

From: Paul McGill <mcgill@mbari.org>
Subject: **Re: Rover batts**
Date: December 16, 2014 9:40:56 AM PST
To: Alana Sherman <alana@mbari.org>

I just ran the power budget numbers for each type of battery:

2 alkaline battery spheres: 3.9 months

2 lithium battery spheres: 13.2 months

This seems like a big difference so I checked it another way: an alkaline D cell is about 15 Ah at an average of 1.25 V, so about 18 Wh. A Li double-D cell is 30 Ah at an average of 3.5 V, or 105 Wh, or 52 Wh per equivalent single D cell. The ratio is $52 \text{ Wh} / 18 \text{ Wh} = 2.9$, so it makes sense that the Li battery lasts about 3 times longer.

We'll need 1 lithium sphere (which we can split between the two spheres) to make it Jun to Nov.

Paul

On Dec 16, 2014, at 9:01 AM, Alana Sherman wrote:

Am I correct that the rover can use alkaline batteries from June-Nov deployment now that we have wakey?