

# Comanche Peak Nuclear Power Plant, Units 3 & 4 COL Application Part 2, FSAR

System	Series	Group/formation	Remarks	Tectonic Setting	Tectonic Association	
Pleistocene	Gulf Series	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	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		
Eocene		Jackson Group				
		Claiborne Group				
Paleocene		Wilcox Group	Increasing amounts of terrigenous input derived from western sources	Probable initial influences of Larimide Orogeny		
		Midway Group				
Late Cretaceous		Navarro 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".		
	Taylor Group					
	Austin Group					
Early Cretaceous	Comanche Series	Eagle Ford Group	Transgressive - regressive sequences of carbonate and terrigenous clastic sediments	Continental and marine deposition with tectonically stable conditions and continued subsidence		
		Woodbine Group				
		Washita Group			Widespread unconformity at base	
		Del Rio				
		Georgetown				
		Frederick-sburg Group			Glen Rose Formation	
		Kiamichi				
		Edwards Formation				
		Trinity Group			Comanche Peak Formation	Travis Peak/Twin Mountains Formation
					Walnut Formation	
Paluxy Formation						
Late Jurassic	Gulf Series	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	Carbonate and calcareous shales			
		Norphiet Formation	Basal coarse clastic facies			
Jurassic Upper - Middle	Gulf Series	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		
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.		
Late Triassic to mid-Jurassic	Gulf Series	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 orogeny and successor basins	Ouachita Orogenic Phase	
Pennsylvanian	MISSOURI	Canyon Group	Shallow water clastic deposition with decreased paleoslopes	Syn- Post orogenic Ouachita deposition		
	DES MOINES	Strawn Group	Deltaic deposition in foreland basins	Syn-orogenic Ouachita clastic wedge		
	ATOKA	Atoka Group	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		
Mississippian	MORROWAN	Marble Falls and Comyn Formations				
	CHESTERIAN - MERAMECIAN	Barnet Formation	Deposition of shales and some carbonate into "starved basin"			
Cambrian - Ordovician	CANADIAN	Viola and Simpson Formations and equivalents	Carbonate dominated stable platform sequence; minor amounts of Upper Ordovician, Silurian, Devonian and Lower Mississippian preserved in karst at top of Ellenburger.	Laurentian shelf		
		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**