

		REGIONAL EVENTS	EFFECT AT SITE AND SITE AREA		
MESOZOIC		Intrusion of diabase dikes	diabase dikes		
		Opening of Atlantic basin; extensional tectonics	← K-Ar Potassium feldspar, 219 Ma		
PALEOZOIC	PERMIAN				
	CARBONIFEROUS	LATE	286 <i>Alleghanian Orogenesis</i> ; rapid unroofing and cooling	← K-Ar hornblende, 290 Ma ← Rb-Sr biotite, 291 Ma ← K-Ar biotite, 296 Ma	
		EARLY	333 Emplacement of Charlotte Terrane over Inner Piedmont; development of Central Piedmont shear zone	Most likely timing for D <sub>3</sub> , D <sub>4</sub> and D <sub>5</sub> followed by lower greenschist overprint	
	DEVONIAN	LATE	362	①	
		MIDDLE	382.5 Gold Hill dextral shear zone		No clear effect in Site Area D <sub>3</sub> ? – D <sub>4</sub> ? – D <sub>5</sub> ?
		EARLY	394		
	SILURIAN	LATE	418	②	
		EARLY	424 425 Ma - 430 Ma 40Ar/39Ar hornblende in North Carolina		No clear effect in Site Area D <sub>3</sub> ? – D <sub>4</sub> ? – D <sub>5</sub> ?
	ORDOVICIAN	LATE	443		
		MIDDLE	458		
EARLY		468			
CAMBRIAN	LATE	490			
	MIDDLE	500			
	EARLY	510 535 <i>Virgilian Orogenesis</i> with fabric development and metamorphism to Upper Greenschist to Amphibolite facies; followed by Stage III mafic intrusions?	D <sub>1</sub> and D <sub>2</sub> deformation with development of upper greenschist to amphibolite facies assemblages		
NEOPROTEROZOIC		550			
		Gondwana Island Arc (Stage II) Accumulation of volcanic pile with intrusion of granodiorite-tonalite followed by clastic and carbonate sedimentation	Development of Site Area stratigraphy		

Compiled from PSAR Project 81 (1974), Schaeffer (1981), Hibbard et al. (2002), Hatcher et al. (2007)

- ① Middle Devonian – Early Mississippian subduction of Laurentia beneath Carolina Superterrane;  
OR  
② Possible Late Ordovician – Silurian subduction of Carolina beneath Laurentia

WLS COL 2.5-1

WILLIAM STATES LEE III  
NUCLEAR STATION UNITS 1 & 2

Site Area Geochronology Chart

FIGURE 2.5.1-223 Rev 2