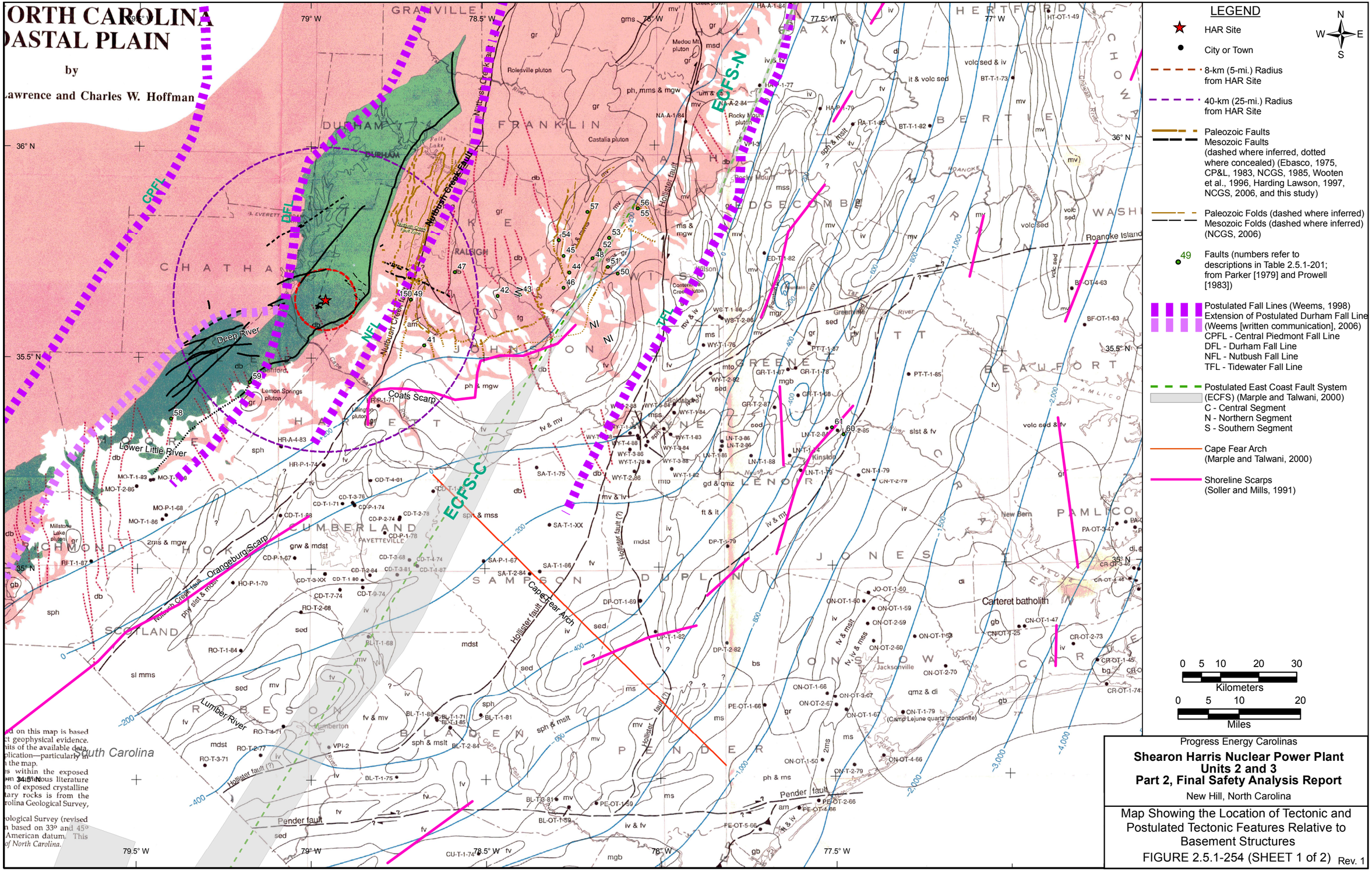
ORTH CAROLINA
OASTAL PLAIN
by
Lawrence and Charles W. Hoffman
LEGEND
HAR Site
City or Town
8-km (5-mi.) Radius from HAR Site
40-km (25-mi.) Radius from HAR Site
Paleozoic Faults
Mesozoic Faults
(dashed where inferred, dotted where concealed) (Ebasco, 1975, CP&L, 1983, NCGS, 1985, Wooten et al., 1996, Harding Lawson, 1997, NCGS, 2006, and this study)
Paleozoic Folds (dashed where inferred)
Mesozoic Folds (dashed where inferred) (NCGS, 2006)
49 Faults (numbers refer to descriptions in Table 2.5.1-201; from Parker [1979] and Prowell [1983])
Postulated Fall Lines (Weems, 1998)
Extension of Postulated Durham Fall Line (Weems [written communication], 2006)
CPFL - Central Piedmont Fall Line
DFL - Durham Fall Line
NFL - Nutbush Fall Line
TFL - Tidewater Fall Line
Postulated East Coast Fault System (ECFS) (Marple and Talwani, 2000)
C - Central Segment
N - Northern Segment
S - Southern Segment
Cape Fear Arch (Marple and Talwani, 2000)
Shoreline Scarps (Soller and Mills, 1991)
N
W
E
S
0 5 10 20 30
Kilometers
0 5 10 20
Miles
CPFL
DFL
NFL
TFL
ECFS-N
ECFS-C
Nutbush Creek fault
Orangeburg Scarp
Hollister fault
Cape Fear Arch
Pender fault
Coats Scarp
Lumber River
Deep River
Lower Little River
Carteret batholith
Roanoke Island
DURHAM
FRANKLIN
GRANVILLE
WARREN
HALIFAX
NORTHAMPTON
HERTFORD
CHOWAN
PERQUIMANS
PASQUOTANK
ELIZABETH CITY
PERTIE
WASHINGTON
MARTIN
BERTIE
ROANOKE
EDGECOMBE
WILSON
NASH
JOHNSTON
WAKE
RALEIGH
CHATHAM
LEE
SANFORD
HARNETT
MOORE
CUMBERLAND
FAYETTEVILLE
SAMPSON
CLINTON
DUPLIN
SCOTLAND
HOKE
RICHMOND
ROBESON
BLADEN
PENDER
GREENE
LENOIR
KINSTON
CRAVEN
New Bern
PAMLICO
BEAUFORT
HYDE
JONES
ONSLOW
Jacksonville
CARTERET
Morehead City
Beaufort
Wilmington
Kilometers
Miles
South Carolina
Progress Energy Carolinas
Shearon Harris Nuclear Power Plant
Units 2 and 3
Part 2, Final Safety Analysis Report
New Hill, North Carolina
Map Showing the Location of Tectonic and Postulated Tectonic Features Relative to Basement Structures
FIGURE 2.5.1-254 (SHEET 1 of 2) Rev. 1

# EXPLANATION

## Rock Symbols

### Sedimentary Rocks

| | |
|---|---|
| grw | graywacke |
| mdst | slightly metamorphosed mudstone |
| sed | undifferentiated slightly metamorphosed mudstone, siltstone, and sandstone |
| slts | siltstone |

### Volcanic Rocks (slightly metamorphosed)

| | |
|---|---|
| fv | felsic volcanics |
| ft | felsic tuff |
| iv | intermediate volcanics |
| it | intermediate tuff |
| mv | mafic volcanics |
| mt | mafic tuff |
| kr | keratophyre |

### Plutonic Rocks

| | |
|---|---|
| di | diorite |
| db | diabase |
| gb | gabbro |
| gr | granite |
| gd | granodiorite |
| qmz | quartz monzonite |

### Metamorphic Rocks

| | |
|---|---|
| mgw | metagraywacke |
| mms | metamudstone |
| mslt | metasiltstone |
| mss | metasandstone |
| msd | metasedimentary rocks |
| ph | phyllite |
| sph | sericite phyllite |
| bs | biotite schist |
| gms | garnet mica schist |
| 2ms | two-mica schist |
| ms | muscovite schist |
| bg | biotite gneiss |
| fg | felsic gneiss |
| hbg | hornblende-biotite gneiss |
| am | amphibolite |
| mgb | metagabbro |
| mgr | metagranite |
| mto | metatonalite |
| mtr | metatrondhjemite |
| hlfs | hornfels |
| um | ultramafic rocks |

### Modifying terms

| | |
|---|---|
| sl | slaty |
| phy | phyllitic |
| volc | volcaniclastic |
| sch | schistose |

## Geologic Symbols

- BL-T-1-81 — Well location and code
- CU-T-2-76* — Well in which diabase was penetrated – no data available to permit mapping of the diabase body
- Inferred contact of lithologic unit – dashed where magnetic anomaly data are equivocal or missing; queried where extension is unknown; form lines where lithologies are not labeled
- Fault compiled from literature sources – arrows indicate direction of relative displacement
- Inferred fault – arrows show direction of inferred relative displacement
- Inferred thrust fault – saw teeth are on upper plate
- db — Diabase dike (Jurassic) – those shown in areas of exposed crystalline and Triassic sedimentary rocks compiled from literature sources; others are interpreted from aeromagnetic data
- Areas of exposed crystalline rocks
- Areas of exposed Triassic sedimentary rocks
- –200 — Structure contour on basement surface in feet relative to mean sea level – the contour interval varies as follows:
  - From +200 feet to –1000 feet — 200-foot contour interval
  - From –1,000 feet to –2,000 feet — 500-foot contour interval
  - From –2,000 feet to –10,000 feet — 1,000-foot contour interval

Source: Lawrence and Hoffman (1993)

Progress Energy Carolinas

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

New Hill, North Carolina

Map Showing the Location of Tectonic and Postulated Tectonic Features Relative to Basement Structures

FIGURE 2.5.1-254 (SHEET 2 of 2)Rev. 1