

# 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						
Paleocene	Wilcox Group						
	Midway Group		Increasing amounts of terrigenous input derived from western sources	Probable initial influences of Larimide Orogeny			
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	Transgressive - regressive sequences of carbonate and terrigenous clastic sediments	Continental and marine deposition with tectonically stable conditions and continued subsidence		
		Washita Group					
		Del Rio					
		Georgetown					
		Kiamichi					
		Edwards Formation					
		Comanche Peak Formation					
		Walnut Formation					
		Paluxy Formation					
Late Jurassic		Glen Rose Formation	Thick sequence of upward coarsening terrigenous clastics	Trangression maximum with clastic input from prograding delta systems. Development of unconformity at top.			
		Travis Peak/Twin Mountains Formation					
		Cotton Valley Group					
		Haynesville Formation and equivalents/members			Terrigenous clastics, carbonates and evaporites		
		Smackover Formation			Carbonate and calcareous shales		
Norphiet Formation	Basal coarse clastic facies	Widespread transgression due to thermal relaxation of the crust					
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	Pennsylvanian	WOLFCAMP VIRGIL	Cisco Group	Deposition in waning phases of Ouachita orgeny and sucessor basins	Syn- Post orogenic Ouachita deposition	Ouachita Orogenic Phase	
		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			
Mississippian	MORROWAN	Marble Falls and Comyn Formations		Shallow water carbonate deposited over and along flanks of crustal arches	Deposition in basin and in shallow water associated with crustal arching front of foredeep and westerly advancing synorogenic deltas		
		CHESTERIAN - MERAMECIAN	Barnet Formation				Deposition of shales and some carbonate into "starved basin"
			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**