

COUNCIL ACTION FORM

SUBJECT: ENERGY RESOURCE OPTIONS RECOMMENDATION

BACKGROUND:

Over the past several years, Electric Services staff and contracted consultants have been carefully studying electric generating and power supply options to meet our community's future needs. During this time, the City Council has also been involved in several workshops and presentations on this key strategic decision. Under consideration are current, pending, and anticipated environmental rules, as well as increased availability and reduced pricing of natural gas. Another consideration unique to Ames is our practice of processing garbage and converting it to Refuse Derived Fuel (RDF), which is then burned with coal to produce electricity. Presentations to the City Council on this topic were made on March 11, 2013 and Oct 15, 2013.

This unusual combination of coal supplemented by RDF makes our decision on future electricity production at the Ames Power Plant even more complex. Staff's research has determined the two most viable options are to continue to burn coal and install emission-reducing technology, or convert the boilers to burn natural gas. Both of these choices are expensive. As this decision will have long-term impacts on electric rates and other community aspects, the Electric Utility Operations Review and Advisory Board (EUORAB) held two public forums. Input from those forums will be shared with Council just prior to this Council meeting.

After considering all of the input and information provided to date, the Electric Services staff recommended to the EUORAB that power plant units #7 & #8 be converted to natural gas, based on the following considerations:

- The Black & Veatch study indicated that new and proposed rules from the Environmental Protection Agency could be met using either a coal/RDF-fueled power plant or a natural gas/RDF-fueled power plant.
- Capital and operating cost comparisons of the two options did not indicate one to be a clear lower cost option.
- Further analysis by staff regarding environmental, social, fuel sourcing, constructability, and regulatory comparisons clearly indicated that conversion to natural gas/RDF operation is the correct recommendation at this time.
- A majority of public input EUORAB received to convert to natural gas was supportive, although there was also a desire by some for more renewable generation.

At the EUORAB meeting held on Oct 30, 2013, the EUORAB agreed to accept staff's recommendation to convert the plants to natural gas and to forward it to the City Council.

Should the City Council concur with the recommendation to convert units #7 and #8 to natural gas/RDF operation, staff will begin work on two parallel paths. Figures 1 and 2 attached below are flowcharts for each path.

Path A – Determine Preferred Method For Transporting Gas

Staff will compare and contrast two methods to deliver natural gas from a Northern Natural gas line in Story City to the Ames Power Plant. The two options are for the City 1) to construct its own gas line or 2) enter into a transport service agreement with Alliant Energy to provide gas delivery through their pipeline. Acquiring the natural gas commodity itself will remain a City function under either of these scenarios. Staff will be coming back to the City Council throughout this process with updates and to gain the necessary approvals.

Path B – Retrofit Units #7 & #8 To Accommodate The Burning Of Natural Gas

Staff will evaluate and hire an engineering firm to develop detailed specifications to convert unit #7 & #8 so they can accommodate natural gas as their primary fuel source. These specifications, formatted into a Request for Proposal, will be submitted to the industry for responses. Staff and its engineering consultant will evaluate and select a preferred firm to supply equipment, perform installation, test, and train employees. Again, staff will be coming back to the City Council throughout this process with updates and to gain the necessary approvals.

In addition, Electric Services staff will work closely with Finance Department staff to develop a funding plan for this transition to natural gas and report back to the City Council on the impact this transition will have on our electric rates.

ALTERNATIVES:

1. The City Council can approve staff & EUORAB's recommendation to begin the necessary work to convert power plant units #7 & #8 to operate using natural gas as its primary boiler fuel and supplementing it with RDF.

In approving this alternative, staff will begin to re-prioritize its Capital Improvements Plan, removing coal-centric projects, and redirecting budgeted engineering dollars towards natural gas conversion.

2. The City Council can direct staff continue operating power plant units #7 & #8 on coal and begin the necessary engineering work to add equipment to meet the EPA's environmental regulations.
3. The City Council can delay the decision.

MANAGER'S RECOMMENDED ACTION:

For over 115 years, the City has provided electric serve to the residents of Ames. For nearly as long, the City has produced part of this energy from coal-fired generation. The current regulatory environment, public perception, and the abundance of low-cost natural gas have caused staff to chart a new course for future electric generation. Converting to natural gas will allow the City to meet/exceed the EPA's current environmental regulations within the timeframe mandated, to continue to burn RDF, and to utilize a fuel is more socially acceptable than coal. In addition, converting to natural gas now does not preclude the City from considering more renewable sources of energy in the future. A long delay in charting our future course, or no decision, will impede staff's ability to meet the Environmental Power Agency's new Mercury and Air Toxics Standards by the deadline of April 2016. **Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.**

Figure #1 – Path A – Determine Preferred Method of Transporting Gas

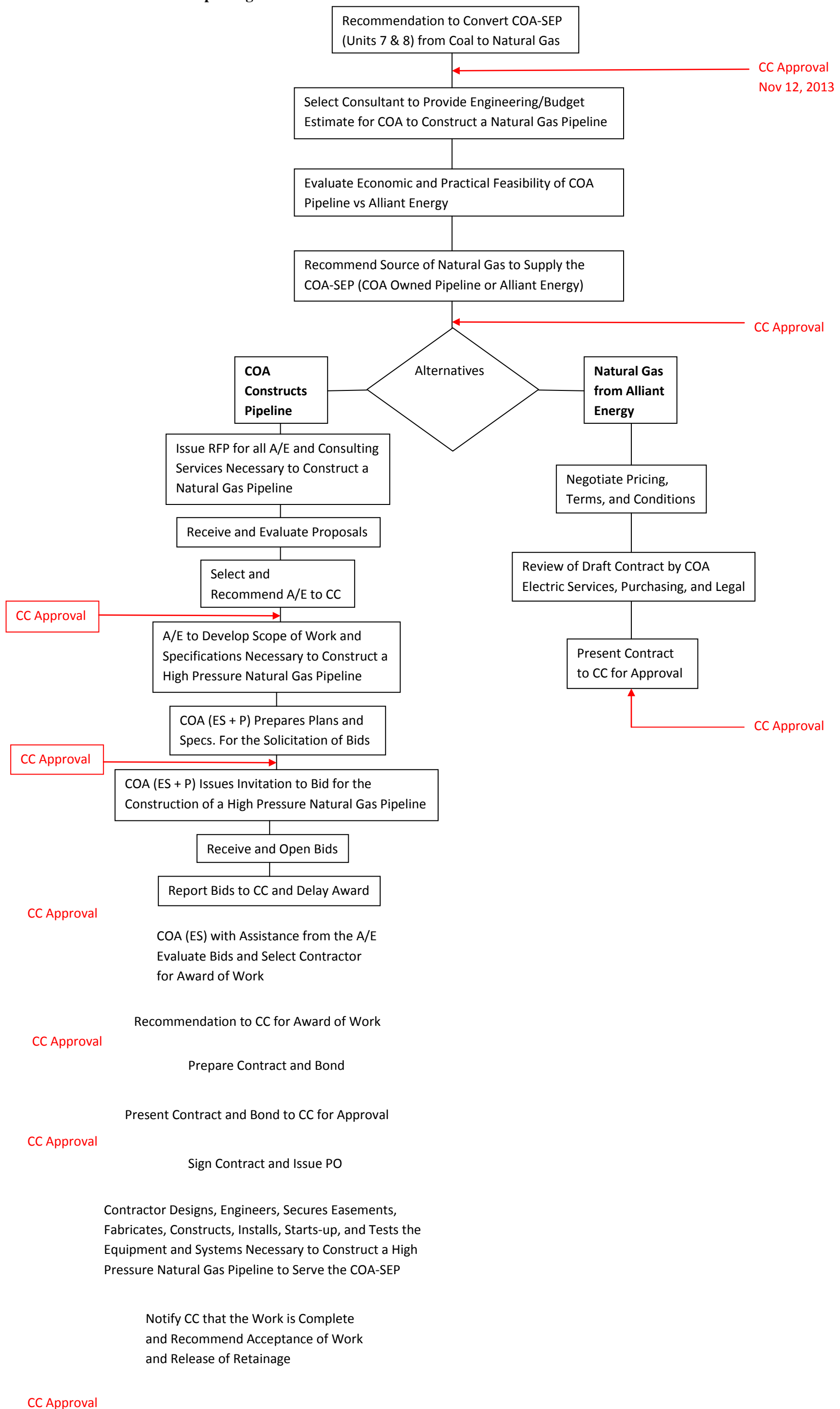


Figure #2 – Path B – Retrofit Units #7 & #8 to Accommodate the Burning of Natural Gas

