

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of Chelsea Solar LLC, pursuant to)
30 V.S.A. § 248, for a certificate of public)
good authorizing the installation and)
operation of the “Chelsea Solar Project,” a)
2.0 MW solar electric generation facility)
located off Willow Road in Bennington,)
Vermont)

Docket No. 17-5024-PET

PREFILED DIRECT TESTIMONY
OF SCOTT REYNOLDS
ON BEHALF OF PETITIONER

November 27, 2017

EXHIBITS

Exhibit CS-SR-1	Resume of Scott Reynolds
Exhibit CS-SR-2	Wind Speed Analysis

1 **Q1. Please state your name, occupation, and business address.**

2 A1. My name is Scott Reynolds. I am Senior Engineer and Manager of the Computer Aided
3 Engineering Solutions group at M/E Engineering, PC. My business address is 441 South Salina
4 Street, Syracuse, NY 13202, with our home office at 150 North Chestnut Street, Rochester, NY
5 14604.

6
7 **Q2. Please describe your educational background and work experience.**

8 A2. I hold a BS degree in Mechanical and Industrial Engineering (1979) from Clarkson
9 University (formally known as Clarkson College), Potsdam NY. I also hold a MS degree in
10 Mechanical and Aerospace Engineering (1984) from the University of Rochester, Rochester NY.
11 Additionally, I am a licensed professional engineer in the states of NY and NJ. My professional
12 work experience began in 1979 at General Electric, Large Gas Turbine Division in Schenectady
13 NY, followed by the Xerox Corporation (1981), Rochester NY, then IBM corporation (1984),
14 Endicott NY, my own CFD consulting firm, Computer Aided Engineering Solutions (1992)
15 Endwell NY, Bearsch Compaeu Knudsen (1999), Binghamton NY and finally at M/E Engineering,
16 Syracuse NY in 2006 to present. In this period of time I authored or co-authored nearly 2 dozen
17 trade and peer-reviewed articles, presented over 50 courses and seminars and received 7 US and
18 Foreign patents. A copy of my CV is included as ***Exhibit CS-SR-1***.

1 **Q3. Have you previously testified before the Public Utility Commission or in other**
2 **judicial or administrative proceedings?**

3 A3. I have not previously testified before the Public Utility Commission, but I have provided
4 testimony several times since 1999 for various civil litigations.

5
6 **Q4. What is the purpose of your testimony?**

7 A4. My testimony relates to the potential change to naturally occurring wind speeds that could
8 be experienced at properties adjacent to the proposed Chelsea Solar Project (the “Project”), as a
9 result of the construction of the Project.

10
11 **Q5. What analysis have you performed with respect to the Project?**

12 A5. I reviewed available documentation regarding features and conditions of the Project site as
13 well as the proposed design details for the Project. I used historical wind speed data, wind behavior
14 formulas, and Computational Fluid Dynamics (“CFD”) models to evaluate wind speed conditions
15 at the Project site. I prepared a report that details the results of my analysis; that report is included
16 as *Exhibit CS-SR-2*.

17
18 **Q6. Why did you prepare the “Wind Speed” analysis?**

19 A6. I was retained by the Petitioner to perform this analysis in response to a question that has
20 been raised by some Bennington residents that live in the vicinity of the Project site. The Petitioner
21 wanted to be able to provide this information in response to those residents’ concern that the

1 Project could possibly result in a significant increase in naturally occurring wind speeds that they
2 experience at their homes.

3
4 **Q7. Please summarize the results of the Wind Speed analysis.**

5 A7. My accompanying report (*Exhibit CS-SR-2*) contains full detail, but in summary, I
6 analyzed the potential ‘wind break’ benefit being provided to neighboring properties by the
7 existing trees on the Project property. I evaluated the potential change in wind speeds experienced
8 at those neighboring properties if the Project is constructed as proposed. I concluded that only the
9 residence of Libby Harris may experience a measurable difference in wind speeds, however that
10 difference would be both minor and infrequent, and likely imperceptible to a person, and therefore
11 an insignificant change. Further, the wind speeds would be unaffected for 350 out of 360 degrees
12 for this most exposed property. Satellite imaging reveals that only Ms. Harris’ house would be in
13 a direct, unobstructed line-of-sight path over a very narrow band of wind directions (~210° to
14 ~220° SW, or 215° average) across open fields. All other wind directions do not have a direct
15 line-of-sight path because of obstructions due to trees on neighboring properties and retained trees
16 on the Project property. Therefore, wind speeds from all other directions, aside from this narrow
17 band, will not be measurably altered as a result of the placement of the subject solar array compared
18 to the current uncleared land. In addition, any other home in the Apple Hill neighborhood area
19 would be further away from the Project and/or have more retained intermediate vegetation.
20 Therefore, any possible effect at these other homes would be weaker than any possible effect at
21 Ms. Harris’ home. As such, my analysis demonstrates that there is no adverse effect at Ms. Harris’
22 home; therefore, there is no need to further evaluate other homes in the area.

1 **Q8. What are the conclusions of your wind speed analysis?**

2 A8. There does not appear to be any existing regulatory standards applicable to this Project that
3 would define whether a change in wind speeds would be ‘adverse’ or ‘unduly adverse,’ but I
4 conclude that the potential wind change, which would barely be perceptible to a person, would not
5 be adverse.

6

7 **Q9. Does that conclude your testimony?**

8 A9. Yes.