



DESCRIPTION OF GEOLOGIC UNITS

Tt	TERRACE DEPOSITS AND UPLAND SEDIMENT - Gravel, clayey sand, and sand and minor iron-oxide cemented sandstone.	PPg	GRANITIC ROCK (Pennsylvanian to Permian, 265-325 m.y.) - Megacrystic to equigranular.	CZmd	METAMUDSTONE AND META-ARGILLITE - Bedding plane and axial planar cleavage common; interbedded with metasandstone, metaconglomerate, and metavolcanic rock.
Tpy	YORKTOWN FORMATION AND DUPLIN FORMATION, UNDIVIDED - Yorktown Formation: Fossiliferous clay with varying amounts of fine-grained sand, bluish gray, shell material commonly concentrated in lenses; mainly in area north of Neuse River. Duplin Formation: Shelly, medium- to coarse-grained sand, sandy marl, and limestone, bluish gray; mainly in area south of Neuse River.	PPmg	FOLIATED TO MASSIVE GRANITIC ROCK (Pennsylvanian to Permian, 270-320 m.y.) - Megacrystic to equigranular.	CZph	PHYLLITE AND SCHIST - Locally laminated and pyritic; includes phyllonite, sheared fine-grained metasediment, and metavolcanic rock.
Tec	CASTLE HAYNE FORMATION - Comfort Member and New Hanover Member, undivided. Comfort Member: Bryozoan-echinoid skeletal limestone, locally dolomitized, solution cavities common. New Hanover Member: Phosphate-pebble conglomerate, micritic, thin; restricted to basal part of Castle Hayne Formation in southeastern counties.	PzZg	METAMORPHOSED GABBRO AND DIORITE - Foliated to massive.	CZve	METAVOLCANIC EPICLASTIC ROCK - Metamorphosed argillite, mudstone, volcanic sandstone, conglomerate, and volcanic rock.
Kb	BLACK CREEK FORMATION - Clay gray to black, lignitic; contains thin beds and laminae of fine-grained micaceous sand and thick lenses of cross-bedded sand. Glauconitic, fossiliferous clayey sand lenses in upper part.	PzZu	META-ULTRAMAFIC ROCK - Metamorphosed dunite and peridotite; serpentinite, soapstone, and other altered ultramafic rock. Only larger bodies shown.	CZmv	MAFIC METAVOLCANIC ROCK - Metamorphosed basalt flows and tuffs, dark green to black; interbedded with felsic and intermediate metavolcanic rock and metamudstone.
Kc	CAPE FEAR FORMATION - Sandstone and sandy mudstone, yellowish gray to bluish gray, mottled red to yellowish orange, indurated, graded and laterally continuous bedding, blocky clay, faint cross-bedding, feldspar and mica common.	CZam	AMPHIBOLITE - Metamorphosed mafic extrusive and intrusive rock; includes hornblende gneiss, thin layers of mica schist, and small non-layered masses of metadiorite and metagabbro.		
Km	MIDDENDORF FORMATION - Sand, sandstone, and mudstone, gray to pale gray with an orange cast, mottled; clay balls and iron-cemented concretions common, beds laterally discontinuous, cross bedding common.	CZbg	BIOTITE GNEISS AND SCHIST- Inequigranular and megacrystic; in places contains garnet; interlayered and gradational with mica schist and amphibolite; includes small masses of granitic rock.		
Jd	DIABASE - Dikes, gray to black.	CZc	VOLCANIC METACONGLOMERATE - Includes metagraywacke and metamudstone.		
TRc	CHATHAM GROUP (undivided) - Conglomerate, fanglomerate, sandstone, and mudstone.	CZfg	FELSIC MICA GNEISS - Interlayered with graphitic mica schist and mica-garnet schist, commonly with kyanite; minor hornblende gneiss.		
TRcc	CUMNOCK FORMATION - Sandstone and mudstone, gray to black; coal beds and carbonaceous shale. Grades into Pekin and Sanford formations.	CZfv	FELSIC METAVOLCANIC ROCK - Metamorphosed dacitic to rhyolitic flows and tuffs, light gray to greenish gray; interbedded with mafic and intermediate metavolcanic rock, meta-argillite, and metamudstone.		
TRcp	PEKIN FORMATION - Conglomerate, sandstone, and mudstone.	CZg	METAMORPHOSED GRANITIC ROCK (Late Proterozoic to late Cambrian, 520-650m.y.) - Megacrystic, well-foliated, locally contains hornblende.		
TRcs	SANFORD FORMATION - Conglomerate, fanglomerate, sandstone, and mudstone.	CZig	INJECTED GNEISS - Biotite gneiss and schist intruded by numerous sills and dikes of granite, pegmatite, and apatite; minor hornblende gneiss.		
		CZlg	LINEATED-FELSIC MICA GNEISS - White to pink with strong lineation of muscovite-biotite streaks and prismatic quartz aggregates; planar foliation and layering weak; minor mica schist and hornblende gneiss.		
		CZiv	INTERMEDIATE METAVOLCANIC ROCK - Metamorphosed andesitic tuffs and flows, medium to dark grayish green; minor felsic and mafic metavolcanic rock.		

Progress Energy Carolinas
**Shearon Harris Nuclear Power Plant
Units 2 and 3**
Part 3, Environmental Report
New Hill, North Carolina

Site Vicinity Geologic Map
(40-km [25-mi.] Radius)