

Clean Energy

Ontario International Airport

CNG Fueling Station

Final Report

Contract #: MS08058A

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Ontario, CA 91761

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Prepared for the Mobile Source Air Pollution Review Committee (MSRC) under the AB2766 Discretionary Fund Work Program

Acknowledgements

Clean Energy thanks the Mobile Source Air Pollution Reduction Review Committee (MSRC) for their efforts that made this project possible.

This report was submitted in fulfillment of MSRC Contract# MS08058, Ontario International Airport CNG Station under the partial sponsorship of the Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was completed as of March 2012.

Disclaimer

The statement and conclusions in this report are those of the contractor and not necessarily those of the Mobile Source Air Pollution Reduction Review Committee (MSRC) or the South Coast Air Quality Management District (SCAQMD). The mention of commercial products, their sources or their uses in connection with material reported is not to be constructed as either an actual or implied endorsement of such products.

Project Description

This contract provided \$400,000 in funding to offset the costs of constructing a new public-access Compressed Natural Gas (CNG) fueling station at 3350 John Bangs Drive, Ontario, CA 91761. With the funding assistance from the Mobile Source Air Pollution Reduction Review Committee (MSRC), Clean Energy was able to develop an additional fueling infrastructure for the fleets in the South Coast Air Quality Management District (SCAQMD).

The station provides CNG for vehicles operated by the Ontario International Airport (ONT) and airport tenants, as well as taxicabs, ride-share courtesy shuttles, commercial fleets, consumer vehicles, transit agencies and local school buses.

The site includes one (1) twin compressor with dryer, three (3) storage vessels, four (4) fast-fill dispensers and one (1) canopy.

Clean Energy brings extensive experience in developing CNG infrastructure. Clean Energy is the only CNG station designer, builder and operator that manufactures its own equipment. Our operations and maintenance technicians are all industry experts in their fields and are on-call 24 hours-a-day, 7-days-a-week.

Work Performed

Station construction started in January 2011 following approval of all site plans and acquisition of all necessary permits. Construction ran smoothly and concluded on March 9, 2012.

Task 1: Preliminary Documentation

CONTRACTOR shall submit a report (Pricing Report) demonstrating how the MSRC/AQMD's funding contribution will reduce the price that end users pay for CNG fuel on a GGE basis.

The Pricing Report was submitted on January 11, 2010. The pricing report demonstrates how the MSRC's funding contribution reduced the price that end users pay for CNG.

CONTRACTOR shall provide AQMD with copies of any subcontractor agreement(s) for fueling station construction prior to proceeding with project.

Clean Energy entered into a contract with HGR Mechanical for the construction of this facility; a copy of the contract was provided to the MSRC for consideration in January 2010.

Task 2: Construct and Operate CNG Fueling Station

CONTRACTOR shall install and maintain a new private access CNG fueling station located at the Ontario International Airport at 3350 John Bangs Drive, Ontario, CA as specified in Attachment 3, CNG Fueling Station Specifications. All equipment must be new and not previously used.

CONTRACTOR shall operate this station at the specified location for a minimum of five years from the date the station begins dispensing fuel. Beginning with the third year of station operation, CONTRACTOR shall dispense a minimum of 450,000 GGE of natural gas annually.

To meet the needs of ONT, Clean Energy designed and constructed a CNG station that includes one (1) twin compressor with dryer, three (3) storage vessels and four (4) fast-fill dispensers. The facility opened to the public and began dispensing fuel in March 9, 2012.

Beginning the 3rd year of operation, the station dispensed 612,888 GGE, 36% more than the 450,000 GGE requirement! In the past year, the station dispensed 733,767 GGE, 63% more than the requirement!

Task 3: Promotion

CONTRACTOR shall prepare and submit a proposed Public Outreach Plan to promote the MSRC's co-funding of the station to the media and/or community. Acceptable outreach may include, but not limited to, a Grand Opening/project kickoff event, press releases, or a press conference; The Public Outreach Plan shall automatically be deemed approved 30 days following receipt by AQMD staff, unless AQMD staff notify CONTRACTOR in writing of a Public Outreach Plan deficiency. CONTRACTOR shall implement the approved Public Outreach Plan in accordance with the Project Schedule below, notifying AQMD staff at least fourteen days prior to any outreach event.

The station was promoted in the articles and publications. See these, attached.

PROBLEMS ENCOUNTERED

Clean Energy did not encounter any problems relative to the design or construction of this project. We have designed numerous facilities of similar size and scope, the lessons learned on these projects have enabled us to design and build facilities more efficiently. The Clean Energy project team has many years of experience in the natural gas industry.

EMISSIONS BENEFITS

This project significantly reduced toxic air emissions while promoting the environmental improvement, domestic fuel savings, and economic opportunity stimulus goals of this funding program. Natural gas is the cleanest choice of fuel available today for this market. Natural gas powered vehicles produce up to 29% fewer greenhouse gas emissions than comparable gasoline models¹.

This project has dramatically reduced on-road transportation emissions which are key contributors to poor air quality throughout California, South Coast and Paramount. Since the station opened to the public, it has reduced an estimated 320,371 pounds of Criteria Pollutants and Greenhouse Gas emissions².

Emission Reductions (Pounds)					
Carbon Monoxide (CO)	Volatile Organic Compound (VOC)	Nitrogen Oxide (NOx)	Fine Particulate Matter (PM2.5)	Greenhouse Gas (GHG)	Total Emission Reductions (Criteria Pollutants & GHG)
16,237	1,803	84,253	1,085.0	216,992	320,371

¹ "Detailed California-Modified GREET Pathway for Ultra Low Sulfur Diesel (USLD) from average Crude Refined In California" California Air Resources Board, January 12, 2009.

² Station emission reductions calculated using the U.S. Department of Energy Clean Cities Area of Interest 4: Alternative Fuel and Advanced Technology Vehicles Pilot Program Emissions Benefit Tool. Assumptions: 2,909,353 GGE dispensed from 3/9/2012 through 2/9/2017. Data source: U.S. Department of Energy, Alternative Fuels Data Center: <http://www.afdc.energy.gov/laws/284>

SUMMARY AND CONCLUSIONS

Clean Energy appreciates the support that has been provided by the Mobile Source Air Pollution Review Committee and South Coast Air Quality Management District for alternative fuel projects in the South Coast Air Basin. We suggest the continued support for funding projects that increase natural gas infrastructure, provide buy-downs for clean-fueled natural gas vehicles and fund technology advancement.

Photographs









DANGER
THIS EQUIPMENT
STARTS
AUTOMATICALLY

4
CNG

Outreach Material

2013 Natural Gas Fueling Station Directory for California, Arizona and Nevada

Page 21

http://www.cngvc.org/pdf/CNGVC_fuel_station_directory_2013.pdf

Article 1

Los Angeles World Airport Opens New CNG Fueling Station at LA/Ontario International Airport

Ontario, Calif. (March 14, 2012) – Los Angeles World Airports (LAWA), in partnership with Clean Energy Fuels Corp., opened a new Compressed Natural Gas (CNG) fueling station at LA/Ontario International Airport (ONT).

The 6,500-square-foot station, located on Haven Ave. and Airport Dr., features state-of-the-art equipment including four dual hose dispensers for a total of eight fuel hoses, 24-hour video surveillance, card reader and training video, 3,000 and 3,600 pressure fill options, dispenser hose signs, landscaping, and lighted canopy. Open seven days a week, 24 hours a day, the station is just minutes from Interstate 10 and the airport's terminals and ConRAC (ground transportation center).

“The station supports LAWA’s ‘green’ initiatives and addresses the use of alternative fuels advocated or mandated by local, state and federal agencies,” said Jess Romo, ONT’s manager. “Users of CNG vehicles now have easy access to a site on the airport. The station will also service the airport’s 45 CNG vehicles in our fleet. ONT’s annual CNG consumption is expected to increase as it continues to transition all of its fleet to CNG.”

The conveniently located station will provide CNG on site for vehicles operated by ONT and airport tenants, as well as taxicabs, share ride courtesy shuttles, commercial fleets traveling on Interstate 10, consumer vehicles, and transit agency and local school district buses. A reliable and readily available station at ONT is critical since there are limited CNG fueling station resources within the vicinity of the airport.

“With the exception of fuel purchased by the airport, the project comes at no cost to LAWA and is projected to save ONT more than \$1.8 million over the next 10 years in preferential pricing for LAWA and passenger courtesy shuttle bus fleet,” adds Romo. “We are also anticipating a revenue stream of at least \$95,000 in rent and royalties during this period, not including yearly increases to land rent and royalties from third party fuel sales that are expected to grow.”

ONT is located in the Inland Empire, approximately 35 miles east of downtown Los Angeles in the center of Southern California. It is a medium-hub, full-service airport with commercial jet service to 15 major U.S. cities and through service to many international destinations. There are approximately 114 daily flights offered by 7 air carriers. In 2011, ONT served 4.5 million passengers and processed 419,523 tons of air cargo. ONT is part of a system of three Southern California airports – along with Los Angeles International and Van Nuys general aviation – that are owned and operated by Los Angeles World Airports, a proprietary department of the City of Los Angeles that receives no funding from the City’s general fund.

For more information about ONT, please visit www.lawa.aero/ont, follow us on Twitter @ONT_Official , and like us on Facebook at www.facebook.com/ONTAirport .

Source: Los Angeles World Airports, <https://www.lawa.org/newsContent.aspx?ID=1563>

Article 2



- 1923** Latimer Field is established east of Central Avenue, three miles west of the current airport on land leased from Union Pacific railroad. The airfield is named after an orange packing company next to the airstrip.
- 1929** The City of Ontario purchases a 30-acre tract in the southwest corner of the present airport for \$12,000. Airfield becomes known as Ontario Municipal Airport.
- 1941** City of Ontario purchases 470 acres surrounding the airport and approves construction of new runways.
- 1942** Runways completed. Army Air Corps plane makes first landing on February 27.
- 1943** During World War II, airport dedicated as an Army Air Corps P-38 training base and P-59 operating base.
- 1946** Ontario Municipal Airport is renamed Ontario International Airport due to transpacific cargo flights originating from the airport.
- 1947** Military departs and airport re-dedicated to civil aviation.
- 1949** Commercial service begins at Ontario International Airport.
- 1951** New 10,880 square-foot terminal building constructed.
- 1967** Los Angeles City Department of Airports co-signs joint powers agreement with City of Ontario and airport becomes part of Los Angeles' regional airport system.
- 1970** Three-hundred additional acres acquired. Terminal building expanded by 22,500 square feet.
- 1971** Airport's annual passenger volume passes 1 million.
- 1978** Passenger volume passes 2 million.
- 1981** Opening of new runway which can accommodate wide-body jets. 35,000 people attend dedication ceremony.
- 1982** Daniel, Mann, Johnson & Mendenhall of Los Angeles selected as the planners, architects and engineers for new terminals at Ontario International Airport. Official transfer of title from City of Ontario to the City of Los Angeles.
- 1986** Passenger volume passes 4 million.
- 1987** New FAA Air Traffic Control Tower dedicated on August 27, 1987.

- 1989** Passenger volume passes 5 million.
- 1990** United Parcel Service breaks ground on \$53 million West Coast air cargo hub.
- 1992** Passenger volume passes 6 million.
- 1993** Los Angeles Board of Airport Commissioners approves final plans and specifications for \$270 million terminal expansion project.
- 1995** Groundbreaking ceremony held for the construction of the new terminal complex.
- 1998** New terminal service at complex starts on September 27, 1998. Construction completed four months ahead of schedule and \$26 million under budget.
- 1999** New Ground Transportation Center housing six on-airport car rental brands opens January 5, 1999.
- 2000** Air Canada offers daily round-trip service to Toronto, Canada from June 5 to September 5. JetBlue Airways begins daily nonstop, round-trip service to New York's John F. Kennedy International Airport. AeroMexico begins round-trip service to Guadalajara and Mexico City twice a week.
- 2001** United Parcel Service begins four weekly flights to China using Boeing 747 cargo aircraft.
- 2002** Los Angeles Board of Airport Commissioners approve award of contract to HNTB Corporation, Los Angeles, to develop a master plan for ONT. Contract includes development of the ONT Master Plan in three phases at an estimated total cost of \$3.9 million. AeroMexico begins daily round-trip service to Hermosillo, Mexico. Frontier JetExpress begins two daily nonstop flights to Denver, Colorado. Hawaiian Airlines begins daily round-trip service to Honolulu, Hawaii. Lineas Aereas Azteca begins daily nonstop service to Mexico City, Mexico. Parking Lot 5 opens with 2159 additional parking spaces.
- 2003** The \$20.2 million Taxiway N Westerly Extension Project completed two weeks ahead of schedule and \$1 million under budget.
- 2004** Passenger volume reaches 6.9 million.
- 2005** Chaffey Hangar removed to make way for new Security Airfield Access Point being constructed under the Airfield Perimeter Security Enhancement Part 2 Project. Los Angeles World Airports launches "Fly Ontario" ad campaign aimed at increasing passenger volume at ONT. Runway 26R/8L closed in May for reconstruction and lengthening. Passenger volume reaches 7 million.
- 2006** Runway 26R/8L Reconstruction Project completed and runway re-opens in March. Airport name changed to L/Ontario International Airport. AirRadio begins broadcasting airport conditions on 770 AM.
- 2007** ExpressJet begins daily round-trip service to 14 U.S. cities in April. ExpressJet adds round trip service to Reno (Reno/Tahoe Airport) in November.
- 2008** Great Lakes Airlines starts service to Visalia and Merced in California, and Prescott and Kingman in Arizona, using a Beechcraft 1900D aircraft.



Cell Phone Waiting Lot opens. The 100-space parking lot is free of charge with a one hour maximum waiting time.

In-line baggage screening system opens in Terminal 2 and Terminal 4. The new \$70 million baggage screening system carries luggage from the airline's ticket counter area to a TSA station where officers screen luggage prior to being loaded in the aircraft.

- 2009** Passenger volume decreases to 6.2 million passengers and 481,284 tons of air freight.
- LAWA launches its new public Internet Flight Tracking and Noise System at LAX, ONT, and VNY airports.
- BOAC approves development of a Compressed Natural Gas (CNG) fueling station at Haven Avenue and Airport Drive.
- Travelers Aid of the Inland Empire celebrates 25 years of service at ONT.

2010 Passenger volume decreases to 4.8 million passengers and 391,060 tons of air freight.

Southwest Airlines celebrates 25 years of service at ONT.

Southwest Airlines begins nonstop service to Denver, Colorado and Chicago, Illinois.

Passenger volume remains at 4.8 million passengers and 392,427 tons of air freight.

2011 Year-end passenger volume ends with 4.5 million passengers and 419,523 tons of air freight.

2012 Los Angeles World Airports approves allocation of \$1.5 million to City of Ontario for additional residential soundproofing.

The 6,500 square-foot Clean Energy Compressed Natural Gas (CNG) fueling station opens on Haven Avenue and Airport Drive.

2013 LAWA and City of Ontario enter memorandum of understanding for grade separation project at Airport Drive & Vineyard Ave.

LAWA enters into agreement with airline consortium that could reduce budget by \$6.6 million. ONT airport to implement airline cooperative marketing program and offer incentive programs for air carriers.

AeroMexico launches more service from ONT to Guadalajara on October 1, 2013

United launches additional service to San Francisco starting December 19, 2013

2014 Volaris confirms service from ONT to Guadalajara, Mexico starting April 10, 2014.

Passenger volume decreases to 3.9 million, Passengers and cargo 460,535 tons of air freight

Volaris adds a third flight to Guadalajara Mexico on September 1, 2014.



As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. Alternative formats in large print, braille, audio, and other formats (if possible), will be provided upon request.

Website: Fly Ontario, <http://www.flyontario.com/sites/default/files/history-fact-sheets.pdf>

Article 3



ONT Natural Gas Vehicles

In March 2012, LAWA opened an on-airport CNG fueling station at ONT. The CNG station is open to LAWA and airport tenants, and the community, including commercial fleets, consumer vehicles, transit agency buses and local school district buses.

- › ONT owns and operates 45 CNG-powered vehicles, which represents approximately 25% of the airport's total fleet.
- › Since July 2010, only taxis using CNG can pick up ONT passengers.

Waste

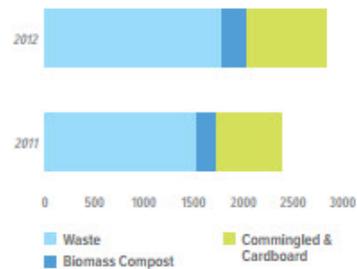
ONT has made progress increasing waste diversion. In 2012 non-recyclable waste decreased from the year prior's 1,776 tons to 1,528 tons. 2013 waste performance data was not available at the time of publication of this report. ONT collected cardboard, commingled recyclables and biomass material streams to reduce waste. To increase recycling awareness ONT has developed relationships with tenants and concessionaries. (See Figure 32)

- › Continues to host the Ontario Airport Noise Advisory Committee meetings, which provide opportunities for community members to learn about noise mitigation efforts, general business activities, and to discuss specific noise concerns.

Insulation Program

In the spring of 2012, LAWA awarded a \$1.5-million grant for Phase 10 of the City of Ontario's Quiet Home residential sound-insulation program, bringing the total of LAWA's grants since 1992 to \$43.4 million (\$10.65 million for soundproofing and \$32.75 million for land acquisition and relocation). To date, the City of Ontario has sound insulated 1,133 residential units. The City of Ontario has also acquired 240 properties, totaling 52 acres to be acquired and developed with compatible land uses.

FIGURE 32
ONT Waste Diversion,
2011-2012 (tons)



Noise

Reducing noise impacts is a priority at ONT. The airport has pursued a full noise control and mitigation approach which includes state-of-the-art tracking tools and sound proofing local residences. In addition to monitoring and soundproofing programs, LAWA:

- › Reduces noise impacts through close collaboration with the FAA to continue the ONT preferential runway use program, including the use of contra-flow procedures during nighttime hours.
- › Prohibits nighttime engine run-ups between 10 p.m. and 7 a.m. with certain exceptions to reduce noise exposure at night.



Website:

LAX Sustainability, http://www.laxsustainability.org/documents/Sustainability_Report_2011-2013.pdf, p.46.