

[Source: Raub Jenika H [Jenika.Raub@srpnet.com](mailto:Jenika.Raub@srpnet.com), 4-3-2014]

Hopefully this chart can help explain why capacity is important, and how a decrease in capacity would have a cost associated with it. Please let me know if you have any questions.

	<b>Utility</b>	<b>Theater</b>
<b>Capacity</b>	Capacity is the physical amount of generation a utility company has available to serve load in megawatts (MW); it represents power plants' potential to generate electricity.	Capacity is the physical number of seats a theater has available to accommodate customers.
<b>Capacity Requirement</b>	<p>The utility is required by law to generate enough electricity to serve all electricity needs at all times. If not, there are rolling blackouts, hospitals may not have power, transmission might explode, etc.</p> <p>Utilities must maintain a level of available capacity sufficient to meet the peak demand of its customers during the hottest summer days and have some in reserve.</p> <p>A utility's capacity is calculated by totaling the capacity of each power plant it owns and other contracted capacity it may have secured.</p>	For this example, let's assume that a theater is required by law to maintain a capacity sufficient to meet the peak demand of its customers during the busiest day of the year.
<b>Capacity Required to Meet Peak Demand</b>	<p>The utility predicts a peak demand with reserves of 10,000 MW for 5:00 p.m. August 20, on the hottest day of the summer.</p> <p>Therefore, the utility must have 10,000 MW capacity with all the power plants it owns and other contracted capacity it may have secured.</p>	<p>The theater predicts a peak demand of 100 customers for the summer's #1 film for 5:00 p.m. August 20.</p> <p>Therefore, the theater must have 100 seats available at that time.</p>
<b>Glen Canyon Dam (GCD) Capacity</b>	The capacity of Glen Canyon Dam (GCD) is 1,300 MW. GCD represents 13% of the utility's 10,000 MW capacity.	The capacity of the "GCD Section" of the theater is 13 seats. The GCD Section represents 13% of the theater's 100 customer capacity.
<b>Reduced Capacity</b>	GCD is only able to produce 900 MW as a result of environmental mitigation. This reduces the utility's overall capacity to 9,600 MW.	The theater is only able to utilize nine of the 13 seats in the GCD Section since it was determined that four seats needed to be taken out of service. This reduces the theater's overall capacity to 96 seats.
<b>Replacing</b>	Since 9,600 MW is not enough capacity to meet a peak	Since 96 seats is not enough capacity to meet a peak

**Capacity**

demand of 10,000 MW, the utility must build a power generating facility that can produce 400 MW or secure 400 MW of purchased capacity.

Building an additional power generating facility will require determining where the facility can be located, as well as possibly building additional transmission infrastructure to connect it to the grid.

Note: When a utility secures contracted capacity to meet demand, the utility can buy capacity from another utility for the same cost of building a new plant. Since all utilities have the same need to serve all electricity, there will eventually need to be more capacity built somewhere.

---

demand of 100 customers, the theater must purchase or otherwise secure four additional seats.

Installing four additional seats will require buying the seats, determining where the seats can be placed, as well as installing the seats.