

BUILD SHEET DEVELOPED FOR VIRGINIA SHERIFF'S ASSOCIATION ITEM # 673

PRESENTED BY: The Lion Electric Co. USA Inc. VendorLink ID: 65774

6



LON8 Chassis



Technical Specifications*

WEIGHT & DIMENSIONS

Cabin length - BBC	79 in.
Cabin height	107 in.
Wheelbase	195 in.
Gross vehicle weight rating (GVWR)	Up to 54,600 lb

ELECTRIC POWERTRAIN

Top speed	65 mph
Maximum power	350 kW • 470 HP
Maximum torque	3,400 Nm • 2,500 ft-lb
Range	Up to 142 miles**
Battery capacity	Up to 252 kWh
Motor and inverter	SUMO HD 800 VDC
	9 phases Dana TM4
Transmission	Direct drive
	No transmission
Level III - charging time	Minimum 1.5 hours

CHASSIS

Front axle	Up to 20,000 lb
Rear axle	Up to 40,000 lb
Suspension	Air suspension • Hendrickson
Braking	Air disc brakes • Bendix

* SPECIFICATIONS ARE SUBJECT TO CHANGE.

** Based on 75% GVWR, 21 °C/70 °F, City Suburban Heavy Vehicle Cycle

All-Electric Class 8 Straight Truck

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Virginia Sheriff's Association

LION8 STRAIGHT – BUILD SHEET ALL-ELECTRIC TRUCK

Item # 673

Make: Lion Electric

Model: Electric (Cab & Chassis Only) Model# Lion8 Straight (Cab & Chassis Only)

THE BELOW DETAILS THE BUILD SHEET WITH THE SELECT OPTIONS <u>INCLUDED IN THE BASE</u> <u>PRICE</u>

Federal Motor Carrier Safety Approved		
	TRUCK INFORMATION	
MODEL YEAR	2024	
CONFIGURATION	6x4	
GVWR	54,600 LB	
COOLING		
FAN HUB	ELECTRIC FANS	
RADIATOR COOLANT	CUMMINS ENGINEERING STANDARD CES 14603	
ELECTRICAL		
DC CHARGER	STANDARD	
ON/OFF DISCONNECT SWITCH	STANDARD	
BATTERY DISCONNECT	AT 12 VDC	
12 V BATTERIES	2 X 430 CCA	
12 V LIGHTING SYSTEM WITH CIRCUIT PROTECTION	STANDARD	

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BATTERY BOX LOCATION	LH SIDE TO LADDER FRAME	
2 DUAL PURPOSE BATTERIES (24V)	STANDARD	
MULTIPLEX ELECTRICAL SYSTEM WITH CENTRALIZED POWER DISTRIBUTION	STANDARD	
CIRCUITS NUMBERED & COLOR CODED	STANDARD	
ELECTRIC OUTLET	1x 12VDC PORT	
	2x USB PORT	
TOTAL BATTERY CAPACITY (KWH)	252	
HIGH VOLTAGE BATTERIES	LITHIUM-ION (NMC)	
KEY SWITCH START AND SHUTDOWN	STANDARD	
REGEN BRAKING SYSTEM	STANDARD	
SOUND GENERATOR	STANDARD	
DC LEVEL 3 CHARGING PORT	STANDARD	
PROPELLER SHAFT		
TRANSMISSION	DIRECT DRIVE // NO TRANSMISSION	
DRIVELINE	DANA DRIVELINE	
FRONT AXLE		
TYPE	HENDRICKSON	
CAPACITY	14,600 LBS	
REAR AXLE		

TYPE	DANA SPICER	
CAPACITY	40,000 LBS (TANDEM)	
STEER	NG	
STEERING COLUMN	TILT & TELESCOPIC	
STEERING WHEEL DIAMETER	18 IN.	
POWER STEERING	STANDARD	
BRAKES		
TYPE	BENDIX ADB22X	
ABS	STANDARD	
AIR COMPRESSOR	GARDNER DENVER HYDROVANE 15.8 CFM	
AIR CLEANER	STANDARD	
AIR DRYER	BENDIX AD-HF EP	
AIR TANK	PAINTED STEEL	
AIR TANK DRAIN	MANUAL	
PARKING BRAKE OFF WARNING	STANDARD	
PARKING BRAKE	AIR VALVE - MANUAL KNOB OPERATED	
FRONT SUSPENSION		
TYPE	HENDRICKSON - SPRING	
SIZE	14,600 TAPERLEAF	

SHOCK ABSORBERS	STANDARD	
REAR SUSP	ENSION	
TYPE	HENDRICKSON - AIR	
SIZE	40,000 LBS AIR SUSPENSION	
SHOCK ABSORBERS	STANDARD	
CHASSIS		
FRAME RAILS	120 KSI STEEL 0.375" x 10.63" x 3.5"	
CROSSMEMBER	120 KSI STEEL RAILS	
FRONT TOW HOOKS	STANDARD	
WHEELS & TIRES		
FRONT TIRES	(2X) 12R22.5	
REAR TIRES	(8X) 11R22.5	
FRONT WHEEL	22.5 X 8.25	
REAR WHEEL	22.5 X 8.25	
TIRES	GOODYEAR	
INSTRUMENTS		
	DASHBOARD	
MAIN CLUSTER	PREHEAT SETTING	
	MAINTENANCE FEATURE	

	1
GAUGE	AIR PRESSURE
	ELECTRIC HEATER
	BATTERY LEVEL
COLOUR INFORMATION DISPLAY	RANGE
	CONSUMPTION/REGEN
	SPEEDOMETER WITH ODOMETER
	INSIDE/OUTSIDE TEMPERATURE
	ABS
	TURN SIGNAL
	HIGH BEAM
WARNING LAMP	LOW BEAM
	DOOR OPENING
	CAB TILT LOCK
WARNING LAMP/BUZZER	AIR PRESSURE
	CHECK ENGINE
	STOP ENGINE
	PARKING BRAKE OFF WARNING SIGNAL
CAB FEATURES	
SEATING CAPACITY	2
SEATING CAPACITY	2

STRUCTURE	ALUMINIUM
WINDSHIELD	CLEAR
EXTERIOR MATERIAL	COMPOSITE & COLORED GEL COAT
CAB SUSPENSION	AIR SUSPENSION
INTERIOR TRIM	PREMIUM
INTERIOR COLOR	LIGHT GREY
LENGTH	LENGTH 79 IN
WIDTH	WIDTH 96 IN
HEIGHT	HEIGHT 106 IN
TILT	MANUAL/ELECTRIC PUMP
DOOR	COMPOSITE & STEEL
INTERIOR GRAB HANDLE	STANDARD
FRONT BUMPER	ONE-PIECE COMPOSITE
MUDFLAPS	STANDARD
FLOOR TYPE	FLAT (NO DOGHOUSE)
FLOOR STRUCTURE MATERIAL	STEEL
FLOORMAT	VINYL
STORAGE	GLOVEBOX
CENTER CONSOLE	STANDARD

SUNVISOR	DRIVER & PASSENGER SIDE	
INTERIOR LIGHTNING	DRIVER & PASSENGER READING LIGHT, DOME LIGHT, FOOTWELL LIGHT	
DRIVER SEAT	STANDARD	
	AIR SUSPENSION	
	CLOTH	
	BLACK COLOR	
PASSENGER SEAT	ONE-PERSON SEAT	
SEATBELT	ORANGE COLOR	
STANDARD FEATURES		
AIR CONDITIONING	5 kW ELECTRIC	
HEATING	10 kW ELECTRIC	
AUDIO	AM/FM/WB/BLUETOOTH/USB AUDIO SYSTEM	
BACKUP ALARM	STANDARD	
ELECTRIC HORN	DUAL ELECTRIC	
	HEATED	
MIRRORS	MOTORIZED	
WINDOWS	CLEAR	
WINDOWS	ELECTRIC POWERED	
DOOR LOCKS	ELECTRIC POWERED	

EXTERIOR LED HEADLIGHTS	STANDARD
EXTERIOR LED MARKER LIGHTS	5
INTERIOR LED LIGHTS	STANDARD
KEY SWITCH START AND SHUTDOWN	INDIVIDUAL KEYS
REGENERATIVE BRAKING SYSTEM	STANDARD
HILL START ASSIST	3-SECOND HOLD
SOUND GENERATOR	STANDARD
REMOTE DIAGNOSTICS	AVAILABLE, REFER TO TELEMATICS OFFERING
TRI KIT	STANDARD
FIRST AID KIT	STANDARD
FIRE EXTINGUISHER	5 LBS
CUP HOLDER	DUAL
FRONT TOW HOOKS	STANDARD
ON/OFF DISCONNECT SWITCH	STANDARD
PASSENGER SEAT	SAME AS DRIVER WITH 3-POINT SEAT BELT
CRUISE CONTROL	STANDARD
PREHEAT SETTING	STANDARD
PREMIUM CLUSTER & DASHBOARD	STANDARD
SIDE OBJECT DETECTION	OPTIONAL

SMART CHARGE	STANDARD	
STABILITY CONTROL	STANDARD	
DIMENSIONS		
CAB WIDTH	96 IN	
REAR FRAME OVERHANG	149 IN	
FR AXLE TO BOC (EFFECTIVE)	24 IN	
CAB TO AXLE (EFFECTIVE)	171 IN	
CAB TO EOF (EFFECTIVE)	320 IN	
OVERALL COMB. LENGTH	411 IN	
PERFORMANCE		
MAX REACHABLE SPEED	64 MPH	
OPERATING SPEED	64 MPH	
MAXIMUM POWER	470 HP	
MAXIMUM TORQUE	2,500 FT LBS	
ADDITIONAL ITEMS		
CHARGE READY PILOT LIGHT	STANDARD	
BUMPERS - BLUE	STANDARD	

EXECUTIVE SUMMARY

The Lion Electric Co. USA Inc. (Lion) appreciates the opportunity to submit a response to the Heavy Equipment Contract. We are excited at the prospect of continuing our relationship with Virginia Sherriff's Association and its members as they begin to transition to a zero-emission fleet. We believe that our values of transportation safety, quality, customer service, and employee happiness make Lion your ideal vendor for the Heavy Equipment Contract. These values guide Lion as it continues to build an environmentally and socially responsible business that makes a positive impact on the communities it serves.

Founded in 2008, Lion is the leading purpose-built, zero-emission medium- and heavy-duty electric vehicle manufacturer in North America. With over 950 electric vehicles on the road today, proven and industry-leading range of up to 170 miles on a single charge, and its ability to manufacture up to 2,500 electric vehicles annually, Lion stands out as the leader in the zero-emission commercial vehicle industry. Unlike many other manufacturers, we are able to provide actual performance data on our electric vehicles. Our battery technology is proven and scalable to fit your unique operational needs, so you only pay for what you need. Lion is capable of immediately supporting VSA members' electrification requirements with its team of experts who have unparalleled experience in electric vehicle deployments. Over a decade of knowledge, performance, and innovation have culminated in our dominance of this industry in which many other manufacturers are just now taking their first steps into the electric arena.

Lion understands that the zero-emission journey is about more than just the vehicle. Fleets need not only a manufacturer, but a partner who can provide a complete, turnkey solution that will ensure their successful transition to an electric fleet and a new way of doing business. Lion is that partner:

- Driving the charging infrastructure solution with LionEnergy
- Educating and training with the Lion Customer Success Team
- Tracking and reporting vehicle telematics with LionBeat
- Lighting the way to an excellent customer service experience with the BrightSquad

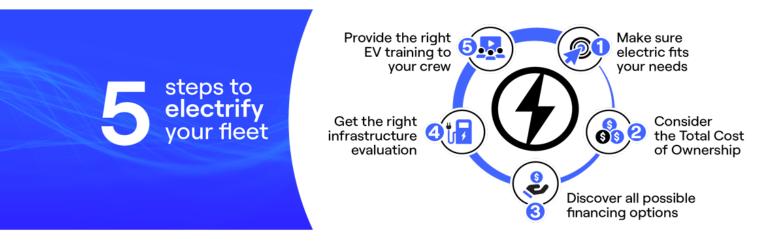
We believe that deploying an electric fleet aligns with your member's organizational goals on many levels, whether it be protecting the safety and health of operators, employees, and communities; fighting the effects of climate change; realizing substantial operational savings; or securing competitive advantages in the market. Lion is your best partner to help lead VSA and its members into the future of transportation. With over 1,400 individuals employed across North America, including approximately 300 in engineering and R&D alone, Lion's workforce specializes exclusively in zero-emission vehicle applications, making Lion one of the few OEMs to dedicate its production to purpose-built all-electric vehicles only.

Because Lion vehicles are deployed throughout North America, we are one of the only manufacturers that can confidently say that we have not experienced battery failure in any extreme weather conditions. From extremely cold climates (such as Quebec, Minnesota, and Massachusetts) to extremely hot (such as the Central Valley of California), Lion has only experienced up to 1% battery degradation yearly.

Lion would not have been able to achieve such an impressive deployment territory without having an aggressive delivery record. Lion has one of the fastest delivery timelines in the industry. Over the past decade, we have built a team of experts in the all-electric vehicle industry who have unparalleled skills and knowledge, and they have made it possible for Lion to meet delivery deadlines and dominate the electric

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vehicle market in North America. Each of our employees has experience in fleet electrification and brings unique talent in their respective field of expertise. The Lion team is ready to work with your members to deploy zero-emission trucks that meet your specific fleet requirements.



With a growing portfolio of deployments, Lion has invested significant time and resources into expanding our manufacturing capacity to meet rising demand. The original Lion factory, established in Saint-Jérôme, Quebec, is capable of manufacturing up to 2,500 all-electric medium- and heavy-duty vehicles each year. Scaling up production and expanding its manufacturing into the United States, Lion has acquired a 900,000 sq. ft. factory in Joliet, Illinois, that will be capable of manufacturing up to 20,000 all-electric medium- and heavy-duty vehicles each year. Lion will be manufacturing vehicles in both Canada and the US at the same time. This will allow us to comply with local, state or provincial, and federal laws and regulations in both Canada and the US simultaneously, such as Buy America provisions and equivalent Canadian policies. Lion also has a battery factory in Mirabel, Quebec, which will allow it to manufacture its own batteries and take greater control over the supply chain for its vehicles' most critical component.

From its very first vehicle, Lion has developed zero-emission vehicles based on direct end-user feedback, including optimizing visibility and reducing turning radius to ensure rapid adoption from drivers. Our technology has been tested and proven in real-world applications for over 6 years, with hundreds of our electric vehicles having been deployed for several years now. We have collected battery data from all our vehicles ever since the first one was delivered, and with this unmatched experience, have developed an expertise with zero-emission vehicles that cannot be equaled. Our leadership in this industry stands out because Lion is one of only a few OEMs that does not offer a retrofit solution (converting diesel trucks and chassis into electric trucks). Our trucks are purpose-built to be electric, designed and manufactured from the ground-up to maximize efficiency and compatibility with a zero-emission powertrain.

Since Lion vehicles are purpose-built to be electric, our truck components require very little maintenance, thus reducing total cost of ownership for fleets. Because there are fewer moving parts and no fluids on our electric vehicles, the cost to maintain and service them is much less than that of an internal combustion vehicle. All Lion vehicles also feature regenerative braking, which reduces the frequency at which the brakes must be replaced, further minimizing our vehicles' total cost of ownership.

In addition to providing operational and economic benefits, our zero-emission vehicles also eliminate criteria

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pollutant and greenhouse gas emissions in American communities. This creates a cleaner, healthier, and safer environment for drivers, mechanics, and the communities in which these trucks operate every day. Above all, Lion values safety, reliability, and the health of the communities in which it serves and lives. In addition to this, Lion has gone above and beyond to fight for everyone's right to breathe clean air. Lion continues to influence policies on vehicle electrification and supports local, state, and federal efforts to accelerate the adoption of clean transportation technologies. Our end-users have always been the focus of our manufacturing policy, but when it comes to protecting the health of communities, Lion has decided to take the lead and support efforts to educate legislators, agencies, fleet operators, and the public at large about the benefits of zero-emission transportation.

- Lion joined discussions with Sierra Club, a national and grassroots non-profit organization committed to protecting the environment, to identify the most effective methods to promote electric vehicles: through legislators' proposed policies and agendas, their plans to eliminate criteria pollutant and greenhouse gas emissions in their communities, and to leverage available funding opportunities to reduce the upfront cost of electric vehicles to fleets.
- To raise awareness about electric transportation, a Lion vehicle was the first of its kind to compete in school district "rodeos."
- Because of Lion's consistent leadership on issues involving greenhouse gas emission reduction and electrification of the student transportation industry, the Center for Transportation and the Environment featured key members of the Lion team in an article on women in the clean transportation sector.

As VSA can see, Lion is equipped with the experience, resources, staff, and knowledge to meet and exceed all your electrification needs. We have a proven record of deployment success where other OEMs are still in the prototype phase. Lion has the advantage of being well-positioned today to significantly grow its market share in Virginia in both the short- and long-term.

One of the most impactful actions a fleet can take to reduce its carbon footprint is to begin its transition to electric. By integrating Lion zero-emission trucks into your everyday routes, your members will become a leader in sustainability, protecting the environment for future generations and improving air quality in communities across Virginia. In the 21st century, now more than ever it has become critical to demonstrate social responsibility as growing concerns over climate change have permeated all aspects of everyday life. VSA has the chance now to help contribute to a healthier, safer, and more breathable future for all by choosing Lion as a vendor for Heavy Equipment on its zero-emission journey.

In Summary:

Global Leader in Deploying Electric Vehicles • Lion has already deployed over 950 zero-emission vehicles that have collectively accumulated more than 10 million miles of service and recorded data. We are in a unique position to have years of operating data and a history of advancing our electric vehicles.

Turnkey Solution • Lion is not just an electric commercial vehicle manufacturer. Lion is your partner throughout your entire journey to zero-emissions, singularly capable of providing a complete turnkey solution. Our LionEnergy team can provide start-to-finish infrastructure support to help fleets navigate the complex process of deploying charging stations. The Lion Customer Success Team will train the fleet mechanics and technicians on the basics of EV maintenance and service to create a knowledgeable customer base that is comfortable working on electric vehicles. When data and reports need to be generated and shared, the LionBeat can simplify the process with real-time vehicle tracking and monitoring.

And there to support the fleet throughout the entire lifetime of your Lion vehicles is the Bright**Squad**, ready to provide remote or in-person service and technical expertise at any moment.

Annual Production Capacity of 2500 Vehicles and Growing • As demand has increased for our electric vehicles throughout the years, we have scaled our manufacturing capacity to be able to accommodate this growing need. Our factory in Joliet, Illinois, will increase our overall manufacturing capacity by 20,000 electric vehicles-per-annum at full scale, while our battery assembly facility in Mirabel, Quebec, will grant us greater control over our battery supply chain, an advantage few other OEMs enjoy.

Innovation • Lion has perfected our electric truck design over years of end-user feedback and collected data. Our zero-emission trucks have innovative technological features and components that make them among the highest quality electric vehicles on the market today.

Driven to Make a Difference • Lion believes that protecting the environment and the health of our communities is critical to creating a sustainable, healthy, safe future in which everyone has an equal opportunity to thrive. Lion's motivation as a company is to make a difference in our communities by providing clean transportation for all.

Born to be Electric • Our trucks are not retrofitted diesel vehicles. They are born to be electric.

Committed to 2023 Deliveries • Lion has one of the fastest delivery timelines of zero-emission mediumand heavy-duty vehicles in the industry.

Lion would like to thank VSA for the opportunity to submit its response to the Invitation to Bid for Heavy Equipment. Our core values – to provide fleets with the most innovative and turnkey solutions, meet their operational needs, and achieve their sustainability goals – align closely with VSA'S vision and we look forward to the chance to work with you to deliver high-quality electric trucks on time with robust service and training

Sincerely,

The Lion Electric Co. USA Inc. Team



TECHNICAL ASSISTANCE: LION CUSTOMER SUCCESS TEAM

Operating an EV dealership requires specialized training and skillsets that traditional dealerships typically do not possess. Lion has used its six years of real-world electric vehicle experience to build an impressive portfolio of resources to establish an optimized procedure to maximize sales, reduce downtime for fleet clients, and meet local laws.

Presenting: The Lion Customer Success Team

Based on our experience deploying and servicing zero-emission vehicles across North America, Lion has developed the Lion Customer Success Team to provide a full schedule of classes to customers. We offer in-person training along with video trainings to as many individuals as necessary: drivers, operators, and other fleet professionals.



Lion has created a customer training program that is tailored to each client's unique training needs. A few weeks before the delivery of the new Lion electric truck or trucks, Lion's **Customer Success Team** will reach out to schedule the fleet's first training when the vehicle or vehicles arrive. At this time, the **Customer Success Team** will gauge the fleet's exact learning needs: Would the drivers like EV driver training? Does your fleet need a longer, more in-depth training session, or would you prefer a shorter, high-level training session? Based on your answers to these questions, Lion's **Customer Success Team** will design a personalized training curriculum, customized to VSA's members' unique knowledge profile.

On the day of the truck's delivery, the client's assigned **Customer Success Team** member will join you at your fleet site to provide essential vehicle training from the very first moment. This initial learning session will cover critical topics such as truck operation, energy-efficient driving techniques, driver controls, and owner's manual review, just to name a few. A high-level training can be completed in as little as one hour, while a more in-depth training can last as long as 3 hours or more, depending on how much EV education the fleet would like to receive. Every Lion vehicle delivery has a **Customer Success Team** member present, even for returning customers. Our goal is to make the entire fleet electrification journey as simple and effective as possible.

If the client would like technical vehicle training, your dedicated **Customer Success Team** member can refer your fleet to one of our Technical Trainers, who will provide comprehensive service and maintenance

education to your fleet's in-house mechanics and technicians. This training can be offered in addition to the driver education already provided as part of the initial delivery package.

The Lion **Customer Success Team**'s primary goal is to provide an overview of how zero-emission vehicles work at different comprehension levels based on the training audience's existing knowledge. In most cases, electric trucks are new for customers, and education is necessary to help bridge the knowledge gap from diesel to electric. That is why the **Customer Success Team** curriculum is focused on an interactive, hands-on learning experience that includes a truck walkthrough, step-by-step operational instructions, and a chance for VSA member's staff to ask as many questions as needed. Lion has found that when a wide range of individuals participate in these trainings, they are typically more receptive to this zero-emission technology and eager to learn how to operate, drive, and maintain these electric trucks.

Lion's training curriculum is typically taught in-person at customer fleet sites, but can also be presented at any of Lion's Experience Centers to ensure that our EV expertise is shared with all interested stakeholders, such as business officials, transportation professionals, air quality agencies, local first responders and fire departments, and other relevant parties. Trainings hosted at our Experience Centers tend to be longer, more in-depth sessions involving presentations, interactive truck demos, and safety lessons to ensure that the larger audience receives adequate instruction.

From this initial training, the assigned Customer Success Team member will be dedicated to your fleet's electrification journey. If at any time your drivers or operators have a question about their new Lion electric truck, even something as simple as, "What does this button do?" they can call your designated Customer Success Team member and promptly receive a helpful answer. This Lion representative will remain available to provide assistance as needed.

The Lion Customer Success Team can also offer refresher trainings to existing customers to ensure that your fleet's EV knowledge remains accurate and up to date. Has your fleet had staff turnover, additional Lion trucks delivered, or simply needs a reminder on how to optimally operate your electric vehicles? Lion's Customer Success Team can provide follow-up training to reduce knowledge gaps and improve your drivers' confidence operating your electric trucks.

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CONCLUSION

As the leader in medium- and heavy-duty electric vehicles with more than 950 units on the road today and an annual manufacturing capacity of 2,500 vehicles, Lion is prepared to immediately support all VSA members' needs, specifications, and questions throughout your entire electrification journey. Over the past decade, we have built up a team of experts with unparalleled experience who specialize exclusively in allelectric commercial vehicle deployment. Our unmatched delivery record and unique turnkey solution makes us the ideal vendor for your clients on their path to a zero-emission future.

Lion's strongest values include safety, reliability, and the health of the communities it serves. Our electric trucks represent more than just a competitive advantage for fleets by reducing their operational and maintenance costs, they also eliminate criteria pollutant and greenhouse gas emissions, creating a healthier world for our communities. An investment in a Lion zero-emission truck is an investment in your fleet, your community, and the planet.

Lion would like to thank the Virginia Sheriff's Association again for the opportunity to submit its response to the Heavy Procurement Invitation to Bid. Our partnership represents the greatest value for you and we greatly appreciate your thoughtful consideration of our proposal. We look forward to the chance to work with you to deploy electric trucks that will make a real difference for your fleet operations, your community, and the environment.

The Lion team remains available to answer any questions should they arise. We will distinguish ourselves through our transparency towards VSA and your procurement officials, our willingness to innovate and tailor our turnkey solutions to your unique needs, and our ability to comply with all established requirements and specifications.

Thank you again for taking the time to read our response about our zero-emission trucks. Lion eagerly awaits the opportunity to work with VSA and its members to create a healthy breathing environment for communities for years to come.

In Partnership,

The Lion Electric Co. USA Inc. Team