Testimony of the Texas Public Power Association (TPPA)

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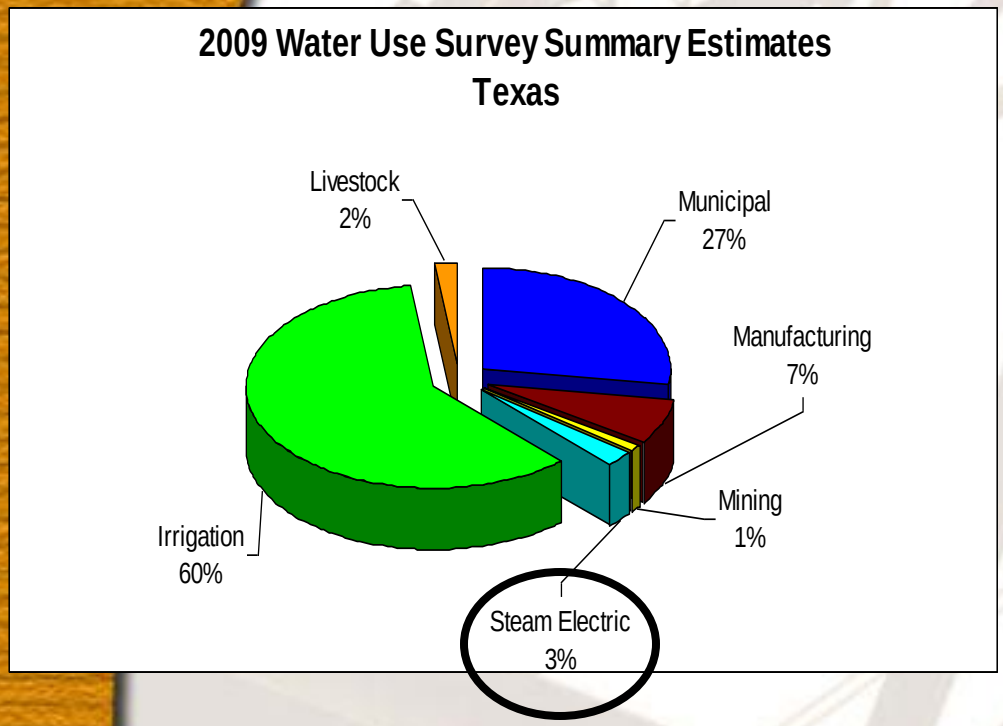
Senate Business & Commerce Committee

Interim Charge
Senate B&C Committee

Assess the impact of current and anticipated drought conditions on electric generation capacity. Identify those regions of Texas that will be most affected by a lack of capacity. Analyze response plans and make recommendations to improve and expedite those plans.

Power Plant Water Usage



- Largely non-consumptive.
  - The vast majority of water in the electric generation process is cycled through the power plant for cooling and returned back into the water body.
- A significant but relatively small usage of water on a statewide basis.
  - 3% of statewide water usage.
  - Texas Water Development Board, chart updated 8/31/11 - http://www.twdb.state.tx.us/wrpi/wus/2009est/2009State.xls.
- Highly significant for public health and safety and the economy. Power plants that use water for cooling provide electricity for:
  - Drinking water treatment plants.
  - Air conditioning.
  - Business operations and industrial processes vital to the Texas economy.
  - Hospitals and first responders.
  - Etc. etc.

PUBLIC POWER:

-Includes electric utilities in the public sector – municipally owned electric utilities (MOUs), river authorities like the LCRA, and joint action agencies like the Texas Municipal Power Agency - TMPA.

-72 MOUs provide power to 4.1 million Texans – about 15% of the state's electric customers (over 1.8 million electric meters). Many MOUs have been serving their communities for over 50 years.

Public Power Generation

- Varied ownership and supply arrangements depending on the size of the MOU.
  - Smaller MOUs - many do not own power plants and have long-term wholesale contracts to obtain their electric supplies.
  - Public power generators – larger MOUs own, partially own, and/or operate electric generation facilities.
- Public power generators – a diverse mix electricity production facilities.
  - Little or no water usage – significant wind power, nationally recognized solar initiatives, landfill gas generation, single-cycle natural gas peaking plants, supplemented by energy conservation programs.
  - Water used for plant cooling – nuclear generation, natural gas plants – combined cycle and steam turbine, coal.

Public Power Generators

- Examples of public power generators and their water-cooled power plants:
  - **Austin Energy**: Decker Creek (926 MW gas), Sand Hill (480 MW gas), Fayette (600 MW coal, part owner), STP (400 MW nuclear, part owner).
  - **Brownsville PUB**: Silas Ray (83 MW gas), Hidalgo Energy Center (105 MW gas, part owner), and Oklaunion (122 MW coal, part owner).
  - **Bryan Texas Utilities (BTU):** Dansby (206 MW gas).
  - **CPS Energy**: Braunig 1,2,3 (885 MW gas), Sommers (880 MW gas), Deely (871 MW coal), Spruce (1,335 MW coal), Rosenberg (481 MW gas), STP (1,080 MW nuclear).
  - **Garland Power & Light**: Olinger (420 MW gas), Spencer (122 MW gas).
  - **GEUS**: Greenville Steam Plant (87 MW gas).
  - **Lower Colorado River Authority (LCRA):** Gideon (608 MW gas), Fayette (1,035 MW coal, part owner), Ferguson (420 MW gas), Lost Pines (507 MW gas).
  - **Lubbock Power & Light** (SPP): Massengale (115 MW gas), Cooke (151 MW gas), Brandon (20 MW gas).
  - **Texas Municipal Power Agency** (Bryan, Denton, Garland, Greenville): Gibbons Creek (470 MW coal).

Public Power Drought Preparedness

Public power generators are planning and working with due diligence to prepare for a continuation of drought conditions. Examples of preparatory actions by public power systems include:

- Preparing to possibly respond to an ERCOT call to return mothballed units to service (August – October, 2011, Garland Power & Light, Spencer Plant).
- Encouraging energy conservation (2011 summer ERCOT alerts to public power customers) and reviewing potential additional conservation measures.
- Participating in industry working groups at ERCOT to develop best practices for drought preparedness.
- Water rights:
  - Maximizing the amount of water available under current water rights.
  - Purchasing additional water from others with underutilized water rights and exercising contingency contracts to maximize available water.
- Considering the construction of pipelines to remote water sources.
- Cooling water pumping improvements:
  - Assessing the ability of plant cooling water intake pumps to operate when reservoir levels are below normal.
  - Examining and/or making improvements to plant cooling water intake systems like extending pipes or installing anti-vortex baffles.
- Maximizing water re-use and recycling within power plants.
- Using, or developing alternatives for the use of treated wastewater effluent.
- Working with state and federal regulatory authorities.
- Examining “last resort” measures like managing the dispatch of units based on the availability of water or moving water between power plant cooling reservoirs to minimize impacted generation.

Public power transmission and distribution “wires” systems are preparing for drought conditions which may cause dust or salt buildup on lines. For example, coastal systems have the equipment to regularly wash lines.

Summary & Conclusion

- PUBLIC POWER: Public power systems serve about 15% of the electric customers in Texas.
- GENERATION WATER USE LARGELY NON-CONSUMPTIVE: Water usage by electric generation is significant, but relatively small compared to other statewide uses. The reliable operation of water cooled power plants is vital for public health, safety, and the economy.
- DROUGHT PREPARATIONS: Public power generators are preparing for continued drought conditions with due diligence by: working with ERCOT to plan and implement drought responses, maximizing water rights, examining alternate water sources, and making equipment modifications.
- RELIABILITY = GRID WIDE ACCESS TO ADEQUATE WATER SUPPLIES: The interconnected nature of the electric grid means that drought preparedness is important for ALL generators, including public power systems. Projected supplies are tight this coming summer even under “normal weather” estimates.
- ELECTRICITY SHORTAGES DUE TO DROUGHT CAN INCREASE CUSTOMER COSTS: In addition to reliability impacts, drought induced power shortages can increase electricity costs to consumers.