

# Comanche Peak Nuclear Power Plant, Units 3 & 4

## COL Application

### Part 2, FSAR

System	Series	Group/formation		Remarks	Tectonic Setting	Tectonic Association	
Pleistocene		Terraces		Sedimentation in coastal and offshore Louisiana (not in site region)	Reactivation of southern Rocky Mountains, uplift of Colorado Plateau, eastward tilting of the Great Plains and renewed uplift of southern Appalachians.	Gulf of Mexico Basin Loading Subsidence	
Pliocene		Goliad					
Miocene		Fleming					
Oligocene	Frio		Deposition of sandstone, siltstones and shales advancing to deep Gulf of Mexico basin	Sedimentation recording calc-alkaline volcanism in Mexico and southwestern portions of the Gulf of Mexico catchment			
	Vicksburg Group						
Eocene	Jackson Group		Offlapping deltaic depositional sequences of sandstones, siltstones and shales prograding to continental margin	Large amounts of sedimentary input in Late Paleocene to Early Eocene from early Larimide Orogeny			
	Claiborne Group						
	Wilcox Group						
Paleocene	Midway Group		Increasing amounts of terrigenous input derived from western sources	Probable initial influences of Larimide Orogeny	Gulf of Mexico Thermal Subsidence		
Late Cretaceous	Gulf Series	Navarro Group					
		Taylor Group					
		Austin Group					
		Eagle Ford Group				Shelf carbonate and terrigenous clastic sequences affected by cyclic sea-level fluctuations; terrigenous material provided by periodic uplift of crustal blocks	Return to tectonically stable conditions - maximum transgression with connection to Pacific by "Western Interior Seaway".
		Woodbine Group					
Early Cretaceous	Comanche Series	Buda	Widespread unconformity at base	Continental and marine deposition with tectonically stable conditions and continued subsidence			
		Washita Group					
		Del Rio					
		Georgetown	Transgressive - regressive sequences of carbonate and terrigenous clastic sediments				
		Kiamichi					
		Frederick-sburg Group					
		Edwards Formation					
		Comanche Peak Formation					
		Walnut Formation					
Paluxy Formation							
Trinity Group	Glen Rose Formation						
Travis Peak/Twin Mountains Formation							
Late Jurassic	Cotton Valley Group		Thick sequence of upward coarsening terrigenous clastics	Transgression maximum with clastic input from prograding delta systems. Development of unconformity at top.			
	Haynesville Formation and equivalents/members		Terrigenous clastics, carbonates and evaporites	Widespread transgression due to thermal relaxation of the crust			
			Smackover Formation				
		Norphiet Formation		Basal coarse clastic facies			
Jurassic - Upper- Middle	Werner Anhydrite - Louann Salt		Widespread development shallow bodies of hypersaline water periodically replenished from Pacific Ocean resulting in evaporite deposits primarily of either anhydrite or halite	Beginning of thermal relaxation of the crust following rifting and crustal thinning	Gulf of Mexico Formation		
Late Triassic to mid- Early Jurassic	Eagle Mills Formation		Deposition of non-marine clastics and basaltic volcanics in isolate basins	Initiation of Gulf of Mexico formation with rifting of Pangea with deposition of rift facies sediments and volcanics.			
Permian	WOLFCAMP VIRGIL	Cisco Group	Deposition in waning phases of Ouachita orgeny and sucessor basins	Syn- Post orogenic Ouachita deposition	Ouachita Orogenic Phase		
Pennsylvanian	MISSOURI	Canyon Group	Shallow water clastic deposition with decreased paleoslopes	Syn-orogenic Ouachita clastic wedge			
	DES MOINES	Strawn Group					
	ATOKA	Atoka Group	Deltaic deposition in foreland basins				
	MORROWAN	Marble Falls and Comyn Formations	Shallow water carbonate deposited over and along flanks of crustal arches				
Mississippian	CHESTERIAN - MERAMECIAN	Barnet Formation	Deposition of shales and some carbonate into "starved basin"	Deposition in basin and in shallow water associated with crustal arching front of foredeep and westerly advancing synorogenic deltas			
	OSAGEN	Chapple Formation					
	Cambrian - Ordovician	CANADIAN	Viola and Simpson Formations and equiavents		Carbonate dominated stable platform sequence; minor amounts of Upper Ordovician, Silurian, Devonian and Lower Missippian preserved in karst at top of Ellenburger.	Laurentian shelf	Laurentian Platform Basement - Cover
		Ellenburger Group					
		Wilberns and Riley Formations					
Pre- Cambrian	N/A	Wachita Mountains Igneous Province	Rift related bimodal plutonic and volcanic suite, early mafic phase with late silicic phase	Magmatic series in core of the Southern Oklahoma Aulacogen marks initial rifting of Rodinia			
		Llano Series	Middle Proterozoic (1232 - 1301 Ma) metaigneous and metasedimentary terrane intruded by post-kinematic plutons (1116-1070 Ma).	Crystalline Grenville basement			

**Figure 2.5.1-203 Regional Stratigraphy**