

PVRA Battery Project Known Fact Sheet

What: PVRA has been approached by the Rodeo (Pro Rodeo Productions of Poway – PRPP) to enter into an LLC that would manage a potential battery installation on the PVRA Grounds. This LLC would include a 50/50 partnership with PRPP.

Why: Potential income in the future for PVRA for improvements to the grounds. Specific projects funded by the batteries would be determined by how much actual income and what the highest priorities would be based on the joint board of directors of the LLC. Income would depend on the number of batteries installed and electrical rates at the time.

The reason for batteries is to provide emergency backup power for North Poway. The location is desirable due to the proximity of an electrical substation nearby. Batteries would be powered by electricity during the day and the batteries would be used during evenings or during times of power outages.

Where? Proposed site would be in the back corner of the grounds including the hillside and the Round pen.

How Many? The proposed number of batteries would be determined at a later time based on the ability to grade the hillside and the density. It is likely that the round pen would need to be relocated to another area on the grounds. The initial proposal suggested 60 MW or 65 batteries. The new round pen location is unknown at this time

When? The installation is estimated to take as long as 3-4 years after it is approved, but the approvals will take several years. The entire project from approvals through installation is expected to take 8 years but any potential profits might not start accruing until the investors cover their expenses.

Why so Long? Before the batteries could be installed, a formal feasibility study, a site survey and environmental impact report would all be required. The city would have to greenlight the project. The cost of this would be paid for by the developer. These take several years to complete. Then construction would begin, including grading.

What Type of Batteries: The proposed batteries are Zinc-powered Aqueous liquid batteries, They are filled with water. Unlike Lithium-ion batteries, these batteries generate no heat and are extremely safe. They can be installed where Lithium-ion batteries can not due to extreme fire conditions which exist at PVRA.

What Do They Look Like? The batteries are housed in smaller size storage containers Approximately 9.5 ft high x 8 ft wide by 16 ft long, They CAN be stacked two high. This may be required at PVRA to minimize the area required for installation. It is also possible that the formation and density of the batteries would change based on battery Technology improvements before installation.



Frontal View of an EOS Zinc-powered Aqueous Battery Container

Has there been a Legal Review of the LLC

Agreement: Not yet.

Before the PVRA Board of Directors takes this step, we would want to know if the General Membership would like to pursue the project. Although the Board of Directors put funds into the budget for Legal Review, we did not want to spend PVRA funds unless we knew the General Membership supported the project.

Side view



Has the Board of Directors Approved the Project?

The PVRA board sees pros and cons to the project. Some members are for the project, some are against and some have yet to decide.

Why Now? The developer needs an answer on the proposed LLC before the project can proceed. Due to other potential competitive battery projects in Poway, the LLC must be approved ASAP or the project will not be available to PVRA in the future. However, other projects may become available in the future if the membership is open to such projects

How Much will it Cost PVRA? The formation of the LLC costs approximately \$800. This would be split by the Rodeo and PVRA. In addition, there would need to be a legal review. The project costs in the future would be paid for by the developer but that money would need to be paid back before any profits would be available to PVRA.



Inside the container are many individual zinc-powered aqueous battery units all of which can be replaced or repaired individually.

Project Risks or Unknowns: PVRA does not know if the city will approve the project. We do not know what the Environmental Impact Report would find. We do not know how much grading and site construction will cost. We do not know how much support we would have from the community on the project (neighbors to PVRA for example).

How much noise do they make: The batteries make almost no noise. The only noise would be the transformer which connects the batteries to the power lines and this is similar to other large

transformers in operation in other locations throughout Poway.

How much Experience Does the Developer Have? The Developer has large installation experience both for the Federal and State government as well as large private sector companies. Local installations nearby include Viejas Casino and Miramar Air Station.

How much Disruption will this cause for PVRA events? There is expected to be considerable disruption during the construction phase of the project with heavy equipment and cement work into the hillside. This will take time to complete. Events that take the whole grounds, including parking for the Rodeo, could/would be impacted. However, PVRA will not need to be shutdown.

Once the batteries are installed, there would be little to no impact to PVRA operations. The batteries have a useful life of 30 years or more. Modules can also be removed and replaced as batter technologies improve.

What Will the PVRA Board of Directors be asking at the General Meeting? We want to gauge the level of support for the project to determine if we should form the proposed LLC as a first step in the project.

