

Responses to Questions Submitted via E-mail
Solicitation No. B20001996
North Kawaihae Small Boat Harbor Infrastructure Improvements
06/04/2020

- 1.a. Please confirm that the only solar lighting systems that will be accepted are those which do not dim at all throughout the entire night and will operate at full intensity from dusk till dawn. This was stated during the pre-bid meeting.

The proposed solar powered lights shall be designed to operate a full intensity from dusk to dawn without dimming.

- 1.b. Assuming this is true, then systems should also be excluded that boast an Energy Management Systems (EMS), which is a way to offer smaller solar and battery units through automatic regular dimming based on battery voltage. The EMS forces the light to dim, to conserve battery capacity and make up for an improperly sized system. Please also confirm that EMS systems will not be allowed for this project.

The proposed solar powered lights shall not dim throughout the night hours and operate at full intensity from dusk to dawn.

2. Based on a lighting plan analysis we conducted for these 2 projects using the stated fixture height and approximate spacing of poles, we have determined that using a minimum size LED fixture of 40 watts having a minimum rating of 4,000 lumens will be required to achieve acceptable lighting levels throughout the designated areas, including ADA areas that require a minimum of 1 fc per IESNA. Please confirm that LED fixtures meeting these minimum specifications will be required.

The proposed solar powered lights shall use LED fixtures with 40-watt power output and 4,000 lumens. The lights shall also be designed such that impacts to Endangered Species Act nigh-flying birds, due to light attraction, are minimized or avoided. The lights shall be shielded and the light directed downward so that the bulb is not visible at bulb height from the side.

3. For public access areas, it is often desirable to provide vandal protection for the solar panels, as the exposed backside of PV panels is glass. SEPCO does this by adding an aluminum back panel to protect the back of the solar panel, which can prevent solar panel damage from thrown rocks or wind-blown debris and these kinds of systems are employed at other Hawaii Harbor projects. Please confirm that you want to continue to have the rear of the solar panels covered with a protective panel pan on these two projects.

The proposed solar powered light PV panels shall have vandal protection.

4. UL Listing. In the past, the solar lighting systems installed had to be UL Listed as a complete system so that all parts of a whole system are tested by a 3rd party testing lab. Please confirm that you require the entire system to be UL Listed and not just some parts of the whole system to be listed.

The proposed solar powered lights shall be UL listed as a complete system.

5. In order to operate a 40 watt fixture from dusk to dawn at full intensity during the winter's longer nights and to allow for at least 5 days of autonomy (meaning the system can minimally operate that many days during cloudy periods), a minimum 200 watt solar array will be required as well as a minimum of 224 amp hours of battery storage. Please confirm that this minimum design sizing is required.

The proposed solar powered lights shall have a power output of 40 watts at 4,000 lumens and be designed to operate a full intensity from dusk to dawn without dimming.

6. In hot locations, keeping the batteries at the lowest possible temperatures is essential to preserve battery life. As such, SEPCO's systems shield the battery box behind the solar panel and pole to keep them constantly in the shade. Please confirm that in this hot Kawaihae location, you want the battery box to be fully shaded by the solar panels and pole.

The proposed solar powered lights shall be designed to shield the batteries from exposure to direct sunlight.