

6. DETAILED SPECIFICATIONS

6.1. SCOPE

The Contractor must furnish and deliver new, current model electric cars, complete and ready to operate, as specified, F.O.B., City of Chicago, Department of Fleet Management.

The Contractor must furnish and deliver F.O.B, Contractor's shop, all necessary labor, materials, parts, accessories, assemblies, and/or components either in conjunction with non-warranty repair services or separately for various vans purchased under this Contract, in accordance with the terms and conditions of this specification

All specified requirements are minimum requirements unless stated otherwise.

6.2. MANUFACTURER, MANUFACTURER'S AUTHORIZED DEALER / DISTRIBUTOR

The Contractor must be the manufacturer or an authorized dealer or distributor of the proposed vehicles or equipment, provide documentation of same with its bid or upon the request of the Chief Procurement Officer, and be capable of providing genuine parts, assemblies and/or accessories as supplied by the original equipment manufacturer (OEM). Further, the Contractor must be capable of furnishing original product warranty and manufacturer's related services such as product information, product recall notices, etc. Proof of ability to transfer product warranties to the City of Chicago is to be submitted with bid documents, if applicable.

For vehicles manufactured in stages, bidders must be either the manufacturer or an authorized dealer or distributor of the specific make of vehicle proposed (as the incomplete vehicle portion of the proposed vehicle) or must be either the final-stage manufacturer or an authorized dealer or distributor for the final-stage manufacturer. If the bidder is the manufacturer, authorized dealer or authorized distributor of the specific make of vehicle proposed, bidder or bidder's subcontractor must be either the final-stage manufacturer or an authorized dealer or distributor for the final-stage manufacturer. If the bidder is the final-stage manufacturer or an authorized dealer or distributor for the final-stage manufacturer, bidder or bidder's subcontractor must be either the manufacturer or an authorized dealer or distributor of the specific make of vehicle proposed.

6.3. LICENSED NEW VEHICLE DEALER

When required by the Illinois Motor Vehicle Code, Section 625 ILCS 5/5-101, the Bidder must be a licensed vehicle dealer in accordance with the Illinois Motor Vehicle Code, Section 625 ILCS 5/5-101. **Bidder must provide a copy of current Registration for Authority to Deal in Vehicles issued by the Illinois Secretary of State with the bid.** Failure to obtain the required licenses may cause the bids to be rejected as non-responsive.

Bidder must be licensed by the Illinois Secretary of State to deal in the specific make of vehicle proposed. If, at the time of the submission of its bid, the Bidder is not registered to deal in the specific make of vehicle proposed, Bidder has until 30 days after the bid opening date to obtain the required documentation and submit it to the City.

If the proposed unit is manufactured in stages, bidder either must be registered to deal in the specific make of vehicle proposed (as the incomplete vehicle portion of the proposed vehicle) or must be registered to deal in the specific make manufactured by the final-stage manufacturer. In cases where the bidder is registered to deal in the specific make of vehicle proposed (as the incomplete vehicle portion of the proposed vehicle), the bidder or bidder's subcontractor must be registered to deal in the specific make manufactured by the final-stage manufacturer. If the bidder is registered to deal in the specific make manufactured by the final-stage manufacturer, bidder or bidder's subcontractor must be registered to deal in the specific make of vehicle proposed (as the incomplete vehicle portion of the proposed vehicle). **In all cases, bidders must provide documentation of current Registration for Authority to Deal in Vehicles both specific to the make of vehicle proposed (as the incomplete vehicle portion of the proposed vehicle) and specific to the make manufactured by the final-stage manufacturer;** the required, current registration may be issued to and furnished by the bidder and its subcontractor or by the bidder alone, but not to subcontractor(s) alone. Bidder must provide documentation of current registration both for the specific make of vehicle proposed and for the proposed specific make manufactured by the final-stage manufacturer. If, at the time of the submission of its

bid, the Bidder is not registered to deal for both the specific make of vehicle proposed and for the proposed specific make manufactured by the final-stage manufacturer, Bidder has until 30 days after the bid opening date to obtain the required documentation.

Bidders not located in Illinois must provide with their bid all such registration / license documentation from their state in lieu of documentation from the Illinois Secretary of State.

Bidders will not be required to be licensed vehicle dealers and will not be required to furnish Registration for Authority to Deal in Vehicles where not required by the Illinois Motor Vehicle Code, Section 625 ILCS 5/5-101, when proposing only units that are exempt from the requirements of the Illinois Motor Vehicle Code for dealer licensing and certificates of title.

6.4. TRADE NAMES

For the purposes of convenience and clarity, the City may use manufacturers' names, trade names, catalog numbers or similar references in specifying products or requirements for products. Unless otherwise explicitly stated in the bid documents, references to a specific manufacturer, trade name or catalogs are intended to be descriptive, not restrictive, and to serve as examples of acceptable products. Bidders may propose "equal" alternatives to products or requirements so specified. Bids on other makes and catalogs will be considered provided that the bidder clearly states on its proposal the equal alternative that it is proposing, and includes a cut, illustration or other documents that clearly indicate that the product offered is an equal to the product specified.

The Chief Procurement Officer reserves the right to approve any proposed equal, or to disapprove any such proposed alternative.

6.5. TRAINING/TECHNICAL ASSISTANCE

The Contractor must furnish professionally conducted training sessions to the extent described below. This training will be provided by the Contractor as a portion of the Contract, at no additional cost to the City.

For each unit delivered, the Contractor must train City personnel in the proper, safe operation of the unit and any auxiliary items for a minimum period of one hour. This training will be conducted by knowledgeable, experienced personnel, at the facility of the using department.

In addition, for each unit delivered, the Contractor must train City trades technicians in the most efficient methods of diagnosing, troubleshooting, maintaining and repairing the unit and any auxiliary items for a minimum period of two hours.

6.6. STANDARD PRODUCT

Experimental units or equipment will not be acceptable. Any proposed units or equipment which are not produced by regular production methods and/or which have not been offered for sale to the public through accepted industry trade channels for approximately one (1) year prior to the offering of this bid, will be considered experimental. The Chief Procurement Officer reserves the right to determine what constitutes experimental equipment.

Hybrids and/or combinations of two (2) or more standard production units may not be accepted. The manufacturer must furnish evidence upon request that the model to be furnished has been commercially available through that manufacturer to the trade for a period of not less than approximately 1 year and has been fully field tested to the satisfaction of the Chief Procurement Officer.

6.7. GENERAL CONSTRUCTION

The complete unit(s) furnished will be the manufacturer's latest models. Appurtenance and/or accessories not herein mentioned, but necessary to furnish a complete unit ready for use upon delivery will be included. Each complete unit will conform to the best practices known to the trade in strength, quality of material and workmanship and be subject to this specification in full. The specification will be construed as minimum. Should the manufacturer's current published data or standard package exceed this, it will be considered minimum and will be furnished. The City reserves the right to waive or make exceptions to this requirement if it be to the City's advantage or best interest.

6.8. EQUIPMENT, COMPONENT AND DIMENSIONAL DATA

Under this agreement, the Contractor is required to assemble and furnish to the using department a detailed list of information (approximately 150 data items) related to the specified unit(s), the component parts and mounted equipment, no later than 15 days prior to scheduled delivery. Such information must be furnished by completing a "VMART Tech. Spec. Item Form", a copy of which may be obtained from the Department of Fleet Management, Technical Services Division; (312) 744-4300.

Any and all costs involved in providing the requested information must be anticipated by the Contractor, and incorporated into the bid pricing. The Contractor will not be entitled to any additional compensation from the City as a result of this provision.

6.9. CLEAN AIR ACT

The Contractor must comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. Specifically, Contractor must comply with applicable requirements of U.S. EPA regulations, "Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," 40 C.F.R. Part 51, Subpart T; and "Determining Conformity of Federal Actions to State or Federal Implementation Plans," 40 C.F.R. Part 93. Contractor must report and require each Subcontractor to report any violation of these requirements resulting from any activity related to the implementation of this Agreement to the City and the appropriate U.S. EPA Regional Office.

6.10. WARRANTY

The specified Electric Cars and all mounted/furnished equipment must be warranted against defective design, material or workmanship for the minimum periods listed in the Bid Data Pages Warranty Section or one year, whichever is greater.

Any repairs made by the Contractor during the respective warranty period must in turn be warranted for a period of three (3) months from the date of their completion, or until the end of the original coverage period, whichever is later.

Chronic defects in design, material and workmanship as warranted herein must be rectified in all units furnished under these specifications. Chronic defects, for purposes of this warranty, must be defined as defects of a similar nature which occur in more than three (3) [or ten percent (10%) of the quantity, whichever is greater] of the units furnished under these specifications.

The City may avail itself of the manufacturer's standard (or "no cost" incentive) warranty, or any provision thereof, in lieu of the warranty outlined herein, if deemed to be in the best interests of the City.

The Contractor must have factory warranty authorization, factory trained mechanics and adequate shop facilities, tools, parts and service facilities in the Chicago Metropolitan area (as determined by the City) to service the chassis in his own shop during the warranty period.

In addition, the manufacturer(s)/dealer(s) of the mounted equipment and/or accessories furnished by the Contractor under this specification must employ sufficient factory trained personnel and maintain adequate shop facilities, service facilities and parts inventories within the Chicago Metropolitan area to service/repair the subject equipment/accessories throughout their warranty period.

For repair parts and services, the Contractor must warrant for a period of 90 days from the date of final acceptance (i.e. the date the unit is returned to the City) all parts and services, that it will, at its own expense and without any cost to the City of Chicago, replace all defective parts and make any repairs that may be required or made necessary by reason of defective design, material or workmanship, or by reason of non-compliance with these specifications. The Contractor must provide copies of standard warranties that will be used in the regular course of business for service repairs. Warranties will not commence until the vehicle is accepted by the Department of Fleet Management and placed into service. The Contractor will be responsible for the warranty of all parts and labor, regardless of whether the parts/and/or labor was provided by subcontractors.

The Contractor must furnish a warranty for the items and services provided under this Contract in accordance with the standard warranty regularly supplied. Exceptions to this warranty will be damage or loss due to theft, vandalism, or accidental occurrences outside the Contractor's control.

In the event that any such repair fails to endure this minimum period, the City may elect to repair the unit in-house on an emergency basis, and/or the Contractor will replace the subject part(s) and/or furnish the necessary labor to make good the subject repair at no additional cost to the City.

When only labor is furnished by the Contractor to complete a work order, the Contractor will warranty the work for a minimum period of 90 days.

Also, in the event that the repair(s) fail to endure this minimum warranty period, the Contractor will incur all costs in transporting the unit back to the maintenance location, and returning it to the City after the warranty repair is completed.

6.11. PUBLIC CONVENIENCE

All work performed under this Contract will be so conducted as to cause a minimum of dust, noise and inconvenience to the normal activities of the facility where the work is performed. The Contractor is responsible for conducting all work in such a manner as to minimize debris left in the public way and shall provide clean-up as required by the Commissioner. Whenever the Commissioner determines any type of operation constitutes a nuisance, the Contractor will immediately proceed to conduct its operations in an approved manner.

The Commissioner may at any time require additional provisions if such are deemed necessary for public safety or convenience.

6.12. CLEAN UP

The Contractor must, during the progress of the work, remove and dispose of all materials and the resultant dirt and debris on a daily basis and keep the work site(s) and adjacent premises in a clean condition satisfactory to the City. Upon completion of work, the Contractor must remove all materials, tools and machinery and restore the site to the same general condition that existed prior to the commencement of its operation.

6.13. PROTECTION OF WORK, DAMAGES AND REPAIRS

The Contractor must provide protection for all uncompleted work under this contract until the work has been completed and accepted by the City.

The Contractor will be responsible for and shall repair and pay for damages to new and existing structures, material, equipment, plant, stock and apparatus during the course of the work, where such damage is directly due to work under this contract, or where such damage is the result of the negligence, or carelessness on the part of the Contractor or of its employees, or on the part of the Contractor's subcontractor or its employees. However, the Contractor must first immediately notify the Commissioner, or his authorized representative, and report the nature and extent of damages prior to making any such necessary repairs.

6.14. Quality Of Workmanship And Materials

6.14.1. Standards of Performance

The Contractor will perform or cause to be performed, all Work required of it under the terms and conditions of this Contract with that degree of skill care and diligence normally exercised by experienced Contractors performing work in projects of a scope and magnitude comparable to this project. The Contractor will use reasonable efforts to assure timely and satisfactory completion of the Work. The Contractor will at all times, act in the best interest of the City. The contractor will perform or cause to be performed, all Work in accordance with the terms and conditions of this Contract and to the reasonable satisfaction of the City.

6.14.2. Correction of Work

The Contractor when directed in writing by the Commissioner, will promptly remove, re-perform or correct all Work identified to be defective or as failing to conform to the standards set forth above or in the Contract Documents, whether observed before or after completion of the Contractor's Work and whether or not installed or completed. The Contractor will bear all costs of correcting such defective or nonconforming Work, including costs associated with removing any nonconforming Work and installing corrected Work and compensation for any additional services made necessary thereby.

6.14.3. Failure to Proceed with Directed Work

In case of failure on the part of the Contractor to execute Work ordered, in writing, by the Commissioner, the Commissioner may, at the expiration of a period of forty-eight (48) hours, request the Chief Procurement Officer to give notice, in writing, to the Contractor and proceed to execute such Work as may be deemed necessary and the cost thereof, will be deducted from compensation due or which may become due the Contractor under this Contract.

6.15. Work Performed At City Facility

6.15.1. Employees

The Contractor's personnel will exercise safe and sound business practices with the skill, care, and diligence normally shown by professional technicians employed in the type of work required under this contract.

6.15.2. Character of Workers

The Contractor will employ only competent and efficient employees, and whenever, in the opinion of the Commissioner, any employee is careless, incompetent, obstructs the progress of the work, acts contrary to instructions or conducts themselves improperly, the Contractor will, upon the request of the Commissioner, remove the employee from the work and will not employ such employee again for the work under this Contract, except with the written consent of the Commissioner. The Contractor will not permit any person to enter any part of a City facility or property while under the influence of intoxicating liquors or controlled substances. The Contractor will not permit obnoxious behavior, or possession or consumption of alcoholic beverages or drugs anywhere on the site of any work to be performed under this Contract.

The Commissioner has authority to request the Contractor to remove any worker who proves to be incompetent or negligent in his/her duties.

6.15.3. Uniforms

The Contractor's employees or subcontractors are required to wear suitable uniforms, during the time they are on duty on any City property.

The Contractor's employees or subcontractors must wear an identification badge at all times while on duty on any City property.

The Contractor's employees must have proper identification on their person before they will be allowed on any City property.

6.15.4. Use of City Facilities

The Contractor must inform the Commissioner of the Department of Fleet Management or authorized representative of the use of City facilities, such as telephones.

Smoking is prohibited in all City of Chicago facilities.

The Contractor will require that all employees refrain from disturbing papers on desks, opening desk drawers or cabinets.

While on City premises, the Contractor will not store any equipment, tools or materials without prior written authorization from the Commissioner. The City will not be responsible for or liable to pay the Contractor for any loss of equipment, tools or materials stored in unsecured areas without proper authorization.

6.16. USE OF CITY FACILITIES

Use of City telephones, equipment or other apparatus at City facilities is prohibited without the prior approval of the Commissioner of the Department of Fleet Management. While on City premises, the Contractor must not store any equipment, tools or materials without prior written authorization from the Commissioner. The City will not be responsible for or liable to pay the Contractor for any loss of equipment, tools or materials stored in unsecured areas.

6.17. WORK IN PROGRESS

Work in progress at the termination date of the contract will be completed by the Contractor in the most expedient method available. In no event will the Contractor vacate his/her obligations under this agreement until all work issued to him/her prior to the expiration of the Contract has been completed and accepted by the Department of Water Management.

6.18. QUALITY CONTROL

The Contractor must utilize industry recognized standards and procedures to assure that a satisfactory level of quality control is maintained in all stages of the manufacturing, assembly and installation process. Employees of the Department of Procurement Services and the Department of Fleet Management or agents acting on behalf of the City, accompanied by such City personnel will have open access to all areas/ facilities in order to ensure that proper quality control standards are being met.

6.19. DESIGN AND CONSTRUCTION PRACTICES

The complete vehicle and any/all assemblies, subassemblies, component parts, etc., must be designed with a factor of safety that is equal to or greater than that which is considered standard and acceptable for this class of equipment. Where applicable, the vehicles or equipment must conform to the standards established by Military Specifications, the Society of Automotive Engineers or the Federal Motor Safety Standards. Assemblies, sub-assemblies, component parts, etc., must be standard and interchangeable throughout the entire quantity of units purchased under this document. Assemblies, sub-assemblies, component parts, etc., that are obsolete or approaching obsolescence due to material, design changes or improvements will not be acceptable, and will be subject to replacement with current assemblies, sub-assemblies, component parts, etc.

The vehicles or equipment furnished by the Contractor under this Specification must also comply with all applicable Federal OSHA, State of Illinois and local laws/acts, ordinances in effect at the time of delivery.

The vehicles or equipment must be designed to function reliably and efficiently in sustained operation, under conditions which are typical for the intended application.

The vehicles or equipment must be designed to permit accessibility to all major lubrication and maintenance points with minimal disturbance of other components or assemblies.

Where "heavy-duty" items are required by this Specification, the term will be understood to define items which exceed the quality, capacity, durability and/or quantity of those items normally supplied with a standard production unit.

No dealer advertising labels may be affixed to a unit when delivered to the City.

6.20. SPECIAL REQUIREMENTS FOR AUXILIARY ELECTRICAL EQUIPMENT

When any auxiliary electrical items are required by the specifications, a fuse or junction box suitable for connection of the auxiliary equipment required must be installed in a location subject to approval by the Department of Fleet Management, Automotive Engineering Section. Junction box must include fused circuits sufficient to accommodate the required auxiliary equipment. Fuses connected to constant power must be connected directly to the chassis battery with a continuous run of 8-gauge marine-rated wire. An appropriately sized waterproof circuit breaker with test button and swing-out reset switch must be installed in the main lead within 12" of the battery.

Configurable push-button controls on auxiliary equipment must be labeled with equipment manufacturer's standard tags clearly indicating function; unused buttons must be covered with equipment manufacturer's standard blanks. Where possible, backlighting controls on auxiliary equipment must be connected to dash lights circuit. Alert "beep" functions, where available, must be set to indicate the operational state of any auxiliary equipment. Siren "lock" functions must be set to allow siren use only with the sliding switch in the fourth position of auxiliary siren controls. Each relay and fuse added to power auxiliary equipment must be clearly and permanently labeled with the function it controls. Each fuse must be sized as necessary to match circuit demands and component-manufacturer recommendations; each fuse must be rated to effectively protect its circuit.

All auxiliary equipment wiring, including wiring in the engine compartment and in the passenger compartment, must be enclosed in suitably sized wire loom. All wiring must be continuous lengths with soldered and heat-shrink-wrapped connections. Any opening cut in metal must be appropriately sized and must be fitted with a grommet to protect wiring and filled with silicon to seal out weather and noise.

In all cases, installation of auxiliary equipment must be done in a professional manner, following the requirements and guidelines of all involved auxiliary-equipment manufacturers and, where more restrictive, applicable industry (NEMA and SAE) standards and best practices. Installations must be consistent from vehicle to vehicle furnished by the Contractor under this Specification, including such details as operation, wire colors and wire routing. Readable, electronically printed wiring diagrams showing the consistent installation methods must be furnished at time of delivery for each model year and equipment configuration furnished by the Contractor under this Specification.

All groups of LED light heads capable of multiple flash patterns must be programmed identically. If light heads in a group are capable of synchronized operation, the sync wires must be connected to each other, with one light head set up as the parent controlling the others. Only light heads installed at one end of a vehicle (front or rear) or visible concurrently constitute a group of light heads.

Regardless of whether light heads are capable of synchronized operation, all pattern-control/programming wires must be pulled through the mounting surface and left in accessible locations within the wire loom with exposed wire ends taped.

Warning lights mounted behind vehicle glass must be mounted as close to the glass as possible and fitted with hoods where recommended by the manufacturer to prevent distracting flash-back from reaching the vehicle occupants.

The exact locations, mounting methods and configuration of all equipment are subject to approval by the Department of Fleet Management, Automotive Engineering Section, prior to installation.

6.21. MANUALS, CERTIFICATES, APPLICATIONS, ETC.

All manuals must be provided in English.

One operator's manual must be provided with each vehicle purchased.

Technical Service Bulletins (TSBs) must be forwarded directly to the Department of Fleet Management as they are issued.

A minimum of 48 hours prior to delivery, the Contractor must furnish the Chicago Department of Fleet Management, attention Kevin Campbell, 1685 N. Throop Street, Chicago, IL 60622 with the following items for each unit being delivered: Certificate of Origin and line-set sheet; Odometer Statement (in addition to odometer disclosure on Certificate of Origin), and applicable warranty certificate(s).

Completed Illinois Department of Revenue Form #ST556 (for Illinois suppliers) or RUT-25 (for out-of-state suppliers) must be provided a minimum of 48 hours prior to delivery. Forms can be obtained from the Illinois Department of Revenue by calling (800) 356-6302.

Completed Application for Vehicle Title and Registration Form #VSD-190 must be provided a minimum of 48 hours prior to delivery. Forms can be obtained from the Illinois Secretary of State by calling (217) 782-7132.

NOTE: The above listed documents must indicate the "CITY of CHICAGO" as the owner of the vehicle. The assigned unit number and the respective department name must also be indicated on all documents, in the appropriate places.

No vehicle / equipment deliveries will be accepted unless the Contractor has fulfilled all of the above listed requirements.

6.22. LITERATURE / DATA

- 6.22.1. The Contractor should submit 3 copies of each of the following informational items with the bid, or upon the request of the Chief Procurement Officer or a designee:
- 6.22.2. Current published literature describing the proposed vehicles;
- 6.22.3. EPA mileage listing (if applicable), showing the ratings of the proposed vehicles equipped as specified herein.

6.23. REPAIR AND SERVICE CENTER QUALIFICATIONS

- 6.23.1. The Contractor or an authorized subcontractor must, at the time of bid submission, provide resources capable of servicing City owned equipment specifically listed within these Proposal Pages, as follows:
- 6.23.2. The Contractor or authorized subcontractor must operate an established automotive, truck or equipment service center located within approximately thirty road miles of Fleet Management's facility at 1685 N. Throop Street, Chicago, IL 60642.
- 6.23.3. The Contractor or an authorized subcontractor must maintain during the term of this contract and any extension of it an adequate staff of competent personnel that are fully equipped, licensed as appropriate, available as needed, qualified and assigned to perform the contracted services.
- 6.23.4. All repairs performed under this contract must be performed by qualified technicians thoroughly trained and certified by an appropriate nationally recognized institution or organization. Repair services will be performed in a workmanlike manner; using industry accepted practices and established manufacturer procedures.
- 6.23.5. Contractor or an authorized subcontractor must possess the ability to transfer product warranties to the City of Chicago, if applicable.
- 6.23.6. The City of Chicago reserves the right to inspect any facility proposed to ensure that it meets the stated requirements. Certifications and other documents verifying compliance with requirements must be submitted with the bid. The Contractor's compliance with these requirements will be determined by the Chief Procurement Officer, whose decision will be binding.

6.24. SERVICE AND REPAIRS OF MAJOR COMPONENTS AND SUBSYSTEMS

- 6.24.1. The City reserves the right to direct service and/or repair work to the Contractor for any major component or sub-system of a vehicle/unit (engine, transmission, hydraulics, etc.) for which the Contractor or subcontractor is qualified to service, regardless of the make of the vehicle/unit. Such service/repairs are to be billed at the contracted hourly rate.

6.25. INVENTORY/LEAD TIME

- 6.25.1. The Contractor or an Authorized Subcontractor must maintain an inventory of sufficient diversity and quantity as to ensure the delivery of any parts which are required for repairs of vehicles or equipment within seventy-two hours after receipt of a City department's order. In lieu of the inventory, the Contractor or an Authorized Subcontractor must be able to arrange such prompt delivery.
- 6.25.2. In addition, any vehicles delivered to the Contractor or an Authorized Subcontractor for repair services must be returned to the City within three (3) business days, unless otherwise authorized by the Commissioner of the Department of Fleet Management or his authorized representative.

- 6.25.3. Repeated failures of the Contractor or an Authorized Subcontractor to meet the stated delivery requirements may be used by the City as grounds for the termination of this contract, and may further affect the Contractor's eligibility for future contract awards.
- 6.25.4. The Contractor's compliance with these requirements will be determined by the Chief Procurement Officer, whose decision will be binding.

6.26. TURN AROUND TIME

- 6.26.1. Any vehicle which has been delivered to the Contractor or an Authorized Subcontractor for repairs will be returned within three business days, unless otherwise authorized by the Commissioner of the Department of Fleet Management or an authorized representative.
- 6.26.2. The Contractor will expedite repairs, to the equipment as required by the Department of Fleet Management in order to meet any reasonable time frames set forth by the Department of Fleet Management. If there are delays due to a lack of parts, insufficient manpower or other circumstances, then the Contractor will notify the Department of Fleet Management immediately of the delay.

6.27. IRREPARABLE EQUIPMENT

- 6.27.1. In the event that the vehicle is irreparable, the Contractor will provide a written explanation of the problems and the Department of Fleet Management will take necessary action with regard to the disposition of the vehicle.

6.28. WORK ITEMS

- 6.28.1. Charges for services will be performed by the Contractor or an Authorized Subcontractor only after receipt of an estimate approved by the Commissioner of the Department of Fleet Management or the Commissioner's authorized representative.
- 6.28.2. Estimates for parts and labor must be based on industry-recognized third party data, available from tractor-trailer.net, mitchellsupport.com, or another recognized third party estimating process, for types of equipment and repairs where such data are available.
- 6.28.3. In such cases the Contractor will submit to the Commissioner of the Department of Fleet Management or the Commissioner's authorized representative an estimate upon receipt of the vehicle as identified in Repair proposals. The Commissioner of the Department of Fleet Management or the Commissioner's authorized representative will either approve or disapprove of the estimate.
- 6.28.4. Where the estimate is approved, the Contractor or an Authorized Subcontractor will proceed with and complete the work and will invoice the Department of Fleet Management either in the amount of the original estimate, or the actual cost of parts and labor provided to complete the repair, whichever amount is lowest.
- 6.28.5. If the estimate is disapproved, the Commissioner of the Department of Fleet Management or the Commissioner's authorized representative may request a revised estimate from the Contractor, and/or have the vehicle removed from the Contractor's or authorized subcontractor's shop. The City reserves the right to furnish Contractor or Authorized Subcontractor with the parts necessary for the required repairs. If the parts are provided by the City, the Contractor agrees to install any City-furnished parts at the labor rates provided in the contract, furnish the warranty required by the contract for the labor performed, and adjust the estimate for the repairs accordingly.
- 6.28.6. Where it is found by the Chief Procurement Officer that the work performed is not consistent with industry standard and market prices, the City reserves the right to order such repair work to be performed by other Contractors. The City maintains the right to remove from the premises of the Contractor or Authorized Subcontractor any vehicle delivered for repair estimates.

6.29. REPAIR ESTIMATE

- 6.29.1. Upon receipt of Vendor Estimate Form (VEF) from the Department of Fleet Management's Commissioner or authorized representative, the Contractor or Authorized Subcontractor must inspect the vehicle and complete and return the VEF. The VEF must include, but is not limited to the following information:

- 6.29.1.1. Purchase order (Contract) number
- 6.29.1.2. Name and phone number of City agent
- 6.29.1.3. City unit number of Vehicle
- 6.29.1.4. Detailed description of the problem and necessary repair needed
- 6.29.1.5. Parts cost breakdown
- 6.29.1.6. Labor cost breakdown
- 6.29.1.7. Estimated time required to complete repairs, etc
- 6.29.1.8. Anticipated completion date
- 6.29.1.9. Name and signature of the Contractor or Authorized Subcontractor's employees performing the estimate

6.29.2. The Contractor, upon receipt of an approved VEF and a purchase order blanket release from the Department of Fleet Management, can proceed with repairs.

6.29.3. The City reserves the right to add or delete various models and types of equipment during the term of the contract.

6.30. DIAGNOSTIC TESTING FEES

6.30.1. Contractor or Authorized Subcontractor must request authorization from the Department of Fleet Management to proceed with diagnostic testing. Upon approval, all diagnostic tests must be charged at the contracted labor rate, with no additional charges for the use of diagnostic equipment.

6.31. ACCEPTANCE OF PARTS AND REPAIRED EQUIPMENT

6.31.1. It is understood and agreed by the parties to this contract that any acceptance or inspection by the City of any part or repaired equipment provided pursuant to the terms and conditions of this contract does not constitute a waiver of these terms and conditions, and in no way relieves the Contractor of its obligation to comply with the terms and conditions of this contract, including any standard of performance and warranty requirement stated herein.

6.32. PRIORITY SERVICE

6.32.1. The Contractor and its subcontractors understand that the vehicles covered under this specification are critical to the City's Fleet operations. Therefore, the Contractor will give priority service to the City and proceed with authorized work in an expeditious manner to ensure that all work is completed within the agreed upon schedule and to ensure that vehicle downtime is kept to a minimum.

6.32.2. The City requires the Contractor to return calls for service within 24 hours.

6.33. REPORTING REQUIREMENTS

6.33.1. The Contractor must provide records of all vehicles serviced.

6.33.2. The Contractor must generate a quarterly report of all transactions with the City of Chicago, Department of Fleet Management. The report must be listed by City unit number, invoice numbers, purchase order number, date of service, nature of service performed, hours of service performed, detailed description of parts ordered with the repair services (catalog and part number).

6.33.3. Copies of invoices for parts may be requested at any time and must be provided within three (3) Business Days of the request. A faxed copy will initially be accepted, however if deemed necessary; the original must be produced for verification purposes.

6.34. DAMAGE OR LOSS OF EQUIPMENT

- 6.34.1. Contractor must assume full responsibility for damage to City owned vehicles, parts, equipment or accessories by accident or any loss by fire or theft of these vehicles while they are in his custody.
- 6.34.2. The Contractor must provide protection for all uncompleted work under this contract until the work has been completed and accepted by the Department of Fleet Management.
- 6.34.3. The Contractor will be responsible for and must repair any damaged vehicles where such work is directly due to services performed under this contract, or where such damage is the result of the negligence, or carelessness on the part of the contractor/employees. The contractor must first immediately notify the Commissioner of the Department of Fleet Management or his authorized representative regarding the nature and extent of the damages prior to making any such necessary repairs.

6.35. STATEMENT OF LIABILITIES

- 6.35.1. No contract(s) will be awarded to bidder(s) who owes money to the City of Chicago. Upon request, bidders must submit a Statement of Liabilities issued by the Chicago Department of Revenue showing zero liabilities. Contractor must remain current and in good standing with respect to any and all obligations to the City throughout the term of the contract, including any extensions, modifications and/or amendments.
- 6.35.2. The Chicago Department of Revenue can be reached at 312-744-0801.

6.36. INTENT

It is the intent of these specifications to describe new, current model, Electric Cars.

GROUP A: COMPACT 5-SEAT ELECTRIC CARS

12.4.84 BID LINE #1 – BASE UNIT: COMPACT ELECTRIC SEDAN

12.4.84 OVERALL DESIGN

- 12.4.84.1 The unit must be a five-passenger, four-door sedan or hatchback. The vehicle must have an all-electric drivetrain with no internal combustion engine; the drivetrain must have an electric motor with controller, inverter, and battery pack
- 12.4.84.2 The vehicle must be capable of maintaining posted highway speeds without loss of power. The vehicle must be capable of providing the acceleration, power and torque required for passing and climbing steep inclines, and must be capable of climbing a 20% grade.
- 12.4.84.3 The vehicle must be capable of a sustained 70mph cruise. Vehicle must be rated at 99MPGe or greater by the EPA.
- 12.4.84.4 The overall vehicle weight must between 3,500 lbs. and 4,200 lbs.
- 12.4.84.5 Overall vehicle length must be between 174" and 178".
- 12.4.84.6 Overall vehicle height must a maximum of 62".
- 12.4.84.8 The wheelbase must be between 104" and 107".
- 12.4.84.13 The vehicle must contain no dealer markings of any type, interior and exterior.
- 12.4.84.14 The vehicle must come with an audible backup alarm (local installation acceptable.)

12.4.85 EQUIPMENT / ACCESSORIES - GENERAL

- 12.4.85.1 All of the vehicles purchased must be equipped with all standard equipment and the following additional equipment and/or accessories at a minimum. Where specific references to equipment items are not

made, the vehicle manufacturer's standard production equipment for the proposed make/model must be provided. However, satellite radio, global positioning and cellular telephone systems included as standard equipment but removable from fleet orders need not be provided unless otherwise required below. Except where specifically noted, all equipment and accessories must be installed by the vehicle manufacturer at the manufacturer's facility.

- 12.4.85.2** Where equipment/accessory items specified herein are only available from the OEM as part of an option package, the contractor must supply the vehicle with all equipment/accessory items within that OEM package.
- 12.4.86 POWERTRAIN**
- 12.4.86.1** The chassis must be powered exclusively by an electric motor, with no internal combustion engine on the vehicle. The vehicle must not require any liquid, solid or gaseous fuel, and must be powered by the electricity obtained by charging from the electric grid.
- 12.4.86.2** The SAE rated power and torque outputs of the electric motor must meet the performance requirements specified in the "Overall Design" section. The electric motor must be connected to a single-speed transmission with a parking pawl.
- 12.4.86.3** The vehicle must be front wheel drive.
- 12.4.86.4** The motor, including air or fluid cooling systems, must be designed and constructed for use in dirty and dust-filled environments, and must be sealed or protected against external elements as necessary.
- 12.4.86.5** The complete vehicle and its powertrain must be designed and constructed for reliable, year-round use in the full range of weather conditions encountered in Chicago, including extremes of temperature and precipitation events, and for use on city streets and roads for daily shifts of up to ten hours.
- 12.4.87 ENERGY STORAGE**
- 12.4.87.1** The vehicle's batteries must provide sufficient energy density and power to move the vehicle in a way that meets all of the above-stated performance requirements, and to power the vehicle's accessory system.
- 12.4.87.2** The vehicle's batteries must provide a range of at least 100 miles on level ground, unloaded, with required accessories (safety systems, steering and braking assist, etc.) active but with body accessories and the climate control system turned off. Use of the climate control and body accessories, and the carrying of payloads, is understood to commensurately reduce the driving range of the vehicle. This requirement assumes ambient temperatures of 60F.
- 12.4.87.3** The batteries and charging system must be capable of being charged overnight – generally brought from a state of near-complete discharge to a state of 90% charge within 12 hours using the charging system supplied with the vehicle.
- 12.4.87.4** The batteries must be thermally suitable for continuous operation in the range of weather conditions found in Chicago.
- 12.4.87.5** The batteries must have no periodic maintenance requirements other than charging and end-of-life replacement or refurbishment. Batteries must be designed and constructed to require no filling with fluids, balance of cell state-of-charge levels or other tasks involving technical maintenance.
- 12.4.87.6** The batteries, including any cooling system, must be designed and constructed for use in dirty and dust-filled environments and must be sealed or protected as necessary.
- 12.4.87.7** The battery chemistry must be lithium-based, rated at a minimum of 23kWh.
- 12.4.88 THERMAL MANAGEMENT OF DRIVE SYSTEM, BATTERIES, CHARGING SYSTEM AND ACCESSORIES**

- 12.4.88.1** The vehicle must have a thermal management system designed to maintain the batteries at optimal temperatures. It must have sufficient capacity to operate and adequately heat or cool (as needed) the batteries, drive system, energy storage system, charging system and accessories system continuously (subject to the range limitations of the energy storage system) in the full range of weather conditions encountered in Chicago. This thermal management system may use air, water, or other liquids to meet this requirement.
- 12.4.88.2** The vehicle's heat management system must provide for safe operation of the energy storage system and maintain optimal temperature conditions for all componentry related to the electric operation of the vehicle, to facilitate long life of the energy storage system, controller(s), motor and accessories.
- 12.4.88.3** The vehicle's heat management system must be designed and constructed for use in dirty and dust-filled environments and must be sealed or protected as necessary to achieve this goal.
- 12.4.89 ELECTRIC MOTOR & CONTROLS**
- 12.4.89.1** The vehicle's traction motor must be a 3-phase brushless AC motor.
- 12.4.89.2** The vehicle must have an inverter to convert DC battery power to 3-phase AC power for the traction motor. It must also have a junction box with high-voltage fuses to distribute power.
- 12.4.89.3** The vehicle must have a step-down transformer to convert high-voltage DC power to 12V DC power to recharge the 12V battery and supply power for the accessories.
- 12.4.89.4** The vehicle must have an electronic motor controller to control output speed and torque of the traction motor under all conditions.
- 12.4.90 ACCESSORIES**
- 12.4.90.1** The vehicle must have a 12V battery to power accessories.
- 12.4.90.1** The vehicle's accessories must be electrically-powered from DC power.
- 12.4.90.2** The heater must be capable of heating the interior to comfortable temperatures in Chicago winters in accordance with accepted standards for new light-duty vehicles, and capable of defrosting the windshield and front door windows in accordance with FMVSS standards. The air conditioning system must be capable of cooling the passenger cabin to a comfortable temperature during Chicago summers, in accordance with accepted standards for new light-duty vehicles.
- 12.4.90.3** If equipped with liquid-cooled batteries, the coolant pump must circulate fluid through the battery pack, traction system, DC/DC converter and a heat exchanger.
- 12.4.89 CHARGING SYSTEM**
- 12.4.89.1** The vehicle must be delivered complete with all on-board and off-board equipment required to allow for charging the vehicle's energy storage system when the vehicle is not in use.
- 12.4.89.2** Due to slow charging speed, 110-volt, single-phase chargers are **not acceptable** as a vehicle's sole charging mechanism, and are not required. However, 110-volt charging capability may be included as a backup system, at no additional cost to the City, to provide for emergency 110-volt charging.
- 12.4.89.3** Standards-compliant on-board chargers are preferred. A standards-compliant on-board charger is defined as a charger compatible with a standard NEMA 208/220/230/240-volt outlet or SAE "Level 2" electric-vehicle charging infrastructure. A standards-compliant on-board charger is further defined as one that needs only one charging cable to facilitate its connection to a standard NEMA 208-, 220-, 230- or 240-volt outlet installed as part of a facility's electric grid; alternatively, it requires only a standard electric-vehicle charger with an SAE J1772-2009 plug to connect to standard charging infrastructure. Further, no off-

board charger with battery-specific charging algorithm(s) is required with a standards-compliant on-board charger.

- 12.4.89.4** If a standards-compatible on-board charger is supplied with the vehicle, only the single on-board charger and an L2-to-110V adapter cable for emergency charging are required to be furnished with each vehicle. It is understood that the City will be required to make available standard NEMA or SAE infrastructure to which the charging cable may be connected for charging.
- 12.4.89.5** If no standards-compliant on-board charger is furnished, **two** off-board chargers, manufacturer's standard, must be furnished with each vehicle ordered under these specifications, along with all cables necessary to connect the off-board charger to the vehicle for charging. It is understood that the City will be required to furnish the connection of off-board equipment to the electric grid at the vehicle's designated parking and maintenance locations, applying for any necessary permits and furnishing skilled labor to install the off-board chargers.
- 12.4.89.6** Vehicle must have warming capacity where necessary to provide for use of the drive system, energy storage system, charging system and accessories system continuously (subject to the range limitations of the energy storage system) in the range of weather conditions encountered in Chicago, including start-up from overnight winter parking.

12.4.90 MECHANICAL, ELECTRICAL AND EXTERIOR EQUIPMENT / ACCESSORIES

- 12.4.90.1** The vehicle must have independent from suspension, and suspension design must be consistent with common compact-car design practice. Suspension components and spring and damper rates must be compatible with the rated GVWR of the vehicle.
- 12.4.90.3** The vehicle must have electrically-assisted steering.
- 12.4.90.4** The vehicle must have four all-season tires, mounted on 15" or larger wheels. The tires and wheels must be the manufacturer's standard units for the vehicle, and must have a load rating sufficient for the GVWR of the vehicle.
- 12.4.90.5** The vehicle must have either a full-size spare tire, temporary spare tire, run-flat tires, or a temporary flat repair kit.
- 12.4.90.7** Brakes must be discs in the front and may be either disc or drum in the rear. Brakes must come with four-wheel ABS.

12.4.91 INTERIOR EQUIPMENT / ACCESSORIES

- 12.4.91.1** The vehicle must have factory climate control with heat and air conditioning.
- 12.4.91.2** Ignition and door locks must be keyed alike on each vehicle, with six keys provided per unit.
- 12.4.91.3** Vehicle interior color must be a standard production color, and will be chosen (if choices are available) at the time the vehicles are sub-ordered.
- 12.4.91.4** The driver and passenger seats must be high-back adjustable bucket seats with headrests.
- 12.4.91.5** The vehicle must have front airbags and side-impact airbags for the driver and front passenger with seat-position and weight sensors. It must also have safety belts with pre-tensioners.
- 12.4.91.6** The instrument cluster must include all typical gauges and indicators, including speedometer, charge level indicator, cooling system temperature indicator (if equipped with a liquid cooling system) and transmission position indicator.
- 12.4.91.7** The vehicle must come with an AM/FM/CD audio system and a clock.
- 12.4.91.8** The vehicle must come with variable intermittent windshield wipers with a washer.

12.4.91.9 The vehicle must be delivered with OE accessory floor mats for the front seating positions.

12.4.92 PAINTING AND RUST PROOFING

12.4.92.1 The door and body-panel interior surfaces must be treated at the factory against rust and corrosion according to the manufacturer's standard practices.

12.4.92.2 The vehicle must be primed before painting, and painted, in accordance with the manufacturer's standard practices.

12.4.92.3 Vehicle color will be selected by the City from all regular production colors at time the vehicles are sub-ordered.

6.37. BID LINE #2: MECHANICAL AND ELECTRICAL REPAIR PARTS

6.37.1. Parts, accessories, assemblies and/or components furnished under this contract furnished must be compatible and interchangeable with vehicles and equipment purchased under this Contract.

6.37.2. Where the use of non-O.E.M. (generic) parts and/or "salvaged" parts will be used only when approved by the Department of Fleet Management. Parts will be furnished and billed at the mark-up rate established on the Proposal Pages. The Contractor will furnish documentation (manufacturer's retail price list, manufacturer's invoice or print of manufacturer's list price, etc.) to substantiate the charges; this documentation will accompany all invoices.

6.37.3. Fabricated parts furnished by the Contractor or Authorized Subcontractor under this contract will conform to the specifications and tolerances of the original equipment manufacturer.

6.38. BID LINE #3: LABOR TO PERFORM MECHANICAL AND ELECTRICAL REPAIR SERVICES IN CONTRACTOR'S SHOP, REGULAR BUSINESS HOURS

6.38.1. The unit cost for regular repair service labor performed at the location(s) specified by the Contractor will be billed as regular time, hourly rate, Monday through Friday, 7:00 a.m. to 3:00 pm., excluding Holidays, as quoted on the Proposal Page(s), unless the Contractor or Authorized Subcontractor's regular service hours are longer, then the Contractor or Authorized Subcontractor's regular service hours will apply.

6.39. BID LINE #4: LABOR TO PERFORM MECHANICAL AND ELECTRICAL REPAIR SERVICES IN CONTRACTOR'S SHOP, NON-REGULAR BUSINESS HOURS

6.39.1. In the event of an emergency (i.e. major snowstorm, etc.), the Contractor or Authorized Subcontractor must make available its facilities and services seven (7) days a week, twenty-four (24) hours per day and must be prepared to respond to Emergency Repair Service calls.

6.39.2. The Contractor will be notified by the Commissioner of the Department of Fleet Management or his authorized representative when emergency service is required.

6.39.3. The Contractor or Authorized Subcontractor must not perform any work outside the regular working hours without the prior authorization from the Commissioner of the Department of Fleet Management or his authorized representative.

6.39.4. The labor rates must include any and all peripheral costs.

6.40. BID LINE #5: TRANSPORTATION OF EQUIPMENT FOR SERVICE

6.40.1. The cost for transporting a vehicle purchased under this contract each way for service between a City of Chicago location and a Contractor's (or authorized Subcontractor's) location must include all peripheral costs, including but not limited to: providing a properly licensed driver or operator, any necessary tow or transport.

GROUP B: SUBCOMPACT 2-SEAT ELECTRIC CARS

12.4.84 BID LINE #6 – BASE UNIT: 2-SEAT ELECTRIC CAR

12.4.84 OVERALL DESIGN

- 12.4.84.1** The unit must be a two-passenger, two-door hatchback. The vehicle must have an all-electric drivetrain with no internal combustion engine; the drivetrain must have an electric motor with controller, inverter, and battery pack
- 12.4.84.2** The vehicle must be capable of maintaining posted speeds on city streets without loss of power. The vehicle must be capable of providing the acceleration, power and torque required for passing and climbing steep inclines, and must be capable of climbing a 15% grade.
- 12.4.84.3** The vehicle must be capable of a sustained 40mph cruise, and must have a top speed of at least 65mph. Range must be a minimum of 90 miles at empty weight using the EPA's test cycle, if applicable.
- 12.4.84.4** The overall vehicle weight must be between 2,000 lbs. and 2,500 lbs.
- 12.4.84.5** Overall vehicle length must be no more than 125".
- 12.4.84.6** Overall vehicle height must be no more than 62".
- 12.4.84.8** Overall vehicle width must be no more than 65".
- 12.4.84.13** The vehicle must contain no dealer markings of any type, interior and exterior.
- 12.4.84.15** The vehicle must come with an audible backup alarm (local installation acceptable.)

12.4.85 EQUIPMENT / ACCESSORIES - GENERAL

- 12.4.85.1** All of the vehicles purchased must be equipped with all standard equipment and the following additional equipment and/or accessories at a minimum. Where specific references to equipment items are not made, the vehicle manufacturer's standard production equipment for the proposed make/model must be provided. However, satellite radio, global positioning and cellular telephone systems included as standard equipment but removable from fleet orders need not be provided unless otherwise required below. Except where specifically noted, all equipment and accessories must be installed by the vehicle manufacturer at the manufacturer's facility.
- 12.4.85.2** Where equipment/accessory items specified herein are only available from the OEM as part of an option package, the contractor must supply the vehicle with all equipment/accessory items within that OEM package.

12.4.86 POWERTRAIN

- 12.4.86.1** The chassis must be powered exclusively by an electric motor, with no internal combustion engine on the vehicle. The vehicle must not require any liquid, solid or gaseous fuel, and must be powered by the electricity obtained by charging from the electric grid.
- 12.4.86.2** The SAE rated power and torque outputs of the electric motor must meet the performance requirements specified in the "Overall Design" section. The electric motor must be connected to a single-speed transmission with a parking pawl.
- 12.4.86.3** The vehicle must be front wheel drive.
- 12.4.86.4** The motor, including air or fluid cooling systems, must be designed and constructed for use in dirty and dust-filled environments, and must be sealed or protected against external elements as necessary.

12.4.86.5 The complete vehicle and its powertrain must be designed and constructed for reliable, year-round use in the full range of weather conditions encountered in Chicago, including extremes of temperature and precipitation events, and for use on city streets and roads for daily shifts of up to ten hours.

12.4.87 ENERGY STORAGE

12.4.87.1 The vehicle's batteries must provide sufficient energy density and power to move the vehicle in a way that meets all of the above-stated performance requirements, and to power the vehicle's accessory system.

12.4.87.2 The vehicle's batteries must provide a range of at least 90 miles (using EPA ratings, if applicable) on level ground, unloaded, with required accessories (safety systems, steering and braking assist, etc.) active but with body accessories and the climate control system turned off. Use of the climate control and body accessories, and the carrying of payloads, is understood to commensurately reduce the driving range of the vehicle. This requirement assumes ambient temperatures of 60F.

12.4.87.3 The batteries and charging system must be capable of being charged overnight – generally brought from a state of near-complete discharge to a state of 90% charge within 12 hours using the charging system supplied with the vehicle.

12.4.87.4 The batteries must be thermally suitable for continuous operation in the range of weather conditions found in Chicago.

12.4.87.5 The batteries must have no periodic maintenance requirements other than charging and end-of-life replacement or refurbishment. Batteries must be designed and constructed to require no filling with fluids, balance of cell state-of-charge levels or other tasks involving technical maintenance.

12.4.87.6 The batteries, including any cooling system, must be designed and constructed for use in dirty and dust-filled environments and must be sealed or protected as necessary.

12.4.87.7 The battery chemistry must be lithium-based, rated at a minimum of 23kWh.

12.4.88 THERMAL MANAGEMENT OF DRIVE SYSTEM, BATTERIES, CHARGING SYSTEM AND ACCESSORIES

12.4.88.1 The vehicle must have a thermal management system designed to maintain the batteries at optimal temperatures. It must have sufficient capacity to operate and adequately heat or cool (as needed) the batteries, drive system, energy storage system, charging system and accessories system continuously (subject to the range limitations of the energy storage system) in the full range of weather conditions encountered in Chicago. This thermal management system may use air, water, or other liquids to meet this requirement.

12.4.88.2 The vehicle's heat management system must provide for safe operation of the energy storage system and maintain optimal temperature conditions for all componentry related to the electric operation of the vehicle, to facilitate long life of the energy storage system, controller(s), motor and accessories.

12.4.88.3 The vehicle's heat management system must be designed and constructed for use in dirty and dust-filled environments and must be sealed or protected as necessary to achieve this goal.

12.4.91 ELECTRIC MOTOR & CONTROLS

12.4.89.1 The vehicle's traction motor must be an AC induction motor.

12.4.89.2 The vehicle must have an inverter to convert DC battery power to 3-phase AC power for the traction motor. It must also have a junction box with high-voltage fuses to distribute power.

12.4.89.3 The vehicle must have a step-down transformer to convert high-voltage DC power to 12V DC power to recharge the 12V battery and supply power for the accessories.

12.4.89.5 The vehicle must have an electronic motor controller to control output speed and torque of the traction motor under all conditions.

12.4.92 ACCESSORIES

12.4.90.1 The vehicle must have a 12V battery to power accessories.

12.4.90.1 The vehicle's accessories must be electrically-powered from DC power.

12.4.90.2 The heater must be capable of heating the interior to comfortable temperatures in Chicago winters in accordance with accepted standards for new light-duty vehicles, and capable of defrosting the windshield and front door windows in accordance with FMVSS standards. The air conditioning system must be capable of cooling the passenger cabin to a comfortable temperature during Chicago summers, in accordance with accepted standards for new light-duty vehicles.

12.4.90.4 If equipped with liquid-cooled batteries, the coolant pump must circulate fluid through the battery pack, traction system, DC/DC converter and a heat exchanger.

12.4.89 CHARGING SYSTEM

12.4.89.1 The vehicle must be delivered complete with all on-board and off-board equipment required to allow for charging the vehicle's energy storage system when the vehicle is not in use.

12.4.89.2 Due to slow charging speed, 110-volt, single-phase chargers are **not acceptable** as a vehicle's sole charging mechanism, and are not required. However, 110-volt charging capability may be included as a backup system, at no additional cost to the City, to provide for emergency 110-volt charging.

12.4.89.3 Standards-compliant on-board chargers are preferred. A standards-compliant on-board charger is defined as a charger compatible with a standard NEMA 208/220/230/240-volt outlet or SAE "Level 2" electric-vehicle charging infrastructure. A standards-compliant on-board charger is further defined as one that needs only one charging cable to facilitate its connection to a standard NEMA 208-, 220-, 230- or 240-volt outlet installed as part of a facility's electric grid; alternatively, it requires only a standard electric-vehicle charger with an SAE J1772-2009 plug to connect to standard charging infrastructure. Further, no off-board charger with battery-specific charging algorithm(s) is required with a standards-compliant on-board charger.

12.4.89.4 If a standards-compatible on-board charger is supplied with the vehicle, only the single on-board charger and an L2-to-110V adapter cable for emergency charging are required to be furnished with each vehicle. It is understood that the City will be required to make available standard NEMA or SAE infrastructure to which the charging cable may be connected for charging.

12.4.89.5 If no standards-compliant on-board charger is furnished, **two** off-board chargers, manufacturer's standard, must be furnished with each vehicle ordered under these specifications, along with all cables necessary to connect the off-board charger to the vehicle for charging. It is understood that the City will be required to furnish the connection of off-board equipment to the electric grid at the vehicle's designated parking and maintenance locations, applying for any necessary permits and furnishing skilled labor to install the off-board chargers.

12.4.89.6 Vehicle must have warming capacity where necessary to provide for use of the drive system, energy storage system, charging system and accessories system continuously (subject to the range limitations of the energy storage system) in the range of weather conditions encountered in Chicago, including start-up from overnight winter parking.

12.4.90 MECHANICAL, ELECTRICAL AND EXTERIOR EQUIPMENT / ACCESSORIES

12.4.90.1 The vehicle must have independent front suspension, and suspension design must be consistent with common compact-car design practice. Suspension components and spring and damper rates must be compatible with the rated GVWR of the vehicle.

- 12.4.90.3** The vehicle must have electrically-assisted steering.
- 12.4.90.4** The vehicle must have four all-season tires, mounted on 15" or larger wheels. In addition, it must be provided with a temporary spare tire, mounted on a rim. The tires and wheels must be the manufacturer's standard units for the vehicle, and must have a load rating sufficient for the GVWR of the vehicle.
- 12.4.90.5** The vehicle must have either a temporary spare tire, run-flat tires, or a temporary flat repair kit.
- 12.4.90.7** Brakes must be discs in the front and may be either disc or drum in the rear. Brakes must come with four-wheel ABS.

12.4.91 INTERIOR EQUIPMENT / ACCESSORIES

- 12.4.91.1** The vehicle must have factory climate control with heat and air conditioning.
- 12.4.91.2** Ignition and door locks must be keyed alike on each vehicle, with six keys provided per unit.
- 12.4.91.3** Vehicle interior color must be a standard production color, and will be chosen (if choices are available) at the time the vehicles are sub-ordered.
- 12.4.91.4** The driver and passenger seats must be high-back adjustable bucket seats with headrests.
- 12.4.91.5** The vehicle must have front airbags for the driver and front passenger. It must also have safety belts with pre-tensioners.
- 12.4.91.6** The instrument cluster must include all typical gauges and indicators, including speedometer, charge level indicator, cooling system temperature indicator (if equipped with a liquid cooling system) and transmission position indicator.
- 12.4.91.7** The vehicle must come with an AM/FM/CD audio system and a clock.
- 12.4.91.8** The vehicle must have side intrusion door beams.
- 12.4.91.9** The vehicle must be delivered with OE accessory floor mats for the front seating positions.

12.4.92 PAINTING AND RUST PROOFING

- 12.4.92.1** The door and body-panel interior surfaces must be treated at the factory against rust and corrosion according to the manufacturer's standard practices.
- 12.4.92.2** The vehicle must be primed before painting, and painted, in accordance with the manufacturer's standard practices.
- 12.4.92.3** Vehicle color will be selected by the City from all regular production colors at time the vehicles are sub-ordered.

6.41. BID LINE #7: MECHANICAL AND ELECTRICAL REPAIR PARTS

- 6.41.1.** Parts, accessories, assemblies and/or components furnished under this contract furnished must be compatible and interchangeable with vehicles and equipment purchased under this Contract.
- 6.41.2.** Where the use of non-O.E.M. (generic) parts and/or "salvaged" parts will be used only when approved by the Department of Fleet Management. Parts will be furnished and billed at the mark-up rate established on the Proposal Pages. The Contractor will furnish documentation (manufacturer's retail price list, manufacturer's invoice or print of manufacturer's list price, etc.) to substantiate the charges; this documentation will accompany all invoices.

- 6.41.3. Fabricated parts furnished by the Contractor or Authorized Subcontractor under this contract will conform to the specifications and tolerances of the original equipment manufacturer.

6.42. BID LINE #8: LABOR TO PERFORM MECHANICAL AND ELECTRICAL REPAIR SERVICES IN CONTRACTOR'S SHOP, REGULAR BUSINESS HOURS

- 6.42.1. The unit cost for regular repair service labor performed at the location(s) specified by the Contractor will be billed as regular time, hourly rate, Monday through Friday, 7:00 a.m. to 3:00 pm., excluding Holidays, as quoted on the Proposal Page(s), unless the Contractor or Authorized Subcontractor's regular service hours are longer, then the Contractor or Authorized Subcontractor's regular service hours will apply.

6.43. BID LINE #9: LABOR TO PERFORM MECHANICAL AND ELECTRICAL REPAIR SERVICES IN CONTRACTOR'S SHOP, NON-REGULAR BUSINESS HOURS

- 6.43.1. In the event of an emergency (i.e. major snowstorm, etc.), the Contractor or Authorized Subcontractor must make available its facilities and services seven (7) days a week, twenty-four (24) hours per day and must be prepared to respond to Emergency Repair Service calls.
- 6.43.2. The Contractor will be notified by the Commissioner of the Department of Fleet Management or his authorized representative when emergency service is required.
- 6.43.3. The Contractor or Authorized Subcontractor must not perform any work outside the regular working hours without the prior authorization from the Commissioner of the Department of Fleet Management or his authorized representative.
- 6.43.4. The labor rates must include any and all peripheral costs.

6.44. BID LINE #10: TRANSPORTATION OF EQUIPMENT FOR SERVICE

- 6.44.1. The cost for transporting a vehicle purchased under this contract each way for service between a City of Chicago location and a Contractor's (or authorized Subcontractor's) location must include all peripheral costs, including but not limited to: providing a properly licensed driver or operator, any necessary tow or transport.

6.45. EXCEPTIONS

Any deviations from these specifications must be noted on the Proposal Page or pages attached thereto, with the exact nature of the change outlined in sufficient detail. The reason for which deviations were made must also follow if not self-explanatory. Failure of a bidder to comply with the terms of this paragraph may be cause for rejection.

The City reserves the right to disqualify bids which do not completely meet outlined specifications. The impact of exceptions to the specification will be evaluated by the City in determining its need.

6.42. PROPOSAL PAGES

