Condo Insights

#55 Electric vehicles – Part 2: Golf carts, E-bikes, Electric wheelchairs and Battery charging

Golf Carts
Golf carts are becoming a popular form of transportation in seashore communities. To be licensed for road use in New Jersey, a golf cart must be a Low-Speed Vehicle (LSV) that meets certain requirements, including: being titled, registered, and insured; being maintained in good condition; complying with federal and state requirements; having a top speed of 25 miles per hour or less on paved surfaces and not being powered by gas or diesel fuel. They are also subject to annual state inspection.

LSV golf cart batteries can be charged using a standard household outlet, as long the golf cart charger is specifically designed for the battery voltage (typically 36 or 48 volts) which can be plugged into a regular 110v outlet. The time it takes to charge a golf cart battery depends on several factors, including the battery type, discharge level, and charger type. A lithium-ion battery can charge in 4–5 hours, while a lead-acid battery can take 6–8 hours. A completely drained battery can take 8–14 hours to charge. Lithium-ion batteries are maintenance-free and can be left charging overnight. They also last longer than lead-acid batteries and manufacturers often offer multi-year replacement warranties

Community and condominium associations are not required to allow unit owners to charge LSV golf cart batteries using common outlets. Many of the same concerns and conditions for EV charging discussed in the previous article in this series can apply to golf cart battery charging. Considerations include the inability to measure usage, so whatever charge is imposed would be based on an overnight fee. Additional considerations include the presence of extension cords, which could be trip hazards, and the fact that many associations have limited parking, making it difficult to allocate specific spaces for golf carts and golf cart charging.

In some circumstances, an association can prohibit a unit owner from using their own electric outlet to charge a golf cart, as long as the prohibition is outlined in the association's governing documents, is considered reasonable taking into account factors like potential electrical safety concerns, impact on shared amenities, and local regulations regarding electric vehicle charging within multi-unit dwellings.

If your association allows golf cart charging, always charge golf cart batteries in a well-ventilated area and monitor the charging process to avoid overheating; be aware that charging a golf cart battery can draw significant power, so it's best to use a dedicated circuit or extension cord suitable for high amperage, and you cannot use a regular battery charger for a car or other small devices to charge golf cart batteries; you need a golf cart specific charger.

A common concern cited by unit owners regarding electric vehicles, golf carts and electric bikes is the risk of fire. The risk of fire in electric vehicles manufactured by mainstream auto makers is generally very small and acceptable for most community and condominium associations. Electric vehicles do not spontaneously catch fire. The relatively few recorded EV fires are the result of an accident or damage to the battery, or in one case, a vehicle being caught in a flood. The fires are intense and very difficult to put out, but so are fires in gasoline vehicles.

E-bikes

Condominium associations have been struggling with how to deal with e-bikes. Associations can create rules and regulations for e-bike charging and storage to prevent fire risk. These rules can include: establishing regulations for charging e-bikes, such as prohibiting charging in common areas; designating safe areas for storing e-bikes, such as bike racks, garages, or sheds; requiring that batteries are removed from e-bikes when not in use and stored in a fireproof container; and requiring e-bikes to be registered or licensed.

Electric Wheelchairs
The evolution of electric wheelchair batteries is improving the performance and efficiency of electric wheelchairs and the user's independence and quality of life. Lithium batteries are becoming more common in electric wheelchairs because they are lighter weight, charge faster, and have longer battery life compared to lead-acid batteries. Lithium batteries designed for electric wheelchairs are often made from recyclable and sustainable materials, are high-performance, non-toxic and they have a battery management system for safety control.

Battery Charging
There is generally little risk of fire during EV charging because the EVs and their batteries are equipped with circuitry to prevent thermal runaway. The critical design challenge in producing an electric vehicle battery is to create software and circuitry that governs charging and discharging and controlling the rate of charge and discharge so that the battery does not wear out prematurely or discharge at a rapid rate.

The batteries in an EV are typically a series of lithium-ion cells, produced by major battery manufacturers such as Panasonic, LG or Samsung. The batteries and cooling technology are typically cased in a metal box under the floor of the vehicle and are not easily damaged.

Most golf cart batteries use sulfuric acid and water to store electrical energy, which can produce hydrogen gas when it is being charged. If too much hydrogen gas accumulates, either due to a bad battery or incorrect charging procedure, it may spark and ignite a fire. This is why it is important to not overcharge for a golf cart. Golf cart battery fires can be caused by a number of factors including overcharging, using the wrong charger; deep discharging a golf cart battery; damaged batteries; dirt and debris on the battery terminals, which can lead to electrical discharges and fires. Charging a golf cart in a garage, especially if the windows and garage door are closed, can increase the risk of fire. The hydrogen gas produced can spread into the residences and cause a life-threatening situation.

Electric bikes on the other hand are not as predictable as electric cars. There have been a number of newsworthy fires that have caused significant damage. It is harder to ascertain who makes the batteries in some e-bikes and whether there is adequate circuitry to control charging.

Associations should proceed carefully when considering lithium battery restrictions or prohibitions on batteries manufactured for recreational use with batteries providing mobility for the disabled. Were an association to accept lithium batteries on premises, a policy should include proper storage and handling; charging protocols, fire safety equipment, education and training, disposal guidelines and policy banning certain high-risk devices.

Guidelines and practices related to e-bikes, lithium batteries, and battery charging may change based on the volume and severity of incidents, insurance claims and governmental regulations. Many associations have provisions that empower the board to promulgate rules to abate any use that would cause an insurance premium to rise. If the association's insurance carrier has such a policy in place, it would empower a board to adopt such prohibition in the units. Similarly, if the municipality in which the association is located adopts an ordinance prohibiting the storage of lithium batteries inside a multi-family residence, the association could adopt a rule enforcing the local ordinance.

Community and condominium associations should confer with their professionals including management, legal counsel and their insurance agent to develop a policy which best serves the association and its members, keeping in mind that there is no electric or mechanical device which involves zero risk.

Jim Yost owns Elite Management and Advisory Services, LLC and is Managing Partner for Ocean Property Management Corporation, based in Wildwood. The firms manage numerous community, condominium and homeowner associations in southern New Jersey. He can be reached at yostopmc@comcast.net. Past columns are available online at www.oceanpropertymgmt.com.

Karim Kaspar, Esq. is Senior Counsel with Lowenstein Sandler LLP. He serves as general counsel to numerous community and condominium associations throughout New Jersey. He specializes in complex commercial litigation and real estate matters and has been active and instrumental in the firm's pro-bono activities. He can be reached at kkaspar@lowenstein.com.