through the test section which helps cool the low-finned tube. The team's budget was $1,000; however, the team was able to complete the project in time with a total budget of $915.15. Below are the results of the experimental runs. The bar chart below demonstrates that the thermal resistance of the finned-tubes is much higher as compared to the bare tubes. However, contrary to Air Products' argument that the heat exchangers were underperforming by 50% as compared to theoretical data obtained from the Rabbas and Taborak article, the results below show that the experimental runs produced higher thermal resistance when compared to the theoretical thermal resistance.