1   **Petty Harbour Surge Tank and Unit No. 1 Main Valve (Pooled), p. 6 of 96, $632,000**
2
3   **Q.   Please provide a detailed calculation for the levelized Revenue Requirement as**
4   **found in the report found at Tab 1.3 Petty Harbour Hydro Plant Refurbishment,**
5   **Attachment C, page 1.**
6
7   A.   The calculations below determine the levelized Revenue Requirement as found at Tab
8   1.3 Petty Harbour Hydro Plant Refurbishment, Attachment C, page 1.
9

$$PV = PMT\left(\frac{1 - (1+i)^{-n}}{i}\right)$$

10
11
12

Parameter	Value	Description
n	50	Term of present worth analysis (years)
PV	$4,320,770	Cumulative Present Worth Benefit of Plant
i	8.58%	Incremental cost of capital
PMT	Solve	Annual Revenue

13
14   Solving for PMT reveals a levelized annual revenue amount in each year of the project of
15    $376,900.
16
17   Knowing the annual energy output of the plant of 15.87 GWh or 15,870,000 kWh, the
18   levelized energy cost can be determined.
19

Levelized Energy Cost =   <u>Levelized Annual Revenue</u>
                                Annual Energy Output

20
21

Levelized Energy Cost =   <u>$376,900</u>
                                15,870,000 kWh

22
23

Levelized Energy Cost = $0.0237/kWh

24