

		Ma	REGIONAL EVENTS	EFFECT IN SITE VICINITY
CENOZOIC		0	Erosion and incision of streams. Deposition of stream terraces. Formation of Cape Fear arch.	Erosion and incision of modern streams.
		65		
MESOZOIC	CRETACEOUS		Erosion of Appalachians and Piedmont and deposition of Coastal Plain sediments.	Deposition of Coastal Plain sediments.
		136		
	JURASSIC		Intrusion of diabase dikes	Intrusion of diabase dikes, and some continued faulting in the Deep River basin.
	TRIASSIC	195	Opening of Atlantic basin; extensional tectonics forming rift basins.	Formation of Deep River basin, including the Jonesboro and associated faults, and sedimentation associated with rifting
PALEOZOIC		245		
	PERMIAN			
		286	<i>Alleghenian Orogenesis</i> ; Regional greenschist and amphibolite facies metamorphism, emplacement of plutons, deformation in Raleigh belt, strike-slip faulting.	Emplacement of the Rolesville batholith, and ductile mylonite shear zones (e.g., Nutbush Creek fault zone)
	CARBONIFEROUS	LATE		
		333	Emplacement of Charlotte Terrane over Inner Piedmont; development of Central Piedmont shear zone	No clear effect in Site Vicinity
	EARLY			
		362		
	DEVONIAN	LATE		
		382.5	<i>Acadian Orogenesis</i> : High to medium grade metamorphism, deformation, Gold Hill dextral shear zone, Brevard fault zone	No clear effect in Site Vicinity
		394		
	EARLY			
	SILURIAN	LATE		
		418	<i>Silurian Orogenesis</i> 40Ar/39Ar hornblende in North Carolina	No clear effect in Site Vicinity
	EARLY	424	425 Ma - 430 Ma	
	ORDOVICIAN	443	<i>Taconic Orogenesis</i> : Collision and formation of Appalachian basin	No clear effect in Site Vicinity
		458		
		468		
NEOPROTEROZOIC	CAMBRIAN	EARLY		
		535	<i>Virgilian and Avalonian Orogenesis</i> with fabric development and metamorphism to Upper Greenschist to Amphibolite facies; followed by mafic intrusions?	Development of upper greenschist to amphibolite facies assemblages
		550		
		600	Gondwana Island Arc Accumulation of volcanic pile with intrusion of granodiorite-tonalite followed by clastic and carbonate sedimentation	Formation of Carolina Zone and Raleigh Slate Belt stratigraphy. Formation of Carolina, Raleigh, and Spring Hope Terranes

Progress Energy Carolinas

**Shearon Harris Nuclear Power Plant
Units 2 and 3
Part 2, Final Safety Analysis Report**

New Hill, North Carolina

Geologic History of the Site Vicinity

RAI 2.5.1-18 FIGURE 1