**Teacher Information**

Name: Conrad R. Varblow  
School: Freedom High School  
Grade Level and Content: 11th and 12th Grade Physics and AP Physics  
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Companies Visited: REHAU, MWAA, and Verizon

**Educational Transfer Plans**

**Example 1:**  
VA Physics SOL PH. 13  
"The student will investigate and understand how to diagram and construct basic electrical circuits and explain the function of various circuit components."  
VA Physics SOL PH. 4a  
"...examples from the real world."  

Systems Thinking  
Implementation / Corporate Collaboration  
Partnering with REHAU, I am looking forward to implementing a kinesthetic circuits lab using their piping systems if possible. The activity will use an analogy between water flow and electricity flow, and will model what REHAU engineers do when designing radiant floor heating systems. I will also discuss geothermal science fair topics with teachers in those subjects.

**Example 2:**  
VA Physics SOL PH. 1b  
"data gathered from non-SI instruments are incorporated through appropriate conversions"  
VA Physics SOL PH. 4a  
"...examples from the real world."  
VA Physics SOL PH. 5a  
"...linear motion."  

Previously, I have only used fundamental SI units in my classroom. This year in the Teachers in Industry Project I noticed that many practicing engineers use internationally unusual units such as feet, hours, and inches. I will follow suit in class and offer some use of these measurement systems. Specifically, I will discuss escalator safety standards, as observed at Dulles, as well as pipe size and flow rate measurements utilized by REHAU.

**Example 3:**  
VA Physics SOL PH. 5d  
"Newton’s Laws of motion”  
VA Physics SOL PH. 7  
“...pressure”  
VA Physics SOL PH. 4a  
“...examples from the real world.”  
VA Earth Science SOL ES. 1  
“maps”  

Examining pictures taken from the scene of an aircraft hangar collapse, and using an Internet-based mapping site, I plan to analyze the force and pressure on the structure that caused the failure.