

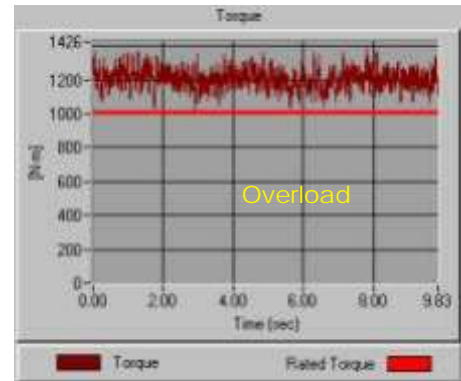
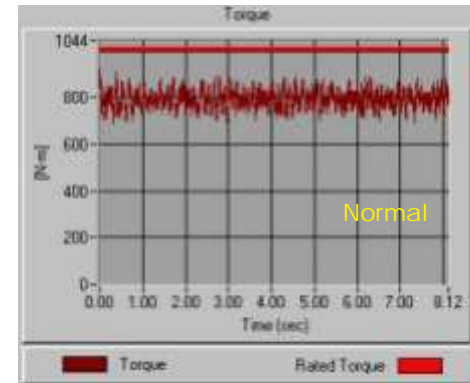
# Power Plant Avoids Cost of Motor Replacement



The expense of replacing a key motor can be staggering. Not only considering the ticket price of the item, but often more importantly the opportunity cost of downtime in production can cripple a plant if the problem is not managed efficiently and correctly. Pacific Gas and Electric Company of California recently faced just such a dilemma.

In December 2004, a 125hp Screen Refuse Pump was found to be running hot and drawing excessive current. A first thought was to replace the motor with the spare from the warehouse. But what could be causing the excessive current draw?

There were no indications of bearing problems, voltage problems or current unbalance, excessive harmonics, voltage or current distortion, or rotor bar problems. Electrician Jim Steele wanted to see what the recently acquired Baker Explorer could tell him about the motor's condition.



Recognized as one of the top nuclear power facilities in the United States, the Diablo Canyon Power Plant offers a major source of safe, clean energy that helps ensure reliable electric service to over 2 million Californians everyday.

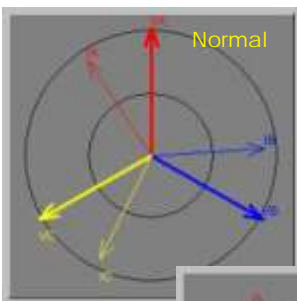


Jim Steele, Electrician, PG & E

## Explorer Diagnoses Condition

The load profile showed higher than rated values. Maintenance history research revealed that the impeller had been replaced in October 2004. It was discovered that a 17 inch impellor had been installed instead of the required 15.75 inch impellor. A properly sized impellor was installed, lowering the amperage to the expected values.

The Explorer testing played a major role in ruling out a motor problem and going after the pump. Without the Explorer data it would have been likely that the motor would have been replaced at a cost of over \$23,000, and the condition would have continued to exist.



*"Replacing the motor would have been a costly mistake as the problem would have still existed, overloading the replacement motor"*

-Russ Leatham,  
M. Engr, P.E., PG & E

