

Simplified Water Use Diagram
FIGURE 3.4-1

Rev 1

COMANCHE PEAK NUCLEAR POWER PLANT
UNITS 3 AND 4

Comanche Peak Nuclear Power Plant Units 3 and 4



TECHNICAL CONTENT OF ENVIRONMENTAL REPORT

January 27, 2010

Purpose

To discuss remaining technical gaps related to the Environmental Report to allow the staff to establish specific impact determinations in the draft environmental impact statement.

Luminant Support

- **Luminant participation intended to maximize discussions and obtain full understanding of the technical items of interest. Participation includes:**
 - ✓ **Luminant**
 - ✓ **Comanche Peak Nuclear Power Company (CPNCP)**
 - ✓ **Mitsubishi Nuclear Energy Systems (MNES)**
 - ✓ **Mitsubishi Heavy Industries (MHI)**
 - ✓ **Enercon**
 - ✓ **URS**
 - ✓ **Brazos River Authority (BRA)**
 - ✓ **Freese and Nichols (F&N)**

Location

- **Located in Somervell County in North Central Texas**
- **Squaw Creek Reservoir (~3200 acres) originally established for station cooling**
- **~30 miles SW of Fort Worth, TX**
- **~5 miles NNW of Glen Rose, TX**
- **Total site acreage ~7700 acres**

CPNPP 3 & 4 Cooling

- CPNPP Units 3 and 4 will be cooled by cooling towers
- Makeup of the units, including the cooling towers, will come from the Brazos River Basin through the intake on Lake Granbury
- Return water to the Brazos River Basin is also to Lake Granbury
- CPNPP Units 3 and 4 do not use any cooling water from Squaw Creek Reservoir

COLA Status

- COLA submitted September 19, 2008
- COLA docketed December 2, 2008
- COLA review schedule issued March 16, 2009
- COLA Revision 1 submitted November 19, 2009

Environmental Review Summary (1/3)

➤ February 2009 – Site Visit

- ✓ February - TXNB – Submittal of Siting Report
- ✓ February – TXNB – Submittal of Golden Cheeked Warbler Report
- ✓ February – Alternate site visit
- ✓ March – TXNB – Submittal of documents to support Environmental
- ✓ April – Electronic Reading Room established
- ✓ April – TXNB – Submittal of more Environmental Documents
- ✓ April – Two updated to ER submitted
- ✓ May – Update to ER (UTR R3)
- ✓ May – TXNB – White Paper on Lake Granbury Low Flow Conditions
- ✓ May – TXNB – Lake Granbury Heat Balance

Environmental Review Summary (2/3)

➤ June 2009 – 1st set of RAIs

- ✓ July – TXNB – Partial response to RAIs
- ✓ July – Update to ER (UTR R4)
- ✓ July – TXNB – Second partial response to RAIs
- ✓ August – TXNB – Final response to RAIs

➤ August 2009 – 2nd set of RAIs

- ✓ August – TXNB – Supplement to RAI response
- ✓ August – TXNB – Response to SOC questions
- ✓ September – TXNB – RAI Responses
- ✓ September – TXNB – Follow-up ER RAI response
- ✓ September – TXNB – Supplements to RAI responses
- ✓ October – TXNB – Supplement to hydrology RAIs

Environmental Review Summary (3/3)

- **October 2009 – Needs Conference Call**
 - ✓ October – Update to ER (UTR R5)
 - ✓ November – ER R1 issued
 - ✓ December – Update to ER R1
 - ✓ December – ER RAI Supplemental Information
- **January 2010 – 3rd set of RAIs**
 - ✓ January – Public Meeting
- **Numerous conference calls and public meetings**

CPNPP Units 3 and 4 Challenges

- **Lake Granbury**
- **Cooling towers**
- **Discharge limits**

Review Status

- Significant number of items addressed
- Specific list of items need additional information to allow NRC to establish specific impact determinations in the draft environmental impact statement
- Today's meeting to clarify the needs and establish action plans/schedules

Questions or Comments



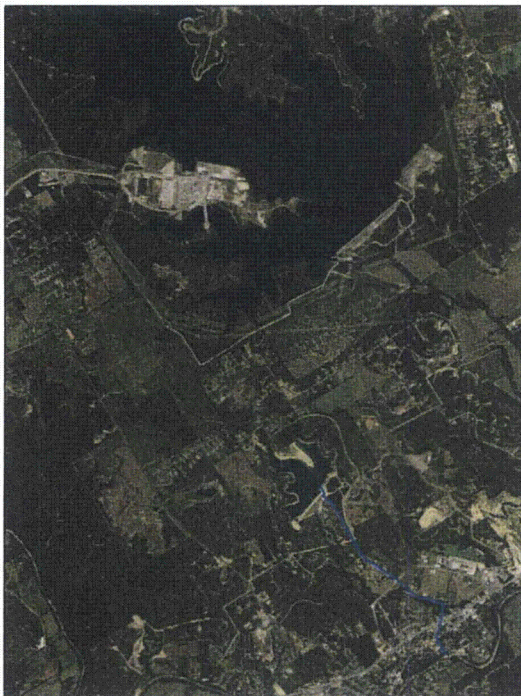
**FREESE
AND
NICHOLS**

HYD-26 Wheeler Branch Reservoir

**JON S. ALBRIGHT
HYDROLOGIST**

January 27, 2010

Wheeler Branch Reservoir



- Owner – Somervell County Water District
- Completed summer of 2006
- Infrastructure for water supply under development
- Supplies up to 2,000 ac-ft per year
 - 350 gpm for Units 1-4
 - Rest for Somervell County



Wheeler Branch Reservoir

- Constructed in 2006
- Drainage area
 - Paluxy River 427 sq. mi.
 - Reservoir 1.6 sq. mi.
- Storage 4,118 ac-ft
- Permitted diversion
 - 5,000 acft/yr from Paluxy R.
 - 2,000 acft/yr from reservoir
- Priority date June 27, 2001

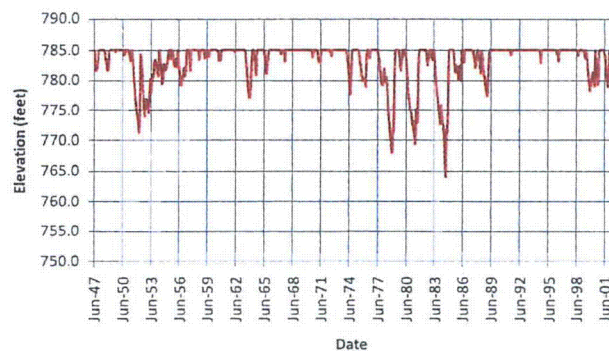


Wheeler Branch Reservoir

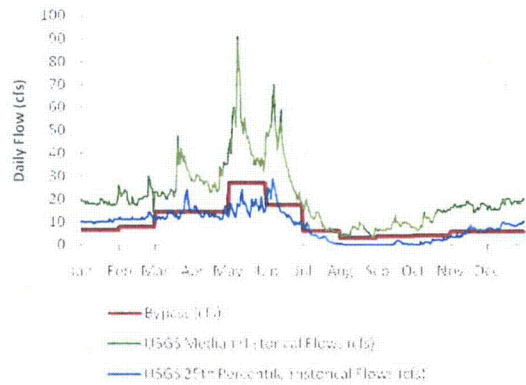


- 4,118 ac-ft storage
- 169 surface acres
- 2,000 ac-ft per year
- 1.6 sq. mile drainage area

Simulated Elevations – Full Demand



Paluxy Diversion



- Channel dam & pump station
- 35 ac-ft storage
- 9 surface acres
- Up to 5,000 ac-ft per year pumped to reservoir
- 427 sq. mile drainage area
- Water rights permit includes low-flow bypass to protect instream needs
- 7Q2 – 0.8 cfs
- 7Q10 – 0.0 cfs



HYD-25 Texas Water Rights

JON S. ALBRIGHT

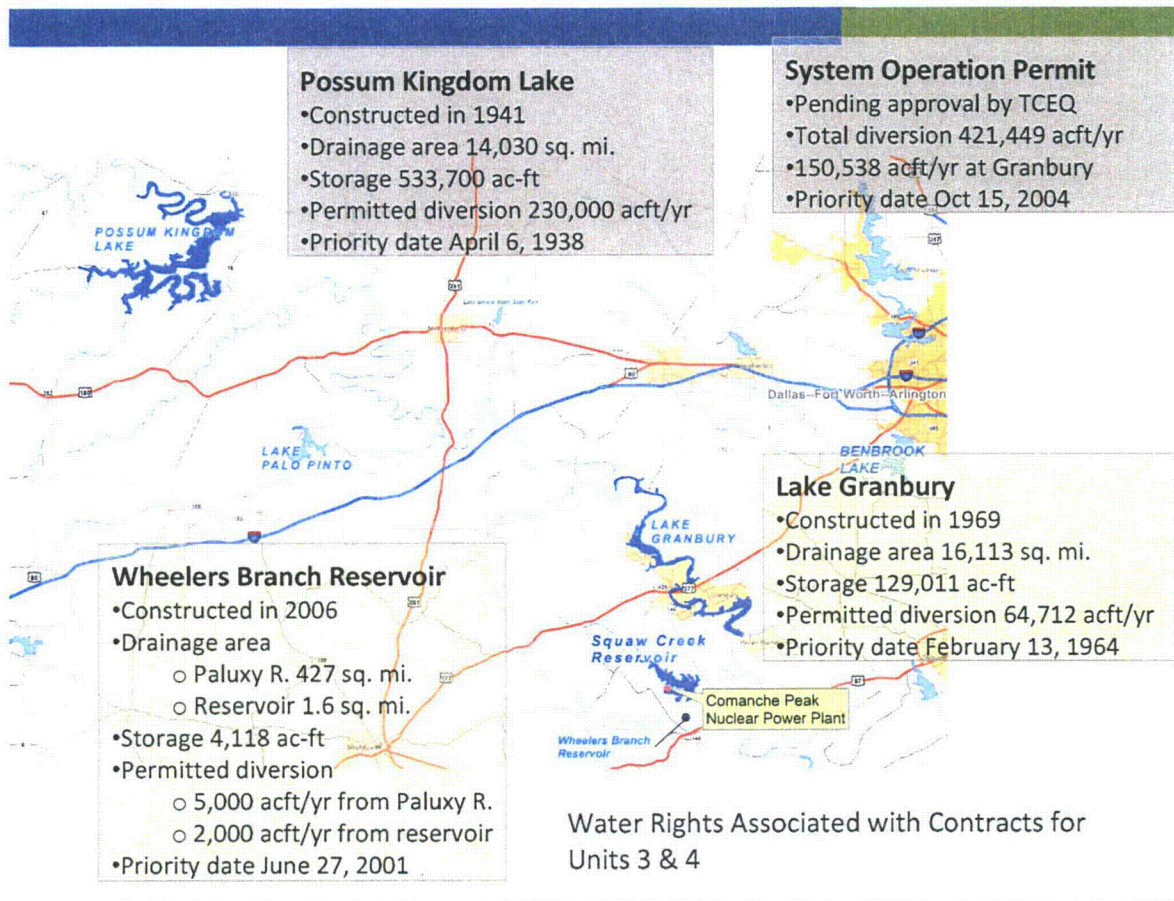
HYDROLOGIST

January 27, 2010

Texas Surface Water Rights



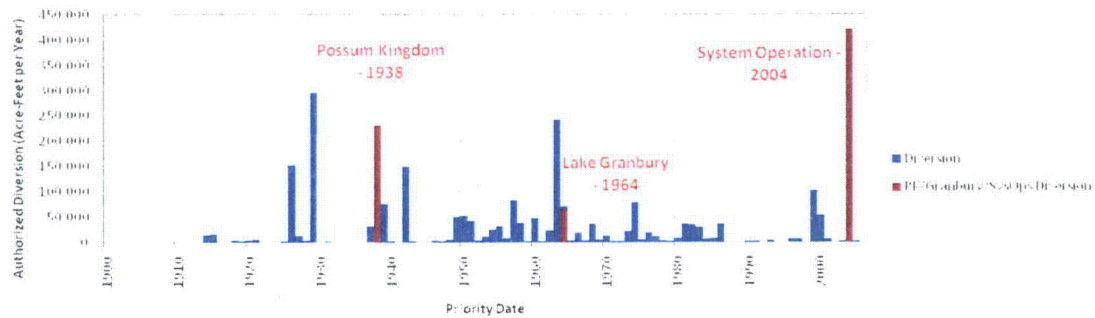
- Surface water belongs to the State of Texas
 - Regulated by Texas Commission on Environmental Quality (TCEQ)
 - State grants right to use water by permit
 - Need permit for storage, diversion, and use
 - Only small private domestic & livestock exempt from permitting
 - Water can then be sold through contracts
 - Priority system - "First in time is first in right"
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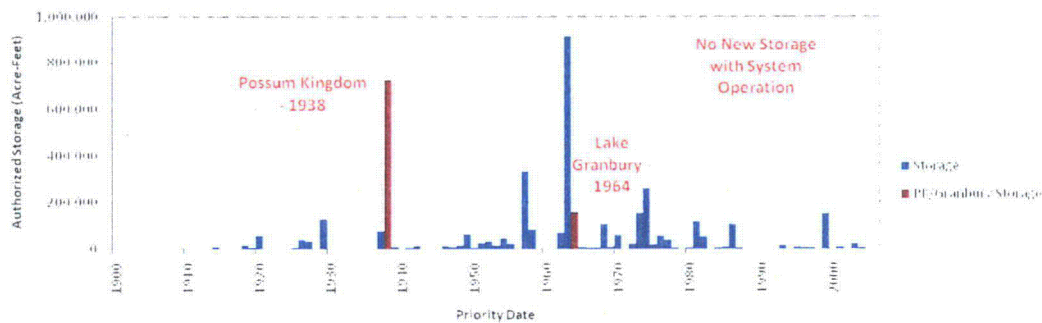
Water Rights Contracted for 3 & 4

- Water rights owned by the Brazos River Authority (BRA) and Somervell County Water District (SCWD)
 - Permanent rights
 - No seasonal restrictions
 - BRA System Operation & SCWD diversions from Paluxy River subject to low-flow bypass
- CP 3&4 will obtain water under contract; BRA honors all contracts equally
- During low-flow periods or priority calls stored water can be used

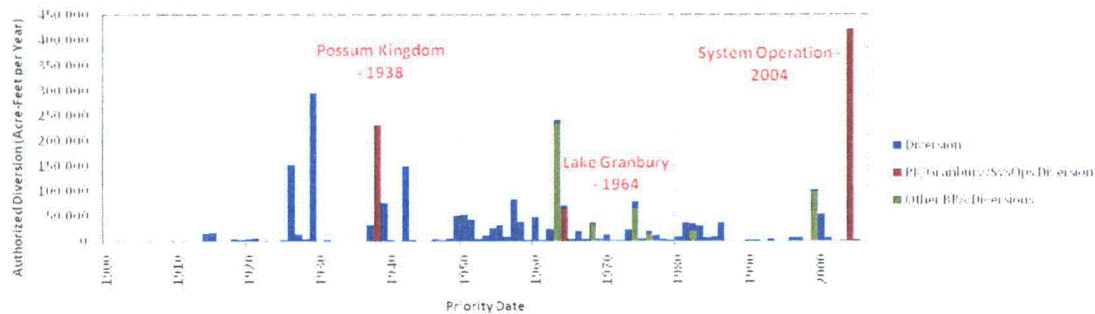
Authorized Diversions in the Brazos Basin



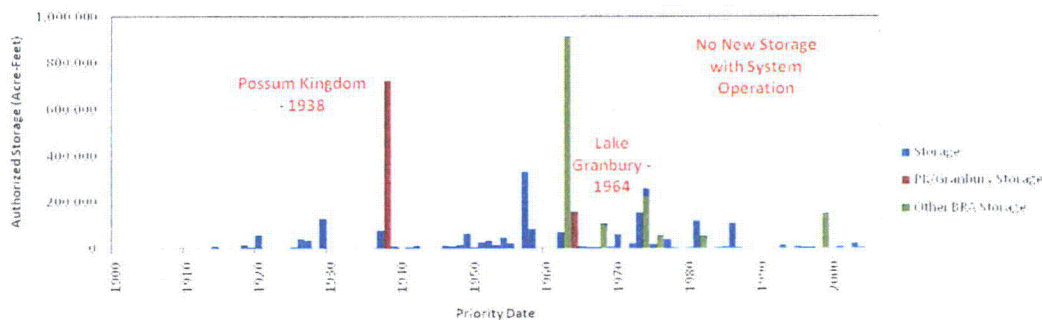
Authorized Storage in the Brazos Basin



Authorized Diversions in the Brazos Basin



Authorized Storage in the Brazos Basin



Priority Modification



- State uses priority system to determine curtailment during times of shortage
 - Priority call
 - Requires passage of streamflows to senior rights
 - Use of stored water not affected by priority call
 - Historically priority calls have been rare
 - BRA contracts anticipate senior calls
 - Water right holders can enter voluntary agreements not to make a priority call
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Summary



- Supply for Units 3 & 4 from contracts with Brazos River Authority & Somervell Co WD
 - Water rights for supply are permanent
 - No seasonal or daily restrictions except for low-flow bypass for environmental flows
 - Risk of curtailment of supply is low
 - State permitting process
 - State & owner planning
 - Access to stored water
 - All contracts at same priority
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