

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	
		Ma				
	PERMIAN	245				
PALEOZOIC	CARBONIFEROUS	286	Alleghanian Orogenesis; rapid unroofing and cooling		← K-Ar hornblende, 290 Ma ← Rb-Sr biotite, 291 Ma ← K-Ar biotite, 296 Ma	
			Emplacement of Charlotte Terrane over Inner Piedmont; development of Central Piedmont shear zone		Most likely timing for D ₃ , D ₄ and D ₅ followed by lower greenschist overprint	
		333				
	DEVONIAN	362				
		LATE				
		MIDDLE	382.5	Gold Hill dextral shear zone		No clear effect in Site Area D ₃ ? – D ₄ ? – D ₅ ?
	EARLY	394				
	SILURIAN	LATE	418			
		EARLY	424	425 Ma - 430 Ma	40Ar/39Ar hornblende in North Carolina	No clear effect in Site Area D ₃ ? – D ₄ ? – D ₅ ?
	ORDOVICIAN		443			
		LATE				
		MIDDLE	458			
	EARLY	468				
		490				
CAMBRIAN	LATE					
	MIDDLE	500				
	EARLY	510	Virgilian Orogenesis with fabric development and metamorphism to Upper Greenschist to Amphibolite facies; followed by Stage III mafic intrusions?		D ₁ and D ₂ deformation with development of upper greenschist to amphibolite facies assemblages	
NEOPROTEROZOIC		535				
		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