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BRIEFING PAPER

A History Of the Development of the Healy Clean Coal Project and Other Related Items of Interest Pertaining to Railbelt Energy Utilities

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In 1989, Usibelli Coal Mine (UCM), in an effort to increase domestic coal sales and to dry coal for export to the Pacific Rim, sought matching grants from the Department of Energy (DOE) Clean Coal Technology program to construct an experimental power plant in Healy, Alaska. UCM convinced the Alaska Industrial Development and Export Authority (AIDEA) to join them as banker, owner and state sponsor of the experimental project. TRW and Joy-Niro corporations joined the team to provide the experimental slagging combustors and flue gas cleanup technologies to be tested. Stone and Webster came aboard as design consultant. AIDEA approached GVEA to enter into a long-term contract to buy the 50-megawatt output from the proposed HCCP.

GVEA had two problems with the AIDEA proposal: 1) GVEA had recently been ordered by the Regulatory Commission of Alaska (RCA) to contract for the output of a power plant to be built in Healy by an Independent Power Producer, based in Idaho, 2) GVEA was reluctant to get involved in testing two experimental technologies in a base load plant in Healy, Alaska. GVEA's reluctance drove AIDEA to seek an Anchorage utility to purchase power from the plant for export south over the intertie. There were no takers in Anchorage because HCCP could not compete with low cost power produced by Cook Inlet gas.

AIDEA returned to negotiate with GVEA who made it clear they had little interest in the experimental tests or in coal drying, but were keen on reliable, low cost, base-load energy. GVEA set the following conditions, which AIDEA agreed to accept in exchange for GVEA's participation:

- The price for HCCP power delivered to Fairbanks would have to meet or beat the target price of power generated from Anchorage gas-fired generators and shipped north over the intertie (this power cost GVEA roughly 3 cents per kWh in the early 90's, escalating to about 4 cents when HCCP was predicted to achieve commercial operation).
- The experimental HCCP would have to be completed at AIDEA's risk and tested to meet rigid commercial standards. If it failed the test, it must be retrofitted at AIDEA's cost with standard proven technology (low-NOx burners), then retested to the same standards. GVEA would take the keys to the plant and trigger the power purchase agreement with AIDEA only when successful commercial operation was achieved.

- AIDEA and GVEA would cooperate to ensure the plant received a permit from the Alaska Department of Environmental Conservation (DEC), which would allow the required retrofit to low NOx burners if the experimental technology failed. AIDEA would also cooperate by supporting the effort to obtain RCA approval of the power purchase contract.

In January 1991 the participants were notified that the HCCP application to DOE had been approved and \$120 million in matching grants was committed to help fund completion of the experimental plant. The Alaska Legislature had earlier committed \$25 million in Railbelt Energy funding, conditioned upon HCCP approval by DOE. AIDEA issued \$85 million in bonds and committed additional agency funds to complete the project. Later, DEC issued permits for HCCP construction, which required that GVEA's existing Healy power plant be retrofitted with low-NOx burners to remove HCCP roadblocks placed by environmental groups. RCA approved GVEA entering into a power purchase agreement with AIDEA, based on a roughly 4-cent per kWh cost for HCCP power. When the cost estimate for plant completion began to climb dramatically, AIDEA required GVEA and UCM to contribute funds to the construction effort. GVEA agreed, on condition that its \$7 million contribution would be partially used to offset the cost of refitting GVEA's existing plant with low-NOx burners, purchasing spare parts inventory for HCCP, etc. The experimental coal drying initiative was dropped early on.

The HCCP team structure caused concern from the outset and eventually contributed to delays, cost overruns, waste, plant failure and shutdown:

- The participants included the United States and Alaska governments; AIDEA, a banker-owner with no experience building coal-fired power plants; GVEA, an electric utility operating in the toughest environment in North America; UCM, the only coal vendor in Alaska; Stone and Webster, a large cost-plus design firm; and TRW, a large cost-plus defense contractor. The interests of the team were seldom aligned. This structure made effective project management and cost control difficult for AIDEA; and permitted money to flow freely to consultants, contractors, suppliers and lawyers. Some felt the project had been selected for funding based more on Washington DC and Juneau politics than on hard-nosed merit. To worsen matters, a power project that was to be built in New York to scale up the experimental combustor technology, was not completed. This left HCCP facing a huge scale-up that even TRW had serious doubts they could achieve.
- The consultant and contractors involved in the proposal were selected based on the experimental technology they promised to bring to the project. There was no project-specific competition related to price, quality, schedule, etc. The team had a pool of federal-state cash and operated on a "business unit, cost-plus, profit center" basis, as opposed to an "R&D partner/investor" scheme. The DOE program required participants other than AIDEA to risk little.

It is fair to say that the State's instruction to AIDEA, "go build HCCP," diminished AIDEA's ability to perform as prudent bankers might. This combined with AIDEA's coal-fired power

plant inexperience, the unusual business structure of the deal, the experimental nature of the project, and the delay and cost associated with satisfying the environmental community, handicapped AIDEA's chances for a clean run from day one. The low cost of GVEA power alternatives and RCA's support of GVEA in shielding Interior Alaska ratepayers from negative rate impacts, gave AIDEA little margin for error. It didn't help matters when the project team was required to deal with three Presidents, three Governors, four AIDEA Executive Directors and numerous AIDEA Board turnovers along the path to project shutdown.

As HCCP was undergoing operational testing and adjustment in preparation for commercial testing, it was clear to GVEA that the experimental technology was performing poorly. Prospects for achieving commercial operation on schedule, or ever, were dismal, the schedule had slipped and HCCP was over budget. GVEA feared AIDEA would run out of funding that would permit retrofit and asked AIDEA to declare that the experimental technology had failed and was unfit to pass commercial testing. AIDEA retained an experienced energy attorney and began meeting with GVEA to develop a plan to retrofit HCCP to low-NOx burners. However, AIDEA soon removed this attorney, ceased negotiations, hired a large contract labor workforce to patch the plant together, and set a course to force GVEA to take the keys to the problem-plagued HCCP. The relationship between AIDEA and GVEA suffered, resulting in a lawsuit by GVEA and countersuit by AIDEA. The lawsuit was settled giving GVEA the option to walk away, or to work with AIDEA to accomplish a mutually acceptable retrofit. By the end of 1999 AIDEA had expended all project funds, failed to finish the plant, and failed to pass the commercial operation test. The plant was shut down. GVEA had relied on AIDEA's commitment to supply its next increment of safe, low cost, reliable, base-load generation for nearly a decade. Over the past five years, GVEA has attempted to work with AIDEA to retrofit the plant and bring it on line. Those efforts have failed. One hundred twenty miles southwest of Fairbanks, on the east bank of the Nenana River, idly sits a huge \$300-plus million monument to AIDEA's failure to keep its promise to Interior Alaskans.

It is worth mentioning that DOE's Clean Coal Technology program has been largely barren - with few successes nationwide. The program structure was unworkable and most of the experimental projects were either shut down after failing commercialization tests, or were retrofitted to conventional proven technologies. The failure of the HCCP experimental slagging combustor to achieve commercial operation has a "rest of the story." The TRW business unit that built it has been shut down and there has never been a "serial number 2" built anywhere in the world. The flue gas clean-up technology worked better, but presented its own set of problems. At best, HCCP performed no better regarding control of regulated pollutants than its newly retrofitted sister plant at Healy. DOE contributed to HCCP's failure by not diligently performing technical and financial oversight as promised. AIDEA, DOE and TRW, in order to cover up HCCP's failures, disseminated material that was inaccurate, self-serving and attempted to place a ball gown on a pig.

Regardless of who owns or operates HCCP, it must be retrofitted with low-NOx burners and must pass a commercial test acceptable to GVEA before the promise to Interior Alaskans who own GVEA can be delivered. Any attempt to restart HCCP using the failed slagging combustors will prove foolish - and financially disastrous. AIDEA has spent enough money to build two first class 50-megawatt power plants. Since the plant was shut down in late 1999 they have spent

tens of millions of dollars paying off bonds and maintaining HCCP in mothball status. That money could have gone a long way to completing and retrofitting the plant. AIDEA could now be earning nearly \$5 million annually for power sales to GVEA (net after coal cost paid to UCM by GVEA). Instead, AIDEA's efforts have been devoted to stubbornly fighting conversion of the plant to low-NOx burners, including twice sabotaging efforts to obtain DEC approval that would have led to retrofit and startup.

I was pleased to hear in the Governor's State of the State speech that he is interested in restarting HCCP. If his intentions align with the best interests of 90,000 Interior Alaskan ratepayers who could be benefiting from low-cost, reliable HCCP base load power, he will energize all the cooperation he will need. However, if his plan involves an AIDEA rerun that attempts to jam the plant down Interior Alaska's throat by restarting HCCP using the failed experimental combustors, he will meet with resistance.

In closing, it is my strong recommendation that a coal supply agreement be executed and that DEC and RCA respectively, approve the retrofit plan and power rate per kWh before GVEA, on behalf of its member-owners, agrees to assume any liability regarding HCCP. On another front, I was pleased to hear that the Joint Action Agency (JAA) being formed by Railbelt utilities will soon be up and running. It will prove invaluable as the utilities cooperate to provide new generation to serve growth in the Railbelt, and as over 1000 megawatts of generation nearing the end of its useful life is replaced. The JAA will also provide the vehicle to permit AIDEA to transfer its power generation and transmission assets, including Bradley Lake Hydro, the Alaska Intertie and HCCP to Railbelt utilities.