



ARRA REPORTING FORM: SUSTAINABILITY PLAN

1. Name: David Jacobs

2. NAICS or NTEE – NPC code(s) for activities performed this reporting period:

B01, C02, C03, C03.04, C05.02, C05.06, C06.02, C06.03, C06.07, C06.08, S01, W08, W10

(A searchable code list is at: <http://nccsdataweb.urban.org/PubApps/nteeSearch.php?qQry=all-core&codeType=NPC>)

3. Reporting Period (check the appropriate one):

1st Quarter (October – December) 2nd Quarter (January – March)

3rd Quarter (April – June) 4th Quarter (July – September)

4. Total Hours Worked: 83 ARRA Hours Worked: 60.5

A) Impact Metrics: **OEQ consulting contracts executed** (3) 100% completed during quarter. (Cost savings, GHG reduction, etc.)

B) Optional Metrics: **Grant Acquisition:** 2 during period (North Central Texas Council of Governments) - Clean Fleets North Texas Recovery Act, Rounds 1&2 (SECO) (Grants, market development, policy, workshops, standards, procurement)

6. Description of work/grant activities completed during this quarter.

During 2nd Quarter 2011 a total of 28 meeting were attended. Besides weekly staff meeting with the City Manager/Deputy CM other meeting included:

Energy Audit

- Week Ending 1-14-2011:

McKinstry has begun analyzing energy and cost savings of the buildings surveyed for the City of Garland. All efficiency opportunities identified are being quantified and documented for each building to aid with future implementation plans.

Estimated costs associated with implementing Facility Improvement Measures (FIMs), or efficiency opportunities, shall follow in the coming weeks to determine the economic feasibility of each FIM. Low rates from Garland Power and Light present an economic challenge for identifying FIMs with a short-term return on investment (ROI).

- Week Ending 1-21-2011:

McKinstry continues to analyze energy and cost savings of the buildings surveyed for the City of Garland. All efficiency opportunities identified are being quantified and documented for each building to aid with future implementation plans.

In addition, estimated costs associated with implementing Facility Improvement Measures (FIMs), or efficiency opportunities, are being evaluated to determine the economic feasibility of each FIM. McKinstry has identified HVAC equipment at certain facilities that is approaching the end of life expectancy. If the HVAC equipment is to be replaced soon, McKinstry can assist in recommendations related to the most efficient energy equipment available.



- Week Ending 1-21-2011:

McKinstry continues to estimate costs associated with implementing identified Facility Improvement Measures (FIMs), or efficiency opportunities.

With new direction from the City of Garland, McKinstry has begun working with CP&Y on evaluating the possibility of conducting preliminary energy and water process audits for wastewater treatment plants, water pumping stations, and water lift stations. McKinstry and CP&Y believe the energy savings associated with the wastewater plants may be significant enough to explore.

In addition, McKinstry has begun exploring how to evaluate the City of Garland's existing street lighting system. LED and energy efficient pulse start metal halide street lighting shall be considered with respect to life cycle cost analysis.

- Week Ending 2-4-2011:

McKinstry continues to estimate costs associated with implementing identified Facility Improvement Measures (FIMs), or efficiency opportunities.

McKinstry continues to work with CP&Y on evaluating the possibility of conducting preliminary energy and water process audits for wastewater treatment plants, water pumping stations, and water lift stations. McKinstry and CP&Y believe the energy savings associated with the wastewater plants may be significant enough to explore.

- Week Ending 2-18-2011:

McKinstry has begun work with CP&Y to assess the wastewater treatment plants' processes. McKinstry has hired CP&Y to collect data and assist with analysis of energy and water conservation opportunities.

Over the next couple of weeks, McKinstry and CP&Y will be compiling a report with recommendations associated with changes at Garland's wastewater treatment plants.

- Week Ending 2-25-2011:

CP&Y has begun collecting information related to wastewater treatment plants on behalf of McKinstry. The data collected will be used to analyze potential conservations measures that will feed into the Energy Audit report.

In addition, the City of Garland provided McKinstry with street lighting information that will also be included in the Energy Audit report.

- Week Ending 3-4-2011:

CP&Y continues collecting information related to wastewater treatment plants on behalf of McKinstry. The data collected will be used to analyze potential conservations measures that will feed into the Energy Audit report.

- Week Ending 3-18-2011:

McKinstry and CP&Y continue collecting information related to wastewater treatment plants. During a recent visit to the Rowlett Creek facility, the following information was observed:

- The majority of the pumps and motors at Rowlett Creek are already on VFD's (and most of them were just put there during 2010)
- 4 x 200 HP blower motors are being replaced with 2 x 300 HP motors next week
- Rowlett Creek has a large storage tank for methane gas that comes off their digesters (tank typically shows 9 psi according to operator)
- The methane gas was one used to fuel a boiler for the main administration building
- There is no back-up generator at the wastewater treatment plant (perhaps an opportunity to utilize a fuel cell with the methane and natural gas)
- The methane building piping and methane boiler are no longer in use



- The Rowlett Creek plant is rated for 16 million gallons per day, but has been running above that (approximately 18-19 million gallons per day) for about the last year since some construction is being done at Duck Creek
- Many of the 250W HPS and MH lighting in the processing buildings run 24/7 and are difficult to replace when lamps burn out
- A 60 HP fan motor runs 24/7/365 to filter odor from the Solid Waste Separating building through cypress wood mulch/chips (perhaps a VFD opportunity)
- 8-foot T12 were found throughout much of the processing buildings as well
- Rowlett Creek used to “give” solid waste (aka cake) to a company that would burn it on site and convert it into landscaping pellets (fertilizer?) but stopped doing that when EPA claimed the level of metals in the waste was too high to put in the ground. The wastewater treatment plant now trucks the waste to the landfill (very expensive fuel costs associated with trucking the waste)
- A few small unitary systems run 24/7/365 to cool electrical rooms

McKinstry and CP&Y will visit Duck Creek next week with the hope of uncovering additional opportunities.

Greenhouse Gas

Week January 7, 2010

Objectives for Bi-Weekly period:

- Begin data collection effort
- Set meeting date for full committee meeting

Activities Undertaken:

- Provided baseline year data collection sheet
- Researched city operations and demographic information from publicly available sources
- Provided meeting date for full committee meeting

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Bi-Weekly Period:

- Request EPA emissions information for GP&L and solid waste facilities from City of Garland
- Full committee meeting and update meeting with team partners scheduled January 18

Week January 14, 2010

Objectives for Weekly period:



- Evaluate baseline year data
- Finalize date for full committee meeting

Activities Undertaken:

- Began preparation of data collection sheets
- Obtained vehicle registration information, historical climate data, population, and net electricity generation data for baseline year determination

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Full committee meeting and update meeting with team partners January 18
- Meet with Carbeion representative and evaluate software product
- Continue collecting and evaluating baseline year data
- Finalize data collection sheets

Week January 20, 2011

Objectives for Weekly period:

- Identify major assets lists for the City of Garland for developing GHG input data sheets
- Develop draft input data sheets for major GHG emitting sources
- Attend full committee meeting

Activities Undertaken:

- Developed master assets data sheet and submitted to the Project Manager (David Jacobs)
- Developed draft input data collection sheets for stationary combustion, landfills, and purchased electricity from buildings
- Reviewed vehicle registration information, historical climate data, population, and net electricity generation data for baseline year determination

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Discussion with Garland Power & Light on power generation and distribution (01/21)
- Finalize draft input data sheets



- Develop input data sheets for other major GHG emitting sources
- Continue collecting and evaluating baseline year data

Week January 27, 2011

Objectives for Weekly period:

- Continue to develop draft input data sheets for additional major GHG emitting sources

Activities Undertaken:

- Developed draft input data collection sheets for stationary combustion, landfills, and purchased electricity from buildings
- Reviewed vehicle registration information, historical climate data, population, and net electricity generation data for baseline year determination
- Began evaluation of GP&L substations
- Requested electricity and natural gas usage information for city-owned buildings
- Obtained information on closed landfills
- Attend data management strategy session

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Finalize draft input data sheets
- Develop input data sheets for other major GHG emitting sources
- Continue collecting and evaluating baseline year data

Week February 3, 2011

Objectives for Weekly period:

- Continue to develop draft input data sheets for additional major GHG emitting sources

Activities Undertaken:

- Reviewed vehicle registration information, historical climate data, population, and net electricity generation data for baseline year determination
- Began evaluation of GP&L substations and SF6 usage
- Requested electricity and natural gas usage information for city-owned buildings
- Obtained information on closed landfills



Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Product demo for Carbeion software
- Develop input data sheets for other major GHG emitting sources
- Continue collecting and evaluating baseline year data

Week February 10, 2011

Objectives for Weekly period:

- Continue to develop draft input data sheets for additional major GHG emitting sources

Activities Undertaken:

- Reviewed vehicle registration information, historical climate data, population, and net electricity generation data for baseline year determination
- Began evaluation of GP&L substations and SF6 usage
- Product demo for Carbeion software

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Develop input data sheets for other major GHG emitting sources
- Provide baseline year determination documentation and final assessment
- Discuss level of effort required for data collection for pumps

Week February 17, 2011

Objectives for Weekly period:

- Continue to develop draft input data sheets for additional major GHG emitting sources
- Obtain master city asset list for 2010
- Obtain detailed City of Garland vehicle information for 2010

Activities Undertaken:

- Finalized baseline year determination and delivered evaluation report
- Sent benchmark city list from previous projects to Gresham Smith



Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Finalize GP&L data input sheet
- Discuss action items with Gresham Smith
- Obtain master city asset list for 2010
- Obtain detailed City of Garland vehicle information for 2010

Week February 24, 2011

Objectives for Weekly period:

- Continue to develop draft input data sheets for additional major GHG emitting sources
- Obtain master city asset list for 2010

Activities Undertaken:

- Delivered input data sheets for purchased electricity, streetlights and traffic signals, vehicle fleet, stationary combustion sources, and SF6 circuit breakers

Anticipated Challenges/Solutions:

- Short term - none
- Long term - none

Activities/objectives for Next Weekly Period:

- Discuss action items with Gresham Smith
- Obtain master city asset list for 2010
- Set up web portal to post project documents
- Pursue MRR reports for landfills and GP&L (CP&Y)
- Research comparable benchmark cities in Texas with municipal-owned utilities

Week March 3, 2011

Objectives for Weekly period:

- Set up web portal to post project documents
- Pursue MRR reports for landfills and GP&L (CP&Y)
- Research comparable benchmark cities in Texas with municipal-owned utilities
- Obtain master city asset list for 2010

Activities Undertaken:



- Delivered revised input data sheets for master list of operations and assets
- Web portal completed
- Pursued MRR reports for landfills and GP&L (CP&Y)
- Researched comparable benchmark cities in Texas
- Obtained completed data sheet for building/purchased electricity and fuel

Anticipated Challenges/Solutions:

- Short term – MRR deadline extended for landfill and GP&L/obtain calculations in the interim
- Long term - none

Activities/objectives for Next Weekly Period:

- Discuss action items with Gresham Smith
- Obtain master city asset list for 2010
- Obtain remaining completed data sheets from the City of Garland

Week March 10, 2011

Objectives for Weekly period:

- Set up web portal to post project documents
- Pursue MRR reports for landfills and GP&L (CP&Y)

Activities Undertaken:

- Delivered input data sheet for maintenance shop and sign shop
- Received master asset list for 2010
- Discuss action items with Gresham Smith
- Research comparable benchmark cities in Texas with municipal-owned utilities
- Obtained data needs from Rowlett Creek WWTP (CP&Y)

Anticipated Challenges/Solutions:

- Short term – none
- Long term - none

Activities/objectives for Next Weekly Period:

- Obtain remaining completed data sheets from the City of Garland
- Obtain data needs from Duck Creek WWTP (CP&Y)



Week March 17, 2011

Objectives for Weekly period:

- Obtain remaining completed data sheets from the City of Garland
- Obtain data needs from Duck Creek WWTP (CP&Y)

Activities Undertaken:

- Began calculations for mobile source emissions
- Scheduled site visit for Rowlett Creek WWTP (CP&Y)
- Performed a full product trial of Carbeion software

Anticipated Challenges/Solutions:

- Short term – none
- Long term - none

Activities/objectives for Next Weekly Period:

- Obtain remaining completed data sheets from the City of Garland – provide a summary list of data gaps to date
- Obtain data needs from Duck Creek WWTP (CP&Y)

Week March 24, 2011

Objectives for Weekly period:

- Obtain remaining completed data sheets from the City of Garland
- Obtain data needs from WWTPs (CP&Y)

Activities Undertaken:

- Began calculations for mobile source emissions and SF6
- Completed site visits for WWTPs (CP&Y)
- Provided summary sheet of data gaps

Anticipated Challenges/Solutions:

- Short term – none
- Long term - none

Activities/objectives for Next Weekly Period:

- Obtain remaining completed data sheets from the City of Garland



Sustainability Plan

Week January 10, 2011

Weekly Consultant Calls

- GS&P coordinated, set up and facilitated the first consultant conference call on Wednesday and provided written notes of the meeting to all participants

Internal Activities

- GS&P has identified 12 cities for the City to select from for their benchmarking comparison. In addition, GS&P has drafted a power point presentation, agenda and baseline checklist in preparation for the City's internal kick-off meeting.

Action Items

- Kick-off meeting to be scheduled by the City

Week January 21, 2011

Weekly Consultant Calls

- GS&P facilitated the second consultant conference call on Wednesday and provided written notes of the meeting to all participants

Internal Activities

- GS&P has identified 12 cities for the City to select from for their benchmarking comparison and submitted the list to the City for comment. In addition, GS&P has drafted a power point presentation, agenda and baseline checklist in preparation for the City's internal kick-off meeting.
- GS&P is coordinating a meeting with the City and Shaw to discuss data management strategy and approach. The meeting date is tentatively scheduled for January 28th.
- GS&P attended the luncheon hosted by McKinstry and was able to meet the committee chair members and other partner consultants.

Action Items

- Kick-off meeting to be scheduled by the City (Garland)
- Send out the meeting invitation to confirm the data management strategy meeting for January 28th (GS&P)
- Review the proposed list of benchmark cities (Garland)



Week February 18, 2011

Weekly Consultant Calls

- GS&P facilitated the sixth consultant conference call on Wednesday and provided written notes of the meeting to all participants.

Activities

- GS&P participated in a kick-off meeting with the executive sustainability planning committee on February 17, 2011.
- During the kick off meeting, the following cities were selected for benchmarking:
 - o Texas - Denton, Lewisville, San Marcos, Plano
 - o Huntsville, Alabama
 - o Chattanooga, Tennessee
 - o Fort Collins, Colorado
 - o Eugene, Oregon
 - o Las Vegas, Nevada
- GS&P provided a baseline sustainability checklist for the members of the committee to complete for their respective department.

Action Items

- Compile meeting notes from the kick-off meeting (GS&P).
- Set up appointments with the baseline cities to complete the benchmarking tasks.
- Develop a comparison of the environmental management system (EMS) approach to the elements of the components of the sustainability management plan.
- Contact Environmental Waste Services about their EMS and potential applicability to the sustainability management plan.

Week February 25, 2011

Weekly Consultant Calls

- GS&P facilitated the seventh consultant conference call on Wednesday and provided written notes of the meeting to all participants.

Activities

- GS&P is preparing meeting minutes from the kick-off meeting with the executive sustainability planning committee on February 17, 2011.
- The 9 cities selected for benchmarking during the kick-off meeting are in the process of being contacted to set up interviews with their respective sustainability officers. The interviews are expected to take place during the month of March.
- GS&P is working on a chart to show the progression of the sustainability plan and how it will compare to a traditional management system approach. GS&P also contacted Lonnie Banks for a potential meeting regarding their EMS.
- GS&P facilitated a meeting with EPA to discuss sustainability at Garland.



Action Items

- Set up appointments with the baseline cities to complete the benchmarking tasks.
- Develop a comparison of the environmental management system (EMS) approach to the elements of the components of the sustainability management plan.

Week March 4, 2011

Weekly Consultant Calls

- GS&P facilitated the seventh consultant conference call on Wednesday and provided written notes of the meeting to all participants.

Activities

- GS&P is preparing meeting minutes from the kick-off meeting with the executive sustainability planning committee on February 17, 2011.
- The nine cities selected for benchmarking during the kick-off meeting are in the process of being contacted to set up interviews with their respective sustainability officers. Four interviews have been scheduled to date and are planned for next week
- GS&P is working on a chart to show the progression of the sustainability plan and how it will compare to a traditional management system approach.
- GS&P discussed with Lonnie Banks the EMS and potential synergies with the sustainability plan.
- GS&P reviewed a matrix outlining Garland Departments and the three pillars of sustainability.

Action Items

- Continue to set up appointments with the baseline cities to complete the benchmarking tasks.
- Submit the comparison of the environmental management system (EMS) approach to the elements of the components of the sustainability management plan to the City the week of March 7, 2011
- Provide feedback to the matrix described above.

Week March 11, 2011

Weekly Consultant Calls

- GS&P facilitated the eighth consultant conference call on Wednesday and provided written notes of the meeting to all participants.

Activities

- GS&P sent the draft meeting minutes from the kick-off meeting with the executive sustainability planning committee on February 17, 2011 to the City.
- The nine cities selected for benchmarking during the kick-off meeting are in the process of being contacted to set up interviews with their respective sustainability officers. At



this time, five interviews have been completed and one interview is scheduled for next week.

- GS&P is working on a chart to show the progression of the sustainability plan and how it will compare to a traditional management system approach.
- GS&P reviewed a matrix outlining Garland Departments and the three pillars of sustainability.

Action Items

- Continue to set up appointments with the baseline cities to complete the benchmarking tasks.
- Submit the comparison of the environmental management system (EMS) approach to the elements of the components of the sustainability management plan to the City
- Provide feedback to the matrix described above.
- Set a date to meet with the committee chairs to discuss the baseline checklist, next steps on baseline data collection and vision statement development.

Week March 18, 2011

Weekly Consultant Calls

- GS&P facilitated the ninth consultant conference call on Wednesday and provided written notes of the meeting to all participants.

Activities

- Each of the nine cities selected for benchmarking during the kick-off meeting have been contacted to set up interviews with their respective sustainability officers. At this time, five interviews have been completed and two interviews are confirmed for next week.
- GS&P submitted a chart to show the progression of the sustainability plan and how it will compare to a traditional management system approach.
- Prepare EECBG quarterly report for GS&P related activities.
- GS&P is reviewing an organization chart for the City that indicates sustainability related roles and responsibilities for City Departments.

Action Items

- Continue to set up appointments with the selected benchmark cities to complete the benchmarking tasks.
- Set a date in early April to meet with the committee chairs to discuss the baseline checklist, next steps on baseline data collection and vision statement development.
- Submit EECBG quarterly report for GS&P related activities to the City.

Week March 25, 2011

Weekly Consultant Calls

- GS&P facilitated the tenth consultant conference call on Wednesday and provided written notes of the meeting to all participants.



Activities

- Each of the nine cities selected for benchmarking during the kick-off meeting have been contacted to set up interviews with their respective sustainability officers. At this time, six interviews have been completed.
- GS&P is preparing an EECBG quarterly report for GS&P related activities.
- GS&P has reviewed and submitted an organization chart for the City that indicates sustainability related roles and responsibilities for City Departments.
- GS&P provided a list of city sustainability websites to reference.
- GS&P and the City met with the EPA to discuss funding/grant opportunities.

Action Items

- Continue to set up appointments with the selected benchmark cities to complete the benchmarking tasks.
- Set a date in early April to meet with the committee chairs to discuss the baseline checklist, next steps on baseline data collection and vision statement development.
- Submit EECBG quarterly report for GS&P related activities to the City by March 29.

7. Dollar amount of work/grant activities completed during this quarter.

- \$1,085.09 (per Finance)

8. Description of public awareness / marketing / training activities completed during this quarter. Attached one hard copy and one electronic copy of any materials produced (# people attending/workshop, # workshops held).

- Committee workshops held to provide training for Energy audit, Green House Gas, Sustainability Chairs and committee members. Three (3) workshops held with fifteen (15) staff received training.

9. Products produced or technology transfer activities accomplished during the reporting period.

- Refinements made to the Intrasite (internal municipal communication process) that allows mass updates of the ongoing activities as they happen in the energy audit, greenhouse gas inventory and sustainability planning projects.

10. Lessons Learned:

- Weekly Conference call with partners is an excellent way to manage projects.

11. Discussion of work/ grant activities to be completed next quarter:



- Energy audit project is expected to be completed with receipt of a final report of energy efficiency improvement opportunities. Also the report will contain finance options toward making these improvements and an implementation plan for service provision.
- Greenhouse gas inventory is expected to be over 80% completed with final report completed and presented for approval in the 3Q 2011. Some deliverables in next quarter include committee meetings, further identification of city assets, further determination of indirect and direct emission sources and emissions from other miscellaneous sources, and gap identification, additional data collection, developing of a new 30 day project schedule.
- Sustainability Plan is expected to be under 60% completed with final report completed and presented for approval in the 4Q 2011. Some deliverables in next quarter include committee meetings, baselining city programs, benchmarking against several cities, developing of a new 30 day project schedule.