Key Reliability Question

State the key question to be answered by the proposed assessment, the time periods to be covered by the assessment, and how it could affect the Western Interconnection as a whole. *For example: “How might a three-fold increase in electric vehicle penetration by 2028 affect the reliability of the BPS in the Western Interconnection?”*

- Would there be a change in planning and/or operating reserve requirements?
- Would charging patterns affect ramping needs?
- Could the increased availability of mobile electric storage devices create market opportunities that could, in turn, affect grid operations?
- Do we need to collect newer data that is currently unavailable?
- How would the transmission system utilization be impacted by this assessment?

Potential Reliability Events

Describe the potential reliability event(s) that could be experienced in the assessment, for example:

- Stability: not being able to recover from a disturbance
- Lack of operational flexibility: loss of load if the TO cannot meet ramp
- Transmission utilization: congestion
- High cost—investment, operating, production; battery costs from cycling; A/S reimbursement
- Gas: interruption of firm supply and/or high cost
- Resource adequacy/inadequacy
- Loss of system inertia and resulting system performance impacts
- Inability to maintain primary frequency response
- Inability to meet hour-to-hour ramp rates
- Impacts to short circuit duty
Connection to WECC Near-Term Priorities and Scenarios

In June, 2018, the WECC Board approved Near-Term Priorities for WECC. In addition, the Scenario Development Subcommittee is developing new future scenarios for the Western Interconnection.

- How does the recommended assessment relate to the Board’s Near-term Priorities and/or the WECC Scenarios?

Potential Partners

Indicate whether there are organizations that could be partners in the assessment, for example national laboratories that have completed similar work, universities, consultants or regional entities.

Modeling Options

Provide initial suggestions for how factors affecting the key reliability questions could be modeled.

- Would it be appropriate to use existing models (e.g., power flow or PCM)?
- Is there a need for new models?

Expected Data Needs

What kinds of existing data would be used? What additional data would be needed and would it require confidentiality review, if from a third-party source?

Expected Results

What results from the assessment would you expect? How would they be used to answer the key reliability questions?

Resource Requirements

Who would perform the proposed assessment (i.e., WECC staff, consultants, Regional personnel, a combination of entities)?

How much time and personnel do you expect the assessment to require (e.g., one month with three dedicated individuals, one year with one dedicated individual)?