SKYCERA®
Severe Service Valves for Severe Industries

www.skycera.com

Isolation of Power Plant Bottom Ash

Case Study: Buffalo, New York
March 2007

Industry: Power

Process Conditions:	
Size	10"
Valve Model	**CSV Style** Knife Gate
Quantity	2 pcs then 2 additional 1 year later
Temperature	Ambient
Application	Bottom Ash Isolation
Media	Bottom Ash
Pressure	200 psi rating
Problem	Huntley Power is a Four-Unit 760MW coal fired power plant in Tonawanda, NY. The plant maintenance people have an area below the boiler floor called "the basement". All ash handling occurs in this hot and wet environment. The valves that were installed on the ash handling system were leaking regularly in service. Maintenance of the valves was impossible. Leakage would flood the basement with bottom ash and water and make the area impossible to work in. The valves did nothing to hold back the flow. A new approach was needed. The obsolete valve that was replaced is a stainless steel knife gate valve with a hardened deflector cone. High velocity of the abrasive ash would erode the valve seat very rapidly allowing the gate to move freely away from the seats of the valve, leaking downstream and externally and eventually opening large holes in the body of the valve. A valve was needed that could withstand the highly abrasive atmosphere.
SKYCERA Solution	The material and design of the valve needed to be changed to address the actual root cause of the problem: abrasion of the seat material. Two ceramic valves were ordered for the process conditions with improvements designed to address the sealing issues. Ceramics will be approximately 6-8 times the hardness of most steels and can last up to 30 times their service life.