

DAY

ENTERED BY

DATE

1 REFERENCE:

*Oct. 6 '10*2  
3 QUESTION:

4  
5 The Resource Plan indicates that YEC has adopted 2 hrs/year LOLE system-wide  
6 capacity planning criteria. The LOLE criteria is then used to determine a capacity  
7 shortage in the WAF as early as 2008, as shown on Table 3.5 of the Resource Plan.  
8 Please provide the following information with respect to the computer software and the  
9 data used by YEC to calculate LOLE, unless it is provided in the Billinton Report:

- 10  
11 a. Describe the software used for calculating LOLE. Is it a commercially available  
12 software or one developed in-house? Does it use analytical methods, or Monte  
13 Carlo simulation, or other methods?
- 14  
15 i. If analytical, does it use the capacity outage probability table method, or the  
16 equivalent load method, or other method?
- 17  
18 ii. If Monte Carlo, how many iterations were used to achieve statistical  
19 significance? How does the software use random variables to determine how  
20 long generating units will remain in a state of availability?
- 21  
22 b. Was the annual LOLE computed over 8,760 hourly peak loads, or 365 daily peak  
23 loads, or another period of time? Provide the system load data as it was used in  
24 the model, either chronological load, load duration curves, or in any other form  
25 that was used by the model. (Provide data in Excel electronic format)
- 26  
27 c. With respect to generation data used in the calculation of LOLE, provide a  
28 complete list of generating units including unit name, Maximum Continuous  
29 Rating (MCR), forced outage rate (assuming a two-state model for generators),  
30 seasonal derates, if any, and planned outage rates.
- 31  
32 d. If the software uses a multi-state model for generator outages, provide the state  
33 probabilities of outage and explain how the model treats multi-state generating  
34 units.
- 35  
36 e. For each generator, please provide YEC's number of outage hours per year for  
37 the past 10 years to support the probabilities of outage used in the model.