Self Test
Deregulation and Privatization of Electricity Generation

Click on True or False to test your knowledge of the chapter.

1. **True** **False** In the past, governments have either owned or regulated the electricity supply industry since they believed it was a natural monopoly.

2. **True** **False** Electric utilities have traditionally been horizontally but not vertically integrated with the same company owning all the generation plants, another company owning all the transmission wires, and a third owning all the distribution facilities for a given country

3. **True** **False** X-inefficiency refers to the higher costs that prevail in competitive markets because they lack the discipline of government regulators or bureaucrats to oversee their expenditures.

4. **True** **False** Regulatory capture refers to a situation where regulators are taken hostage by a hostile industry and held for ransom.

5. **True** **False** Elected government officials may have goals such as high employment, low inflation, low electricity prices supporting home industries, and helping the poor that conflict with the economic efficiency of a government owned electric supply industry.

6. **True** **False** In recent electricity restructuring, electricity transmission and distribution are most often considered candidates for competition whereas generation, wholesaling and retailing are considered natural monopolies.

7. **True** **False** Previously integrated electric supply monopolies dispatched power. In recent restructuring independent system operators are often responsible for dispatching power.

8. **True** **False** In electricity generation, steam, water or wind turn a generator shaft that rotates in a magnetic field to produce direct current.

9. **True** **False** Hertz is a measure of the flow of electrons.

10. **True** **False** The volt is a measure of electric potential or the force pushing the electrons and the watt is a measure of power equal to volts times amps.

11. **True** **False** If steam enters a turbine at 1100 degrees F and exits at 90 degrees F, the maximum efficiency is 0.648 or 64.8%.

12. **True** **False** PURPA allowed some non-utility producers of electricity in the U.S. access to the grid.

13. **True** **False** Of the four countries discussed - the U.K., New Zealand, Norway and Sweden - the U.K. has gone furthest in restructuring.

14. **True** **False** Suppose the loss of load probability is 2% for a 6 kWh short fall and 1% for a 10 kWh short fall. The value of a 6 kWh load loss is estimated to be 12 and the value of a load loss of 10 kWh is 36. The capacity charge in this case would be $0.005 per kwh. The total kilowatt hours consumed is 120.

15. **True** **False** Market power has not been and is not expected to be a problem in any of the four countries.

16. **True** **False** All four countries discussed corporatized their publically owned electricity facilities with restructuring.

17. **True** **False** Rate of return regulation is rapidly becoming the desired form of price regulation.

18. **True** **False** Cross subsidization of prices in electricity markets in the past have ensured that electricity prices reflected costs by time and location and such cross subsidization is likely to remain in restructured markets.

19. **True** **False** The Herfindahl Index suggests that a market with 3 firms with market share 0.4, 0.4, 0.2, respectively is less concentrated than a market with 3 equal sized firms.

20. **True** **False** Ring fencing is the containment area around nuclear cooling ponds to prevent radioactivity from leaking out to surrounding areas.

21. **True** **False** Of the three kinds of ownership (government ownership, government owned corporation, and private ownership) economists tend to prefer private ownership on economic efficiency grounds, but with some form of government regulation or activity to counteract market power.

22. **True** **False** There is no conclusive evidence yet which path for electricity restructuring is the most efficient.

23. **True** **False** Suppose that in the U.K. power pool forecasted demand next hour is 120 kWand bids for the next hour are

> National Power bids $0.04 per kWh for 60 kW
>
> Power Gen bids $0.05 per kWh for 60 kW
>
> National Power bids $0.10 per kWh for 60 kW

There is a capacity constraint of 40 for transmission from Power Gen. System marginal cost for this market would be $0.05 with National Power and Power Gen each supplying half of the market.

24. **True** **False** Brownouts are significant interruptions of electricity (Contributed by Hermann Logsend)

25. **True** **False** RPI-X is a designation used to refer to a price cap. (Contributed by Jeffrey Campbell)

26. **True** **False** An important lesson from California is that provision must be made to ensure adequate capacity.

27. **True** **False** If Network Services is considered a natural monopoly element in the system it should be under some sort of regulation.

28. **True** **False** Part of California's deregulation plan was for the three investor owned utilities (IOU's) to divest some of their generation capacity.

29. **True** **False** Since the cost of generating electricity is larger during peak than off peak periods a utility which is forced to use average cost pricing would want to discourage consumers from using peak electricity.

30. **True** **False** Yardstick price regulation has been common in Scandinavia. In such regulation, the government picks a well performing firm as a benchmark or yardstick. Other firms then are expected to be able to price as cheaply as the yardstick firm.

31. **True** **False** The current incentives to restructure electricity markets towards more competition have been largely driven by changes in technology.

32. **True** **False** If natural gas prices increase $2.00 per Mcf, the fuel operating costs in a gas powered electricity generation plant with a heat rate of 8,000 will increase about $16 per megawatt hour.

33. **True** **False** You manage an ISO and your engineers have reported the following probabilities for different load loss. You have a 90% chance of no load loss or no outages in the next hour, a 3% change of losing 5 mWh, and a 7% chance of losing 6 mWh. Your expected load loss is 0.57 mWh.