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Healy Coal Plant #2: A Failed Experiment

Healy Coal Plant #2 was part of a demonstration program by the US Department of Energy. In 1989, Usibelli Coal Mine (UCM) applied to the program and partners with Alaska Industrial Development and Export Authority (AIDEA) to construct a 50 megawatt power plant to demonstrate “clean coal” technology. The primary goal of the project was to experiment with new technologies and expand UCM’s market for coal. AIDEA and Golden Valley Electric Association (GVEA) partner to build and operate the plant. Initially, GVEA was reluctant to partner with an experimental power plant or even purchase power from the plant. In January 1991, \$121 million is committed to the project. AIDEA issued \$85 million in bonds and the Alaska Legislature appropriates \$25 million.



Healy Coal Plant #2 located in Healy, Alaska

Problems from the beginning

According to GVEA, “Because the project was being overseen by a governmental body, which had never developed or built a power plant before and because it was being built for any number of purposes--science experiment, engineering product development, and base load electricity plant--mangement of the project understandably (but inexcusably) floundered and then almost collapsed” (GVEA Statement of Facts). One of the first problems was the technology, it was never built from laboratory scale to commercial scale. In the midst of construction, AIDEA requested more money from GVEA and UCM because of skyrocketing production costs (GVEA Statement of Facts).

“Of the various projects [referring to clean coal projects]...some have been successes and some are failures”

-Michael Menge, staff to then Sen. Frank Murkowski

also needed about “twice as much limestone” to make desulphurization work properly (*Troubled Days: Healy Clean Coal Project Stalled*, Patricia Jones, 2001).

In 1998, testing of the facility began even though construction was incomplete. During this testing phase, the facility “tripped off-line 79 times” (GVEA Statement of Facts). The staged coal burner, a critical component of the plant, “experienced problems” and “rather than flowing smoothly in the combustor, the pulverized fossil fuel would build up, requiring the addition of a high pressure water lance to move the coal” (*Troubled Days: Healy Clean Coal Project Stalled*, Patricia Jones, 2001). The facility

In 1999, the facility was tested to evaluate if it could operate at 85 percent load. During the test, an explosion occurred in the coal pulverization area and prevented operation for 36 hours. No one was hurt in the explosion. The facility was found to perform within its design parameters but only because higher grade coal was used during the tests. The facility was designed to use a lower grade coal. Without the higher grade coal the plant would not perform within its design parameters.

Healy Coal Plant #2 was designed to burn coal in stages to minimize the formation of nitrogen and sulfur oxides and particulate matter to reduce air pollution. This decade-old technology, though less polluting than its predecessors, was not designed to mitigate the more recent concerns of mercury and CO2. The plant has remained shut down since January 2000, because safe, reliable, and economic operation was not possible using experimental technology. AIDEA and GVEA have engaged in protracted litigation over the purchase and operation of the plant since 2000. The total investment up to this point is \$300 million.

“...it became clear to GVEA that HCCP [Healy Clean Coal Plant] had no chance of actual commercial operation using the experimental technology...”

-GVEA Statement of Facts

Current status

On January 14, 2009, AIDEA, GVEA, and Homer Electric Association (HEA) announced approved terms of sale of Healy Coal Plant #2. GVEA will purchase the plant from AIDEA for \$50 million. AIDEA will provide not only the \$50 million loan but also provide GVEA a \$45 million line of credit. HEA plans to purchase power from the plant.

Why this plant should remain closed:

- Coal is dirty and yesterday's energy solution
- Healy Coal Plant #2 is a black hole for public money
- Healy Coal Plant #2 faces significant and unknown costs from anticipated greenhouse gas rules
- Healy Coal Plant #2 faces significant and unknown cost from new mercury emissions rules
- Like all fossil fuels, consumers are impacted by volatile coal prices--which will invariably increase
- Interior Alaska has enormous renewable energy resources that promise clean, fixed-cost power and sustainable jobs
- If restarted, Healy Coal Plant #2, would decrease the economic viability of a natural gas bullet line to South-central Alaska



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