ITEM # 28
DATE 12-08-20

COUNCIL ACTION FORM

SUBJECT: WASTE-TO-ENERGY OPTIONS STUDY REQUEST FOR PROPOSALS

BACKGROUND:

City staff is seeking the City Council's approval to move forward with issuing a Request for Proposals (RFP) for a Waste-to-Energy (WTE) Options Study. **The purpose of this study is to evaluate options to dispose of municipal solid waste in a waste-to-energy facility into the future, providing community-wide sustainability with minimum impact to the environment.** A copy of the draft Scope of Services for the RFP is attached (Attachment A).

Currently, most municipal solid waste in Story County is transported to the City's Resource Recovery Plant (RRP), which has been in operation since 1975. Recyclable materials are removed from the waste through processing, and lighter, combustible materials are shredded into refuse-derived fuel (RDF), which is transferred to the Power Plant and used as a supplemental boiler fuel in conjunction with natural gas.

The current co-firing process has operational limitations. Since the RDF cannot be effectively stored long-term, one of the Power Plant's units must be in near constant operation to dispose of the RDF as it is produced. This limits the electric utility's ability to take full advantage of market energy at times when rates are low. There are also corrosion and maintenance issues with the storage and combustion of the RDF.

Through this study, City staff expects a consultant to develop projections regarding the quantity and characteristics of municipal solid waste for the County into the future, and evaluate five staff-identified options for waste-to-energy systems to dispose of that waste into the future. For each option, the consultant is asked to evaluate capital costs, operational and maintenance costs, environmental impacts and permitting, externalities (such as truck traffic, odor, and noise), and the timeline to design and construct. The ability to provide redundant systems and re-use existing components is also to be evaluated. Additionally, the consultant is asked to identify the impacts of each option on the existing diversion programs (glass and food waste).

The five options City staff has requested to be evaluated are:

1. **Resource Recovery and Power Plant As-Is** – This will form a comparative base case scenario.

2a. **Dedicated RDF Unit inside the Power Plant** – This option would move all RDF combustion from Units 7 and 8 into a new, smaller unit dedicated to RDF

combustion, allowing Units 7 and 8 to be turned off when not needed for power generation.

2b. **Dedicated RDF Unit inside the Power Plant with 20" RDF Sizing** – This option is similar to option 2a above, but would use much larger RDF compared to the current ~3" RDF. This increased sizing would reduce the amount of processing required at the Resource Recovery Plant.

3a. **Dedicated RDF Unit on a Greenfield Site** – This would involve construction of a new Materials Recovery Facility to remove recyclable metals on the front end of the process, before shredding the waste for combustion in a new boiler to generate electricity. This option involves construction at a greenfield industrial site or potentially at the former coal site across the railroad tracks from the Power Plant. Re-use of existing Resource Recovery Plant equipment would be considered.

3b. **Dedicated Municipal Solid Waste Unit on a Greenfield Site** – This option is similar to option 3a above but would recover recyclable metals after the combustion process. Like option 3a, it would explore a new site or the former coal pile, along with potential re-use of existing Resource Recovery System equipment.

The consultant will have the opportunity to suggest alternative options for evaluation, which City staff may accept or decline as part of the proposal. A team of staff members from the Electric Department, Public Works Department, and the City Manager's Office will evaluate the proposals, interview finalists, and recommend an award of contract to the City Council for this study. Once the study is complete, a presentation of the results will be made to the City Council.

Funds totaling $250,000 are available for this study, with $200,000 in funding from the Electric Department Capital Improvement Project budget and $50,000 from the Resource Recovery operating budget.

ALTERNATIVES:

1. Authorize staff to issue the RFP for the Waste-to-Energy Options Study based upon the attached draft Scope of Services.

2. Authorize staff to issue the RFP with modifications identified by the City Council.

3. Do not authorize staff to proceed with this project.

CITY MANAGER'S RECOMMENDED ACTION:

The existing waste-to-energy system utilized to dispose of nearly all Story County's municipal solid waste has been in operation for over four decades. The system has

some operational shortcomings that staff believes could potentially be rectified with a different approach to waste processing and waste-to-energy. This study will identify the needs for the system in the next several decades and identify which technologies would be best suited to address the waste disposal and waste-to-energy needs for the community into the future. The study will also provide detailed construction and operational cost estimates, along with environmental information and other crucial data to consider.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as described above.

SCOPE OF WORK SUMMARY

The City of Ames is soliciting the services of a consultant with vast and current knowledge and experience pertaining to the design, engineering, costs, and application of equipment associated with waste-to-energy systems, municipal solid waste disposal, materials recovery and diversion, and electric power generation, including environmental control processes and equipment.

The City is in need of a study to assess the options to satisfy the City's future waste-to-energy requirements, especially in light of the variables and constraints that currently exist and for those that are expected in the future.

The City of Ames views this study as a critical tool in determining how best to continue generating energy from municipal solid waste into the future.

The detailed requirements of the final study are described beginning on page 6, (Study Report and Instructions). The basic scope of work is summarized as follows:

> Starting with the City's existing Resource Recovery Plant and Electric Utility infrastructure, including the waste processing, waste storage, power generation, and ash storage assets and resources; evaluate all possible, credible options for disposing municipal solid waste in a waste-to-energy system and satisfy the county's solid waste disposal needs for 2023 and beyond. **All options will serve as a reliable solution for waste disposal and allow the City of Ames to perform as a leader/innovator in the Waste to Energy Industry, focusing on providing community wide sustainability with minimum impact to the environment.**
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> The fundamental output of the study will be a report that identifies and discusses the following:
>
> 1) The options considered
> 2) An estimate of the capital costs for each option
> 3) An estimate of annual Operating & Maintenance (O&M) costs for each option
> 4) An estimate of the environmental impacts for each option
> 5) A discussion of the advantages and disadvantages of each option, including impacts and disruptions to the City (e.g., truck traffic, ease of access to the facility, odor, noise, etc.)
> 6) A timeline of completion for each option, including time for design, engineering, specifying, bidding, evaluating bids and awarding work, fabrication, and installation of equipment including startup
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> **NOTE: The consultant's report shall include items 1-6 above but shall not form conclusions nor make recommendations of what option(s) the City should select.**

BACKGROUND AND OVERVIEW OF THE CITY, RESOURCE RECOVERY PLANT, AND AMES MUNICIPAL ELECTRIC SYSTEM

City of Ames, Iowa

The City of Ames, Iowa is located in central Iowa, approximately 30 miles north of Des Moines. Its population is approximately 67,000. Ames is the largest city in Story County, which has a total population of approximately 97,000. The City is home to Iowa State University, a land grant university with approximately 33,400 students. The City is in the process of developing a new comprehensive plan, which is intended to accommodate a potential population of approximately 82,000 in Ames alone by the year 2040. Story County can be expected to potentially reach a population of 119,500 by the year 2040.

Major employers in Ames include Iowa State University, Mary Greeley Medical Center, the City of Ames, the Iowa Department of Transportation (headquartered in Ames), Danfoss, Barilla, and 3M. Ames is also home to the U.S. Department of Agriculture's National Animal Disease Laboratory and National Centers for Animal Health, the U.S. Department of Energy's Ames Laboratory, and a number of technology and research firms in the ISU Research Park.

Current Operation - Resource Recovery Plant

The Arnold O. Chantland Resource Recovery Plant (Resource Recovery Plant or RRP), located at 110 Center Avenue, is owned and operated by the City of Ames under the Public Works Department. The facility began operation in 1975. The facility receives approximately 52,000 tons of municipal solid waste (MSW) each year from throughout Story County. MSW is received from the communities of Ames, Nevada, Story City, Huxley, Slater, Roland, Gilbert, Maxwell, Cambridge, Zearing, McCallsburg, and Kelley. MSW from Iowa State University and rural Story County is also received at the Resource Recovery Plant. Waste collected within other communities in Story County is disposed of at other facilities. Waste collection in Ames is provided by private haulers, with the exception of Iowa State University, which provides in-house waste collection services.

Upon arrival to the facility, incoming trucks are weighed, and waste is tipped onto a receiving floor where it is manipulated by a front-end loader. Bulky and other undesirable materials are removed and landfilled. The remaining waste is loaded into a conveyor. Through processing, the waste is shredded, ferrous and non-ferrous metals are removed and recycled, and heavy materials are rejected and landfilled. The remaining, lighter fraction of the material is refuse-derived fuel (RDF).

The Resource Recovery System has a separate program to divert container glass from the RRP. Glass cannot be effectively processed by the Resource Recovery Plant. Through a system of collection bins placed throughout the County, approximately 10% of the container glass in the Resource Recovery System area is collected and sent for recycling. Additionally, the City is in the pilot stages of a food waste diversion program. The City has a designated yard waste disposal

site operated by a private contractor; the City finances several free yard waste drop off days each year.

As of Fall 2020, the Resource Recovery Plant is financed through tipping fees ($58.75 per ton), a per capita property tax subsidy from each of the participating communities ($10.50), sales of recyclable materials, and the sale of RDF to the Electric Utility.

Neither the City of Ames, nor Story County, has a licensed MSW landfill. Therefore, the Boone County Landfill is the final disposition of MSW generated by the City of Ames and Story County, Iowa that has been rejected from the processing of MSW into RDF by the City's Resource Recovery Plant and burning the RDF produced as fuel in the City's Power Plant. At times when the Resource Recovery Plant is not accepting waste, commercial waste haulers transport MSW directly to the Boone County Landfill, located approximately 18 miles to the west.

The average nominal Btu content of RDF, based upon tests of monthly samples taken in 2020, is 6,265 Btu/lb, with a sulfur content of 0.15% and an ash content of 9.0%.

A waste sort conducted in June 2016 indicated the MSW collected at the Resource Recovery Plant contains the following proportions of materials:

MATERIAL	PROPORTION
Paper	22.16%
Plastic	16.17%
Wood	12.16%
C&D	4.94%
Organic	15.67%
Bulky	7.40%
Glass	0.99%
Metals	5.69%
Textiles	3.28%
Desirable Other	1.73%
Undesirable Other	4.34%
Grit	5.48%

RDF Bin

After it is produced at the Resource Recovery Plant, RDF is conveyed pneumatically to an RDF bin at the Power Plant. The bin was constructed primarily of Cor-ten steel and is approximately 25 years old. The bin is divided into two sides, allowing one side to be emptied while the other is filled. Each side holds approximately 100 tons of RDF. The bin provides some measure of surge capacity between the RDF production at RRP and RDF consumption at the Power Plant.

Steam Electric Plant

The electric utility for the City of Ames, Iowa is a full service municipal electric utility, consisting of generation, transmission, and distribution assets. The utility currently has electric generating resources totaling 145.1 megawatts and serves approximately 27,500 metered customers. The utility's all-time peak (summer) demand was 130.7 megawatts, reached on July 25, 2012. The utility's service territory roughly approximates, but is not coterminous with, the corporate limits of the City of Ames. The electric utility is interconnected to the electric grid at three transmission connection points, with MidAmerican Energy Company at 69,000 volts and 161,000 volts, and with Central Iowa Power Cooperative at 161,000 volts. The utility is a transmission owner in the Midcontinent Independent System Operator power group.

The utility operates two (2) power generation facilities with a total of four (4) generating units (two natural gas-fired steam units co-firing RDF, and two combustion turbine peaking units firing #2 fuel oil). All generating units are used as capacity for the electric utility.

The Steam Electric Plant, located at 200 East Fifth Street, consists of two (2) natural gas-fired steam units, Unit 7 and Unit 8, co-firing refuse derived fuel.

Unit 7 consists of a Combustion Engineering tangential-fired boiler supplying steam to a 33,000-kilowatt rated General Electric non-reheat turbine generator. Particulate emissions are controlled by a cold-side Research-Cottrell electrostatic precipitator which was retrofitted to the unit in 2002. Unit 7 was placed into commercial operation in 1967. The boiler was originally capable of firing on natural gas and coal. Following the construction of the Resource Recovery Plant in 1975, equipment was retrofitted to co-fire RDF with coal in the Unit 7 boiler.

Unit 8 consists of a Babcock & Wilcox wall-fired boiler supplying steam to a 65,000 kilowatt rated General Electric non-reheat turbine generator. Particulate emissions are controlled by a hot-side UOP electrostatic precipitator. Unit 8 was placed into commercial operation in 1982. The boiler was originally fired on pulverized coal and co-fired RDF.

Both Unit 7 and Unit 8 originally used #2 distillate fuel oil for light off during start up and for flame stabilization.

Following the completion of an Energy Resource Options Study in 2013, the utility took steps to convert both Unit 7 and Unit 8 from coal to natural gas in 2016. Through the conversion process, the burners and ignitors for fuel oil were removed. RDF continues to be co-fired in the boilers, at a maximum rate of 30% RDF to natural gas by weight as per the operating permit. This maximum rate requires a large amount of natural gas to be burned while co-firing RDF. RDF is co-fired in only one unit at a time. Unit 7 can burn up to approximately 85 tons of RDF per day under normal operating conditions; Unit 8 can burn up to approximately 120 tons of RDF per day under normal operating conditions.

Since the RDF cannot be effectively stored long-term, one unit must remain in near-constant operation to dispose of the RDF as it is produced. This limits the electric utility's ability to take full advantage of market energy at times when rates are low. The minimum mega-watt load for

Unit 8 when burning RDF is 42 MW and Unit 7 must run at full load when burning RDF. These minimum loads create negative economic impacts for the utility, limiting the ability for purchasing lower cost energy from the market rather than producing it.

The natural gas is provided by the Northern Natural Gas Company. The average nominal Btu content of natural gas delivered, based upon gas gate information from Northern Natural Gas Company, is 1,092 Btu/cf with a sulfur content of 0.015 gr/ccf.

The former coal pile site, located across the railroad tracks from the Power Plant (and adjacent the Resource Recovery Plant), is no longer in use. The overall parcel upon which the coal pile was situated is approximately 305,000 square feet, and includes the RDF bin, storage buildings, and water detention areas. The portion of this site formerly used to store coal is approximately 100,000 square feet.

Within the Steam Electric Plant, two retired units remain in place (Unit 5 and Unit 6). Both units were decommissioned in 1986. Through a project planned for 2021/22, the Utility intends to remove the Unit 5 turbine/generator, Unit 5 boiler, and Unit 6 boiler. The Unit 6 turbine/generator will remain in place until the possibility of its re-use is ruled out. Unit 6 turbine/generator is a 12,650-kilowatt rated General Electric non-reheat turbine generator placed into commercial operator in 1956. The unit last generated electricity in 1986.

Ash Disposal

Flyash and bottom ash from the combustion process at the Power Plant is sluiced to an ash disposal site east of the Power Plant. Since the conversion of the Power Plant from coal to natural gas, the volume of ash generated has decreased, and the ash now generated is exclusively composed of the remnants from the combustion of RDF.

The current ash disposal site is approximately 12 acres in size and is located 2,960 feet ENE of the power plant. The site is lined with approximately three (3) feet of natural clay and is operated as a “zero discharge” basin, in that it does not have an outfall to surface water, such as a pond or stream. Periodically, accumulated ash has been excavated for disposal in a landfill.

STUDY AND REPORT INSTRUCTIONS

The study will consider all viable options to dispose of MSW in a waste-to-energy facility to meet disposal demands for the time period between 2023 through at least 2040. Five options to be considered are presented in Table 1, in addition to any options identified by the consultant and agreed to by the City as worthy of exploration.

The consultant is encouraged to recommend other viable options in addition to those identified in Table 1.

For each option, the consultant will analyze and provide the following information:

1. List, describe and estimate the capital costs (January 2023 dollars) for each option related to: 1) land acquisition, 2) construction of structures, 3) existing structure demolition, and 4) equipment fabrication and installation.

   List, describe, and estimate annual operating and maintenance costs (January 2023 dollars) associated with each option for each utility (Electric and Resource Recovery). This should include all costs associated with the option that are different than that of the base case (the Resource Recovery System, Power Plant, and all auxiliary facilities as-is prior to the changes made by the option).

   NOTE: This analysis should consider the avoided cost of electricity production at times when market rates are lower than Ames Electric Services' electricity production rates.

   For example, if the option allows the electric utility to turn down/off a generation unit and purchase lower cost energy rates from the market, there would be an avoided higher cost of continuing to generate electricity for the sake of burning RDF. Unit 7 must run at full load (35MW) to burn RDF. If the production price on Unit 7 is $10/MWh more than the average market purchase price for a 24hr period, the utility would lose out on an opportunity cost savings of $8,400 because of needing to continue generating to burn RDF.

2. A written discussion of the relative advantages and disadvantages of each option. For example: reliability, redundancy, expansion opportunities, automation, etc.

   NOTES:

   a) All assumptions and factors for estimating costs, etc. must be shown so the analyses and estimations can be followed and understood. Examples include interest rates, rate of inflation, etc.

b) Equipment chosen should be sized and selected to optimize the fit for the City of Ames' particular application. Any reliance on MSW or other waste being imported into the County to economize the proposed system, or exported out of the county to a landfill as a contingency when the City's waste-to-energy system is down, should be explained in detail to illustrate feasibility.

c) Realize that the waste disposal capacity sufficient for the present day may not be sufficient at some point in the future. The study shall account for anticipated changes in the production of MSW, accounting for local historical trends, anticipated population changes, changes in the waste habits of consumers, trends in the content of MSW and its Btu value, and alternative markets for waste that result in diversion.

d) The consultant selected to perform the study will be forwarded information and data as contained in APPENDIX A. This information will be made available following the award of contract for the work.

e) For options that involve construction of a dedicated boiler(s) or new processing equipment, evaluate the costs of retaining the existing Resource Recovery System and Power Plant operation as a back-up system to dispose of waste at times when the primary system is down for repairs or maintenance. If the existing Resource Recovery System and Power Plant equipment are not retained for RDF production and combustion, evaluate options to create redundant systems for maintaining a 24/7 reliable, operating facility.

f) For options that involve the installation of a dedicated unit inside the Power Plant, evaluate both 1) the possibility of the re-use of the existing Unit 6 turbine/generator and 2) the construction of a new turbine/generator.

3. List, describe, and estimate the environmental impacts. List and describe the estimated air emissions including Greenhouse gas emissions, PM, CO, dioxins/furans, SO2, NOx, acid gases, and metals. A description of the expected wastewater effluents and processing requirements. The City of Ames contributions to air emissions and wastewater if utilizing a landfill. A written discussion of the relevant state and/or federal permits necessary for the work. For options that include discontinuing the combustion of RDF in the existing Unit 7 and Unit 8 boilers, the consultant should discuss any potential ramifications to the Electric Utility's existing air permitting for those units.

   NOTE: The City of Ames will be responsible for estimating the time necessary to acquire any required permits.

4. The time necessary for all equipment or facilities to be installed and ready for operation. This timeline must include the time to design, engineer, specify, bid, evaluate, award, fabricate, deliver, install, and start-up all necessary equipment (for each option).

   NOTE: The City of Ames is prohibited by State of Iowa law from bidding and undertaking any project as a "design-build" project. For any new installation or equipment modification project, the entity performing the work must be different from the entity that performed the design and/or engineering.

   The City is also required to formally and publicly bid all projects exceeding $139,000 in cost and defined as a "public improvement" in Chapter 26 of the Iowa Code.

5. Analyze the volume of MSW that can be processed with each option, including the proportion of MSW that must be separated and landfilled compared to the proportion of MSW that can be diverted from the landfill for electrical production or other beneficial use.

   The study shall consider whether, for each option evaluated, the City's existing waste diversion programs (glass recycling, food waste diversion) could be collapsed into the waste-to-energy system without negative technical or permitting implications (and estimate the resulting cost savings of discontinuing such programs), or if those diversion programs would need to be expanded, and to what extent. The study shall also consider whether other combustible materials that are currently sent to the landfill, such as wood, heavy plastics, or constructions and demolition debris, could be incorporated into the processing for each option.

6. Describe the storage capacity and needs of processed material, and any expectation to transport material from a processing facility to a combustion facility. Identify the impacts of truck traffic from the importation of MSW or the movement of processed material or reject material.

7. Describe the potential for ferrous and non-ferrous metals recovery for each option, including any impact the processing has to the quality of such metals for resale on the scrap market.

8. Describe the potential for steam sales to industrial customers or other commercially desirable byproducts generated for each option.

Table 1: Options to be Evaluated

Option	Description
1	**Resource Recovery and Power Plant As-Is**
2a	**Dedicated RDF Unit Inside PP –** Install a new, dedicated boiler and turbine/generator inside the Power Plant, combusting RDF, minimally using natural gas for start-up, shutdown, and if required, for operational stability. The new boiler would be located in the space of currently retired Unit 5 and 6 boilers. The fuel would feed into the boiler similarly to the way it is fed into Unit 7 or Unit 8 currently, using pneumatic blowers located at the RDF bin. The RDF bin and RRP would continue to operate as is.
2b	**Dedicated RDF Unit Inside PP with RRP providing 20" RDF Sizing –** Install a new, dedicated boiler and turbine/generator inside the Power Plant, combusting up to 20" RDF, minimally using natural gas for start-up, shutdown, and if required, for operational stability. The new boiler would be located in the space of currently retired Unit 5 and 6 boilers. The current RDF bin and fuel feed system going to the power plant would be modified or replaced to accommodate the larger RDF material.
3a	**Dedicated RDF Unit on Greenfield Site –** Install a new, dedicated waste-to-energy boiler and turbine/generator on a greenfield industrial site (including potentially the former Power Plant coal yard). The facility would operate with a Materials Recovery Facility (MRF) located at the front of the process. Explore possible re-use of existing RRP facility and/or equipment for MRF.
3b	**Dedicated MSW Unit on Greenfield Site** – Install a new, dedicated waste-to-energy boiler and turbine/generator on a greenfield industrial site, (including potentially the former Power Plant coal yard), combusting unprocessed MSW, recovering metals after the combustion process. Explore possible re-use of existing RRP facility and/or equipment for materials recovery.

PROPOSAL CONTENTS

The contents of the responses submitted to the Request For Proposal should contain at minimum the following information for consideration:

Cover Letter

The cover letter shall include complete contact information for the authorized agent of the offeror. The consultant needs to demonstrate in the cover letter their general understanding of COA needs, requirements, work scope, and supply scope for this project and how they plan to meet those needs, including highlighting unique aspects or benefits of what is being proposed.

Proposal

1. The listing and descriptions of similar studies the consultant has conducted in the past ten (10) years.

2. The resume and related work experience of the project manager or team leader.

3. The resumes and the pertinent work experiences of the staff that will be assigned to perform the study.

4. A schedule or timeline of the study, including any significant milestones and meetings. The City will require a minimum of four (4) meetings with the selected consultant. The four meetings are: 1) the study kickoff meeting, 2) at the ½ point, 3) a final report stage technical meeting with City staff, and 4) a final report stage for the presentation to the City Council at the conclusion of the study.

5. Describe the availability of your top-quality staff and other resources necessary to complete the study on time.

6. Describe any and all special tools, including software programs, which will be used to analyze any portion of the study.

7. If information or data is needed beyond what is contained in this Request For Proposal in order to make your proposal, contact Karen Server, Purchasing Manager at karen.server@cityofames.org or call 515-239-5127 as soon as possible.

NOTE: A large amount of data will be provided to the finalist selected to perform the study once the contract is awarded. Refer to Appendix A at the end of this Request For Proposal.

8. Describe the firm's personnel or other resources that will be called upon to provide knowledge and expertise in the following areas necessary to complete the study:

a. EPA and Iowa DNR regulations affecting sanitary landfills, recycling facilities, electric generating units, mass burn units, and other forms of waste-to-energy facilities in commercial operation.

b. The pollution control equipment necessary to control emissions in accordance with current environmental regulations.

Cost Proposal

The consultant shall state the cost components with a total "not to exceed" amount that it would invoice the City for completing the scope of work as described herein (analyzing the options listed in Table 1). Prices shall be inclusive of all labor and other component costs necessary to complete the "SCOPE OF WORK" as described herein and no greater amounts will be paid unless authorized by written change order. Time, material, travel, and any other anticipated costs intended to be billed to the City of Ames for performing this study shall have rates or unit prices clearly stated.

Exceptions to the RFP

Any exception which the consultant may take to the Request For Proposal, including the terms of the sample agreement form, shall be clearly set forth in the Proposal. All features and conditions wherein the offering is unlike the Request For Proposal shall be fully explained. A value adjustment to the fee shall be included in the proposal, if applicable, should the City accept the exception. Any exception may render the proposal invalid and disqualify the proposal at the City's sole option.

PROPOSAL EVALUATIONS, PRESENTATION, AND SELECTION OF FINALIST

An evaluation team comprised of representatives from the City Manager's Office, Electric Services Department, and Public Works Department will review and evaluate submittals, in consultation with representatives of the Finance Department and Legal Department.

Method of Award – Best Evaluative Score Based on Written Response and Presentations

From the initial submittal of proposals the City of Ames will evaluate and select those firms that the City deems worthy of being chosen as semi-finalists to come to Ames, Iowa and make a presentation to City staff regarding their proposals and how they would perform the study.

Step 1: Criteria rated on weighted scores:

1) **Proposal Evaluation Criteria**

a) Assigned staff's knowledge and experience – especially pertaining to environmental regulations, electrical power, material recovery and diversion, and engineering and costing of waste-to-energy facilities
b) Firm's experience and capability to perform the study
c) Comprehension of the Request For Proposal and the completeness of the submission
d) Availability of staff and other resources to meet the schedule proposed by the consultant
e) Cost

Step 2: Semi-Finalist(s) Presentation:

1) Each consultant invited as a semi-finalist to make a presentation will be expected to bring as many key members (especially the team leader or project manager) of their study team to the presentation as possible.
2) Each consultant will be allowed up to four (4) hours of time to make their presentation to the City.
    a. Each semi-finalist shall allow enough time, in addition to the presentation, to take a tour of the City's facilities on the same day as their presentation, including the Steam Electric Plant and the Resource Recovery Plant.

1) Presentation Evaluation Criteria

a) Knowledge and relevant experience of staff assigned to perform the study
b) Study process and methodology
c) Commitment and enthusiasm for the project
d) Comprehension of the scope of work
e) Quality and thoroughness of the presentation

Once all the presentations have been made, the City will choose the consultant it deems most able and committed to perform the study and provide the report in the timeframe required based upon the proposal and presentation evaluation criteria. The City reserves the right to conduct negotiations with the finalist(s) in order to reach an agreement that meets the City's needs and to accept revisions of proposals and costs.

APPENDIX A: Information and Data to be Supplied to the Finalist

Unit 7

1) Gross Output
2) Hours of Operation
3) Capacity Factor
4) Heat Rate
5) Gas Usage
6) RDF Usage
7) Annual Emissions
8) Stack Test Results
9) Maintenance Costs

Unit 8

1) Gross Output
2) Hours of Operation
3) Capacity Factor
4) Heat Rate
5) Gas Usage
6) RDF Usage
7) Annual Emissions
8) Stack Test Results
9) Maintenance Costs

Fuel Statistics

1) Natural Gas Analyses
2) Natural Gas Costs
3) RDF Analyses
4) RDF Costs

Ash Disposal

1) Landfill Tipping Fees
2) Hauling Costs

MSW Collection

1) Landfill Tipping Fees (Rejects)
2) Hauling Costs
3) RRP Tipping Fees, Per Capita Information
4) Sales of Recoverable Metals
5) Glass Diversion Program Costs
6) Food Waste Diversion Program Costs

Purchased Power

1) Purchased Power (Annual Total)
2) Purchased Power Pricing (Annual Average)

Wholesale Power Sales

1) Wholesale Power Sales (Total)
2) Wholesale Power Sales Pricing (Annual Average)

Native Demand Sales

1) Native Sales (Annual Total)
2) Native Sales Forecast