

Exercise 1 (Individual Exercise, 30 Points Total)
DUE: Thursday, January 29, 5:30pm

Leigh Tesfatsion
EE/Econ 458, Spring 2009

**** Please Note: Late Assignments Will Not Be Accepted – No Exceptions.**

**REAL-WORLD CASE STUDY OF A
RESTRUCTURED WHOLESALE POWER MARKET**

References for Exercise 1:

- [1] ** Student assignments to energy regions, ATTACHED. Also posted on-line at
<http://www.econ.iastate.edu/classes/econ458/tesfatsion/EnergyRegionAssignments.pdf>
- [2] ** Kirschen/Strbac, Chapter 1, Section 1.6 (“Problems”), page 9. TEXTBOOK

As indicated in Ref.[1], each registered EE/Econ 458 student has been assigned to a U.S. energy region that has some form of restructured wholesale power market. **Please see me as soon as possible if you have not been assigned an energy region and you are taking this course for credit.**

This exercise is a modified version of Problems 1.1-1.5 (p. 9) from Ref.[2]. Each student is asked to write a short report (approximately five typed pages) that describes key aspects of their assigned energy region in accordance with the five questions Q1-Q5 given below. Subsequent exercises will build on Exercise 1 and will involve teamwork. For this first exercise, however, I am asking each student to turn in an individual report.

Each report should contain complete references for any materials used. Be very careful to avoid “plagiarism,” i.e., to avoid the use of other people’s ideas/materials without proper attribution. Quoted materials should be given in quotes, with the source of the quoted material cited at the point the quoted materials are used. Similarly, paraphrased materials should be identified as such, and the source of the paraphrased materials should also be given at the point of use.

Questions to be Addressed in Your Report (30 Points Total):

Q1: (12 Points Total)

- (i) (2 Points) Provide a map of your assigned energy region.
- (ii) (5 Points) Using the classification proposed by Hunt and Shuttleworth in Section 1.2 (“Models of Competition”) of your Kirschen/Strbac textbook, try to determine the level of competition that exists for the wholesale power market in your assigned energy region.
- (iii) (5 Points) Discuss any difference that you determine between the basic Hunt/Shuttleworth classification and the wholesale power market implementation in your assigned region.

Q2: (8 Points Total)

- (i) (4 Points) Try to identify the most influential companies that buy and sell power in the wholesale power market for your energy region. (Be sure to clarify what you mean by “influential.”)
- (ii) (4 Points) Try to identify, in particular, any companies that enjoy a monopoly status in some or all of their activities. Justify your assertions as carefully as you can.

Q3: (3 Points) Carefully identify the regulatory agencies that oversee wholesale power market activities in your assigned energy region.

Q4: (3 Points) Carefully identify the organizations that fulfill the functions of market operator and/or system operator for the wholesale power market in your assigned energy region.

Q5: (4 Points) The reasons invoked for undertaking the restructuring of wholesale power market operations typically depend on local circumstances. Carefully identify and discuss the reasons that were invoked (and/or are being invoked) for wholesale power market restructuring in your assigned energy region.

Energy Region Assignments

Leigh Tesfatsion
EE/Econ 458, Spring 2009

Last Revised: 21 January 2009

Exercise 1 for EE/Econ 458 (S09) asks you to examine in some detail the basic features of one of the following energy regions of the U.S. that are operating under some form of restructured wholesale power market. The assignment of students to regions, given below, was done as follows. Background sheets were randomly shuffled and then checked one by one for an indication of regional preference. A student indicating a regional preference was assigned to this region. Students not indicating a preference were randomly assigned across the regions. Please speak to me as soon as possible if your name does not appear below.

- MISO: Midwest (7)
<http://www.econ.iastate.edu/tesfatsi/MISOEnergyGroup.htm>
Kenny Thelen; Nick Klaren; Devin Whitely; Ananta Upadhyaya; Weston Smith; Karl Woo; Hassan Hassan
- ISO-NE: New England (7)
<http://www.iso-ne.com/support/training/courses/index.html>
Xau Moua; Philippe Schmitz; Raja Umer Imtiaz; Matthew Foster; Ian Moodie; Dan Stone; Scott Anthony Lindner
- PJM: mid-Atlantic states (5)
<http://www.pjm.com/services/training/train-materials.html>
Jacob Jameson; Kyle Veugeler; David Peterson; Terry Fett; Tyler Keeton
- NYISO: New York (5)
<http://www.nyiso.com/public/documents/manuals/operations.jsp?maxDisplay=20>
Manu Kapoor; Scott Penick; Muhammad Rahim; Pranav Boda; Hassan Burawi
- CAISO: California (6)
<http://www.caiso.com/>
Ryan Wubbens; Brian Chee; Jacky Bannister; Mohammed Ahmed; Andrew Versluys; Kelsey Carvell
- ERCOT: Texas (7)
<http://www.ercot.com/>
Adam Jacobs; Milki Wakweya; Ted Shaffer; Phong Deo; Seyi Olatujoye; Nick Wilson; Imran Ahmed Butt
- SPP: Southwest (5)
<http://www.spp.org/>
Fairman Campbell; Matt Kunze; Jerome Whitter; Diego Mejia; Mubarak Salaheldin Abbas