**Electric Utilities Fundamentals and Future**

**WEEK 5**

1.Question 1

According to the *State of Electric Utility*, 2016, what are some of the biggest challenges facing the utility industry?

1. Aging workforce
2. Existing regulatory models
3. Aging infrastructure
4. All of the Above

Ans. D

2.Question 2

Many utilities buy back the extra electricity their customers with rooftop solar or other distributed generation produce at wholesale rates.

1. True
2. False

Ans. B

3.Question 3

Smart devices are located exclusively 'behind the meter,' meaning in our homes and businesses.

1. True
2. False

Ans. B

4.Question 4

What does an electric utility consider when picking a generation portfolio?

1. By which natural resources are accessible nearby.
2. How to best balance affordability, environmental protection and reliability.
3. How to make all the portfolio renewable.
4. None of the above.

Ans. A, B

5.Question 5

What can be done to level out the ‘duck curve’?

1. Nothing, it's a natural phenomenon.
2. Roll out more energy efficiency programs to customers and implement more single-axis solar panels.
3. Create more community solar gardens.
4. Charge more for electricity.

Ans. B

6.Question 6

Which of the following do electric industry experts predict will be seen with electricity generation?

1. A shift in generation resources
2. Integrating renewables will significantly drive down costs as we leverage free generation resources like solar and wind.
3. Everything in the industry will be run by apps

Ans. A

7.Question 7

Smart grid is the intersection of providing electricity with information technology.

1. True
2. False

Ans. A

8.Question 8

Industry experts reveal the relationship electric utilities have with customers is changing. Which of the following is an example of this change?**1 / 1 point**

1. The information flow between the electric utility and electric consumers is becoming bi-directional.
2. Electric utilities care about safety.
3. Electric utilities need greater access to customers' meters so they can read them accurately.

Ans. A

9.Question 9

What are the benefits of burying electric distribution lines underground?**0 / 1 point**

1. Less expensive
2. Not likely to corrode
3. More pleasing to the eye
4. Easier to repair and maintain

Ans. C

10.Question 10

You are the new vice president of operations for an electric utility in a fictitious state named Oceania. As the name implies, this area is located near the ocean. Which would be the *first* issue you investigate?

1. Look into the feasibility of incorporating more offshore wind.
2. Immediately bury all distribution lines.
3. Go to 100% solar.

Ans. A

11.Question 11

You're a utility executive, your Operations director shared data showing the company’s evening peak load has been escalating to the point where the company will need to continue to either pay higher spot-market prices or consider building a new power plant. What is the best option to help reduce this peak?

1. Roll out a demand-side management program to incent industrial customers to shut off non-critical electricity-dependent functions.
2. There is nothing you can do to reduce the peak.
3. Encourage more adoption of residential rooftop solar.
4. Dim the lights in your own office buildings during working hours

Ans. A

12.Question 12

Which of the following statements about natural gas as it relates to electric utilities is not true?

1. Is responsible for the most CO2 versus any other fossil fuel used for generation.
2. Is a fossil fuel.
3. Natural gas prices have gone down because of horizontal drilling and hydraulic fracturing which impacts electricity costs as well.
4. Is well-suited for handling base and peak load.

Ans. A

13.Question 13

You are an energy supply planner developing a plan for your electric utility's generation portfolio and a key identified need is to increase base load capacity. Which of the following primary energy sources is not considered a good choice for providing base load?

1. Coal
2. Nuclear
3. Wind
4. Hydro
5. Geothermal

Ans. C

14.Question 14

You work for an investor-owned electric utility and you are developing the rollout plan for smart meters. Which of the following should you consider in plan development?

1. Whether or not smart meters are a proven technology for residential users.
2. News coverage as the funding request goes through state utility commission approval.
3. Educating the public about how smart meters could benefit them as well as pointing to credible third parties to weigh in about risks.

Ans. B, C

15.Question 15

You work for a municipal utility and are in the process of drafting a business case for incorporating a microgrid. Which of the following benefits would you include in your assessment?

1. They look cool.
2. Microgrids can help provide more reliable power
3. Microgrids can help support your city's goal of including more solar.

Ans. B, C

16.Question 16

Your neighbor just installed rooftop solar and proclaimed: “We are totally off grid" and she is excited to sell some of her unused electricity back to the local utility. Is her statement about being off grid true?

1. Yes. Her statement about being off grid is true.
2. No. She is not correct.

Ans. B

17.Question 17

Which of the following statements is true with respect to net metering?

1. Net metering was the primary driver of wind penetration.
2. Net metering customers sell the excess electricity they generate during the day but do not use back to the electric utility.
3. Net metering policies are very homogenous.

Ans. B

18.Question 18

Who pays fixed costs (e.g., poles, wires, meters, advanced technologies, and other infrastructure) associated for customers with rooftop solar and net metering?

1. It is absorbed by the electric utility.
2. Customers with rooftop solar pay.
3. Customers without distributed generation or rooftop solar pay.

Ans. C