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SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

In the Matter of the Application by Otter Tail)
Power Company on behalf of the Big Stone II Co-)
owners for an Energy Conversion Facility Siting)
Permit for the Construction of the Big Stone II)
Project)

Case No EL05-22

ELECTRONICALLY FILED

DATE JUN 22 2006

**Surrebuttal Testimony of
Ezra D. Hausman, Ph.D.
Synapse Energy Economics, Inc.**

**On Behalf of
Minnesotans for An Energy-Efficient Economy
Izaak Walton League of America – Midwest Office
Union of Concerned Scientists
Minnesota Center for Environmental Advocacy**

June 20, 2006

1 **I. PROFESSIONAL QUALIFICATIONS AND SUMMARY**

2

3 **Q. Please state your name, position and business address for the record.**

4 A. My name is Ezra D. Hausman, Ph.D. I am a Senior Associate with
5 Synapse Energy Economics, Inc., 22 Pearl Street, Cambridge, MA 02139.

6 **Q. On whose behalf are you testifying?**

7 A. My testimony is jointly sponsored by Minnesotans for An Energy-Efficient
8 Economy, Izaak Walton League of America-Midwest Office, the Union of
9 Concerned Scientists and the Minnesota Center for Environmental
10 Advocacy ("Joint Intervenors").

11 **Q. Have you previously submitted testimony in this proceeding?**

12 A. Yes. I submitted Direct Testimony in this proceeding on May 19, 2006.

13 **Q. What is the purpose of this surrebuttal testimony?**

14 A. The purpose of this surrebuttal testimony is to respond to the rebuttal
15 testimony of co-owner witness Ward Uggerud, Senior Vice President of
16 Otter Tail Power Company.

17 **Q. What particular aspects of your direct testimony were addressed by
18 Mr. Uggerud?**

19 A. Mr. Uggerud challenged my conclusion that "Big Stone Unit II will have a
20 significant, long-term, and costly adverse impact on the environment both
21 in South Dakota and throughout the region, the continent and the planet."

22 **Q. What was the basis of Mr. Uggerud's disagreement with this
23 statement?**

24 A. Mr. Uggerud noted that the emissions from the proposed Big Stone II plant
25 will total less than "two one-hundredths of one percent" of anthropogenic
26 CO₂ emissions in 2010, and that, by implication, this would not represent a
27 significant contribution to atmospheric CO₂ and to global climate change.

1 **Q. Do you take issue with Mr. Uggerud's quantitative calculation of Big**
2 **Stone II's relative contribution to anthropogenic CO₂ emissions?**

3 A. No. I believe it is a reasonable calculation subject to uncertainty in both
4 Big Stone's future emissions and global emissions in 2010.

5 **Q. Does this alleviate your concern that Big Stone II would represent a**
6 **significant, long-term and costly contribution to anthropogenic CO₂**
7 **and to global climate change?**

8 A. It does not. As with most other environmental issues, the problem of
9 anthropogenic CO₂ is the result of the combined action of numerous
10 sources, both "point" sources and "non-point" sources. Point sources are
11 single, large sources of a given pollutant, often including large industrial
12 sources such as electric power generating facilities. Non-point sources are
13 more diffuse sources, such as individual automobiles. It is often the case
14 that regulation or elimination of point sources is a much more cost-
15 effective approach to reducing emissions than regulation of non-point
16 sources.

17 In the case of CO₂, the sources of pollution are spread around every
18 country on the globe, involving tens or hundreds of thousands of point
19 sources, and probably hundreds of millions of non-point sources. In this
20 context, a single source which would represent almost two one-hundredths
21 of one percent of global anthropogenic emissions represents an enormous
22 contribution to anthropogenic emissions and global climate change.

23
24 **Q. Do you agree with Mr. Uggerud's contention that your statement, cited**
25 **earlier, "lacks perspective, to say the least"?**

26 A. I agree that I had not specifically put Big Stone II's emissions into a
27 quantitative perspective in my direct testimony. However, providing such a
28 perspective on Big Stone II's CO₂ annual emissions, as Mr. Uggerud has
29 done, serves only to support my statement that the proposed unit would