



Aluminum Plant Still Realizing Actuator Impact After 15 Years

South Carolina U.S.A.

A large aluminum reduction facility, which produces a variety of intermediate aluminum ingots and round billets, is located in the southeastern United States and has three main operating areas – Carbon Electrode Preparation, Pot Line and Aluminum Casting. The carbon site has a Green Mill that produces and bakes the Anodes, along with installing rods into the Anodes. The Anodes are fed to the Pot Line where the aluminum is produced. From there, the aluminum is shaped in the Casting area, which includes Casting Pits, Holding Ovens, Homogenizing Furnaces and Horizontal Casting Machines.

Manifold dampers and tested for several months. Plant personnel were extremely satisfied with the ease of installation and reliable performance. Throughout 1996, the remaining (63) actuators were replaced with Beck actuators.

RESULT

As of July 2010, the Beck actuators on the Bake Oven Manifold dampers have fifteen years of successful run time and have required very little service. The high level of satisfaction with Beck actuators and customer service has led to expanded use on the Baghouse, Holding Furnaces and Homogenizing Furnaces.

PROBLEM

In early 1995, plant personnel reported significant reliability issues with the seventy (70) actuators controlling the Bake Oven Manifold dampers. The high ambient temperature and modulation rate lead to premature gear damage in the linear electric actuators in service at the time. The plant averaged one call per shift to work on the actuators and the annual maintenance costs were estimated to be in the \$100,000 - \$150,000 range.

SOLUTION

Upon learning of the issues, a site visit was immediately scheduled by the Beck Sales Engineer to review the applications and record measurements for a formal proposal. In June 1995, seven (7) Beck Model 11-150 actuators were purchased for the Bake Oven



Figure 1

Beck 11-153
Manifold
Damper
Actuator



Harold Beck & Sons Inc.
11 Terry Drive
Newtown, PA 18940
(215) 968-4600

Actuator Solutions since 1936
www.haroldbeck.com