

EnergyCommittee10012014 10)0 City Hall

EnergyCommittee10012014.txt 14:00 10012014, 1555H, 111 North Hope, Los Angeles 90012  
From: William Ernest Schenewerk, 5060 San Rafael Avenue, Los Angeles CA 90042  
To: Los Angeles Energy & Environment Committee, 10012014 Meeting, Item (4) (14-1232)

1.0 Introduction- March 3, 2009: ~3 billion USD, 400 Mwe, Measure B lost, apparently because of political and economic envy. My Opinion: Right Result for Wrong Reason.

2.0 Background

- 2.1 LADWP Energy and Environment Committee Item (4) - 14 - 1232; Power Sale BP 14-03 Springbok 1 Solar Farm Power Sales Agreement No. BP 14-03; Springbok 1 Solar Farm Agency Agreement No. BP 14-04 with Southern California Public Power
- 2.2 Springbok 1 Solar Farm owner: 8 Minute Energy (8ME), 100 Mwe fixed-tilt PV
- 2.3 Solar Investment tax credit (ITC) expires 01/01/2017

3.0 Ms./Sir(s)

Ratepayer money is being spent and contracts written for solar PV that may perform worse than expected. Risk is that solar PV owner(s) may experience negative cash flow and shut down. LADWP solar PV contract power prices seem to be half what is required to prevent supplier negative cash flow. Also, as intermittent generation increases, fossil CO2 may not decrease significantly. This is because backup generation may have ~35% thermal efficiency versus all power from CCGT at ~55% thermal efficiency. Assuming intermittent sources produce 1/3 of all kwh and GT produces the other 2/3 kwh:  $((2/3)/0.35)$  is ~5% greater than  $(1/0.55)$ .

*Wm E Sch 10/11/14*

Sincerely, William Ernest Schenewerk, PhD, PE, wschenewerk@msn.com 323 257 6672

4.0 Design Input

- 4.1 Reference 6.1 Power prices
  - 25a PSA BP 14-03 with SCPPA for 100 Mwe averaging 265,646 Mwh/a from Springbok Project with flat cost 68.60 USD/Mwh including environmental attributes. Springbok 8ME has option to purchase site fee simple from Appendix H owners. Springbok to supply 0.019 of DWP's renewable energy requirement. First Mwe Fixed Tilt solar PV installed by 08272104, COD by 12312016. 8ME Guaranteed Generation 200,000 Mwh over any/all 18 months (0.152 utilization).
- 4.2 A Benyamin & R. O. Nicholos, LADWP Board Approval Letter, 10/01/2012: Copper Mountain Solar 3 (CMS3) PSA-BP 12-014 LADWP: 95.75 USD/Mwh, 20 years.
- 4.3 <http://www.prweb.com/releases/2012/11/prweb10121087.htm> "8minutenergy Renewables 266 MW Mount Signal Solar Farm Starts Construction." 636 MUSD in Financing for a Project Closed on by 8minuteenergy's Partner AES Solar. Mount Signal Solar farm 0.2 Gwe AC, Imperial County CA, Startup 2014, 25 year with SDG&E, 500 Gwh/a, AC-basis/DC-basis: 0.28/0.21 utilization -> 3.2 USD/AC-w.
- 4.4 December 2026 natural gas: 5.4 USD/MMBtu--->2026 CCGT fuel cost: 0.04 USD/kwh
- 4.5 Heber 1 Geothermal Energy PSA No BP 12-049, 13.71 Mwe for 20 years from Wild Rose Geothermal Energy Project assumes 95% capacity factor. Heber 1, LADWP PSA BP 13-033, recently had its bond rating uprated from 'BBB-' to 'BB.'

5.0 Assumptions

- 5.1 Los Angeles Improved horse property: 250,000 USD/acre (62 USD/m<sup>2</sup>)  
Land for solar: 62 USD/m<sup>2</sup>/62 w/m<sup>2</sup>-land = 1 USD/w. Land Cancels tax credit.
- 5.2 Springbok 1 Solar Farm installed cost 3.2 USD/AC-w, from Design Input 4.3 and 30% investment tax credit Effective cost: 2.25 USD/AC-w. Canceled by land cost.
- 5.3 September 2014 CSP utilization = 120118 Gwh/((354 + 377) \* 24 \* 30) = 0.228  
Fixed PV utilization = 0.228 single axis \* 0.85 \* 0.9 degrade = 0.17 utilization
- 5.4 Postive cash flow requirement: 5%/a bond rate, property tax exempt, 1.5%/a insurance, 1%/a maintenance, Positive cash flow requires 7.5%/a.
- 5.5 Best Mid-August solar configuration for 16:00 LADWP demand peak: 15 degrees south of due west and 45 degree tilt. Actual Measurements.
- 5.6 17 USD/Mwh transmission cost.

6.0 References

- 6.1 Miguel A Santana, "Springbok 1 Solar Farm Power Sales Agreement and Agency Agreement with SCPPA, revised 08152014, 09092104, CAO File No. 0150-10215-0000.
- 7.0 Springbok 1 Solar minimum revenue for positive cash flow:  
 $(3.2 \text{ USD/kw} * 1000 \text{ w/kw} * 0.075 \text{ required gross revenue per year})$   
 $/(8766 \text{ h/a} * 0.17 \text{ utilization}) = 0.161 \text{ USD/kwh} - 0.025 \text{ PTC} = 0.136 \text{ USD/kwh}.$

Date: 10/1/14  
Submitted in BBF Committee  
Council File No: 14-1232  
Item No.: 4  
Deputy: Adam R. Lid