

---

---

# MENLO PARK FIRE PROTECTION DISTRICT

## STAFF REPORT

---

---

**TO:** Board of Directors **MEETING DATE:** December 17, 2019  
**FROM:** Fire Chief Harold Schapelhouman and Mechanic Rudy Torres

**DISCUSS AND APPROVE A LETTER OF INTENT TO PURCHASE ONE ROSENBAUER INTERNATIONAL M91X ELECTRIC FIRE VEHICLE WITH A DOWN PAYMENT NOT TO EXCEED \$200,000 TO SECURE ONE OF TEN PRE-PRODUCTION SLOTS FOR THE YEAR 2021**

---

### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Accept the report as presented; and
2. Discuss and approve a letter of intent to purchase one Rosenbauer International M91X Electric Fire Vehicle with a down payment not to exceed \$200,000 to secure one of ten pre-production slots for the year 2021.

### **BACKGROUND**

On December 11 and 12<sup>th</sup> 2019, representatives from Rosenbauer International presented the first Electric Fire Truck for review to members of the Fire District's Apparatus Committee, Chief Officers, other local fire agencies, local EV and Battery companies like Exponent Failure Analysis, local elected officials, media, members of the community and the Fire Board.

The Fire Chief, Mechanic Rudy Torres, other staff members and Chief Officers have been meeting directly with representatives from Burton's Fire Apparatus and Rosenbauer International for over two years on a Concept Fire Truck (CFT) proto-type unit.

A "concept study", performed by Rosenbauer, anticipated megatrends, such as global warming, demographic change, and urbanization, as well as the challenges these changes would pose for fire departments. The use of electric drives has enabled the creation of a completely new type of vehicle architecture that is fully adapted to these future scenarios and sets new standards in terms of functionality and ergonomics. The main field of application for EFT technology is initially the municipal firefighting environment.

Specifically applied to the Fire District, that means our Fire Engines only travel short distances before returning to their home base, or Fire Station, so electric motors make perfect practical sense!

Typically, most emergencies only last 30 minutes or less and this Response Unit can be shut down once it arrives at the Incident, so an electric motor is very practical, efficient and environmentally responsible!

Over 90% of all emergencies are short duration incidents, like medical incidents, vehicle accidents, alarm soundings and other calls, so demand on the power supply and battery is minimal!

Diesel is currently used to power most Fire Engines, but it is a carcinogen (cancer causing) which is bad for the health of the public, our first responders and our responsible stewardship of the air we all breath.

Electric vehicles have fewer moving parts which not only results in less wear and tear, but also maintenance, which often creates costly “down-time” that can compromise our emergency readiness, response, reliability and overall public safety.

This electric vehicle will be equipped with a redundant battery system and small booster motor for longer duration responses and incidents like fire calls, where greater reliability for an essential and critical emergency response vehicle is needed!

An all-electric Fire Engine is both environmentally and socially responsible because of the potential impacts on world-wide climate change and its associated challenges that we are directly dealing with here in California, like wild fires, sea rise, draught and flooding emergencies.

## **DISCUSSION**

The California fire service should be prepared to comply with standards and community concerns regarding the overall health and welfare of the environment, air quality and our stewardship and responsibility for it.

Emergency response demands high powered vehicles that are designed and built with multi-functional equipment compartments and that include the potential for longer duration incidents and the demands of pumping water at fires.

Diesel engines, developed at the turn-of-the-century, are currently being actively phased out in Europe with stricter environmental protection laws. Jurisdictions in the United States and specifically in California, like the City of Menlo Park, are contemplating, or passing progressive resolutions, moving entirely to electrically powered buildings and also vehicles.

Electric vehicle and new battery technology have now completely proven itself within the civilian transportation industry. In 2011, Rosenbauer began the research and design phase to create the Concept Fire Truck (CFT)., Rosenbauer continues to heavily invest in updates to the drive train, user interface technology and other fire service innovations and is looking for Fire Service partners that share this same vision.

Most of our residents and business owners trust and respect our firefighters, the work of the Fire District, its Chief and their elected representatives on the Fire Board.

That's why we believe the Fire Board and our organization should lead the way when it comes to embracing such a revolutionary change in our first response capabilities, but also our environmental stewardship of the community's overall health and welfare, which is so critically important for the greater good of the communities we serve and protect!

### **RECOMMENDATIONS:**

Based upon a robust and interactive discussion at the Special Meeting held by the Fire Board on this topic on December 12, 2019, I am recommending that the Fire Board authorize that a letter of intent be signed and a deposit of \$200,000 be made to secure one of ten pre-production slots for 2021 for the M91X Electric Fire Vehicles.

After that meeting and presentation by Rosenbauer International to the Fire Board, staff met with Rosenbauer representatives to discuss hands on development, expectations, availability and price.

Rosenbauer has adjusted the pre-production price from \$1.2 million to \$1,112,900. In addition, this letter of intent allows the District up to three months to make a final commitment with NO penalty or threat of losing its deposit of \$200,000.

This time frame allows for the holidays, Board and Committee transition, staff preparation and work, future discussions at the Finance Committee, meetings of the Apparatus Committee, the development of a supporting volunteer network of interested, involved and engaged subject matter experts like Exponent Failure Analysis, Waymo and Tesla to assist us, community feedback and additional Board meetings.

Once this process is completed, I am certain we will be proposing that the Fire District finalize the contract and purchase agreement of a singular electric fire unit to include our specifications, recommended by our Apparatus Design Team and Mechanics.

This unit would replace Rescue 77, which we have adopted as a two person "surge unit" and "force multiplier" which has helped us achieve an effectively sized response force within Districts 2, 5 and 77, or the Bayfront, Dumbarton and Bayshore corridors.

### **OTHER FIRE DISTRICT FIRSTS OR EXAMPLES OF LEADERSHIP**

1. The Fire District was among the original and first Fire Agencies in the Nation to become a National Urban Search and Rescue Task in contract

with DHS/FEMA and CAL-OES in 1991. We remain the smallest Fire Agency in the Nation to sponsor and support a US Response Team along with our 19 partnering agencies and 45 civilian participants.

2. The Fire District was one of the first eight State Swift Water Rescue Teams in contract with the Governors Office of Emergency Services created in 1990.
3. The Fire District was the first non-transport Fire Agency in San Mateo County to provide advance life support (ALS) paramedics on all of its first response units, starting twenty-five years ago.
4. The Fire District was the first fire agency in the Nation to provide an enhanced level of threat protection for all of its on-duty firefighters by purchasing Body Armor in the late 1980's due to daily violence and gang warfare in the City of East Palo Alto and Eastern Menlo Park.
5. The Fire District established the first Rescue Air Boat for its Bay Water Areas in the early 1990's and remains a leader in the South Bay for Water Rescue and Recovery Operations.
6. After the tragic Green Oaks School Fire that almost killed 60 students and teachers in East Palo Alto in the 1990's. The Fire District led the charge to modify the education code and helped sponsor legislation to require early detection and sprinkler systems in all new public schools in California.
7. After receiving citations for responses on the Dumbarton Bridge due to new Fastrack technology, the Fire District helped to sponsor corrective legislation that exempted emergency vehicles, created an emergency vehicle database and provided Fastrack devices for all applicable first responders for California Highways.
8. In 2014, the Fire District started one of the first UAS/Drone Fire based programs in the Nation, receiving FAA, Board and Community approval for its program. The District is a leader in using this technology and receives requests for assistance from other fire agencies worldwide.
9. In 2018, the Fire District became one of the first fire agencies in the United States to adopt and install an early earthquake warning system in two of its newest fire stations using the State's Shake Alert Sensor System and the Sky Alert/TEA Interface.
10. The Fire District became one of the first agencies in the State to comply with legislation that mandated all essential state required building inspections be reported to its elected body and the public annually. This was accomplished due to a ten-year internal focus grass roots effort by the Fire Marshal, IT Team, Field Personnel and support of the Fire Chief.

**FISCAL:**

<b>Pre-Production slot reservation payment</b>	<b>US \$200,000</b>
First payment after the pre-construction meeting	<b>US \$100,000</b>
Pre-shipment payment after inspection at factory	<b>US \$700,000</b>
<u>Final payment after arrival &amp; inspection - Fire District</u>	<u><b>US \$112,900</b></u>
<b>Total Apparatus Cost</b>	<b>US \$1,112,900</b>

**ATTACHMENTS**

A. Rosenbauer / Fire District Letter of Intent