

AGREEMENT NO. _____

AGREEMENT BETWEEN
THE CITY OF LOS ANGELES AND
EFFENCO DEVELOPMENT INC.

THIS AGREEMENT is made and entered into by and between the CITY OF LOS ANGELES, a municipal corporation ("City"), acting by and through its Board of Harbor Commissioners ("Board") and EFFENCO DEVELOPMENT INC., a Canadian Federal Corporation, located at 3700 St-Patrick Street, Suite 316, Montreal, Quebec H4E 1A2 Canada ("GRANTEE").

WHEREAS, the City of Los Angeles Harbor Department ("Department" or "Port") and the City of Long Beach Harbor Department created the Technology Advancement Program ("TAP") as part of the Clean Air Action Plan ("CAAP") in order to accelerate the verification or commercial availability of new, clean technologies that are applicable to the port industry and that result in significant reductions of diesel particulate matter, nitrogen oxides, sulfur oxides and other pollutants; and

WHEREAS, the TAP provides grant funding to port-related technology vendors in order to assist in identifying, evaluating and demonstrating new and emerging emissions reduction technologies and strategies that may result in new control measures, alternatives to existing strategies or as additional mitigation options under the CAAP; and

WHEREAS, the TAP Committee has reviewed and approved funding for GRANTEE'S proposal to demonstrate GRANTEE's Active Start-Stop electric hybrid technology as an efficient, cost-effective solution to reduce emissions while providing immediate fuel savings for yard tractors operating on port terminals;

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

I. AUTHORIZED REPRESENTATIVES TO RECEIVE NOTICES

A. The representatives of the respective parties who are authorized to receive notices for this Agreement are:

Benoit Lacroix, VP Sales and Marketing
Effenco Development Inc.
3700 St-Patrick Street, Suite 316
Montreal, QC, H4E 1A2 CANADA
514-397-4020 ext. 202
benoitlacroix@effenco.com

Conor Langlois
Environmental Specialist
Port of Los Angeles
425 South Palos Verdes Street

San Pedro, CA 90731
(310) 732-7649
clanglois@portla.org

B. Formal notices, demands, requests and communications given by either party shall be made in writing to the authorized representatives set forth above.

C. If the name or address designated above is changed, written notice shall be given to the other party within five (5) working days of said change.

II. SERVICES TO BE PERFORMED BY GRANTEE

A. GRANTEE shall, to the satisfaction of the City, obtain those professional, expert and technical services and materials necessary to complete the demonstration project and reporting requirements set forth in Exhibit A ("Project").

B. During the term of this Agreement, GRANTEE shall submit a written request to, and obtain written approval from, the Executive Director or his or her designee to change or modify the Scope of Work described in Exhibit A. Changes or modifications to Exhibit A that are not approved and accepted in writing by the Executive Director or his or her designee shall not be eligible for reimbursement and shall be considered a breach of this Agreement.

III. SERVICES TO BE PERFORMED BY CITY

A. City shall reimburse GRANTEE for Project costs incurred in accordance with the terms of this Agreement.

B. At any time during the term of this Agreement, and upon ten (10) days written notice to GRANTEE, City shall have the right to review Project documentation for the purpose of verifying that Project milestones have been completed and that the Project is being conducted in accordance with the terms of this Agreement.

C. Unless set forth herein, City shall not be obligated to provide assistance to GRANTEE to assure completion of Project as required herein.

IV. EFFECTIVE DATE AND TERM OF THE AGREEMENT

A. Subject to the provisions of Charter Section 245, the effective date of this Agreement shall be the date of its execution by Executive Director upon authorization of the Board. GRANTEE is aware that the City Council, pursuant to Charter Section 245 of the City of Los Angeles, has the right to review this Agreement. Accordingly, in no event shall this Agreement become effective until after the expiration of the fifth Council meeting day after Board action, or the date of City Council's approval of the Agreement.

B. This Agreement shall be in full force and effect commencing from the date of execution by the Executive Director and shall continue until the earlier of the following occurs:

1. Three (3) years have lapsed from the effective date of this Agreement; or
2. The Board of Harbor Commissioners, in its sole discretion, terminates and cancels all or part of this Agreement for any reason upon giving to GRANTEE ten (10) days' written notice of its election to cancel and terminate this Agreement; or
3. GRANTEE has completed the PROJECT and the City has made final payment pursuant to the requirements of the Agreement.

V. COMPENSATION

A. The grant award is calculated based upon the estimated expenses of the Project as reported by GRANTEE. For the satisfactory performance of the work required by this Agreement, City shall reimburse GRANTEE an amount not-to-exceed One Hundred Eighty Thousand Dollars (\$180,000), and in accordance with the payment schedule set forth in Exhibit B.

Expenses incurred above this amount shall not be reimbursed, unless the parties enter into a written amendment to this Agreement and the same is approved in accordance with the Los Angeles City Charter.

B. GRANTEE shall submit itemized invoices in quadruplicate to City upon the completion of each task set corresponding to a payment milestone in Exhibit B. Each such invoice shall be signed by GRANTEE and shall include the following certification:

"I certify under penalty of perjury that the above bill is true and correct according to the terms of Agreement No. _____ and that payment has not been received.

(Grantee's Signature)

C. GRANTEE must include on the face of each itemized invoice submitted for payment its Los Angeles Business Tax Registration Certificate number. No invoice will be processed for payment by City without this number shown thereon. All invoices shall be approved by the Executive Director, or his or her designee, prior to payment. All invoices due and payable and found to be in order shall be paid as soon as, in the ordinary course of City business, the same may be approved, audited and paid.

GRANTEE shall submit appropriate supporting documents with each invoice. Such documents may include provider invoices, receipts, payrolls, and time sheets. The City may require, and GRANTEE shall provide, all documents reasonably required to determine whether amounts on the invoice are allowable expenses under this Agreement. GRANTEE is not required to submit support for direct costs items of \$25 or less.

D. Reimbursement is contingent upon GRANTEE complying with the Scope of Work and submission of reports in accordance with the requirements of this

Agreement, and the approval of same by the Executive Director, or his or her designee, in accordance with the requirements of this Agreement.

E. For payment and processing, all invoices should be mailed to the following address:

Accounts Payable Section
Harbor Department, City of Los Angeles
P.O. Box 191
San Pedro, CA 90733-0191

VI. TERMINATION

A. City in its sole discretion may terminate and cancel all or any part of this Agreement for any reason upon giving to GRANTEE ten (10) days notice in writing of its election to cancel and terminate this Agreement. If such termination and cancellation occurs, GRANTEE shall be entitled to reimbursement for expenses incurred to the date of termination and for which reports and invoices have been submitted in accordance with the terms of this Agreement.

B. In the event that GRANTEE seeks early termination of this Agreement prior to the termination date for any reason, or no reason whatsoever, GRANTEE shall submit a written request to the City. Department staff shall submit GRANTEE's written request for early termination to the Board for review. In the event that City accepts GRANTEE's request for early termination, GRANTEE shall reimburse the City pursuant to Section VI.D of this Agreement.

C. In the event that facts available to the Department indicate that GRANTEE has breached any term of this Agreement prior to the end of the Agreement term, the Executive Director shall submit the reasons for the breach to the Board for its determination and concurrence that GRANTEE has breached the Agreement. In the event that City determines that GRANTEE has breached the Agreement, GRANTEE shall reimburse the City pursuant to Section VI.D of this Agreement.

D. In the event this Agreement is terminated pursuant to Sections VI.B or VI.C, GRANTEE shall reimburse City for all monies paid to the GRANTEE. City shall notify GRANTEE in writing the amount of money that GRANTEE owes to City and GRANTEE shall reimburse the City within sixty (60) days of said written notification.

E. This Agreement is subject to the provisions of the Los Angeles City Charter which, among other things, precludes the City from making any expenditure of funds or incurring any liability, including contractual commitments, in excess of the amount appropriated thereof.

The Board, in awarding this Agreement, is expected to appropriate sufficient funds to meet the estimated expenditure of funds through June 30 of the current fiscal year and to make further appropriations in each succeeding fiscal year during the life of the Agreement. However, the Board is under no legal obligation to do so.

The City, its boards, officers, and employees are not bound by the terms of this Agreement or obligated to make payment thereunder in any fiscal year in which the Board does not appropriate funds therefore. GRANTEE is not entitled to any compensation in any fiscal year in which funds have not been appropriated for the Agreement by the Board.

Although GRANTEE is not obligated to perform any work under the Agreement in any fiscal year in which no appropriation for the Agreement has been made, GRANTEE agrees to resume performance of the work required by the Agreement on the same terms and conditions for a period of sixty (60) days after the end of the fiscal year if an appropriation therefore is approved by the Board within that 60 day period. GRANTEE is responsible for maintaining all insurance and bonds during this 60 day period until the appropriation is made; however, such extension of time is not compensable.

If in any subsequent fiscal year funds are not appropriated by the Board for the work required by the Agreement, the Agreement shall be terminated. However, such termination shall not relieve the parties of liability for any obligation previously incurred.

VII. ACCEPTABILITY OF WORK

The City shall decide any and all questions that may arise as to the quality or acceptability of the work performed by GRANTEE under this Agreement, including errors and omissions, and as to the amount of reimbursement due to GRANTEE. Decisions shall be final, and the City shall have authority to enforce and make effective such decisions and orders with respect to the performance of this Agreement.

GRANTEE understands that no board member, officer, agent or employee of City has the authority to require work outside this Agreement other than is allowed by this Agreement.

VIII. EMISSION REDUCTION CREDITS (ERCs)

Where any Emission Reduction Credits may be generated by the Project, they shall belong to the City and cannot be used by GRANTEE for any purpose.

IX. ASSIGNMENT

GRANTEE shall not assign, sell, license or otherwise transfer this Agreement or any of the rights granted by this Agreement without the prior written consent of the City. Any attempted transfer or assignment without the prior written consent of the Cities shall be void and confer no rights whatsoever upon a transferee or assignee. Any attempted transfer or assignment without the prior written consent of the City shall be considered a breach of this Agreement and the City may proceed with termination of the agreement under Section VI.

Any request for consent to an assignment shall be made in writing, accompanied by information relevant to the City's determination as to the financial and operational

responsibility and appropriateness of the proposed assignee, including but not limited to any modifications to the Project Scope of Work, if any. GRANTEE agrees to provide to the City such other or additional information and/or documentation pertaining to the requested consent as may be reasonably requested by the City.

X. INDEMNIFICATION

Except for the sole negligence or willful misconduct of the City, or any of its Boards, Officers, Agents, Employees, Assigns and Successors in Interest, GRANTEE undertakes and agrees to defend, indemnify and hold harmless the City and any of its Boards, Officers, Agents, Employees, Assigns, and Successors in Interest from and against all suits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees (both in house and outside counsel) and cost of litigation (including all actual litigation costs incurred by the City, including but not limited to, costs of experts and consultants), damages or liability of any nature whatsoever, for death or injury to any person, including GRANTEE's employees and agents, or damage or destruction of any property of either party hereto or of third parties, arising in any manner by reason of the negligent acts, errors, omissions or willful misconduct incident to the performance of this Agreement by GRANTEE or its subcontractors of any tier. Rights and remedies available to the City under this provision are cumulative of those provided for elsewhere in this Agreement and those allowed under the laws of the United States, the State of California, and the City.

XI. INSURANCE

A. In addition to and not as a substitute for, or limitation of, any of the indemnity obligations imposed by Article X, GRANTEE shall procure and maintain at its sole cost and expense and keep in force at all times during the term of this Agreement the following insurance:

(1) Commercial General Liability Insurance

Commercial general liability insurance covering personal and advertising injury, bodily injury, and property damage providing contractual liability, independent contractors, products and completed operations, and premises/operations coverage written by an insurance company authorized to do business in the State of California rated VII, A- or better in Best's Insurance Guide (or an alternate guide acceptable to City if Best's is not available) within GRANTEE's normal limits of liability but not less than One Million Dollars (\$1,000,000) combined single limit for injury or claim. Said limits shall provide first dollar coverage except that Executive Director may permit a self-insured retention or self-insurance in those cases where, in his or her judgment, such retention or self-insurance is justified by the net worth of GRANTEE. The retention or self-insurance provided shall provide that any other insurance maintained by the Harbor Department shall be excess of GRANTEE's insurance and shall not contribute to it. In all cases, regardless of any deductible or retention, said insurance shall contain a defense of suits provision and a severability of interest clause. Each policy shall name the City of Los Angeles

Harbor Department, its officers, agents and employees as Primary additional insureds.

(2) Automobile Liability Insurance

Automobile liability insurance written by an insurance company authorized to do business in the State of California rated VII, A- or better in Best's Insurance Guide (or an alternate guide acceptable to City if Best's is not available) within GRANTEE's normal limits of liability but not less than One Million Dollars (\$1,000,000) covering damages, injuries or death resulting from each accident or claim arising out of any one claim or accident. Said insurance shall protect against claims arising from actions or operations of the insured, or by its employees. Coverage shall contain a defense of suits provision and a severability of interest clause. Each policy shall name the City of Los Angeles Harbor Department, its officers, agents and employees as Primary additional insureds.

(3) Workers' Compensation and Employer's Liability

GRANTEE shall certify that it is aware of the provisions of Section 3700 of the California Labor code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and that GRANTEE shall comply with such provisions before commencing the performance of the tasks under this Agreement. Coverage for claims under U.S. Longshore and Harbor Workers' Compensation Act, if required under applicable law, shall be included. GRANTEE shall submit Workers' Compensation policies whether underwritten by the state insurance fund or private carrier, which provide that the public or private carrier waives its right of subrogation against the City in any circumstance in which it is alleged that actions or omissions of the City contributed to the accident. Such Worker's Compensation and occupational disease requirements shall include coverage for all employees of GRANTEE, and for all employees of any subcontractor or other vendor retained by GRANTEE.

B. Insurance Procured by Consultant on Behalf of City

In addition to and not as a substitute for, or limitation of, any of the indemnity obligations imposed by Article X, and where GRANTEE is required to name the City of Los Angeles Harbor Department, its officers, agents and employees as Primary additional insureds on any insurance policy required by this Agreement, GRANTEE shall cause City to be named as an additional insured on all policies it procures in connection with this Article XI. GRANTEE shall cause such additional insured status to be reflected in the original policy or by additional insured endorsement (CG 2010 or equivalent) substantially as follows:

"Notwithstanding any inconsistent statement in the policy to which this endorsement is attached, or any endorsement or certificate now or hereafter attached hereto, it is agreed that City, Board, their officers, agents and

employees, are additional insureds hereunder, and that coverage is provided for all contractual obligations, operations, uses, occupations, acts and activities of the insured under Agreement No. ____, and under any amendments, modifications, extensions or renewals of said Agreement regardless of where such contractual obligations, operations, uses, occupations, acts and activities occur.

"The coverage provided by the policy to which this endorsement is attached is primary coverage and any other insurance carried by City is excess coverage;

"In the event of one of the named insured's incurring liability to any other of the named insureds, this policy shall provide protection for each named insured against whom claim is or may be made, including claims by other named insureds, in the same manner as if separate policies had been issued to each named insured. Nothing contained herein shall operate to increase the company's limit of liability; and

"Notice of occurrences or claims under the policy shall be made to the Risk Manager of City's Harbor Department with copies to the City Attorney's Office."

C. Required Features of Coverages

Insurance procured by GRANTEE in connection with this Article XI shall include the following features:

(1) Acceptable Evidence and Approval of Insurance

Electronic submission is the required method of submitting GRANTEE's insurance documents. GRANTEE's insurance broker or agent shall register with the City's online insurance compliance system KwikComply at <https://kwikcomply.org/> and submit the appropriate proof of insurance on GRANTEE's behalf.

Upon request by City, GRANTEE shall furnish a copy of the binder of insurance and/or a full certified policy for any insurance policy required herein. This obligation is intended to, and shall, survive the expiration or earlier termination of this Agreement.

(2) Carrier Requirements

All insurance which GRANTEE is required to provide pursuant to this Agreement shall be placed with insurance carriers authorized to do business in the State of California and which are rated A-, VII or better in Best's Insurance Guide. Carriers without a Best's rating shall meet comparable standards in another rating service acceptable to City.

(3) Notice of Cancellation

For each insurance policy described above, GRANTEE shall give a 10-day prior notice of cancellation or reduction in coverage for nonpayment of premium, and a 30-days prior notice of cancellation or reduction in coverage for any other reason, by written notice via registered mail and addressed to the City of Los Angeles Harbor Department, Attn: Risk Manager and the City Attorney's Office, 425 S. Palos Verdes Street, San Pedro, California 90731.

(4) Modification of Coverage

Executive Director, at his or her sole reasonable discretion, based upon recommendation of independent insurance consultants to City, may increase or decrease amounts and types of insurance coverage required hereunder at any time during the term hereof by giving ninety (90) days' prior written notice to GRANTEE.

(5) Renewal of Policies

At least thirty (30) days prior to the expiration of any policy required by this Agreement, GRANTEE shall renew or extend such policy in accordance with the requirements of this Agreement and direct their insurance broker or agent to submit to the City's online insurance compliance system KwikComply at <https://kwikcomply.org/> a renewal endorsement or renewal certificate or, if new insurance has been obtained, evidence of insurance as specified above. If GRANTEE neglects or fails to secure or maintain the insurance required above, Executive Director may, at his or her own option but without any obligation, obtain such insurance to protect City's interests. The cost of such insurance shall be deducted from the next payment due GRANTEE.

(6) Limits of Coverage

If GRANTEE maintains higher limits than the minimums required by this Agreement, City requires and shall be entitled to coverage for the higher limits maintained by GRANTEE. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to City.

D. Right to Self-Insure

Upon written approval by the Executive Director, GRANTEE may self-insure if the following conditions are met:

1. GRANTEE has a formal self-insurance program in place prior to execution of this Agreement. If a corporation, GRANTEE must have a formal resolution of its board of directors authorizing self-insurance.

2. GRANTEE agrees to protect the City, its boards, officers, agents and employees at the same level as would be provided by full insurance with respect to types of coverage and minimum limits of liability required by this Agreement.
3. GRANTEE agrees to defend the City, its boards, officers, agents and employees in any lawsuit that would otherwise be defended by an insurance carrier.
4. GRANTEE agrees that any insurance carried by Department is excess of GRANTEE's self-insurance and will not contribute to it.
5. GRANTEE provides the name and address of its claims administrator.
6. GRANTEE submits its most recently filed Canadian federal or provincial financial records equivalent to the U.S. Securities and Exchange Commission's 10-Q and 10-K forms, or audited annual financial statements for the three most recent fiscal years, prior to Executive Director's consideration of approval of self-insurance and annually thereafter.
7. GRANTEE agrees to inform the Department in writing immediately of any change in its status or policy which would materially affect the protection afforded the Department by this self-insurance.
8. GRANTEE has complied with all laws pertaining to self-insurance.

E. Accident Reports

GRANTEE shall report in writing to Executive Director within fifteen (15) calendar days after it, its officers or managing agents have knowledge of any accident or occurrence involving death of or injury to any person or persons, or damage in excess of Five Hundred Dollars (\$500.00) to property, occurring upon the premises, or elsewhere within the Port of Los Angeles if GRANTEE's officers, agents or employees are involved in such an accident or occurrence. Such report shall contain to the extent available (1) the name and address of the persons involved, (2) a general statement as to the nature and extent of injury or damage, (3) the date and hour of occurrence, (4) the names and addresses of known witnesses, and (5) such other information as may be known to GRANTEE, its officers or managing agents.

XII. COMPLIANCE WITH APPLICABLE LAWS

GRANTEE shall, at all times, in the performance of its obligations comply with all applicable laws, statutes, ordinances, rules and regulations, enacted and adopted by federal, state, regional, municipal or other governmental bodies, departments or offices thereof. In addition to the foregoing, GRANTEE shall comply immediately with any and

all orders or directions issued by the City under authority of any such law, statute, ordinance, rule or regulation.

XIII. INDEPENDENT CONTRACTOR

GRANTEE in the performance of the work required by this Agreement is an independent contractor and not an agent or employee of the City. GRANTEE shall not represent itself as an agent or employee of the City and shall have no power to bind the City in contract or otherwise.

XIV. CONFLICT OF INTEREST

It is hereby understood and agreed that the parties to this Agreement have read and are aware of the provisions of Section 1090 et seq. and Section 87100 et seq. of the Government Code relating to conflict of interest of public officers and employees, as well as the Los Angeles Municipal Code (LAMC) Municipal Ethics and Conflict of Interest provisions of Section 49.5.1 et seq. and the Conflict of Interest Codes of the City and Department. The parties agree that they are unaware of any financial or economic interest of any public officer or employee of City relating to this Agreement. Notwithstanding any other provision of this Agreement, it is further understood and agreed that if such financial interest does exist at the inception of this Agreement, City may immediately terminate this Agreement by giving written notice thereof.

During the term of this Agreement, GRANTEE shall inform the Department in writing when GRANTEE, or any of its Subconsultants, employs or hires in any capacity, and for any length of time, a person who has worked for the Department as a Commissioner, officer or employee. Said notice shall include the individual's name and current position and their prior position and years of employment with the Department. Written notice shall be provided by GRANTEE to the Department within thirty (30) days of the employment or hiring of the individual.

XV. TRADEMARKS, COPYRIGHTS AND PATENTS

GRANTEE agrees to save, keep, hold harmless, protect and indemnify the City and any of its officers or agents from any damages, costs, or expenses in law or equity from infringement of any patent, trademark, service mark or copyright of any person or persons, or corporations in consequence of the use by City of any materials supplied by GRANTEE in the performance of this Agreement.

XVI. OWNERSHIP OF DOCUMENTS

All data, documents, reports or other materials, copies of working papers which contain information relating to the review, documentation, analysis and evaluation of the work described in this Agreement shall become the property of the City. The City reserves the right to use, duplicate, disclose in whole or in part in any manner for any purpose whatsoever all said data, documents, reports or other materials, and to authorize others to do so.

XVII. TAXPAYER IDENTIFICATION NUMBER (TIN)

The Internal Revenue Service (IRS) requires that all consultants and suppliers of materials and supplies provide a TIN to the party that pays them. GRANTEE declares that it has an authorized TIN which shall be provided to the Department prior to payment under this Agreement. No payments will be made under this Agreement without a valid TIN.

XVIII. BUSINESS TAX REGISTRATION CERTIFICATE

The City of Los Angeles Office of Finance requires the implementation and enforcement of Los Angeles Municipal Code Section 21.09 et seq. This section provides that every person, other than a municipal employee, who engages in any business within the City of Los Angeles, is required to obtain the necessary Business Tax Registration Certificate and pay business taxes. The City Controller has determined that this Code Section applies to consulting firms that are doing work for the Los Angeles Harbor Department ("Department"). See Exhibit C.

XIX. AFFIRMATIVE ACTION

GRANTEE, during the performance of this Agreement, shall not discriminate in its employment practices against any employee or applicant for employment because of the employee's or applicant's race, religion, natural origin, ancestry, sex, age, sexual orientation, disability, marital status, domestic partner status, or medical condition. The provisions of Section 10.8.4 of the Los Angeles Administrative Code shall be incorporated and made a part of the Agreement. All subcontracts awarded shall contain a like nondiscrimination provision. See Exhibit D.

XX. PROPRIETARY INFORMATION

GRANTEE may not disclose to any party without City's permission any information developed pursuant to this Agreement. The Department will, however, have the right to disclose the information as it determines appropriate considering the nature of the information, its use and the laws applicable to the Department.

XXI. SERVICE CONTRACTOR WORKER RETENTION POLICY AND LIVING WAGE POLICY REQUIREMENTS

The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 5771 on January 3, 1999, agreeing to adopt the provisions of the Los Angeles City Ordinance No. 171004 relating to Service Contractor Worker Retention (SCWR), Section 10.36 et seq. of the Los Angeles Administrative Code, as the policy of the Department. Further, Charter Section 378 requires compliance with the City's Living Wage requirements as set forth by ordinance, Section 10.37 et seq. of the Los Angeles Administrative Code. GRANTEE shall comply with the policy wherever applicable. Violation of this provision, where applicable, shall entitle the City to terminate the Agreement and otherwise pursue legal remedies that may be available.

XXII. WAGE AND EARNING ASSIGNMENT ORDERS/NOTICES OF ASSIGNMENTS

GRANTEE and/or any subcontractor are obligated to fully comply with all applicable state and federal employment reporting requirements for GRANTEE and/or subcontractor's employees.

GRANTEE and/or subcontractor shall certify that the principal owner(s) are in compliance with any Wage and Earning Assignment Orders and Notices of Assignment applicable to them personally. GRANTEE and/or subcontractor will fully comply with all lawfully served Wage and Earnings Assignment Orders and Notices of Assignments in accordance with Cal. Family Code § 5230 et seq. GRANTEE or subcontractor will maintain such compliance throughout the term of the Agreement.

XXIII. EQUAL BENEFITS POLICY

The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 6328 on January 12, 2005, agreeing to adopt the provisions of Los Angeles City Ordinance 172,908, as amended, relating to Equal Benefits, Section 10.8.2.1 et seq. of the Los Angeles Administrative Code, as a policy of the Department. GRANTEE shall comply with the policy wherever applicable. Violation of the policy shall entitle the City to terminate any Agreement with GRANTEE and pursue any and all other legal remedies that may be available. See Exhibit E.

XXIV. COMPLIANCE WITH LOS ANGELES CITY CHARTER SECTION 470(c)(12)

The GRANTEE, Subconsultants, and their Principals are obligated to fully comply with City of Los Angeles Charter Section 470(c)(12) and related ordinances, regarding limitations on campaign contributions and fundraising for certain elected City officials or candidates for elected City office if the agreement is valued at \$100,000 or more and requires approval of a City elected official. Additionally, GRANTEE is required to provide and update certain information to the City as specified by law. Any GRANTEE subject to Charter Section 470(c)(12), shall include the following notice in any contract with a subconsultant expected to receive at least \$100,000 for performance under this Agreement:

Notice Regarding Los Angeles Campaign Contribution and Fundraising Restrictions

As provided in Charter Section 470(c)(12) and related ordinances, you are a subconsultant on Harbor Department Agreement No. _____. Pursuant to City Charter Section 470(c)(12), subconsultant and its principals are prohibited from making campaign contributions and fundraising for certain elected City officials or candidates for elected City office for 12 months after the Agreement is signed. Subconsultant is required to provide to GRANTEE names and addresses of the subconsultant's principals and contact information and shall update that information if it changes during the 12 month time period. Subconsultant's

information must be provided to GRANTEE within 10 business days. Failure to comply may result in termination of the Agreement or any other available legal remedies including fines. Information about the restrictions may be found at the City Ethics Commission's website at <http://ethics.lacity.org/> or by calling 213-978-1960.

GRANTEE, Subconsultants, and their Principals shall comply with these requirements and limitations. Violation of this provision shall entitle the City to terminate this Agreement and pursue any and all legal remedies that may be available.

XXV. STATE TIDELANDS GRANTS

This Agreement is entered into in furtherance of and as a benefit to the State Tideland Grant and the trust created thereby. Therefore, this Agreement is at all times subject to the limitations, conditions, restrictions and reservations contained in and prescribed by the Act of the Legislature of the State of California entitled "An Act Granting to the City of Los Angeles the Tidelands and Submerged Lands of the State Within the Boundaries of Said City," approved June 3, 1929, (Stats. 1929, Ch. 651), as amended, and provisions of Article VI of the Charter of the City of Los Angeles relating to such lands. GRANTEE agrees that any interpretation of this Agreement and the terms contained herein must be consistent with such limitations, conditions, restrictions and reservations.

XXVI. GOVERNING LAW AND VENUE

This Agreement shall be governed by and construed in accordance with the laws of the State of California, without reference to the conflicts of law, rules and principles of such State. The parties agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated exclusively in the State or Federal courts located in the County of Los Angeles, State of California, in the judicial district required by court rules.

XXVII. INTEGRATION

This Agreement contains the entire understanding and agreement between the parties hereto with respect to the matters referred to herein. No other representations, covenants, undertakings, or prior or contemporaneous agreements, oral or written, regarding such matters which are not specifically contained, referenced, and/or incorporated into this Agreement by reference shall be deemed in any way to exist or bind any of the parties. Each party acknowledges that it has not been induced to enter into the Agreement and has not executed the Agreement in reliance upon any promises, representations, warranties or statements not contained, referenced, and/or incorporated into the Agreement. **THE PARTIES ACKNOWLEDGE THAT THIS AGREEMENT IS INTENDED TO BE, AND IS, AN INTEGRATED AGREEMENT.**

XXVIII. SEVERABILITY

Should any part, term, condition or provision of this Agreement be declared or determined by any court of competent jurisdiction to be invalid, illegal or incapable of being enforced by any rule of law, public policy, or city charter, the validity of the remaining parts, terms, conditions or provisions of this Agreement shall not be affected thereby, and such invalid, illegal or unenforceable part, term, condition or provision shall be treated as follows: (a) if such part, term, condition or provision is immaterial to this Agreement, then such part, term, condition or provision shall be deemed not to be a part of this Agreement; or (b) if such part, term, condition or provision is material to this Agreement, then the parties shall revise the part, term, condition or provision so as to comply with the applicable law or public policy and to effect the original intent of the parties as closely as possible.

XXIX. CONSTRUCTION OF AGREEMENT

This Agreement shall not be construed against the party preparing the same, shall be construed without regard to the identity of the person who drafted such and shall be construed as if all parties had jointly prepared this Agreement and it shall be deemed their joint work product; each and every provision of this Agreement shall be construed as though all of the parties hereto participated equally in the drafting hereof; and any uncertainty or ambiguity shall not be interpreted against any one party. As a result of the foregoing, any rule of construction that a document is to be construed against the drafting party shall not be applicable.

XXX. TITLES AND CAPTIONS

The parties have inserted the Article titles in this Agreement only as a matter of convenience and for reference, and the Article titles in no way define, limit, extend or describe the scope of this Agreement or the intent of the parties in including any particular provision in this Agreement.

XXXI. MODIFICATION IN WRITING

This Agreement may be modified only by written agreement of all parties. Any such modifications are subject to all applicable approval processes required by, without limitation, City's Charter and City's Administrative Code.

XXXII. WAIVER

A failure of any party to this Agreement to enforce the Agreement upon a breach or default shall not waive the breach or default or any other breach or default. All waivers shall be in writing.

XXXIII. EXHIBITS; ARTICLES

All exhibits to which reference is made in this Agreement are deemed incorporated in this Agreement, whether or not actually attached. To the extent the

terms of an exhibit conflict with or appear to conflict with the terms of the body of the Agreement, the terms of the body of the Agreement shall control. References to Articles are to Articles of this Agreement unless stated otherwise.

XXXIV. COUNTERPARTS

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which shall constitute together one and the same instrument.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date to the left of their signatures.

THE CITY OF LOS ANGELES, by its Board of Harbor Commissioners

Dated: _____, 2019

By: _____
EUGENE D. SEROKA
Executive Director

Attest: _____
AMBER M. KLESGES
Board Secretary

EFFENCO DEVELOPMENT INC.

Dated: _____, 2019

By: _____
Benoit Lacroix, VP Sales & MKT
(Print/type name and title)

Attest: _____
David Arsenault, CEO
(Print/type name and title)

APPROVED AS TO FORM AND LEGALITY

_____, 2019
MICHAEL N. FEUER, City Attorney
JANNA B. SIDLEY, General Counsel

By: _____
Heather M. McCloskey, Deputy

Account #	59965/11225	W.O. # 78085
Ctr/Div #	0330	Job Fac. #637-00
Proj/Prog #	000	
Budget FY: Amount: 59965 Amount: 11225		
2019-2020	\$71,775	\$71,775
2020-2021	\$18,225	\$18,225
2021-2022	\$0	\$0
TOTAL	\$90,000	\$90,000
For Acct/Budget Div. Use Only:		
Verified by:	_____	
Verified Funds Available:	_____	
Date Approved:	_____	

Exhibit A

**2018 CALL FOR FULL PROPOSALS – THE PORT OF LONG BEACH AND PORT OF LOS ANGELES
CLEAN AIR ACTION PLAN – TECHNOLOGY ADVANCEMENT PROGRAM**



PRIMARY CONTACT INFORMATION

Company	Effenco Development Inc.	Website	www.effenco.com
Address	3700 St-Patrick, Suite 316, Montreal, Quebec, Canada, H4E 1A2		
Contact	Benoit Lacroix	Title	Co-Founder, Vice President Sales & Marketing
Phone	514-397-4020 #202; 514-975-3045	Email	BenoitLacroix@effenco.com

CALIFORNIA CONTACT INFORMATION

Address	Braid Theory, Inc., 224 W. 8th Street, San Pedro, CA 90731 Braid Space at AltaSea, 2456 Signal Street, San Pedro CA 90731		
Contact	Ann Carpenter	Title	CEO
Phone	310-600-7035	Email	ann@braidtheory.com

DEMONSTRATION PARTNER

Company	APM Terminals Pacific, LLC		
Address	2500 Navy Way, Terminal Island, Los Angeles, CA 90731 USA		
Contact	Nathan Surdin	Title	Manager – Power Equipment
Phone	310-221-4000	Email	Nathan.Surdin@apmterminals.com

BRIEF SUMMARY OF PROJECT CONCEPT

The proposed project will demonstrate that Effenco’s Active Stop-Start™ electric hybrid technology is an efficient, cost-effective solution in reducing yard tractor emissions at the Ports of Los Angeles and Long Beach while providing immediate fuel savings to the user. The bolt-on, low-cost powertrain system automatically turns off the combustion engine of medium, heavy-duty vocational vehicles when they are stationary and provides electric power to vehicle systems such as the body equipment, transmission or HVAC systems when the engine is off. When installed, the systems will provide zero-emission operation when the yard tractors are immobile.

Project Concept Cost
\$625,163

TAP Funding Request
\$180,000

Submittal Date
August 27, 2018

2. PROJECT DESCRIPTION

a. Brief Description of the Technology and Principle of Operation

PRINCIPLE OF OPERATION

Effenco started its activity in 2006 with the deployment of its proprietary data loggers that collect over 200 different variables (like speed or torque) at a frequency of 10Hz (10 times per second) and the development of its proprietary algorithms which compute 260 key performance indicators (KPI) daily. The combination of raw data and KPIs is the cornerstone for the development and engineering of solutions such as the Active Stop-Start System™, making it one of the most efficient and cost effective of its kind.

A typical engine duty cycle in stop-start operation is presented on the Figure 1. The principle of the Active Stop-Start is that it accumulates energy by charging an energy storage unit when the engine is solicited and releases the energy back to auxiliary systems when the engine is not. Again on Figure 1, over 7 seconds of dynamic operations, we can observe that the engine is solicited roughly 50% of the time for propulsion only. In simplified terms, the Effenco Stop-Start system shuts down the engine when it's not needed. Idling corresponds to roughly 10% of full load which according to Figure 3 yields an efficiency that represents only 40-50% of the fully-loaded engine efficiency. Thus, turning the engine off when idling improves the general efficiency of the cycle. The Active Stop-Start is particularly efficient for vehicles that are immobile a large proportion of their time. We currently have 1163 days of yard tractor operational data collected from 4 different

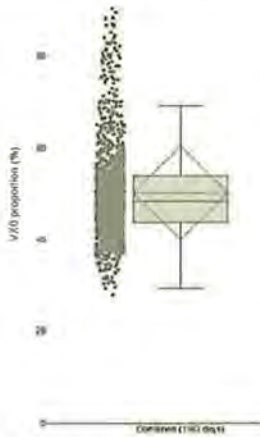


Figure 3: Statistical distribution of stop time ratio (1163 days)

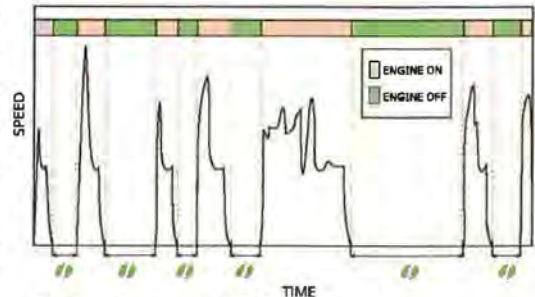


Figure 2: Duty Cycle of 7 Seconds

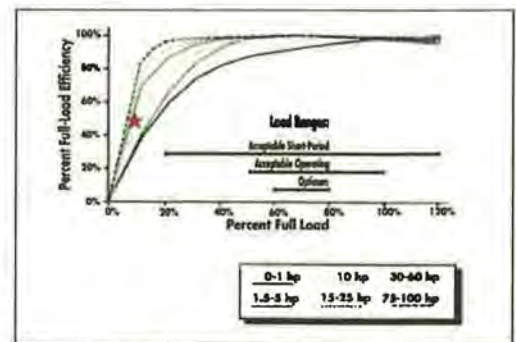


Figure 1: Motor Part-Load Efficiency (as a Function of % Full-Load Efficiency) (EPA)

ports in North America. The average proportion of time the yard tractors spend at a speed of 0 mph over the total operational time is 50.1% as seen on Figure 2. Every day of data compiled in this graph is an average of data collected 10 times per second. This granularity yields extreme precision in our metrics and further hypotheses.

TECHNOLOGY OVERVIEW

The Active Stop-Start System™ involves an electric hybrid starter-generator (4) connected to a PTO (2) on the truck's transmission (1) through a driveshaft (3). When the vehicle is moving the hybrid starter-generator is driven by the transmission and charges ultracapacitors that are located in the main system (5). When the vehicle comes to a stop, the system automatically shuts the engine off and the accumulated energy is used to power an electric pump sending energy to auxiliary systems such as fifth-wheel or HVAC systems. When brakes are released, the energy from the ultracapacitors powers the electric hybrid starter-generator (4) to restart the engine in less than a second.

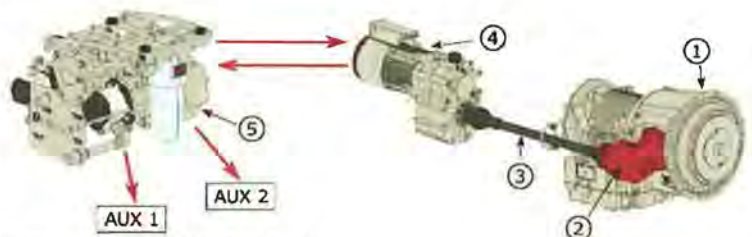


Figure 4: Active Stop-Start System

SPECIFICATIONS

- ELECTRIC HYBRID STARTER-GENERATOR**
- AC 3 Phases engine
 - 18 kW peak power
 - Passive gearbox
 - CV joint automotive drive shaft

- ULTRACAPACITORS**
- 144V maximum voltage
 - +10 year lifespan
 - Not sensitive to temperature
 - Totally enclosed, easily and safely serviceable

- COMPATIBILITY**
- Class 6-8 chassis Allison 3000, 4000 + others
 - Diesel or CNG engines

- KEY FEATURES & SPECS**
- Automatic, seamless idle off operation with no effect on cab comfort
 - Vehicle equipment electrically powered with engine off
 - Optional electric A/C with engine off
 - Parallel system
 - Weight: 640 lbs / 290 kg
 - Wireless real-time monitoring

- BENEFITS**
- 40-50% fewer engine hours
 - 15-30% fuel savings
 - 12-30 tons CO2/year saved
 - Reduced maintenance
 - Quiet operation

EFFENCO'S DIRECTION IN DEVELOPING TECHNOLOGY

Effenco's understanding of data gave a clear segmentation of the steps for developing the electric technology. The active Stop-Start System™ was developed to electrify the vehicle when not moving, the first step illustrated on Figure 5. The system can take energy loads for light auxiliary systems like A/C or small hydraulic equipment. This is the systems deployed in this proposal. This strategy is allowing very competitive cost-effectiveness for each step. Effenco is a few steps away from commercializing the second step, which can handle the load of larger hydraulic auxiliary systems. Third step is to stop the engine as soon as the pedal is released. The challenge of this step is certification and not technology. The fourth step is full electrification. Effenco is optimizing the energy consumption with low cost technology to be able to deliver in the future the most cost-effective electric vehicle on the market. We often use a solar analogy to explain what we do. Before installing solar panels on a house, we will make sure A/C is not running with open windows. We do the same with electric trucks.

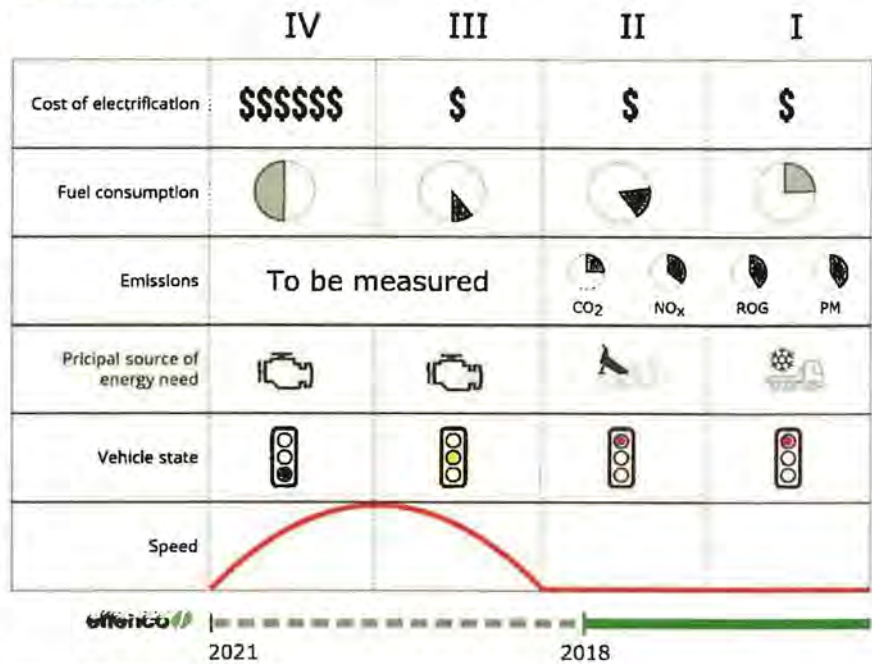


Figure 5: Technology Evolution

The challenge of this step is certification and not technology. The fourth step is full electrification. Effenco is optimizing the energy consumption with low cost technology to be able to deliver in the future the most cost-effective electric vehicle on the market. We often use a solar analogy to explain what we do. Before installing solar panels on a house, we will make sure A/C is not running with open windows. We do the same with electric trucks.

DEMONSTRATED TECHNOLOGY SUCCESS AND READINESS FOR IN-USE DEMONSTRATION

Effenco-equipped trucks have been road and lab tested by fleets including: New York City Department of Sanitation (DSNY), Derichebourg Canada and Purolator. Over the last year, 16 Active Stop-Start systems have been deployed for demonstration projects on port terminal tractors with 4 different operators at the ports of Montreal, New-York New Jersey and Vancouver. Data collected so far shows a wide variety of operating conditions including operating time, distance, idle ratio, stops per hour, and operator best practices. Measured performances of the technology for the units deployed showed that by eliminating idle, engine run time was reduced by 39-52%, resulting in a 12-31% reduction in fuel consumption and related emissions. Although there is no specific category for port tractors in the 2018 federal guidelines for fuel standards and greenhouse gas emissions (EPA Phase 2 CO2 Regulations) this performance meets or exceeds the 2027 standard of most vocational application.

b. Description of the proposed project and expected deliverables

PROJECT OVERVIEW

The proposed project will demonstrate that Effenco's Active Stop-Start™ electric hybrid technology is an efficient, cost-effective solution in reducing yard tractor emissions at the Ports of Los Angeles and Long Beach while providing immediate fuel savings to the user. When installed, the systems will provide zero-emission operation when the yard tractors are immobile. The system provides further value by reducing engine operating hours and corresponding reduced maintenance costs, fuel consumption, and noise. To remotely monitor system performance and vehicle status, all project vehicles will also be equipped with Effenco's bi-directional telemetry systems to allow for the collection of more than one hundred operating parameters every tenth of a second. This project will retrofit 6 yard tractors at APM Terminal with the support of Braid Theory and TESI as project management and installation partners.

DURATION

Project is scheduled to last 13 months, 4 months for engineering, manufacturing and installation, 8 months of in-use demonstration and 1 month of closing. Detailed schedule is presented on p. 12

PROJECT OBJECTIVES

The project will demonstrate that Effenco's Active Stop-Start electric hybrid technology is:

- An efficient, effective mean of reducing emissions from yard tractors operating at the Ports;
- Rapidly deployable in full port operations on new or existing yard tractors;
- A cost-effective solution with a favorable ROI for terminal operators;
- Viable for large scale implementation with no changes to port infrastructure.

EXPECTED DELIVERABLES

- System layout and test plan (interim report)
 - System layout approved by both Effenco and APM to start production
 - Test plan accepted by all parties
- Completion of technology manufacturing and delivery of systems at TESI (interim report)
 - Systems manufactured, assembled, tested and shipped to TESI.
- System delivery and staff training
 - Systems manufactured and delivered to TESI for installation
- Initial acceptance testing and delivery of systems at APM terminal.
 - Systems installed, commissioned and delivered to AMP terminal
 - APM staff trained and systems deployed
 - First in-use operational data collected that proves fuel savings
- Mid-Term in-use demonstration progress and testing report
 - 4 months of operational data
 - Emission testing
- Final report

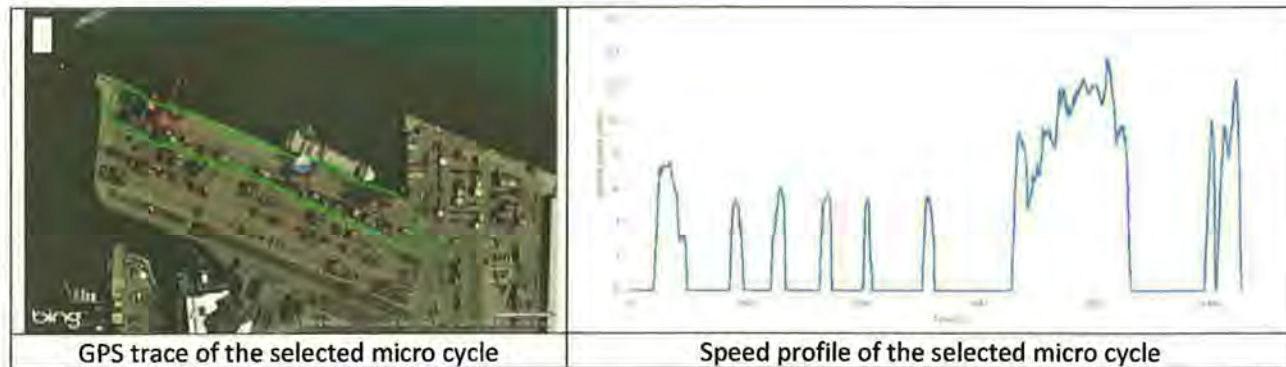
c. Projected air quality benefits

The most exhaustive assessment Effenco's technology performance was carried out by New York City Sanitation Department at their Vehicle Testing and Analysis Facility on on-road vocational trucks (EPA 2017 and 2010 engines) as well as on an off-road port terminal tractor. The department operates a state of the art, EPA certified level, heavy duty vehicle emissions testing laboratory with a HORIBA MEXA 7200 DTR emissions analyzer.

Tests confirmed that the Active Stop-Start hybrid technology eliminates idle fuel consumption with virtually no penalty due to parasitic losses and that reduction in GHG emissions is proportional to reduction in fuel consumption. The test on a port tractor involved a 2014 Kalmar-Ottawa 4X2 tractor operated by Global Container Terminal – New York. The vehicle was equipped with a Tier 4 Interim Alt NOx Cummins B6.7 engine rated at 173hp (ARB Executive Order U-R-002-0600, Engine Code 3098:FR92558).



The speed cycle used for the laboratory testing was based on the analysis of 1163 days of operating data collected on 16 Effenco equipped terminal tractors. This data was swept to benchmark candidate repetitive micro cycles against the overall data using four key metrics; average speed, stops per hour, maximum speed reach between stops and idle time. The selected micro cycle is illustrated below and corresponds to a complete typical load-unload cycle of a port terminal tractor. Two sets of 4 runs with the hybrid system deactivated and activated were alternatively conducted following the selected speed cycle to respectively determine the baseline and stop-start vehicle fuel consumption and emissions.



Results of this testing session are summarized below in percentage reduction for each emission type. It should be noted that the test was run with little payload simulated which resulted in less fuel used for propulsion and a bigger proportion of idle fuel consumption than what is observed for in-use data. However, operating conditions that are meaningful to stop-start operation such as the number of restarts per hour and the overall idle time were perfectly simulated. The relative reductions (ratio) in NOx, HC and PM in comparison to CO₂ are therefore accurate and the tests demonstrated that the intensity of these emissions is higher at idle than when the engine is loaded.

Emissions	CO ₂	NOx	HC	PM
Reductions	33.7%	47.1%	56.3%	58.4%
Ratio to CO ₂ reductions	-	1.4	1.67	1.73

Detailed lab results available on request.

EMISSIONS REDUCTIONS CALCULATIONS

Based on our experience with the deployments in ports, we consider that the technology can reduce in-use fuel consumption by 25% on average and we expect that such level of performance should be achieved for this project. Base on this premise and considering the ratios to CO₂ reduction obtained for reduction of NOx, HC and PM in laboratory, the respective expected emission reductions expressed in percentages are shown in the table below.

	Emissions			
	CO ₂	NOx	HC (ROG)	PM
Expected in-use reductions	25%	35%	42%	43%

The 2017 Moyer Program Guidelines were used to quantify the emission reductions as well as calculate the cost effectiveness of the technology as required in the guidelines for the TAP proposal. A sample calculation is presented below based for a Tier 4 Interim (Alt NOx) engine, the same engine that was used for the laboratory testing. The load factor for a yard tractor of 0.39 was obtained from table D-7 of Appendix D of the Guidelines. As for the emission factors of 2.15, 0.08 and 0.009 g/bhp-hr for, respectively, NOx, ROG and PM10 emissions, they were drawn from Table D-9, same section. Hence, using formula C-6 for calculating estimated annual emissions based on hours of operation as indicated in the Guidelines and neglecting the deterioration product for simplicity for this proposal, the respective annual reduction in NOx, ROG and PM10 emissions were calculated as follow:

Annual reduction of NO_x emissions:

$$2.15 \frac{g}{bhp \cdot hr} \times 173 hp \times 0.39 \times \frac{12 \text{ hours}}{\text{day}} \times \frac{260 \text{ days}}{\text{year}} \times \frac{\text{ton}}{907,200g} \times 35\% = 0.175 \frac{\text{tons NO}_x}{\text{year}}$$

Annual reduction of ROG emissions:

$$0.08 \frac{g}{bhp \cdot hr} \times 173 hp \times 0.39 \times \frac{12 \text{ hours}}{\text{day}} \times \frac{260 \text{ days}}{\text{year}} \times \frac{\text{ton}}{907,200g} \times 42\% = 0.008 \frac{\text{tons ROG}}{\text{year}}$$

Annual reduction of PM10 emissions:

$$0.009 \frac{g}{bhp \cdot hr} \times 173 hp \times 0.39 \times \frac{12 \text{ hours}}{\text{day}} \times \frac{260 \text{ days}}{\text{year}} \times \frac{\text{ton}}{907,200g} \times 43\% = 0.001 \frac{\text{tons PM10}}{\text{year}}$$

Formula C-3 was used to calculate the weighted emission reductions as follow:

$$\begin{aligned} \text{Weighted Emission Reductions} &= \text{NO}_x \text{ reductions } \left(\frac{\text{tons}}{\text{yr}} \right) + \text{ROG reductions } \left(\frac{\text{tons}}{\text{yr}} \right) + \left[20 \times \text{PM reductions } \left(\frac{\text{tons}}{\text{yr}} \right) \right] \\ &= 0.203 \frac{\text{ton}}{\text{year} \cdot \text{tractor}} \end{aligned}$$

The same calculations were performed for Tier 3 and Tier 4 Final engines using their respective emission factors and with the assumption that in-use reductions of NO_x, ROG and PM10 emissions would follow the same pattern as observed in laboratory for the Tier 4 Interim engine technology. The respective emission reductions and weighted emission reductions per tractor for all three engine technologies are summarized in the table below. This project will retrofit 5 or 6 Tier 3 and potentially 1 Tier 4 Interim for benchmarking.

Emission standards	NO _x	HC (ROG)	PM	Weighted emissions
Tier 3	0.188	0.009	0.011	0.417
Tier 4 Interim	0.175	0.008	0.001	0.203
Tier 4 Final	0.021	0.005	0.001	0.046

GHG REDUCTION CALCULATIONS

The following calculations were performing according to the Methodology for determining emissions reductions and Cost-Effectiveness from the Mobile Source Control Division of CARB. It considers a usage intensity in terms of annual operating hours and gallon consumed per hour of operation that correspond to both APM typical operating conditions as well as Effenco's database. Considering and expected reduction in fuel consumption of 25%, the annual reduction in GHG emissions per tractor is thus given by:

$$\text{Total Fuel usage} = \frac{12 \text{ hours}}{\text{day}} \times \frac{260 \text{ day}}{\text{year}} \times 1.6 \frac{\text{gal}}{\text{hour} \cdot \text{tractor}} = 4,992 \frac{\text{gal}}{\text{year}}$$

$$\text{GHG Reduction} = 102.01 \frac{gCO_2e}{MJ} \times 134.47 \frac{MJ}{gal} \times 4,992 \frac{gal}{year} \times 25\% \times \frac{\text{metric ton CO}_2e}{1,000,000 gCO_2e} = 17.1 \frac{\text{metric ton CO}_2e}{year}$$

COST EFFECTIVENESS CALCULATIONS

The cost effectiveness of the TAP funding solicited for the proposed project was calculated for the weighted emissions (criteria pollutant) as well as for GHG emissions using Formula C-18 of the Guidelines. The cost effectiveness was calculated according to three scenarios, that is, retrofits of MY2012 Tier 3, MY2014 Tier 4 Interim as well as MY2016 Tier 4 Final yard tractors. The results are show for the project duration itself (1 year) as well as the entire product life of the product should the terminal operator opt to keep using the technology upon project completion (considered a 12-year vehicle lifespan). All Capital Recovery Factors (CRF) were obtained from Table D-24 of Appendix D for the respective product life. While the costs per ton is expectedly high if only the short duration of the project is considered, they are very appealing for all three scenarios when the entire product life is considered.

$$\text{Cost - effectiveness } (\$/\text{ton}) = 180,000\$ * CRF / \left(6 \text{ tractors} \times \text{Emission Reductions } \left(\frac{\text{tons}}{\text{yr}} \right) \right)$$

Emission Standard	Vehicle MY	Project duration		Entire product life			
		Weighted Emissions	GHG	Product life	CRF	Weighted Emissions	GHG
Tier 3	2012	72,662\$	1772\$	6	0.173	12,446\$	304\$
Tier 4 Interim	2014	149,261\$	1772\$	8	0.131	19,360\$	230\$
Tier 4 Final	2016	658,696\$	1772\$	10	0.106	69,130\$	186\$

d. Projected commercial cost of technology

With the technology thoroughly vetted for the refuse collection application, Effenco is now actively engaged in the commercialization of the system in that market segment and is well-positioned to ramp up production and scale operations to meet a growing demand, starting with 300 units in 2019. It should be noted that an Active Stop-Start system configured for a port tractor application shares 90% of the components used for and on-road vocational truck application. Although the objective is to make the Active Stop-Start™ System available to end-users as a factory-installed option on their new truck purchases, retrofitting trucks using a network of local installers will remain an excellent opportunity to rapidly convert existing fleet for an immediate impact. Upon successful completion of the proposed project, Effenco would thus be able to supply the demand of ports in California with a selling price in the order of 25,000\$. The table below present what will be the commercial cost effectiveness of the technology at this price in 2020 and considering three scenarios, new purchases as well as retrofits of MY2014 Tier 4 Interim and 2012 Tier3 terminal tractors.

Emission Standard	Vehicle MY	Entire product life			
		Product life	CRF	Weighted Emissions	GHG
Tier 3	2012	4	0.256	15,348\$	374\$
Tier 4 Interim	2014	6	0.173	21,305\$	252\$
Tier 4 Final	2020	12	0.089	48,370\$	130\$

As from an operational standpoint, the technology will present decent economics that should justify its eventual adoption by different fleets operating in the ports. Even if grants might be initially needed to kickoff this adoption, it would represent a fraction of the selling price and would still have a very attractive cost effectiveness for either the retrofit or new acquisition scenarios presented above.

Annual Fuel consumption [gal]	4,992
Fuel savings	25%
Annual savings in fuel [4\$/gallon]	4,992\$
Annual engine hours [260 days @ 12 hours]	3,120
Reduction in engine run time	50%
Annual savings in engine maintenance [1.5\$/hour]	2,340\$
Total annual savings	7,332\$
Payback time	3.4 years

Considering 12 hrs/day and 260 days/yr

Effenco has retained the services of a consultant for approval process (Engine Certification Organization) and formal compliance and certification submittals have provided to the CARB and EPA for review. It should be noted that the Effenco Active Stop-Start hybrid system cannot be certified or verified by the California Air Resources Board for retrofits since Stop-Start technologies do not fit into the scope of existing procedures such as the

Innovative Technology Regulation. For factory builds, vehicles equipped with the systems will eventually be certified under the CA Phase 2 GHG regulations. In the interim, Effenco has been invited to submit a request to obtain an Executive Order from the CARB for aftermarket exemption. It should be noted that emissions testing required to obtain this exemption will be the same as those required for certification and will be approved by the CARB. It should be noted that the Active Stop-Start technology is combined to certified engines and its only mode of operation is to shut off the engine at stop. We do not alter the load of an engine during acceleration or cruise and therefore affect its operating conditions and related emission intensity.

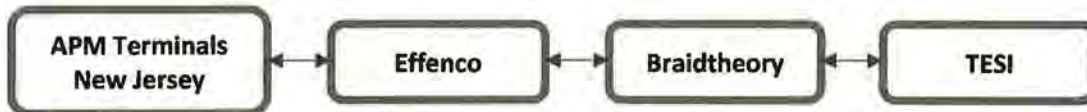
e. Project schedule (include milestones, deliverables and associated deadlines)

See section 4a on page 12.

3. PROJECT TEAM DESCRIPTION

a. Qualifications and capabilities of project team

Effenco has a prior partnership with APM Terminals in New Jersey to start testing the technology in yard tractors so the two companies have previously worked together and delivered a project. Effenco and Braidtheory are working together in California for business development. Braidtheory and Terminal Equipment Services, LLC (TESI) have a long-lasting relationship vetting, reviewing and bringing technology to ports. Without having developed a project together, all partners have overlapping relationships and established successes in bringing technology to ports.



TECHNOLOGY SUPPORT: EFFENCO INC.

Founded in 2006, Effenco has been collecting and analyzing auxiliary vehicle data since the very beginning. The in-depth understanding of the duty-cycle is what led to one of the most cost-effective solution for reducing GHG on the market. Data is still at the core of the business and the product/service offering is always developed around it. The Active Stop-Start™ is deployed on over 150 vehicles in Canada, France, New York and Vancouver including on 18-yard tractors recently deployed in 4 port terminals. Effenco has previously successfully lead and completed two major demonstration projects with 22 partner fleets totaling \$ 14M in project costs and \$ 3M in grants.

Benoit Lacroix

Professional Experience

Co-Founder & Vice President Sales & Marketing, Effenco Inc, Montreal, Canada, 2006 – present

Product designer, Elka Suspension Inc., Boucherville, Canada, 2001 – 2002

Tool Designer, Bombardier Aerospace, Montreal, Canada, 2000-2001

Education: Bachelor, Master and PhD Engineering, ETS University, Montreal, Canada, 2001 – 2011

PORT OPERATOR PARTNER: APM TERMINAL PACIFIC

Nathan Surdin, APM Terminals Manager of Power Equipment, manages the repair, maintenance, acquisition, and sale of heavy industrial equipment in the marine terminal environment. The overall terminal fleet size for APMT Los Angeles is close to 800 individual pieces of equipment, consisting of heavy diesel, gas, LNG, and most recently, 100% electric powered equipment. He is also responsible for the terminal’s compliance with the California Air Regulations Board and ensuring the terminal’s equipment is in line with the exhaust quality standards set forth by the state.

INSTALLATION/SUPPORT: TERMINAL EQUIPMENT SERVICES, LLC.

With more than 30 years’ experience servicing cargo handling equipment at ports throughout California, TESI Founder Dave Zelhart is a key project team member. TESI services include equipment survey; maintenance

program development and review; technical training; project management; and crane offloading, commissioning and warranty services. The company is a vital partner in the Port of Long Beach Middle Harbor Terminal project. TESI will do full integration of Effenco's Systems and receive training to perform these operations self-sufficiently. They will provide technical support during the 8 months in-use demonstration. They will also be the interface with union mechanics from APM terminal.

Dave Zelhart

Professional Experience

Owner, Terminal Equipment Services, LLC., Los Angeles/Long Beach, CA, 2011 – present

Vice President, Pacific Crane Maintenance Company, Long Beach, CA, 2001 – 2011

Vice President, Harbor Industrial Services Company, Wilmington, CA, 1995 – 2001

Vice President, Marine Technical Services, Inc., Wilmington, CA, 1991 – 1995

District Manager, Rimco/Rigging International, Wilmington, CA, 1986 – 1991

COMMERCIALIZATION SUPPORT AND PROJECT MANAGEMENT: BRAID THEORY, INC.

Braid Theory is a strategic consulting firm that connects technology entrepreneurs with industry partners to build opportunities for market traction and growth. The company brings advanced technology startups to market in Transportation and Goods Movement, Maritime, Energy/Utilities and Clean Tech industries. Braid Theory's specialties include customer and market validation, competitive analysis, business modeling and go-to-market strategy. On this project, Braid Theory will perform project management, reporting and on-site presence.

Ann Lee Carpenter

Professional Experience

CEO and Co-Founder, Braid Theory, Inc., San Pedro, CA, 2016 – present

Director of Marketing, PortTech Los Angeles, San Pedro, CA, 2012 – 2016

Owner, S'Pacific Image, Los Angeles, CA, 1991 – 2016

Director of Strategic Planning, Lockheed Corporation, Information Systems Group, 1985 – 1990

Education: Bachelor of Science, Mathematics, University of Michigan-Dearborn

EMISSIONS TESTING: UNIVERSITY OF CALIFORNIA – RIVERSIDE (UCR) CE-CERT LABORATORY

UCR's CE-CERT Heavy-Duty Engine Dynamometer Test Facility is designed for a variety of applications including verification of diesel ATS devices, certification of alternative diesel fuels, and fundamental research in diesel emissions and advanced diesel technologies. CE-CERT's Mobile Emissions Laboratory (MEL) is used directly in conjunction with this facility for certification type emissions measurements.

b. Commitment letter(s) secured from port operators participating in the project

c. Commitment letter(s) secured from project team members that document role and cost share.

Port of Long Beach
4801 Airport Plaza Drive
Long Beach, CA 90815
Attn: Rose Siengsubcharti

Port of Los Angeles
425 S. Palos Verdes St.
San Pedro, CA 90731
Attn: Teresa Pisano



Montreal, August 27, 2018

Object: Letter of commitment for the call for proposals "San Pedro Bay Ports Technology Advancement Program"

Ms Pisano & Siengsubcharti,

This letter is to confirm that Effenco Inc. represented by David Arsenault is committed to participate in the project entitled "Rapid Deployment of Electric Active Stop-Start™ Technology for Zero-Emission Idling from Port Yard Tractors" in partnership with APM Terminals and Bradtheory inc. As a partner in this project, my organisation is committing to the following:

- Design, manufacture and deliver 6 Active Stop-Start Systems™;
- Assist and train TESI for installation, maintenance and repairs
- Participate on behalf of the partnership with 88,823\$ in cash contributions;
- Participate on behalf of the partnership with 23,076\$ in in-kind contributions;
- Provide distance technical support to TESI and APM terminals.



David Arsenault, CEO
Effenco Inc.
3700, St-Patrick, suite 316
Montreal, Quebec
Canada, H4E 1A2
Cell: (514) 867-5811
davidarsenault@effenco.com



August 27, 2018

Port of Long Beach
Attn: Rose Siengsubcharti
4801 Airport Plaza Drive
Long Beach, CA 90815

Port of Los Angeles
Attn: Teresa Pisano
222 W. 6th Street, Suite 900
San Pedro, CA 90731

Re: Letter of Commitment
Port of Long Beach and Port of Los Angeles Request for Proposal entitled, "Rapid Deployment of Electric Active Stop-Start™ Technology for Zero-Emission Idling from Port Yard Tractors"

To Whom It May Concern:

We are writing to express our companies' commitments to participate with Effenco, Inc. in a pilot project demonstrating the viability and efficacy of deploying Effenco's stop-start system to reduce air pollutants related to the operations of port yard tractors.

As project partners, we will work in collaboration with Effenco to successfully complete the demonstration project as outlined in the proposal.

The team of Terminal Equipment Services, LLC and Braid Theory, Inc. will provide the following in-kind contribution to support cost share requirements:

Installation/Systems Integration; In-Use Demonstration, Emissions Testing: \$7,200

Our commitment will advance efforts towards emissions-free ports worldwide, and we look forward to working with the Effenco team on this exciting endeavor.

Sincerely,

Dave Zelhart
CEO

Terminal Equipment Services, LLC
216 The Promenade N., Suite 306
Long Beach, CA 90802
562-480-0207

Ann Carpenter
CEO

Braid Theory, Inc.
224 W. 8th Street
San Pedro, CA 90731
310-600-7035

4. PROJECT SCOPE OF WORK:

a. b. Task Description, including list of key milestones and project deliverables.

The project scope of work with respective tasks sequence and duration are illustrated with the Gantt chart below. Project will start from contract signatures between all parties and is expected to last 12 months. The first 4 months will be dedicated to system engineering, production, installation and deployment. Note that this 120-day period represents Effenco's typical lead time for deliveries. Then, the tractors will be operating and monitor for an 8-month period in the middle of which in-use emission measurement will be conducted.

Task	Description	Milestones	Deliverables	Timeline (in months)													
				M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	
0	Preparation			↔													
0.1	Provide all vehicle specifications			■													
0.2	Field check (measurements)	Have all data to proceed next phase		◆													
1	Design and Engineering (Planning)			↔													
1.1	Electrical and mechanical configuration			■													
1.2	Engineering Integration Drawings	System layout completed	Interim report: System Layout & Test	◆													
1.3	Produce test plan	Acceptance of the test plan	plan report	◆													
2	Production			↔													
2.1	Prepare BOM and designs			■													
2.2	Procurement	Receive all material for production			■	◆											
2.3	Assembly Drawings				■												
2.4	Manufacturing		Interim report: Completion of technology			■											
2.5	Benchtest (in-house testing)	Completion of technology integration	manufacturing and delivery of systems			■											
		Delivery of systems at TESI	at TESI.			◆											
3	Systems integration and installation			↔													
3.1	Systems installation						■										
3.2	Commissioning	All systems tested and operational	Interim report: Initial acceptance testing				◆										
3.3	Training		and delivery of systems at APM				◆										
3.4	Initial Acceptance Testing	Completion of technology integration	terminal.				◆										
4	In-use demonstration/ Emissions Testing			↔													
4.1	In-use Demonstration							■	■	■	■	■	■	■	■	■	■
		Mid-term in-use demonstration	Interim report: mid-term demonstration							◆							
4.2	CE-CERT Testing		and testing								■						
5	Project Management			↔													
5.1	Project meetings and tracking	Monthly meetings		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
5.2	Prepare final report	Delivery of report to TAP authorities	Final report														◆

5. PROPOSED BUDGET, BY TASK IN TABLE FORMAT

a. Cost of each task, including cost type (in-kind, cash) and source (TAP, contractor, other grant sources, etc.)

Task	Description	TOTAL COST	Effenco		APM	Braidtheory	Requested TAP
			Cash	In-kind	In-kind	In-kind	
0	Preparation						
0.1	Provide all vehicle specifications	\$ 240	\$ -	\$ -	\$ 240	\$ -	\$ -
0.2	Field check (measurements)	\$ 554	\$ -	\$ 213	\$ -	\$ -	\$ 341.87
1	Design and Engineering (Planning)						
1.1	Electrical and mechanical configuration	\$ 1,848	\$ -	\$ 708	\$ -	\$ -	\$ 1,139.57
1.2	Engineering Integration Drawings	\$ 8,316	\$ -	\$ 3,188	\$ -	\$ -	\$ 5,128.07
1.3	Produce demonstration plan	\$ 6,200	\$ 1,917	\$ -	\$ 1,200	\$ -	\$ 3,083.26
2	Production						
2.1	Prepare BOM and designs	\$ 1,109	\$ -	\$ 425	\$ -	\$ -	\$ 683.74
2.2	Procurement	\$ 112,411	\$ 42,821	\$ 272	\$ -	\$ -	\$ 69,318.61
2.3	Contingency Parts	\$ 30,000	\$ 11,500	\$ -	\$ -	\$ -	\$ 18,499.53
2.3	Assembly Drawings	\$ 1,109	\$ -	\$ 425	\$ -	\$ -	\$ 683.74
2.4	Manufacturing	\$ 14,784	\$ -	\$ 5,667	\$ -	\$ -	\$ 9,116.57
2.5	Bench test (in-house testing)	\$ 2,218	\$ -	\$ 850	\$ -	\$ -	\$ 1,367.49
2.6	Shipping	\$ 12,000	\$ 4,600	\$ -	\$ -	\$ -	\$ 7,399.81
3	Systems integration and installation						
3.1	Towing	\$ 6,000	\$ 2,300	\$ -	\$ -	\$ -	\$ 3,699.91
3.3	Systems installation	\$ 38,688	\$ 9,200	\$ 4,251	\$ -	\$ 3,600.00	\$ 21,637.05
3.4	Commissioning	\$ 2,218	\$ -	\$ 850	\$ -	\$ -	\$ 1,367.49
3.5	Training	\$ 1,206	\$ -	\$ 94	\$ 960	\$ -	\$ 151.94
3.6	Initial Acceptance Testing	\$ 1,440	\$ -	\$ -	\$ 240	\$ 1,200.00	\$ -
4	In-use demonstration/ Emissions Testing						
4.1	In-use Demonstration	\$ 332,302	\$ -	\$ 3,587	\$ 322,944	\$ -	\$ 5,770.79
4.2	CE-CERT Testing	\$ 34,000	\$ 11,500	\$ 613	\$ -	\$ 2,400.00	\$ 19,486.17
4.3	Contingency	\$ 2,880	\$ -	\$ 1,104	\$ -	\$ -	\$ 1,775.96
5	Project Management						
5.1	Project meetings and tracking	\$ 9,440	\$ 3,067	\$ 368	\$ 480	\$ -	\$ 5,525.19
5.2	Prepare final report	\$ 6,200	\$ 1,917	\$ 460	\$ -	\$ -	\$ 3,823.24
TOTAL		\$ 625,163	\$ 88,823	\$ 23,076	\$ 326,064	\$ 7,200	\$ 180,000

b. Provide a clear summary in table format of all in-kind and direct cost sharing, secured and anticipated

	Requested TAP Funding \$\$	Project Team Cash \$\$	Project Team In-Kind \$\$	Total Project Team \$\$	Total Cost	%
Preparation	\$ 342	\$ -	\$ 453	\$ 453	\$ 794	0%
Design and Engineering (Planning)	\$ 9,351	\$ 1,917	\$ 5,096	\$ 7,013	\$ 16,364	3%
Production	\$ 107,069	\$ 58,922	\$ 7,639	\$ 66,561	\$ 173,631	28%
Systems integration and installation	\$ 26,856	\$ 11,500	\$ 11,195	\$ 22,696	\$ 49,552	8%
In-use demonstration/ Emissions Testing	\$ 27,033	\$ 11,500	\$ 330,649	\$ 342,149	\$ 369,182	59%
Project Management	\$ 9,348	\$ 4,984	\$ 1,308	\$ 6,292	\$ 15,640	3%
TOTAL	\$ 180,000	\$ 88,823	\$ 356,340	\$ 445,163	\$ 625,163	100%
%	29%	14%	57%			

Total cost of the project is 625,163\$. In this proposal, requested TAP funding is 27% of project costs. The team will contribute 14% in cash. Project Management represents 3% of expenses.

Effenco's in-kind contribution is based on salaries at regular rate, and expenses are forecasted based on previous project implementations.

APM's non-refundable contribution is based on fuel and operation with following assumptions:

FUEL

$$6 \text{ tractors} \times 416 \frac{\text{gal}}{\text{tractor} \cdot \text{month}} \times 8 \text{ months} \times 4 \frac{\$}{\text{gal}} = 79,872\$$$

OPERATION

$$12 \frac{\text{hr}}{\text{day} \cdot \text{tractor}} \times 5 \frac{\text{days}}{\text{week}} \times 4.22 \frac{\text{weeks}}{\text{month}} \times 20 \frac{\$}{\text{hr}} \times 8 \text{ months} \times 6 \text{ tractors} = 243,072\$$$

TOTAL IN-KIND

$$79,872\$ + 243,072\$ = 322,944\$$$

EXHIBIT B

PAYMENT SCHEDULE

Task/Payment Milestone	Description	Timing
Task #1	Preparation, Design, and Engineering. Provide all vehicle specifications and complete field check. Complete system layout and successfully submit a certification test plan to the California Air Resources Board.	Estimated 1 month after agreement execution.
Payment Milestone #1	Completion of Tasks #1 Payment: \$9,700 To receive payment, Grantee must submit an Interim Report that includes System Layout and demonstrates successful submittal of Test Plan Report. The Director of Environmental Management will make the determination of successful submittal.	
Task #2	Production. Complete design, procure all material for production, prepare assembly drawings, manufacture, and bench test equipment (in-house testing).	Estimated 3 months after agreement execution.
Payment Milestone #2	Completion of Task #3 Payment: \$107,000 To receive payment, Grantee must submit an Interim Report that demonstrates the completion of technology manufacturing and delivery of systems to TESI.	
Task #3	System Integration and Installation. All systems tested and operational. Completion of technology integration.	Estimated 4 months after agreement execution.
Payment Milestone #3	Completion of Task #3 Payment: \$26,850 To receive payment, Grantee must submit an Interim Report that demonstrates completion of Initial Acceptance Testing and Delivery of systems to APM Terminals.	
Task #4	In-Use Demonstration/Emission Testing. In-use demonstration for a minimum of six months. If any unit is demonstrated less than six months, a detailed explanation must be provided and the Director of Environmental Management will determine if the minimum demonstration period has been met.	Estimated completion 12 months after agreement execution.
Payment Milestone #4	Completion of Task #4 Payment: \$27,033 To receive payment, Grantee must submit	
Task #5	Project Management and Final Report. Monthly meetings, and delivery of report to TAP authorities.	Ongoing from project execution to completion.
Payment Milestone #5	Completion of Task #6 Payment: not to exceed \$9,417 To receive payment, Grantee must receive approval of Final Report from the Director of Environmental Management.	Estimated 12 months from contract execution.

EXHIBIT C

BUSINESS TAX REGISTRATION CERTIFICATE (BTRC) NUMBER

The City of Los Angeles Office of Finance requires all firms that engage in any business activity within the City of Los Angeles to pay City business taxes. Each firm or individual (other than a municipal employee) is required to obtain the necessary Business Tax Registration Certification (BTRC) and pay business tax. (Los Angeles Municipal Code Section 21.09 et seq.)

All firms and individuals that do business with the City of Los Angeles will be required to provide a BTRC number or an exemption number as proof of compliance with Los Angeles City business tax requirements in order to receive payment for goods or services. Beginning October 14, 1987, payments for goods or services will be withheld unless proof of tax compliance is provided to the City.

The Tax and Permit Division of Los Angeles Office of Finance has the sole authority to determine whether a firm is covered by business tax requirements. Those firms not required to pay will be given an exemption number.

If you do NOT have a BTRC number contact the Tax and Permit Division at the office listed below, or log on to <http://finance.lacity.org/business-tax-information-faq> to download the business tax registration application.

MAIN OFFICE

LA City Hall

201 N. Main Street, Rm. 101 (844) 663-4411

EXHIBIT D - AFFIRMATIVE ACTION PROGRAM PROVISIONS

Sec. 10.8.4 Affirmative Action Program Provisions.

Every non-construction contract with or on behalf of the City of Los Angeles for which the consideration is \$100,000 or more and every construction contract with or on behalf of the City of Los Angeles for which the consideration is \$5,000 or more shall contain the following provisions which shall be designated as the AFFIRMATIVE ACTION PROGRAM provisions of such contract:

- A. During the performance of City contract, the contractor certifies and represents that the contractor and each subcontractor hereunder will adhere to an affirmative action program to ensure that in its employment practices, persons are employed and employees are treated equally and without regard to or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
 - 1. This provision applies to work or services performed or materials manufactured or assembled in the United States.
 - 2. Nothing in this section shall require or prohibit the establishment of new classifications of employees in any given craft, work or service category.
 - 3. The contractor shall post a copy of Paragraph A hereof in conspicuous places at its place of business available to employees and applicants for employment.
- B. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to their race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
- C. As part of the City's supplier registration process, and/or at the request of the awarding authority or the Office of Contract Compliance, the contractor shall certify on an electronic or hard copy form to be supplied, that the contractor has not discriminated in the performance of City contracts against any employee or applicant for employment on the basis or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
- D. The contractor shall permit access to and may be required to provide certified copies of all of its records pertaining to employment and to its employment practices by the awarding authority or the Office of Contract Compliance, for the purpose of investigation to ascertain compliance with the Affirmative Action Program provisions of City contracts, and on their or either of their request to provide evidence that it has or will comply therewith.

- E. The failure of any contractor to comply with the Affirmative Action Program provisions of City contracts may be deemed to be a material breach of contract. Such failure shall only be established upon a finding to that effect by the awarding authority, on the basis of its own investigation or that of the Board of Public Works, Office of Contract Compliance. No such finding shall be made except upon a full and fair hearing after notice and an opportunity to be heard has been given to the contractor.
- F. Upon a finding duly made that the contractor has breached the Affirmative Action Program provisions of a City contract, the contract may be forthwith cancelled, terminated or suspended, in whole or in part, by the awarding authority, and all monies due or to become due hereunder may be forwarded to and retained by the City of Los Angeles. In addition thereto, such breach may be the basis for a determination by the awarding authority or the Board of Public Works that the said contractor is an irresponsible bidder or proposer pursuant to the provisions of Section 371 of the Los Angeles City Charter. In the event of such determination, such contractor shall be disqualified from being awarded a contract with the City of Los Angeles for a period of two years, or until he or she shall establish and carry out a program in conformance with the provisions hereof.
- G. In the event of a finding by the Fair Employment and Housing Commission of the State of California, or the Board of Public Works of the City of Los Angeles, or any court of competent jurisdiction, that the contractor has been guilty of a willful violation of the California Fair Employment and Housing Act, or the Affirmative Action Program provisions of a City contract, there may be deducted from the amount payable to the contractor by the City of Los Angeles under the contract, a penalty of TEN DOLLARS (\$10.00) for each person for each calendar day on which such person was discriminated against in violation of the provisions of a City contract.
- H. Notwithstanding any other provisions of a City contract, the City of Los Angeles shall have any and all other remedies at law or in equity for any breach hereof.
- I. The Public Works Board of Commissioners shall promulgate rules and regulations through the Office of Contract Compliance and provide to the awarding authorities electronic and hard copy forms for the implementation of the Affirmative Action Program provisions of City contracts, and rules and regulations and forms shall, so far as practicable, be similar to those adopted in applicable Federal Executive Orders. No other rules, regulations or forms may be used by an awarding authority of the City to accomplish this contract compliance program.
- J. Nothing contained in City contracts shall be construed in any manner so as to require or permit any act which is prohibited by law.
- K. The Contractor shall submit an Affirmative Action Plan which shall meet the requirements of this chapter at the time it submits its bid or proposal or at the time it registers to do business with the City. The plan shall be subject to approval by the

Office of Contract Compliance prior to award of the contract. The awarding authority may also require contractors and suppliers to take part in a pre-registration, pre-bid, pre-proposal, or pre-award conference in order to develop, improve or implement a qualifying Affirmative Action Plan. Affirmative Action Programs developed pursuant to this section shall be effective for a period of twelve

months from the date of approval by the Office of Contract Compliance. In case of prior submission of a plan, the contractor may submit documentation that it has an Affirmative Action Plan approved by the Office of Contract Compliance within the previous twelve months. If the approval is 30 days or less from expiration, the contractor must submit a new Plan to the Office of Contract Compliance and that Plan must be approved before the contract is awarded.

1. Every contract of \$5,000 or more which may provide construction, demolition, renovation, conservation or major maintenance of any kind shall in addition comply with the requirements of Section 10.13 of the Los Angeles Administrative Code.
 2. A contractor may establish and adopt as its own Affirmative Action Plan, by affixing his or her signature thereto, an Affirmative Action Plan prepared and furnished by the Office of Contract Compliance, or it may prepare and submit its own Plan for approval.
- L. The Office of Contract Compliance shall annually supply the awarding authorities of the City with a list of contractors and suppliers who have developed Affirmative Action Programs. For each contractor and supplier the Office of Contract Compliance shall state the date the approval expires. The Office of Contract Compliance shall not withdraw its approval for any Affirmative Action Plan or change the Affirmative Action Plan after the date of contract award for the entire contract term without the mutual agreement of the awarding authority and the contractor.
- M. The Affirmative Action Plan required to be submitted hereunder and the pre-registration, pre-bid, pre-proposal or pre-award conference which may be required by the Board of Public Works, Office of Contract Compliance or the awarding authority shall, without limitation as to the subject or nature of employment activity, be concerned with such employment practices as:
1. Apprenticeship where approved programs are functioning, and other on-the-job training for non-apprenticeable occupations;
 2. Classroom preparation for the job when not apprenticeable;
 3. Pre-apprenticeship education and preparation;
 4. Upgrading training and opportunities;

5. Encouraging the use of contractors, subcontractors and suppliers of all racial and ethnic groups, provided, however, that any contract subject to this ordinance shall require the contractor, subcontractor or supplier to provide not less than the prevailing wage, working conditions and practices generally observed in private industries in the contractor's, subcontractor's or supplier's geographical area for such work;
 6. The entry of qualified women, minority and all other journeymen into the industry; and
 7. The provision of needed supplies or job conditions to permit persons with disabilities to be employed, and minimize the impact of any disability.
- N. Any adjustments which may be made in the contractor's or supplier's workforce to achieve the requirements of the City's Affirmative Action Contract Compliance Program in purchasing and construction shall be accomplished by either an increase in the size of the workforce or replacement of those employees who leave the workforce by reason of resignation, retirement or death and not by termination, layoff, demotion or change in grade.
- O. Affirmative Action Agreements resulting from the proposed Affirmative Action Plan or the pre-registration, pre-bid, pre-proposal or pre-award conferences shall not be confidential and may be publicized by the contractor at his or her discretion. Approved Affirmative Action Agreements become the property of the City and may be used at the discretion of the City in its Contract Compliance Affirmative Action Program.
- P. This ordinance shall not confer upon the City of Los Angeles or any Agency, Board or Commission thereof any power not otherwise provided by law to determine the legality of any existing collective bargaining agreement and shall have application only to discriminatory employment practices by contractors or suppliers engaged in the performance of City contracts.
- Q. All contractors subject to the provisions of this section shall include a like provision in all subcontracts awarded for work to be performed under the contract with the City and shall impose the same obligations, including but not limited to filing and reporting obligations, on the subcontractors as are applicable to the contractor. Failure of the contractor to comply with this requirement or to obtain the compliance of its subcontractors with all such obligations shall subject the contractor to the imposition of any and all sanctions allowed by law, including but not limited to termination of the contractor's contract with the City.

EXHIBIT E

Sec. 10.8.2.1. Equal Benefits Ordinance.

Discrimination in the provision of employee benefits between employees with domestic partners and employees with spouses results in unequal pay for equal work. Los Angeles law prohibits entities doing business with the City from discriminating in employment practices based on marital status and/or sexual orientation. The City's departments and contracting agents are required to place in all City contracts a provision that the company choosing to do business with the City agrees to comply with the City's nondiscrimination laws.

It is the City's intent, through the contracting practices outlined in this Ordinance, to assure that those companies wanting to do business with the City will equalize the total compensation between similarly situated employees with spouses and with domestic partners. The provisions of this Ordinance are designed to ensure that the City's contractors will maintain a competitive advantage in recruiting and retaining capable employees, thereby improving the quality of the goods and services the City and its people receive, and ensuring protection of the City's property.

(c) Equal Benefits Requirements.

(1) No Awarding Authority of the City shall execute or amend any Contract with any Contractor that discriminates in the provision of Benefits between employees with spouses and employees with Domestic Partners, between spouses of employees and Domestic Partners of employees, and between dependents and family members of spouses and dependents and family members of Domestic Partners.

(2) A Contractor must permit access to, and upon request, must provide certified copies of all of its records pertaining to its Benefits policies and its employment policies and practices to the DAA, for the purpose of investigation or to ascertain compliance with the Equal Benefits Ordinance.

(3) A Contractor must post a copy of the following statement in conspicuous places at its place of business available to employees and applicants for employment: "During the performance of a Contract with the City of Los Angeles, the Contractor will provide equal benefits to its employees with spouses and its employees with domestic partners." The posted statement must also include a City contact telephone number which will be provided each Contractor when the Contract is executed.

(4) A Contractor must not set up or use its contracting entity for the purpose of evading the requirements imposed by the Equal Benefits Ordinance.

(d) Other Options for Compliance. Provided that the Contractor does not discriminate in the provision of Benefits, a Contractor may also comply with the Equal Benefits Ordinance in the following ways:

(1) A Contractor may provide an employee with the Cash Equivalent only if the DAA determines that either:

a. The Contractor has made a reasonable, yet unsuccessful effort to provide Equal Benefits; or

b. Under the circumstances, it would be unreasonable to require the Contractor to provide Benefits to the Domestic Partner (or spouse, if applicable).

(2) Allow each employee to designate a legally domiciled member of the employee's household as being eligible for spousal equivalent Benefits.

(3) Provide Benefits neither to employees' spouses nor to employees' Domestic Partners.

(e) Applicability.

(1) Unless otherwise exempt, a Contractor is subject to and shall comply with all applicable provisions of the Equal Benefits Ordinance.

(2) The requirements of the Equal Benefits Ordinance shall apply to a Contractor's operations as follows:

a. A Contractor's operations located within the City limits, regardless of whether there are employees at those locations performing work on the Contract.

b. A Contractor's operations on real property located outside of the City limits if the property is owned by the City or the City has a right to occupy the property, and if the Contractor's presence at or on that property is connected to a Contract with the City.

c. The Contractor's employees located elsewhere in the United States but outside of the City limits if those employees are performing work on the City Contract.

(3) The requirements of the Equal Benefits Ordinance do not apply to collective bargaining agreements ("CBA") in effect prior to January 1, 2000. The Contractor must agree to propose to its union that the requirements of the Equal Benefits Ordinance be incorporated into its CBA upon amendment, extension, or other modification of a CBA occurring after January 1, 2000.

(f) **Mandatory Contract Provisions Pertaining to Equal Benefits.** Unless otherwise exempted, every Contract shall contain language that obligates the Contractor to comply with the applicable provisions of the Equal Benefits Ordinance. The language shall include provisions for the following:

(1) During the performance of the Contract, the Contractor certifies and represents that the Contractor will comply with the Equal Benefits Ordinance.

(2) The failure of the Contractor to comply with the Equal Benefits Ordinance will be deemed to be a material breach of the Contract by the Awarding Authority.

(3) If the Contractor fails to comply with the Equal Benefits Ordinance the Awarding Authority may cancel, terminate or suspend the Contract, in whole or in part, and all monies due or to become due under the Contract may be retained by the City. The City may also pursue any and all other remedies at law or in equity for any breach.

(4) Failure to comply with the Equal Benefits Ordinance may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.

(5) If the DAA determines that a Contractor has set up or used its Contracting entity for the purpose of evading the intent of the Equal Benefits Ordinance, the Awarding Authority may terminate the Contract on behalf of the City. Violation of this provision may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.