Additional responses to questions posed at the kick-off meeting

1) *How does VCE screen renewable energy sites with regards to constraints such as national parks, protected species, etc.?*

    VCE describes its siting methodology in its model documentation, which can be found beginning on page 58 at WISdomP-Model_Description(August2020).pdf (vibrantcleanenergy.com). Briefly, VCE performs an initial screening methodology utilizing these steps:

    1. Remove all sites that are not on appropriate land-use categories.
    2. Remove all sites that have protected species.
    3. Remove all protected lands; such as national parks, forests, etc.
    4. Compute the slope, direction and soil type to determine its applicability to VRE installations.
    5. Determine the land cost multipliers based on ownership type.
    6. Remove military and other government regions that are prohibited.
    7. Avoid radar zones and shipping lanes.
    8. Avoid migration pathways of birds and other species

    VCE also restricts siting of wind, utility-scale solar, distributed solar, and energy storage based on the maximum amount of capacity that can be sited per geographically-defined unit. For instance, a single wind turbine is restricted to no more than one per km^2.

2) *Has VCE's model been validated?*

    VCE published a report where it modeled possible wind and solar production during Winter Storm Uri if those plants were winterized and the well-documented grid issues were not in place. That report is available at https://www.vibrantcleanenergy.com/wp-content/uploads/2021/03/VCE-ERCOT-StormUri.pdf. A separate report comparing VCE's model projections with actual wind generation in 2017 and 2018 in Texas has been posted on the 100% study web page. In addition, before every model run, the model is calibrated against the initialization year (2020 in the case of this project) on generation, emissions, retail rates, etc.

3) *A question was asked as to what wind resource classes were used in VCE's model.*

    VCE relies on data from NREL's Annual Technology Basesline report, and uses Class 6 for onshore wind and Class 5 for offshore wind. VCE's objective is to be somewhere in the middle of the wind resource classes. See https://atb.nrel.gov/electricity/2021/land-based_wind for details.