



REPORT TO COUNCIL

City of Sacramento

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www.CityofSacramento.org

Staff Report
February 26, 2008

**Honorable Mayor and
Members of the City Council**

Title: Waste to Energy (WTE) Project Concept Approval

Location/Council District: Sacramento Region

Recommendation: Adopt a **Resolution** 1) approving the project concept, and 2) granting U. S. Science & Technology (USST) a California "C" Corporation for a period of up to three (3) months exclusive right to negotiate a Principles of Agreement (POA) to develop an alternative resource or Waste to Energy project, and 3) negotiate with BLT Enterprises of Sacramento, Inc. (BLT Enterprises) principles of agreement upon which the City's contract with BLT Enterprises would be amended in order to accommodate the Waste to Energy project

Contact: Michelle Heppner, Special Projects Manager 808-1226

Edison Hicks, Integrated Waste General Manager, 808-4949

Presenter: Marty Hanneman, Assistant City Manager

Department: City Manager's Office

Division: n/a

Organization No: 0310

Description/Analysis

Issue: The City collects and delivers an average of 146k tons of residential and commercial municipal solid waste (MSW) annually to BLT Enterprises of Sacramento, Inc.'s (BLT Enterprises) transfer station. BLT Enterprises, under contract with the City until 2018, first sorts the commercial waste then hauls both to the Lockwood landfill in Sparks, Nevada at a cost of \$38.50 per ton. Additional residential MSW is disposed of at the Sacramento County's Keifer Landfill at a cost of \$44.80 per ton. MSW makes up approximately 56% of the total trash and the cost to the City to dispose of MSW is over \$8 million annually. The other 44% is recycled and green waste which qualifies for credit under the states diversion mandate AB 939 to divert 50% of all waste from landfills. Going forward, it is anticipated that landfills will reach capacity and alternative waste disposal methods will be required to meet the needs of our growing population in the Sacramento region.

In August 2007, the City issued a Request for Qualification (RFQ) to attract a

development partner with the expertise and financial capacity to provide alternative resource recovery and energy creation technology to contribute to the City's efforts in becoming a "green city".

A Waste to Energy (WTE) RFQ selection committee made up of staff from the City Manager's Office (CMO), the Solid Waste Division, the City Attorney's Office, Sacramento County Department of Waste Management & Recycling, and professors from California State University, College of Engineering and Computer Science convened to review and categorize the eleven Statement of Qualifications (SOQ) received. Exhibit A provides a summary of the various technologies proposed in response to the WTE RFQ.

Staff reviewed the various technologies proposed and conducted further research and due diligence, including a site visit by staff to the Westinghouse Plasma Corporation (WPC) facility in Pittsburg, Pennsylvania. As a result, staff has determined that the plasma gasification technology will best meet the goals for the WTE project, the concern that landfills are reaching capacity, and the City's long-term sustainability efforts. The USST team consisting of Environmental Resources Management (ERM), Alter Nrg/Westinghouse Plasma Corporation (Alter Nrg/WPC), Credit Suisse and East West bank was identified as the most viable team to deliver the plasma gasification technology. As long time residents of the Sacramento region, USST leaders are familiar with the community, environmental challenges, ongoing and future needs, and impacts of municipal solid waste (MSW) on the region and energy related concerns. USST states they are committed to making WTE the forefront of their business focus.

Due to the complexity of the project concept, this report recommends granting USST the exclusive right to negotiate with the City, for a period of three (3) months. During this time, the, the City, BLT Enterprises and USST will negotiate business terms in the form of a Principles of Agreement (POA) and, if viable, staff will bring POA to City Council for consideration and further direction.

Although this proposed POA is between the City, BLT Enterprises and USST, staff believes it may be possible to ultimately partner with Sacramento County and BLT Enterprises to address the entire City's and County's MSW. Staff will also meet with SMUD's renewable energy group to begin discussions on their interest in working with the City on this project.

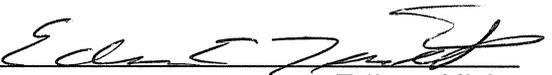
Policy Considerations: The actions recommended in this report are consistent with: 1) the Sustainability Plan adopted by City Council on December 18, 2007 which addresses: a) the negative effects of global warming due to the emission of carbon dioxide and methane caused by landfills; and b) renewable energy creation; and 2) the California Integrated Waste Management Act (IWMA) of 1989 (AB 939) - Waste Diversion Mandate requiring municipalities to meet a diversion rate of fifty (50) percent of all MSW from landfills.

Environmental Considerations: The specific actions recommended in this report are exempt from California Environmental Quality Act (CEQA) Guidelines Section 15262 as a planning activity for defining the project for possible future action. Environmental review will be performed as required in connection with specific projects that may result from the requested actions.

Rationale for Recommendation: Staff identified five specific goals for the WTE project: 1) Environmentally friendly and reduces greenhouse emissions, 2) Economically viable and cost-neutral to rate payers, 3) Leaving little to no residual requiring treatment or landfill disposal, 4) Continue the City’s existing recycle program, and 5) Utilize a proven technology at a commercial scale. Staff has determined that the plasma gasification technology will best meet the WTE project goals and the City’s goals for sustainability. Of the eleven submittals received, USST is the only company proposing the plasma gasification technology. Staff is recommending the POA with USST.

Financial Considerations: If approved and executed, the proposed POA would obligate the City and USST to make good faith efforts to negotiate the terms of the final development project agreement (DPA). Based on financial projections provided by USST, the City may realize new revenues with the use of WTE from reduced tipping fees and revenue sharing from saleable by-products.

Emerging Small Business Development (ESBD): The specific actions recommended in this report do not entail the purchase of goods or services therefore ESBD considerations do not apply.

Respectfully Submitted by: 
Edison Hicks
Integrated Waste General Manager

Approved by: 
Marty Hanneman
Assistant City Manager

Recommendation Approved:

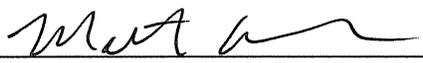
ben 
Ray Kerridge
City Manager

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Attachment 1**Background**

The City collects and delivers an average of 146k tons of residential and commercial municipal solid waste (MSW) annually to BLT Enterprises of Sacramento transfer station. BLT Enterprises, under contract with the City until 2018, first sorts the commercial waste then hauls both to the Lockwood landfill in Sparks, Nevada at a cost of \$38.50 per ton. Additional residential MSW is disposed of at the Sacramento County's Keifer Landfill at a cost of \$44.80 per ton. MSW makes up approximately 56% of the total trash and the cost to the City to dispose of MSW is over \$8 million annually. The other 44% is recycled and green waste which qualifies for credit under the states diversion mandate AB 939 to divert 50% of all waste from landfills. Going forward, it is anticipated that landfills will reach capacity and alternative waste disposal methods will be required to meet the needs of our growing population in the Sacramento region.

In early 2007, two separate firms approached the City with technologies premised on alternative resource recovery and energy creation. In an effort to educate ourselves on other potential alternative energy creation technologies, a Request for Qualification (RFQ) was issued on August 24, 2007 by the City Manager's Office (CMO). The RFQ called for a development partner with the expertise and financial capacity to provide alternative resource recovery and energy creation technology. The project is referred to as the Waste to Energy (WTE) project.

The following five specific goals were identified for the WTE project: 1) Environmentally friendly and reduces greenhouse emissions, 2) Economically viable and cost-neutral to rate payers, 3) Leaving little to no residual requiring treatment or landfill disposal, 4) Continue the City's existing recycle program, and 5) Utilize a proven technology at a commercial scale.

A WTE RFQ selection committee made up of CMO staff, Solid Waste staff, City Attorney, Sacramento County Department of Waste Management & Recycling, and professors from California State University, College of Engineering and Computer Science convened to review the eleven Statement of Qualifications (SOQ) submittals and categorize them according to the various technology fields. Exhibit A provides a summary of the various technologies proposed in response to the WTE RFQ.

Staff's review of the various technologies proposed involved conducting further research and due diligence, including a site visit by staff to the Westinghouse Plasma Corporation (WPC) facility in Pittsburg, Pennsylvania. As a result, staff has determined that the plasma gasification technology being proposed by the USST will best meet the goals for the WTE project, including the concern about landfills reaching capacity and the City's long-term sustainability efforts.

The Westinghouse Plasma Corporation (WPC) plasma gasification technology was developed over 30 years and has been proven in commercial scale gasification facilities for all types of wastes, biomass, coal and tires converting them into syngas then into heat, steam or power. Currently there are fully operational WPC plasma gasification facilities in Japan and Europe. The first U. S. facility in St. Lucie, Florida is in the process of being developed and expected to be fully operational by 2010.

Although plasma gasification is a proven technology, staff is aware that successful use of this technology locally will require addressing multiple challenges including permitting issues, identifying a suitable location and ensuring compliance with state diversion requirements. The POA period will provide an opportunity to discuss these challenges and determine whether a viable agreement can be developed and brought to City Council for consideration.

USST was the only company to propose the plasma gasification technology. As long time residents of the Sacramento region, USST leaders are familiar with the community, environmental challenges, ongoing and future needs, and impacts of municipal solid waste (MSW) on the region and energy related concerns. USST states they are committed to making WTE the forefront of their business focus and it appears they are the most viable company to deliver the plasma gasification technology. The USST primary team consists of Environmental Resources Management (ERM), Alter Nrg/Westinghouse Plasma Corporation (Alter Nrg/WPC), Credit Suisse and East West bank.

Due to the complexity of the project concept this report recommends granting USST for a period of three (3) months, the exclusive right to negotiate with the City, through the City Manager, a POA. Staff will return to City Council for approval of the POA. During this period, the City and USST will further complete due diligence on a variety of items and seek community input. Once conceptual and design development planning are complete, staff will return to City Council for further approval and/or direction.

Although this proposed POA is between the City, BLT Enterprises and USST, staff believes it may be possible to ultimately partner with Sacramento County and BLT Enterprises to address the entire City's and County's MSW.

Attachment 2

RESOLUTION NO.

Adopted by the Sacramento City Council

AUTHORIZATION FOR THE EXCLUSIVE RIGHT TO NEGOTIATE PRINCIPLES OF AGREEMENT (“POA”) WITH U. S. SCIENCE & TECHNOLOGY CORPORATION AND NEGOTIATE WITH BLT ENTERPRISES OF SACARMENTO, INC. FOR PROVIDING RESOURCE RECOVERY AND ENERGY CREATION

BACKGROUND

- A.** The City collects and delivers an average of 146k tons of residential and commercial municipal solid waste (MSW) annually to BLT Enterprises of Sacramento, Inc.'s (BLT Enterprises) transfer station. BLT Enterprises, under contract with the City until 2018, first sorts the commercial waste then hauls both to the Lockwood landfill in Sparks, Nevada at a cost of \$38.50 per ton. Additional residential MSW is disposed of at the Sacramento County’s Keifer Landfill at a cost of \$44.80 per ton. The total cost to the City to dispose of MSW is over \$8 million annually. Going forward, it is anticipated that landfills will reach capacity and alternative waste disposal methods will be required to meet the needs of our growing population in the Sacramento region.
- B.** On August 24, 2007, the City Manager’s Office (CMO) issued a Request for Qualification (RFQ) to solicit other potential alternative technologies. The RFQ called for a development partner with the expertise and financial capacity to provide alternative resource recovery and energy creation technology. The project is referred to the Waste to Energy (WTE) project.
- C.** The WTE RFQ selection committee, consisting of CMO staff, Solid Waste staff, City Attorney, Sacramento County Department of Waste Management & Recycling, and professors from California State University, Sacramento College of Engineering and Computer Science, reviewed the eleven (11) RFQ submittals and categorized them according to the various technology fields.
- D.** Staff identified five specific goals for the WTE project: 1) Environmentally friendly and reduces greenhouse emissions, 2) Economically viable and cost-neutral to rate payers, 3) Leaving little to no residual requiring treatment or landfill disposal, 4) Continue the City’s existing recycle program, and 5) Utilize a proven technology at a commercial scale. Staff has determined that the plasma gasification technology will best meet the WTE project goals and the City’s goals for sustainability. Of the eleven submittals received, USST is the only company proposing the plasma gasification technology.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

- Section 1. U.S. Science & Technology is hereby granted up to three months, the exclusive right to negotiate with the City, through the City Manager, principles of agreement for the development of a Waste to Energy project.

Section 2. Staff is directed to negotiate with BLT Enterprises of Sacramento, Inc. principles of agreement upon which the City's contract with BLT Enterprises would be amended in order to accommodate the Waste to Energy project.

Exhibit A

Technology	Gasification - Plasma Arc (PAG)	Gasification - Partial Oxidation	Direct Incineration	Pyrolysis	Anaerobic Digestion
Responder(s)*	<ul style="list-style-type: none"> U. S. Science & Technology 	<ul style="list-style-type: none"> IES Enviropel 	<ul style="list-style-type: none"> Covanta Urbaser DESC/WSRI 	<ul style="list-style-type: none"> BLT/WWT 	<ul style="list-style-type: none"> FirmGreen
Pre-sort / recycle required	Not Required	Yes	Yes	Yes	Yes
Input - Garbage Types	Anything	Organic material	Any Combustible material	Organic material	Organic material
Products	Syngas (then Heat, Steam, Electricity)	Syngas (then Heat, Steam, Electricity)	Heat, Steam, Electricity	solids, liquids and/or syngas	Syngas (then Heat, Steam, Electricity)
Advantages	Flexible, "clean" syngas	Low pollutant emissions	Mature, proven technology	Low emissions in combustor	Little energy input required
Disadvantages	High capital cost, energy requirement. Usable - Environmentally benign slag ¹ - can be used as a construction aggregate	Immature and unproven. Unusable slag requires disposal to landfill.	High pollutant emissions. Unusable slag requires disposal to landfill.	Must handle tars, solid products. Unusable slag requires disposal to landfill.	Significant time/space required.
Other Comments	Very high temperatures, <15,000 deg F	Lower energy requirement than (PAG) Currently used for "clean" organics	May not qualify as "renewable"	Liquid and solid products have value	Biological engineering (better enzymes) needed to move technology forward

1. Slag – Residual materials/solids (i.e. ash, sludge)*** Responders with combination technologies**

- Zanker (Multi-technology model)
- Recycled Refuse International (Steam autoclave & advanced separation)