



**SOUTHWESTERN
ELECTRIC POWER
COMPANYSM**

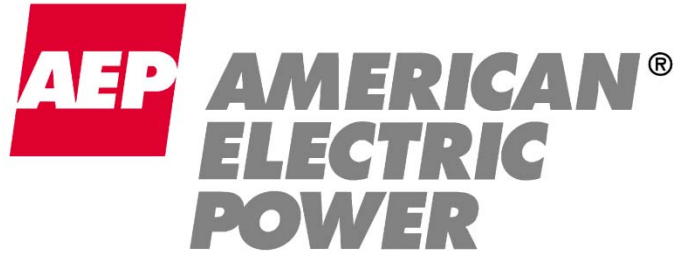
A unit of American Electric Power

**John W. Turk
Power Plant Update**

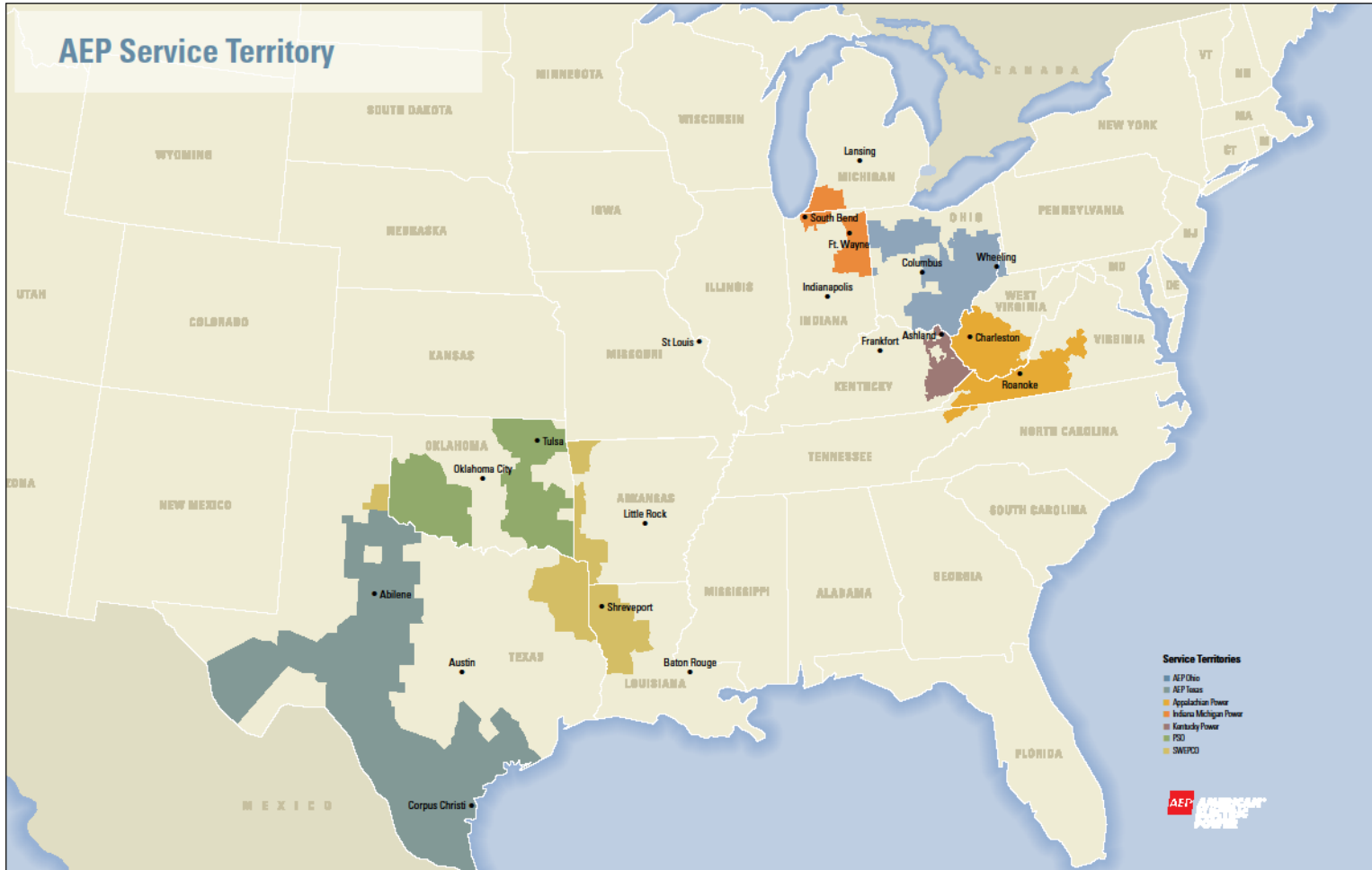
RRVA Texarkana

May 31, 2012

W. Greg Carter, P.E.



AEP AMERICAN[®] ELECTRIC POWER

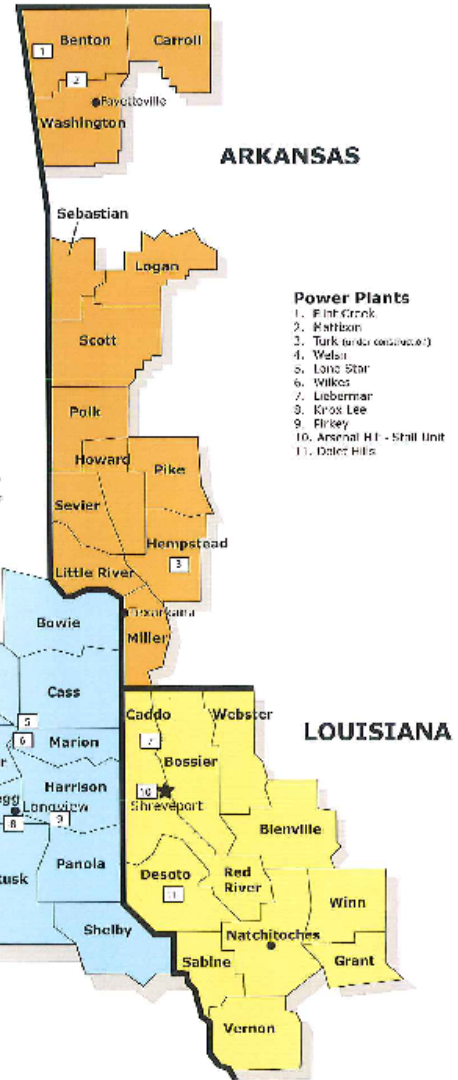
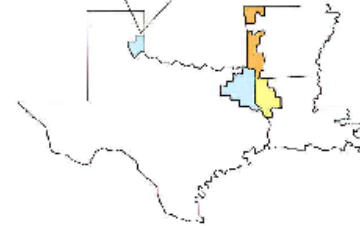
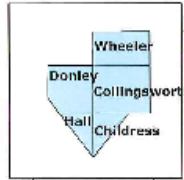




SOUTHWESTERN ELECTRIC POWER COMPANY

A unit of American Electric Power

AEP SOUTHWESTERN
ELECTRIC POWER
COMPANY
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Members in 9 states

Arkansas

Kansas

Louisiana

Mississippi

Missouri

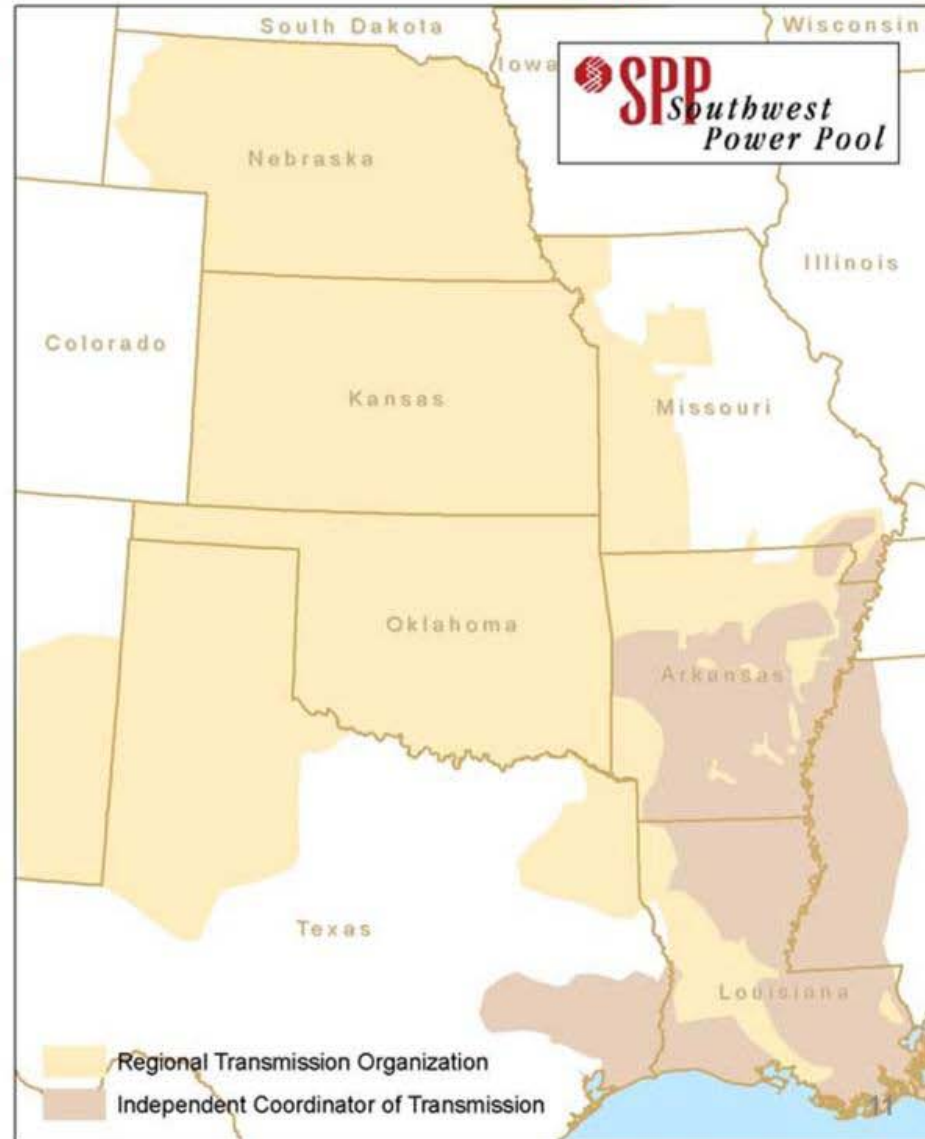
Nebraska

New Mexico

Oklahoma

Texas

Provide services to Entergy
on contract basis (ICT)

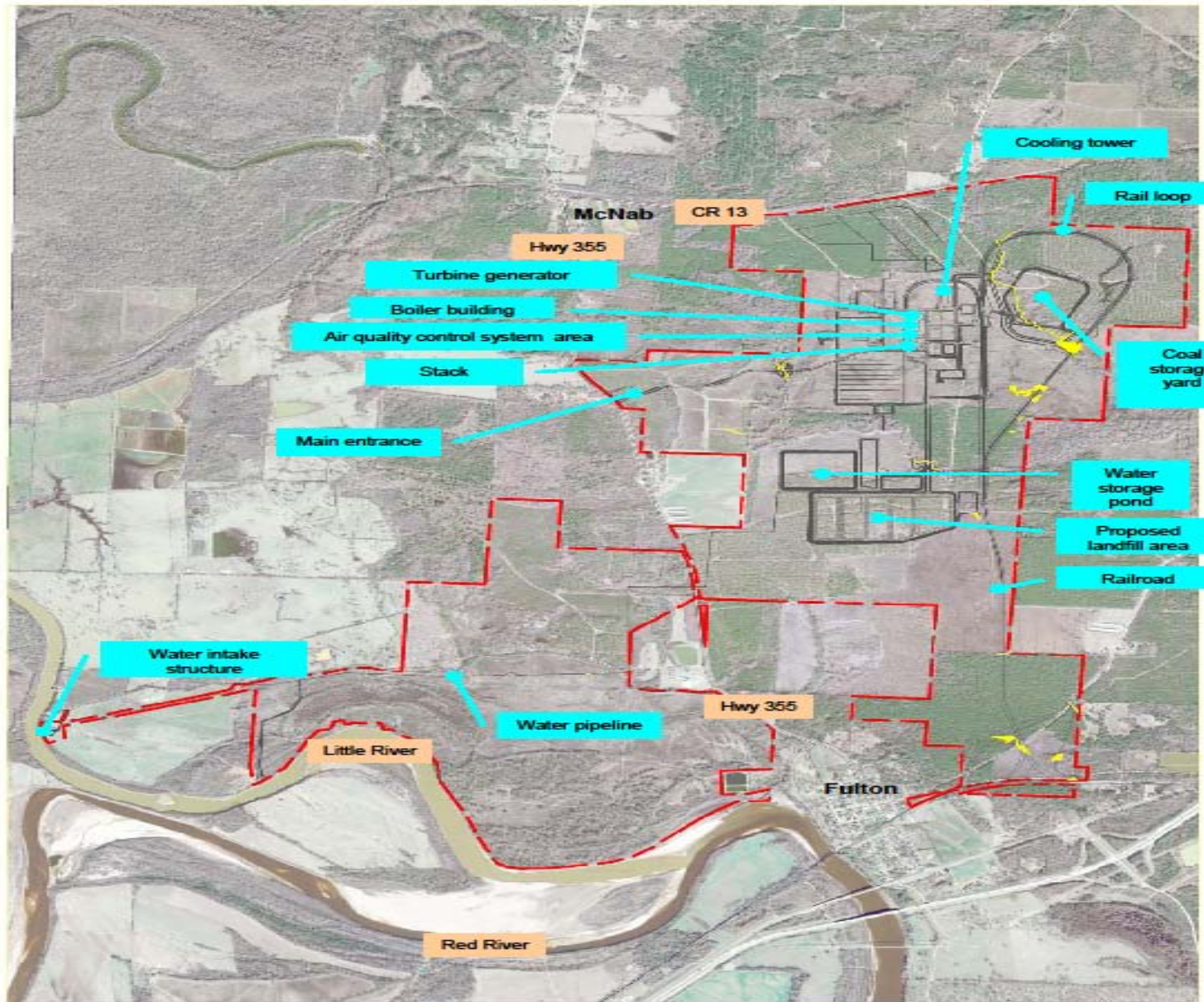


Turk Power Plant

- ***600 MW Ultra super critical (USC) power plant***
- *Cost \$1.8 billion*
- *Completion – December 2012*
- *Construction started November 2008*
- *Construction Jobs – 2200 at peak*
- *Permanent SWEPCO Jobs – 109 with \$9 million payroll*
- *Various support and contract positions – est. 20*

Turk Partners

- *SWEPCO – 440 MW (73%)*
- *AECC – Arkansas Electric Cooperative Corporation – 70 MW*
- *Oklahoma Municipal Power Authority – 40 MW*
- *Northeast Texas Electric Cooperative – 50 MW*



AEP John W. Turk, Jr. Power Plant USC Design Conditions

- ***Fuel selection - PRB coal with low ash and sulfur content***
- ***B&W Pulverized PRB Coal, Opposed fired, Spiral-wound, Balanced Draft, USC Boiler***
- ***Typical subcritical: 2400 psi / 1005 F / 1005 F***
- ***USC Steam conditions: 3675 psi / 1110 F / 1125 F***
- ***Alstom Power Steam Turbine with High Efficiency Blading***
- ***Extra FWH's for additional efficiency improvement***
- ***Improvement in unit heat rate from 10,400 to 8,950 BTU/KWH***
- ***Higher efficiency = Burn less fuel and have lower emission rates***

Water Use

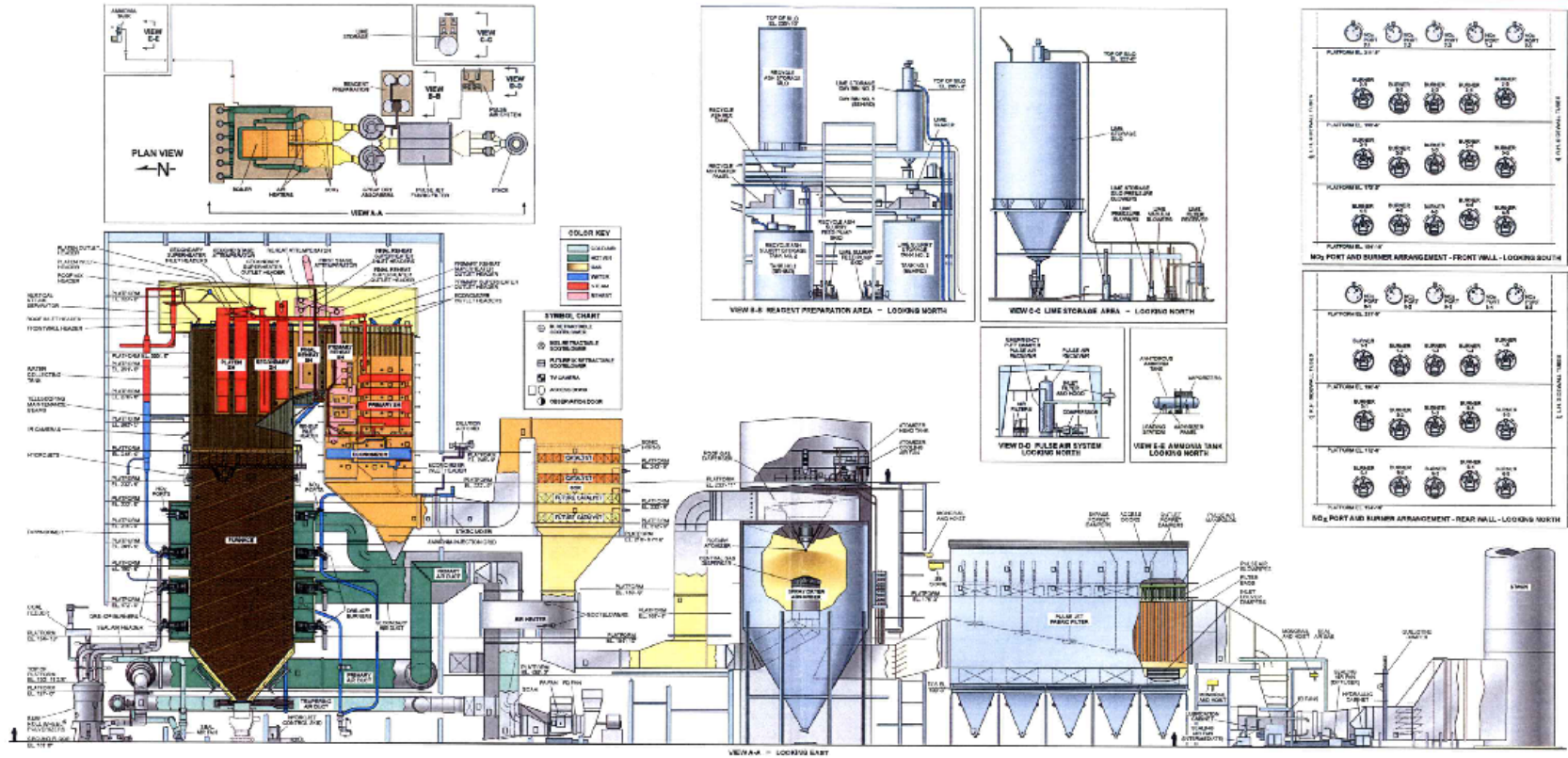
- *Contract with SWAWD for 23,523 acre feet annually from storage in Lake Millwood*
- *Pump from Little River below Millwood*
- *SWEPCO Intake designed to pump 7500 gpm*
- *Makeup Pond – 14 days storage*
- *SPX mechanical draft cooling tower*
- *90+% for makeup in cooling water with the other 10% for the various water treatment processes and boiler makeup*

Powder River Basin Coal

- *Sub-bituminous coal (low in sulfur and ash)*
- *Mined in northeastern Wyoming near Gillette*
- *Delivered by Union Pacific Railroad in 125 car unit trains (each car contains 120 tons) – 3 per week on average with first train unloading today*
- *Feed 350 tons of coal to boiler per hour*
- *Expect to average 2.6 million tons per year*
- *Coal can be delivered to boiler or to storage (average storage volume is approx 40-45 days)*

AEP J.W. Turk, Jr. Power Plant Air Quality Control Systems

- ***Improved efficiency = Burn less fuel and lower emissions – lowest emissions of any coal plant in US***
- ***PRB subbituminous coal is lower in ash and sulfur content***
- ***Over-Fire Air Ports and Low NO_x Burners***
- ***Selective Catalytic Reduction (SCR) for additional NO_x control***
- ***Activated Carbon Injection (ACI) System for Mercury removal***
- ***Spray Dry Absorber (SDA) System with Pebble Lime and Recycle Ash for SO₂ reduction***
- ***Pulse Jet Fabric Filter (PJFF) Baghouse for PM control***



SWEPCO
JOHN W. TURK JR. POWER PLANT - UNIT 1
 FULTON, ARKANSAS

BBW CONTRACT: UP-157

Nominal Capacity	630 MW	Superheater Outlet Pressure	2749 (ksi)
Steam Capacity	4,419,450 lb/hr	5 (HP) Outlet Temperature	381.47 (228)

Current Status

- *Construction is approximately 92% complete*
- *Auxiliary Boiler was fired earlier in May*
- *Main Boiler – preoperational cleaning in June*
- *Main Boiler – 1st fire & steam blows through July*
- *Continued startup various support systems*
- *DCS – loop checkout and monitor 15,000 points*
- *Initial synchronization to power grid – Sept.*
- *Commercial Operations Date – expected in Dec.*
- *Current employment – 1500 contract, 104 of 109 permanent SWEPCO employees*

