



GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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April 21, 2011

TO: Each Supervisor

FROM: Gail Farber *Gail Farber*
Director of Public Works

**BOARD MOTION OF APRIL 20, 2010, ITEM NO. 44
CONVERSION TECHNOLOGIES IN LOS ANGELES COUNTY
SIX MONTH STATUS UPDATE: OCTOBER 2010 THROUGH APRIL 2011 UPDATE**

On April 20, 2010, your Board unanimously approved three Memorandums of Understanding for three conversion technology demonstration projects and awarded a contract for consultant services for Phase III and Phase IV of the Southern California Conversion Technology Demonstration Project for the purpose of developing solid waste alternatives to landfills within Los Angeles.

At that time, your Board also instructed the Director of Public Works, in coordination with appropriate stakeholders, to assess the feasibility of developing a conversion technology facility at one or more County landfills; to identify other potentially suitable sites within Los Angeles County; and to report back to the Board within six months. In October 2010, Public Works submitted a preliminary siting assessment in response to this request, and committed to providing your Board with a status report on our efforts every six months.

The attached Status Report summarizes the efforts Public Works has undertaken to advance conversion technology development in the County of Los Angeles during the period of October 2010 through April 2011. Highlights from the last six months include:

- Assisting CR&R, Inc., one of the three approved demonstration project developers, in securing a \$4.5 million grant from the California Energy Commission.
- Advancing discussions with several site owners and operators in the County of Los Angeles who are interested in developing a facility.

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- Identifying Federal and State funding opportunities for Phase III and Phase IV projects.
- Developing resources for local stakeholders, such as a listing of technology vendors and potential funding entities.

Public Works will continue to work with interested stakeholders to identify potential project locations within the County, evaluate the viability of new conversion technologies, and provide technical assistance to project developers. Our next status report will be submitted to your Board by October 20, 2011.

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Attach.

cc: Chief Executive Office
County Counsel
Los Angeles County Integrated Waste Management Task Force
Department of Public Health
Department of Regional Planning
Regional Planning Commission
Sanitation Districts of Los Angeles County

BOARD MOTION OF APRIL 20, 2010, ITEM NO. 44
CONVERSION TECHNOLOGIES IN LOS ANGELES COUNTY
SIX MONTH STATUS UPDATE: OCTOBER 2010 THROUGH APRIL 2011 UPDATE

1.0 INTRODUCTION

On April 20, 2010, the Los Angeles County Board of Supervisors (Board) unanimously approved three Memorandums of Understanding (MOU) for three conversion technology (CT) demonstration projects and awarded a contract for consultant services for Phase III and Phase IV of the Southern California Conversion Technology Demonstration Project for the purpose of developing solid waste alternatives to landfills within the County of Los Angeles. At that time, your Board also instructed the Director of Public Works, in coordination with appropriate stakeholders, to assess the feasibility of developing a conversion technology facility at one or more County landfills, and to identify other potentially suitable sites within the County of Los Angeles, reporting back to your Board in six months with Public Works' findings.

In October 2010, the Department of Public Works (Public Works) submitted a Preliminary Siting Assessment to your Board. That report identified 11 stakeholders, representing cities, solid waste companies, industrial real estate developers, and 16 sites submitted by the stakeholders for consideration. Based on the general assessment provided in the report, Public Works determined that all of the sites merited further consideration. Since then, Public Works has continued to work with interested stakeholders to identify and evaluate potential project locations within the County, evaluate technologies, research funding and financing opportunities, and provide technical and planning assistance to potential project developers.

To keep the Board regularly informed on these developments, Public Works committed to providing a status report every six months. This status report provides a summary of key accomplishments over the past six months in facilitating the Phase III demonstration projects and advancing the development of conversion technology projects within the County.

2.0 PHASE III DEMONSTRATION PROJECTS

In April 2010, the Board unanimously approved MOUs for three conversion technology demonstration projects: an anaerobic digestion facility (CR&R, Inc.), a gasification facility (Rainbow Disposal Company, Inc.), and a pyrolysis facility (International Environmental Solutions, Inc.). The intent of these demonstration projects is to validate the technical, environmental, and economic benefits of CTs in a local setting, and to provide an impetus and clear permitting pathway for future projects. The demonstration projects will be "flagship facilities", reflecting Leadership in Energy and Environmental Design (LEED) design considerations for eco-friendly, "green" construction. In accordance with the MOUs, Public Works is providing technical and financial advisory assistance and other types of support to the project developers. A summary and status of these Board-approved demonstration projects is as follows:

- **CR&R, Inc.** - CR&R, Inc., a local solid waste management company, is developing a 150 ton per day anaerobic digestion project at its material recovery facility (MRF) and transfer station (TS) in Perris, California. Public Works has been actively involved with CR&R, Inc., in pursuing funding and financing opportunities, and as a result, CR&R, Inc., was awarded a grant of more than \$4.5 million from the California Energy Commission (CEC) in January 2011. CR&R, Inc., is seeking additional grant and tax-credit support, as well as loans to complete the financing of the project, however, the CEC grant is the key to successful financing. This project will process MRF residuals into biogas, which will be further processed into pipeline-quality natural gas or compressed natural gas (CNG). This CNG can also be used as a fuel in CR&R, Inc.'s collection truck fleet. CR&R, Inc., is exploring additional options to use some of the biogas in an engine or a fuel cell to generate electric power for on-site use by CR&R, Inc., and/or for sale. In addition, CR&R, Inc., has defined and initiated permitting activities and is in discussions with third parties regarding sale of energy and compost products. Construction is expected to commence in 2012 and be completed in 2014.

Although the project will be initially developed to process 150 tons per day of MRF residuals, CR&R, Inc., envisions future expansion. Continued success will enable this project to be the first large-size demonstration facility operating in Southern California. Over the next six months, Public Works will complete its own economic analysis to assess the economic advantages of expanding the facility. Public Works will also continue to support CR&R, Inc., as it seeks and evaluates additional funding opportunities. Similarly, within the framework of the MOU, Public Works will monitor and support CR&R, Inc.'s other development activities, including in the near term, permitting and public outreach activities.

- **Rainbow Disposal Company, Inc.** - As currently planned, the facility will be sited at Rainbow's Huntington Beach MRF/TS. Under the terms of Rainbow's MOU with the County, the facility will be designed with an initial capacity of 360 tons per day, with an expansion capability of up to 1,000 tons per day. It will process MRF residuals as well as post-recycled municipal solid waste that would otherwise be landfilled. The energy product of the facility will be electric power. Rainbow has been continuing to address technical and economic aspects of its CT project. A particular hurdle for the project is a significant reduction in the anticipated volume of waste at the Huntington Beach MRF/TS since the MOU was signed. Public Works and Rainbow are continuing to collaborate and communicate on this demonstration project. The next meeting is planned for May 2011 to review and assess the status of project development activities.
- **International Environmental Solutions, Inc. (IES)** - The IES facility will use its proprietary low-temperature advanced pyrolysis technology to convert solid waste feedstock into a synthesis gas that will be used to generate electric power. As envisioned under IES's MOU with the County, the facility will have an initial capacity of 184 tons per day, which could be expanded in the future, and will be

located at the Robert A. Nelson TS and MRF (RAN) in Riverside County. The MOU anticipated the IES demonstration project to be phased-in with an initial testing period processing 35 tons per day of MRF residuals and/or post-recycled waste from RAN at IES's facility in Menifee (formerly, Romoland). Following successful completion of the testing phase, IES would develop and install the project at RAN. The testing phase has not yet been conducted. Since approval of the MOU, the system in Menifee was contracted to a private company on a lease/purchase arrangement and relocated to Mecca, California for commercial application processing tires. As a result of this change, Public Works and IES are jointly exploring other potential options to conduct the test phase of this demonstration project.

3.0 PHASE III FINANCING AND FUNDING SUPPORT ACTIVITIES

For purpose of supporting development activities for CT projects, Public Works has placed a high priority on researching and pursuing financing and funding opportunities such as grants, low interest loans, State and Federal appropriations, and other incentives to close the gap between needed CT tipping fees and market rate waste disposal fees.

Public Works' consulting team includes specialty advisory groups based in Sacramento and Washington, D.C., to pursue State and Federal opportunities. A key focus of the team has been funding opportunities under the CEC, and in particular, the Alternative and Renewable Fuel and Vehicle Technology Program (AB 118), which was the funding mechanism for the CR&R, Inc., project. On a Federal level, the team has been tracking and pursuing various potential opportunities, including programs at four Federal Departments - Transportation, Commerce, Agriculture, and Energy. The project team has focused on how the projects fit into the priorities and potential funding opportunities expected out of the Departments. The team will continue to track Federal activities and will follow-up with the agencies once Federal budgets are adopted, programmatic funding levels have been determined, and application schedules are known. At the State level, the team recently completed a comprehensive cataloging of pertinent State funding opportunities from a number of State agencies (including CEC, CalRecycle, California Pollution Control Financing Authority, State Treasurer's Office, Air Resources Board, Infrastructure State Revolving Fund program (ISRF), and the Public Utilities Commission). Many programs have not been finalized and may be subject to change based on budgetary considerations.

In addition to pursuing State and Federal funding and financing opportunities to support project development activities, Public Works is also focusing its efforts on researching and, as applicable, pursuing grant opportunities for the County's planning activities. At this time, the greatest potential appears to be through the Environmental Protection Agency and the CEC's Technical Assistance and Analysis program. These opportunities are being further investigated for applicability to determine schedule requirements.

4.0 PHASE IV COMMERCIAL PROJECT SITE IDENTIFICATION AND ASSESSMENT

Phase IV of the County's Conversion Technology Project focuses on facilitating the development of commercial-scale CT facilities in the County of Los Angeles for the purpose of providing alternatives to landfill disposal of post-recycled municipal solid waste. As previously described, an important component of Phase IV activities includes identifying and evaluating potential sites. Phase IV also includes working with stakeholders, including cities, solid waste facility owners and operators, and CT companies, to encourage and facilitate the development of mutually beneficial projects within the County.

Public Works has continued to meet with the Chief Executive Office, Sanitation Districts of Los Angeles County (CSD), interested cities, communities, companies in the waste management sector, solid waste facility owners and operators, and industrial real estate developers to further identify and evaluate potential sites within the County. Due to the high level of interest and interaction with the individual stakeholders and based on the extent of available information pertaining to the sites, Public Works has recently focused its efforts on the following four potential sites identified in the Preliminary Siting Assessment: Calabasas Landfill; Scholl Canyon Landfill; Grand Central Recycling and TS in the City of Industry; and potential sites in the City of Carson, including the Carson Corporate Yard. An update of activities regarding these priority stakeholders and sites is provided below:

- **Calabasas Landfill** - The landfill is located in Unincorporated Los Angeles County near the City of Calabasas and is owned by the County and operated by CSD. The City of Calabasas adopted a resolution supporting the development of a CT facility at the landfill. It has limited acreage available for CT development, and site development may require significant earthwork, which may increase project costs. The landfill has a landfill gas recovery and energy generation system which could be of benefit to a CT project producing biogas. Public Works and members of the Los Angeles County Solid Waste Task Force were recently given a tour of the landfill gas-to-energy facility. Public Works and its consulting team are completing an economic model and options analysis for various CT options at the Calabasas Landfill.
- **Scholl Canyon Landfill** - The landfill is located in the City of Glendale and is located on property owned jointly by the City (90 percent) and the County (10 percent). It is operated by CSD. The City of Glendale adopted a resolution supporting the development of a CT facility at the landfill. Similar to the Calabasas Landfill, there is limited acreage available for CT development, and site development may require significant earthwork, which may increase project costs. The City of Glendale has hired a consultant to assist them with site and technology assessment, and is actively pursuing development of a project at the landfill or another viable site in the City. Public Works has met with the City and will continue to coordinate with Glendale as needed.

- **Grand Central Recycling and TS** - The existing Grand Central facility is located in the City of Industry and is owned and operated by Valley Vista Services. The company is working with Onsite Power, the licensee of the UC Davis Anaerobic Digestion process, to build a CT project on approximately four acres available at the Grand Central facility. This project could take advantage of existing infrastructure, including recycling and TS processing equipment, administrative offices, scales, tipping areas, and residue load out. The project developer is in discussions with regulators regarding permitting of the facility. As currently envisioned, this project would initially receive source-separated food waste and green waste. Public Works is closely following this project, due to the advanced level of activity by the stakeholders. Also, this project affords the County the opportunity to consider the viability of the use of CT technologies for source separated organic waste such as food waste and green waste. Such uses are receiving increased attention of public jurisdictions and private stakeholders, pending the need for alternative methods of green waste management following closure of the Puente Hills Landfill.
- **City of Carson Public Works Yard or other potential sites within Carson** - The City of Carson Public Works Yard is a 14-acre site owned by the City and is currently used to house public works operations. Due to the existing operations, several structures for offices and vehicle maintenance are already present on site. The site is located in a heavy industrial area and has rail access. The availability of this site for a CT project is tied to relocation of the City's public works yard to another site, or consolidation of activities at the site to free up space. Public Works and its consulting team have conducted several follow-up meetings with City staff to understand the City's goals and needs and to identify preferred options for a CT project at the public works yard as well as other potential sites within the City's boundaries. Over the next few months, Public Works will assist City staff in evaluating the options and providing information to City administration.

The other sites previously identified in the Preliminary Siting Assessment have remained under consideration. In addition, ongoing outreach efforts by Public Works and its consulting team have resulted in the identification of several new candidate sites. These sites, which are briefly summarized below, will continue to be considered at a pace commensurate with the interest and activity of the respective stakeholders.

Previously Identified Stakeholders and Sites

- **Pebbly Beach Landfill** - The Pebbly Beach Landfill is located in Unincorporated Los Angeles County and owned by the City of Avalon, who has expressed interest in developing a CT facility. Adjacent land use includes vacant, rugged terrain and the City's wastewater treatment plant.
- **Calmet Services MRF/TS** - The MRF is located in the City of Paramount and owned and operated by Calmet Services, who purchased a 7-acre site across

the street from their MRF/TS. A future CT project could make use of the infrastructure at Calmet's adjacent existing MRF/TS.

- **Green City Development, Inc., Site** - Green City Development, Inc., owns a former oil drilling site that occupies a total of 115 acres in the City of Santa Clarita. This is a brownfield site.
- **Lancaster Area** - The City of Lancaster has expressed interest in developing a CT facility within the City or nearby in Unincorporated County areas in partnership with the County. A number of sites are being evaluated for development.
- **City of Long Beach** - The City of Long Beach has expressed interest in developing a CT facility, and has identified two potential sites: approximately 80 acres within the Port of Los Angeles at Pier A West, of which a portion could possibly be used for a non-port use such as a CT project; and an area on Terminal Island near the current SERRF plant, following the re-alignment of the Terminal Island Freeway. Discussions with City staff are ongoing.
- **Sylmar Site** - Mustang Power, a land development company, is proposing a CT project for a 36-acre site that it owns in the Unincorporated County area of Sylmar. The site is currently being used for storage and as a trailer park.
- **Waste Recovery and Recycling MRF/TS** - Waste Recovery and Recycling is proposing to locate a CT project on property adjacent to their MRF/TS in the City of Gardena. Waste Recovery and Recycling would still need to secure the adjacent land prior to development.

Newly Identified Stakeholders and Sites

Since Public Works submitted the Preliminary Siting Assessment to the Board in October 2010, seven additional sites have been submitted to Public Works as potential host sites for CT facilities in the following locations:

- **Green City Development, Inc., Lopez Canyon Site** - Green City Development, Inc., is an industrial land developer who owns a 40-acre parcel of land in Lopez Canyon and has expressed interest in developing a CT facility at the site. The land is industrially zoned and is accessible by truck.
- **Pacific Coast Waste & Recycling (four sites):**
 - Representatives of the company own a 12-acre parcel located in the unincorporated County of Los Angeles in close proximity to the 605 Freeway. The site is zoned industrial, fully serviced with utilities, and has truck access.

- In the City of Inglewood, Pacific Coast Waste & Recycling has identified a potential site suitable for CT development. The site is a 6-acre parcel that is zoned industrial, fully serviced with utilities, is surrounded by other industrial businesses, and has truck access.
- In coordination with the City of Compton, Pacific Coast Waste & Recycling has recommended development of conversion technology facility at one of two sites (a 10-acre and a 7-acre parcel) within the City. Both sites are industrially zone and serviced by local utilities.
- **New Generation Technology Antelope Valley Site** - Mr. Qarmout is the owner of a 320-acre parcel in the unincorporated area of the Antelope Valley. He is interested in developing a CT facility utilizing the New Generation Technology process on his property.
- **Southland Disposal City Terrace MRF** - Southland Disposal, a local solid waste hauling company, has expressed interest in developing a CT project at their MRF in City Terrace. The current parcel is only 1.6 acres, but additional adjacent property may be purchased in the future.

As with the sites discussed in the Preliminary Siting Assessment, Public Works will evaluate the viability of each of these sites and update the Board as warranted. It should be noted that prior to development of a CT facility at any of the sites identified herein, the site must undergo rigorous technical and environmental assessments as well as comply with the requirements of all applicable Federal, State, and local permitting agencies.

5.0 PHASE IV TECHNICAL AND PROJECT DEVELOPMENT ASSISTANCE

Phase IV of the County's Conversion Technology Project focuses on facilitating the development of commercial-scale CT facilities in the County of Los Angeles for the purpose of providing alternatives to landfill disposal of post-recycled municipal solid waste. Public Works has been collaborating with priority stakeholders to help assess waste management needs and identify and evaluate options for viable CT projects. To support this effort, a comprehensive economic model has been developed that can be tailored for various project sizes and technologies.

Public Works is in the process of developing a comprehensive summary of conversion technology project developers, as well as companies active in California that provide financial services to public and private project developers related to financing CT projects. Technical and financial information is being gathered through two separate Requests for Expressions of Interest (RFEI); based upon responses to the RFEIs, a report and database of responding firms will be published. The information will provide a sound database for stakeholders and allow them to evaluate and implement projects on an accelerated schedule.

6.0 NEXT STEPS

Over the next six months, Public Works will continue to conduct Phase III and Phase IV activities on a parallel track, including the following key activities:

- Support CR&R, Inc., as it progresses through its financing, permitting, design, and construction activities for its Phase III anaerobic digestion demonstration project, providing technical and other assistance.
- Continue to work with Rainbow and IES to collaboratively address issues that have delayed the development of these Phase III demonstration projects.
- Continue to track State and Federal funding opportunities applicable to Phase III and Phase IV projects, following up with agencies, prioritizing key opportunities and pursuing appropriate opportunities.
- Complete the economic model and options analysis for development of a CT project at the Calabasas Landfill and review findings with the Sanitation District.
- Continue to coordinate with the City of Glendale as it conducts its independent work to develop a CT facility and to identify site-specific viable technologies.
- Monitor the development of Valley Vista Services' proposed CT facility at Grand Central Recycling, providing support as is mutually beneficial.
- Complete an options analysis for a CT facility for the City of Carson and assist City staff in providing the information to City administration.
- As mutually beneficial and in correlation with individual stakeholder project development activities and schedules, conduct more detailed site evaluations to support and facilitate project development activities.
- Continue to work with current and newly-identified stakeholders to determine their goals and objectives and to facilitate the development of suitable projects.
- Continue efforts to develop and provide information useful to stakeholders, including completion of an interactive economic model and the development of informational databases of CT technologies, companies, and financial service providers to assist stakeholders in evaluating and implementing projects.

Public Works will report back to your Board in six months regarding the status of these project activities.