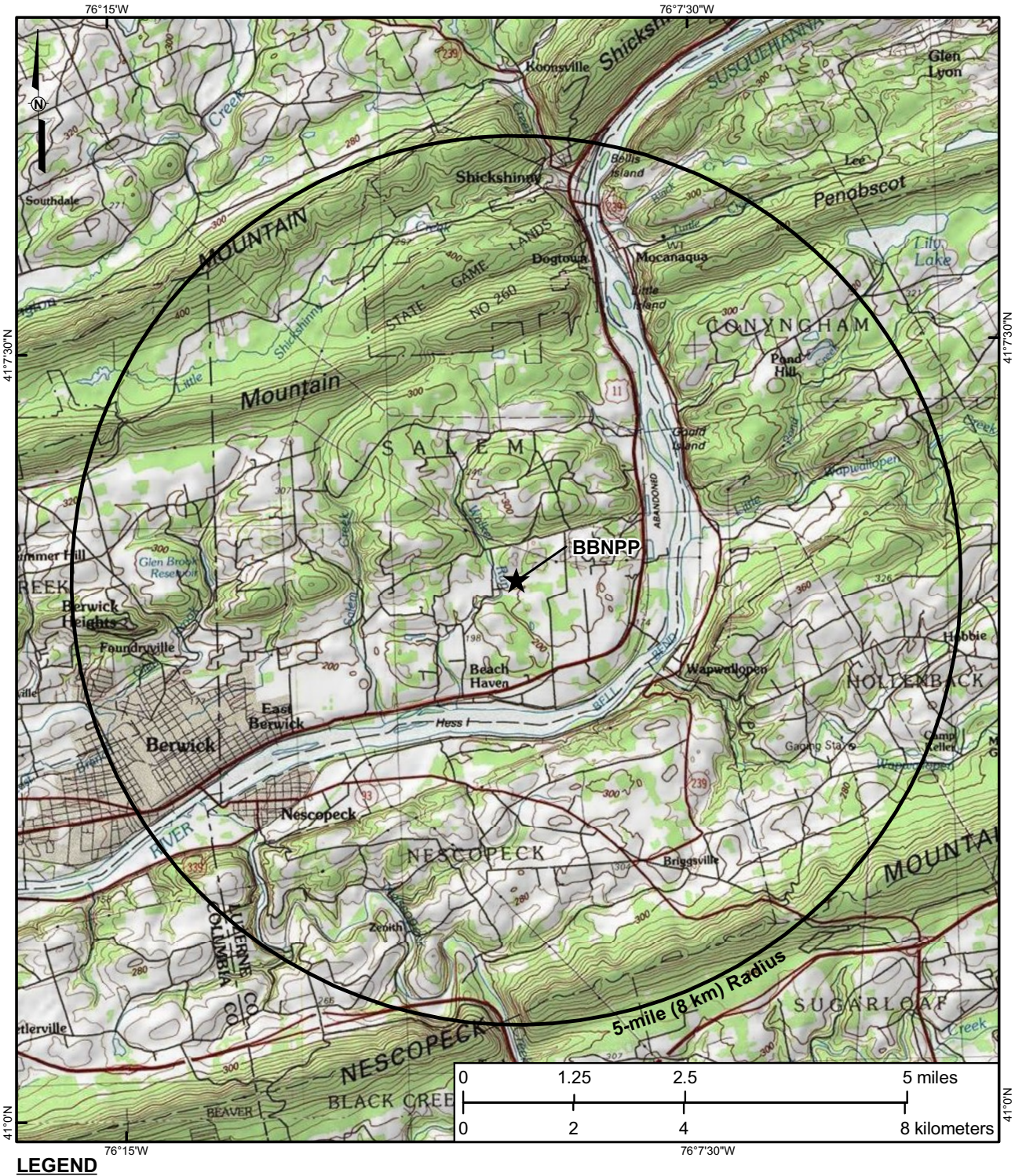
Figure 2.5-3 {2.5-3 Site Topographic Map 5 Mile (8 km) Radius}



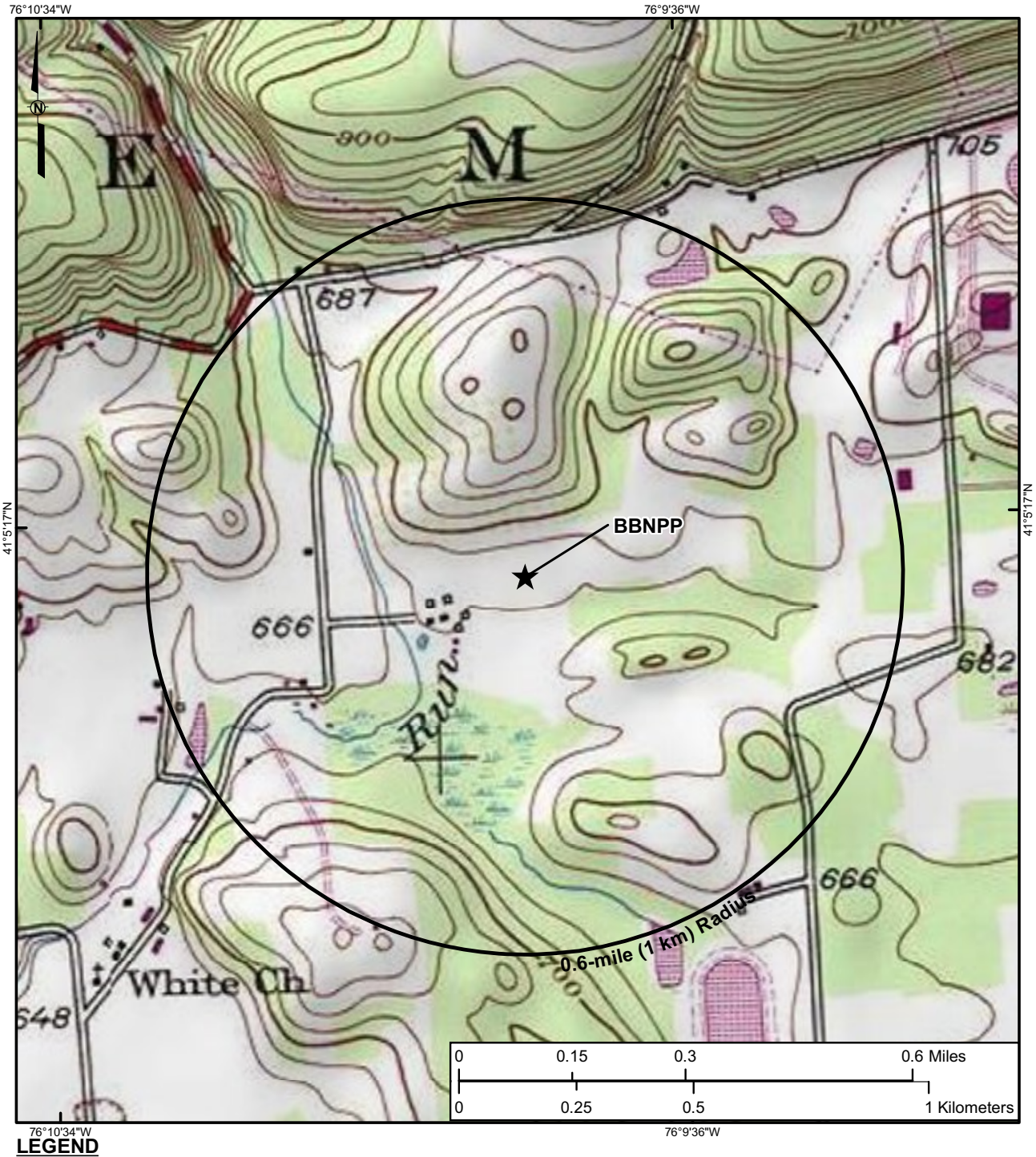
LEGEND

★ Center Point of Proposed Bell Bend NPP (BBNPP)

○ NPP Reactor 5-mile (8 km) Radius

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-4 {2.5-4 Site Topographic Map 0.6 Mile (1 km) Radius}



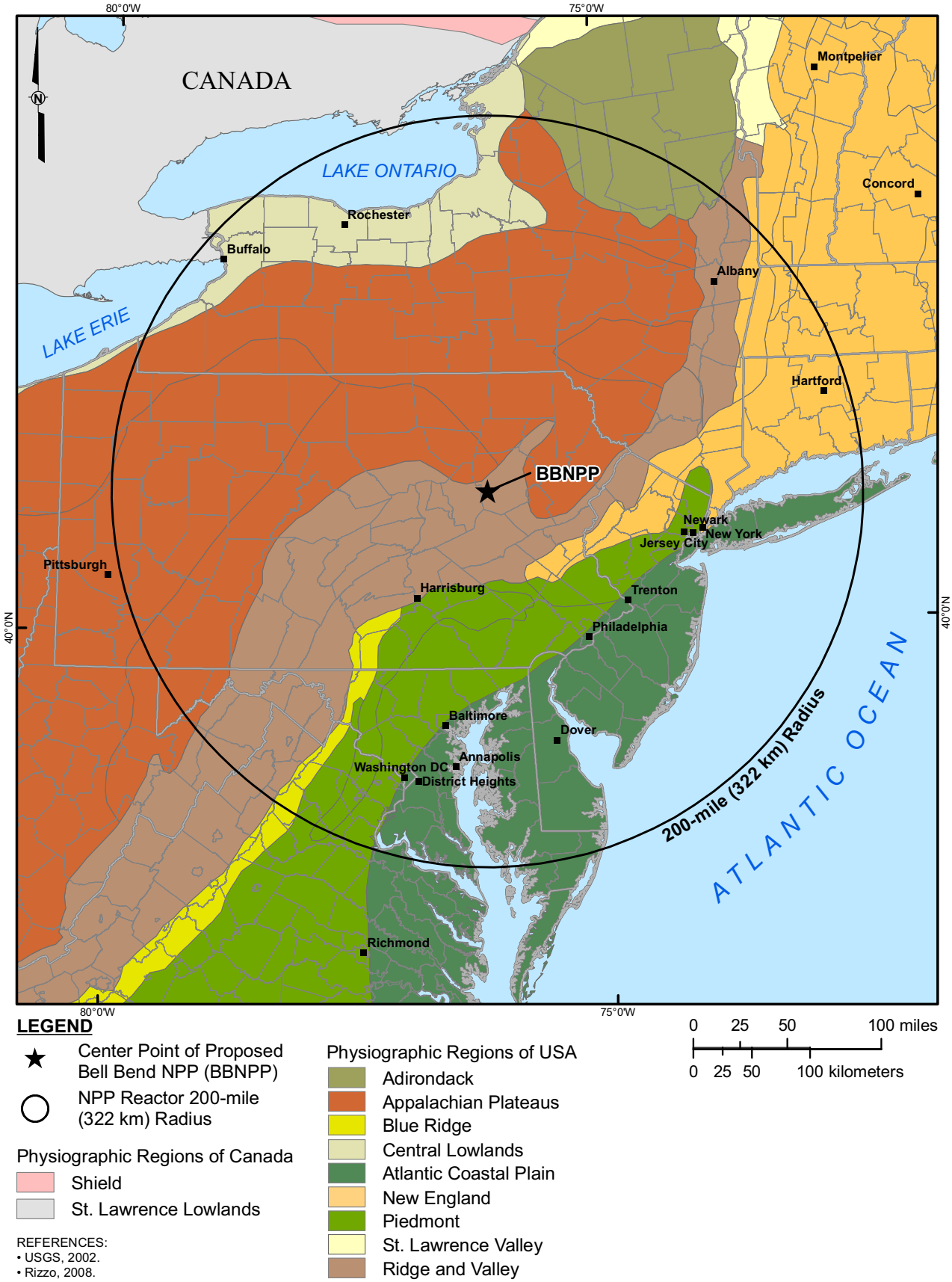
LEGEND

★ Center Point of Proposed Bell Bend NPP (BBNPP)

○ NPP Reactor 0.6-mile (1 km) Radius

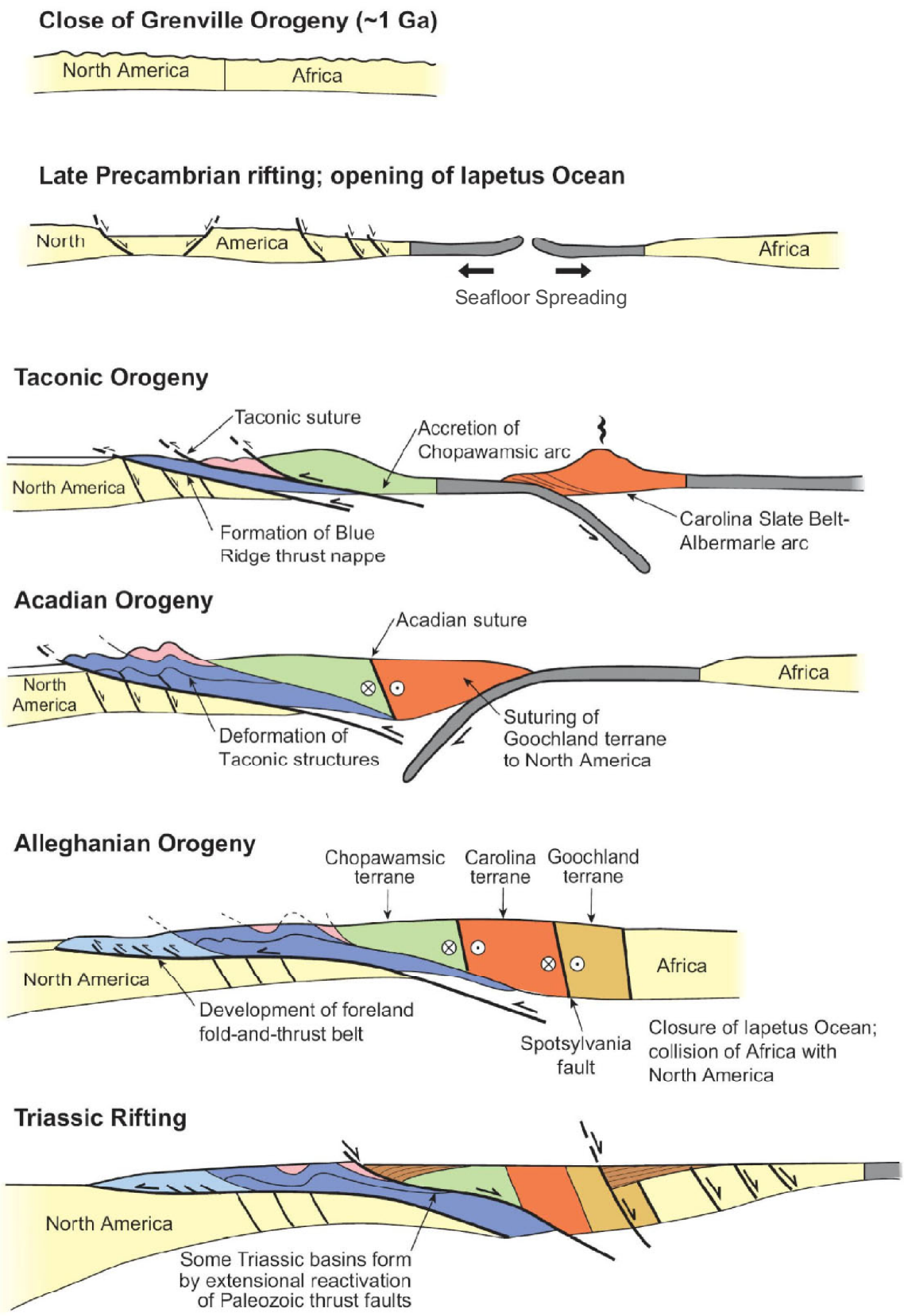
© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-5 {Physiographic Provinces (National) 200 Mile (322 km) Radius}



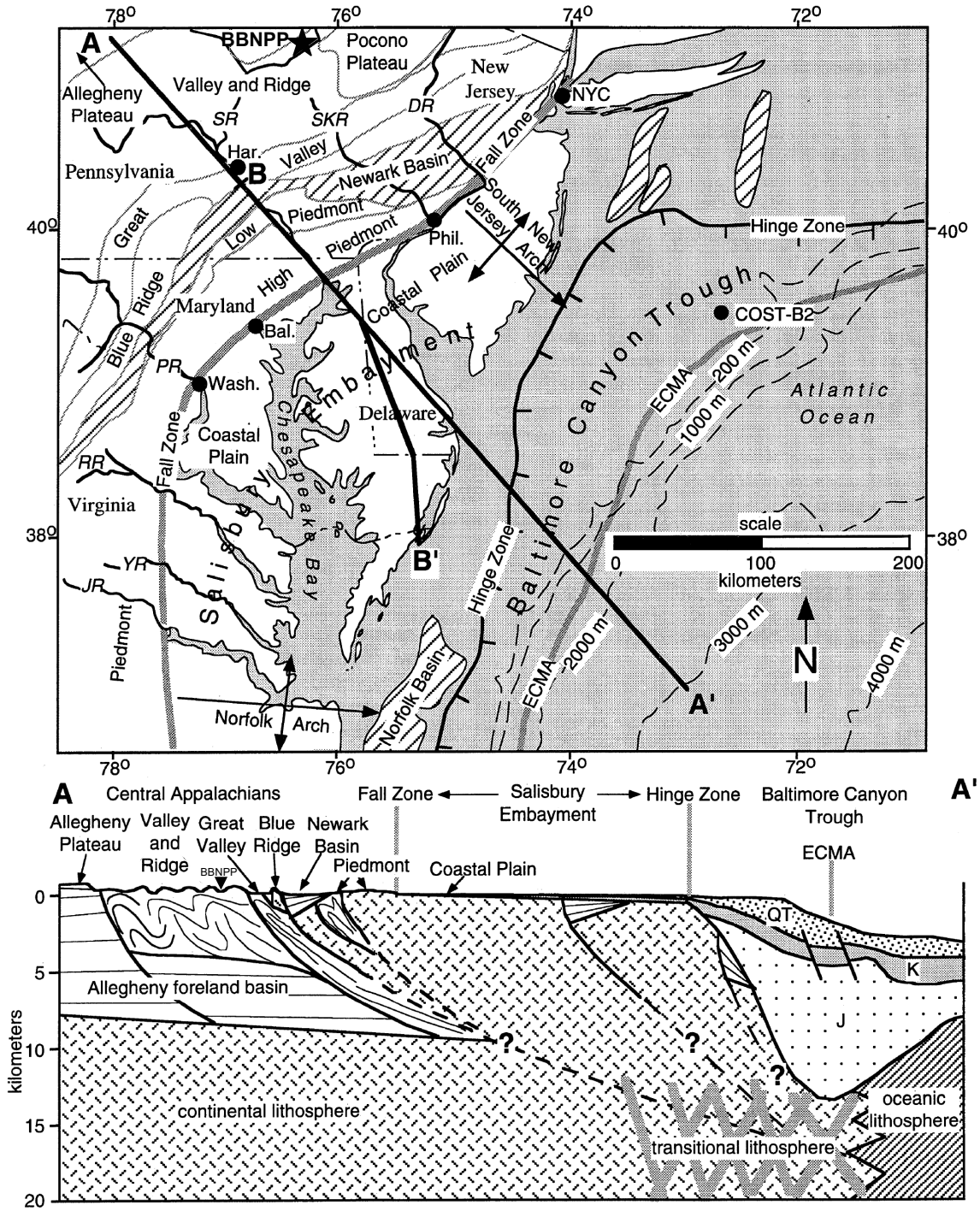
© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-6 {Evolution of the Appalachian Orogen}



© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-7 {Location Map and Cross Section of the Middle U.S. Atlantic Passive Margin}



LEGEND

Syn-rift basins shown with the diagonal-line ruled pattern

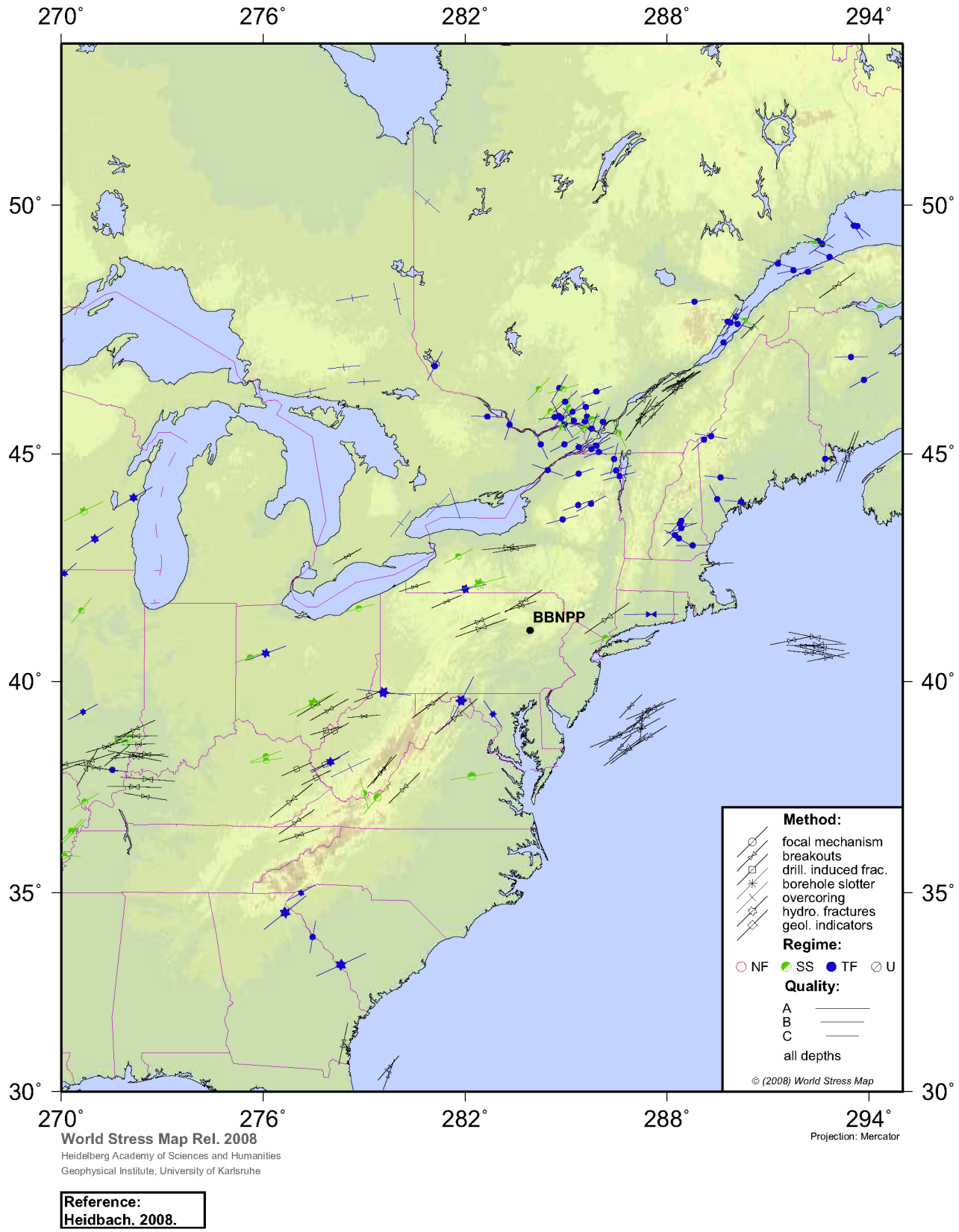
DR, Delaware River; **JR**, James River; **PT**, Potomac River; **RR**, Rappahannock River; **SKR**, Schuylkill River; **SR**, Susquehanna River; **YR**, York River; **Bal**, Baltimore; **Har**, Harrisburg; **NYC**, New York City; **Phil**, Philadelphia; **Wash**, Washington

★ **Bell Bend NPP**

BBNPP ▼ Approximate Location of Bell Bend NPP

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

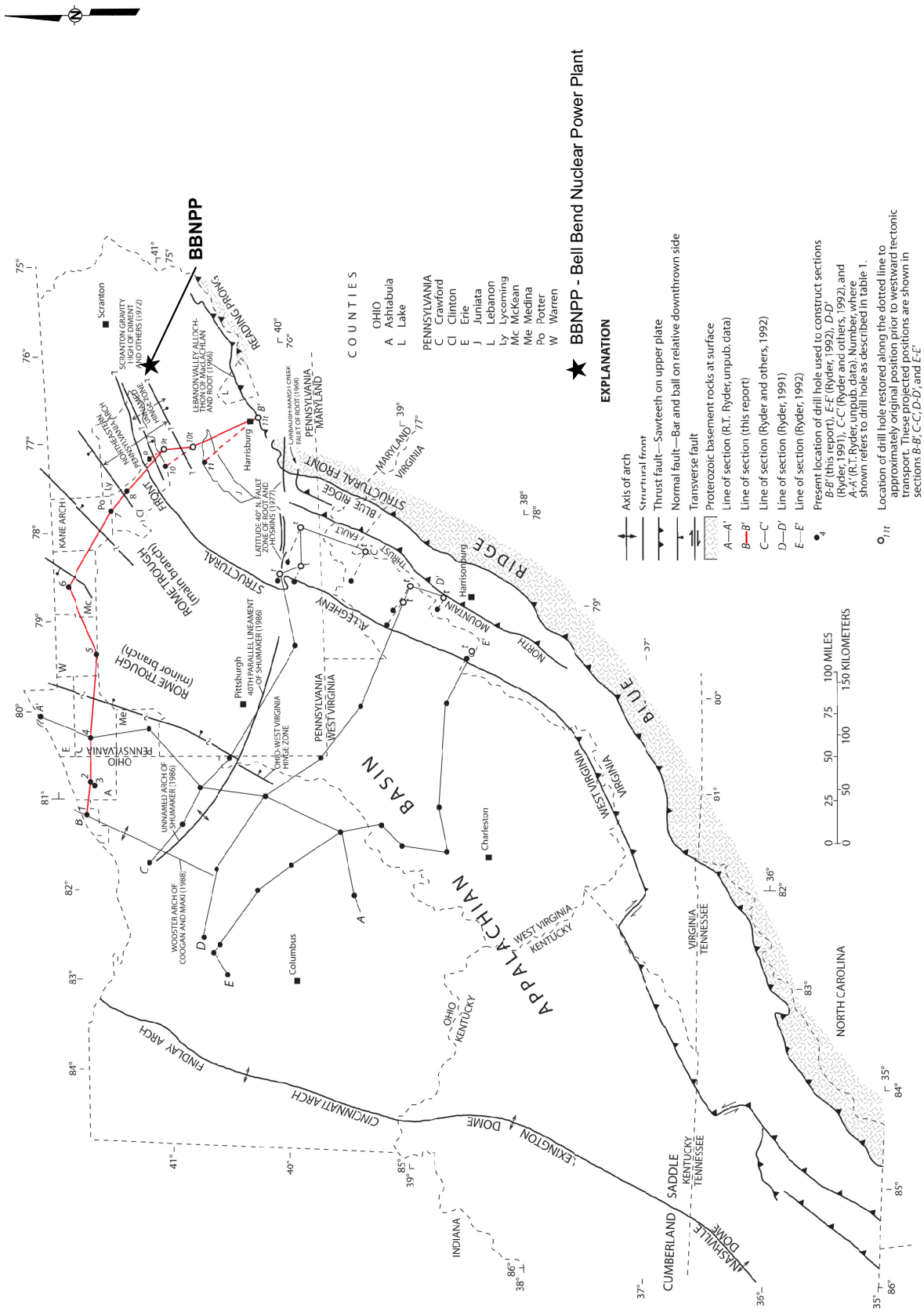
Figure 2.5-8 {Maximum Horizontal Stress Directions in Eastern North America}



Reference:
Heidbach. 2008.

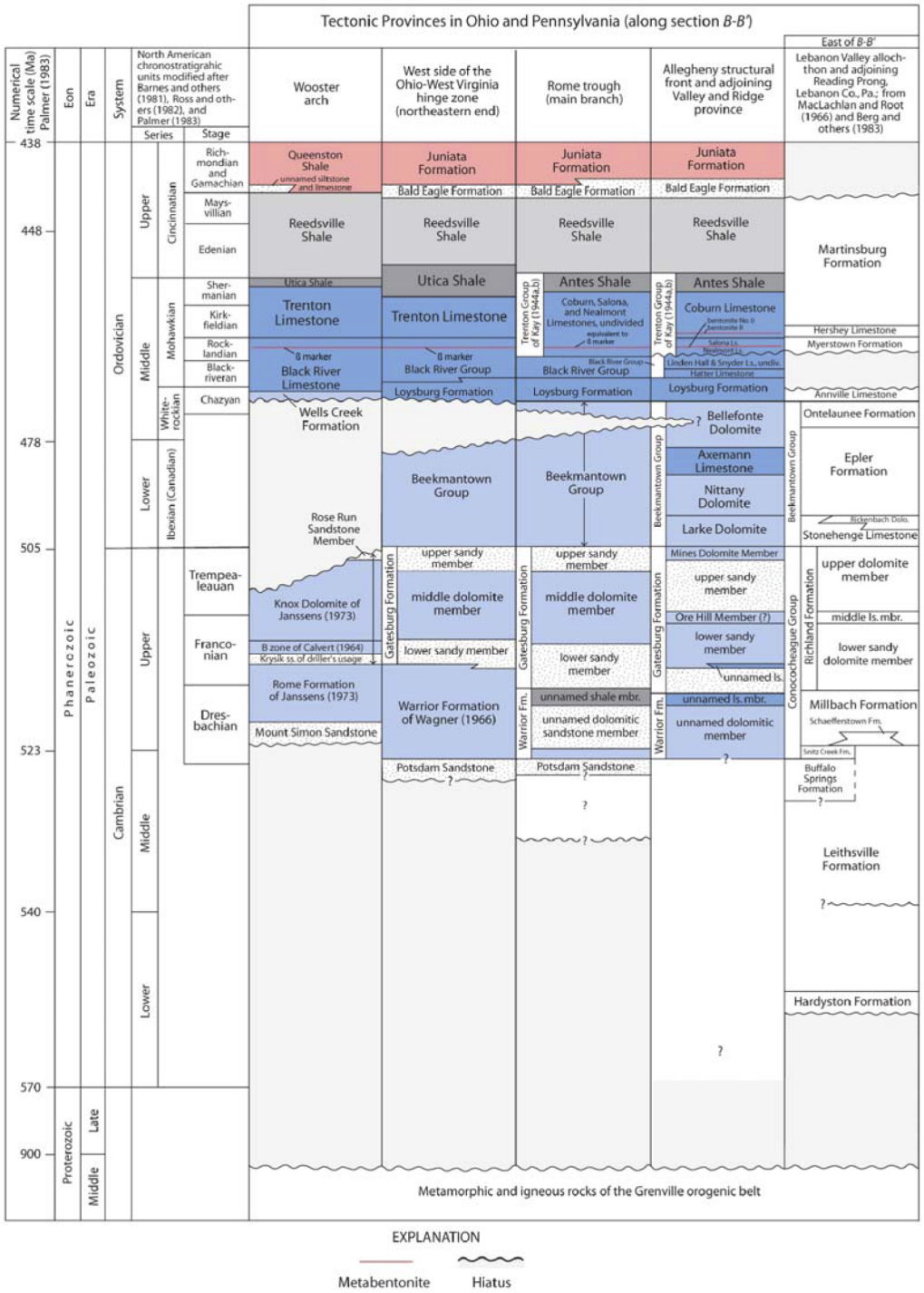
© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-9 {Map Showing the Location of the Appalachian Basin Cross Section}



© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

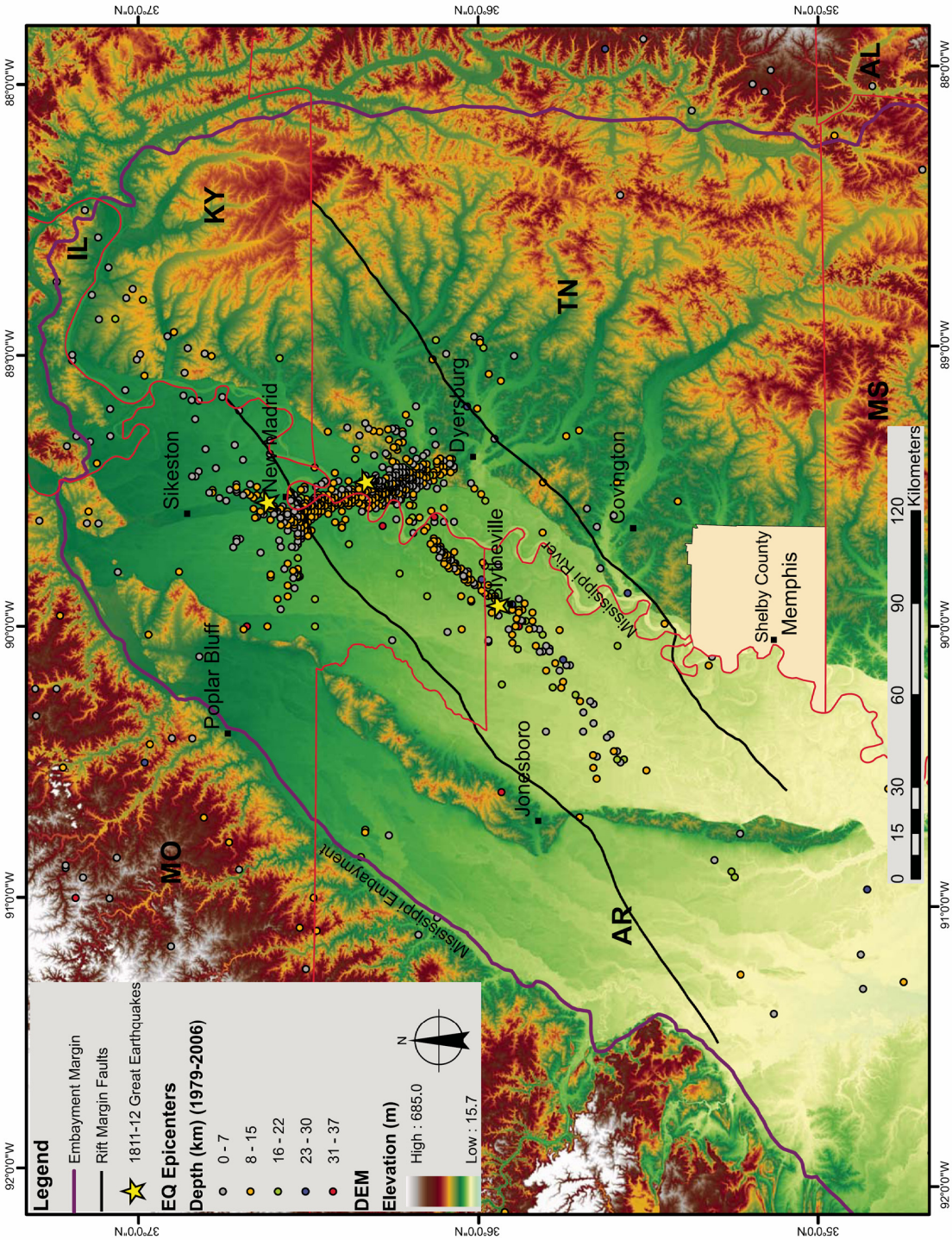
Figure 2.5-10 {Stratigraphic Correlation Chart of Appalachian Basin}



REFERENCE:

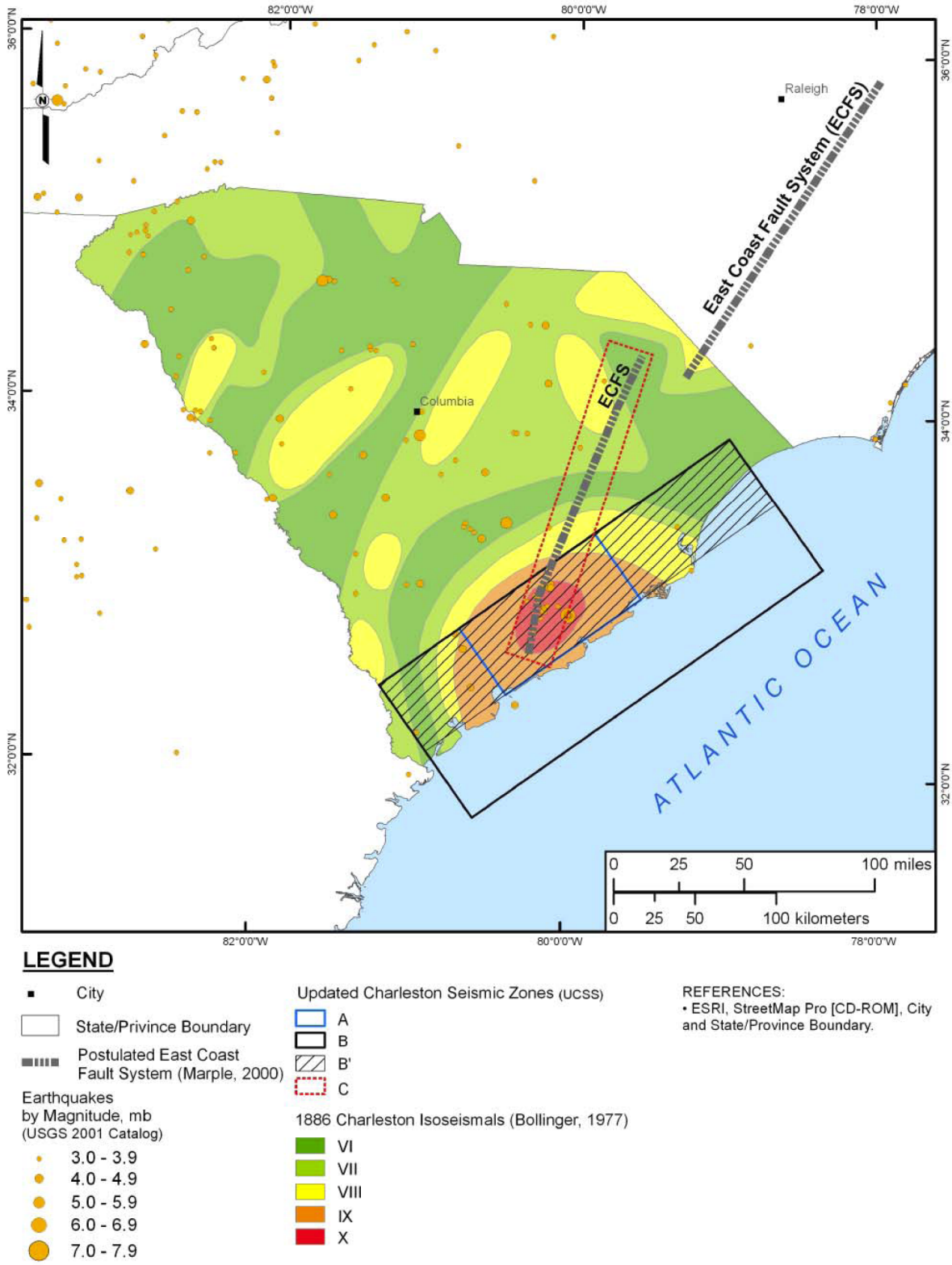
© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-11 {New Madrid Seismic Zone with Microearthquake Activity (1979-2006)}



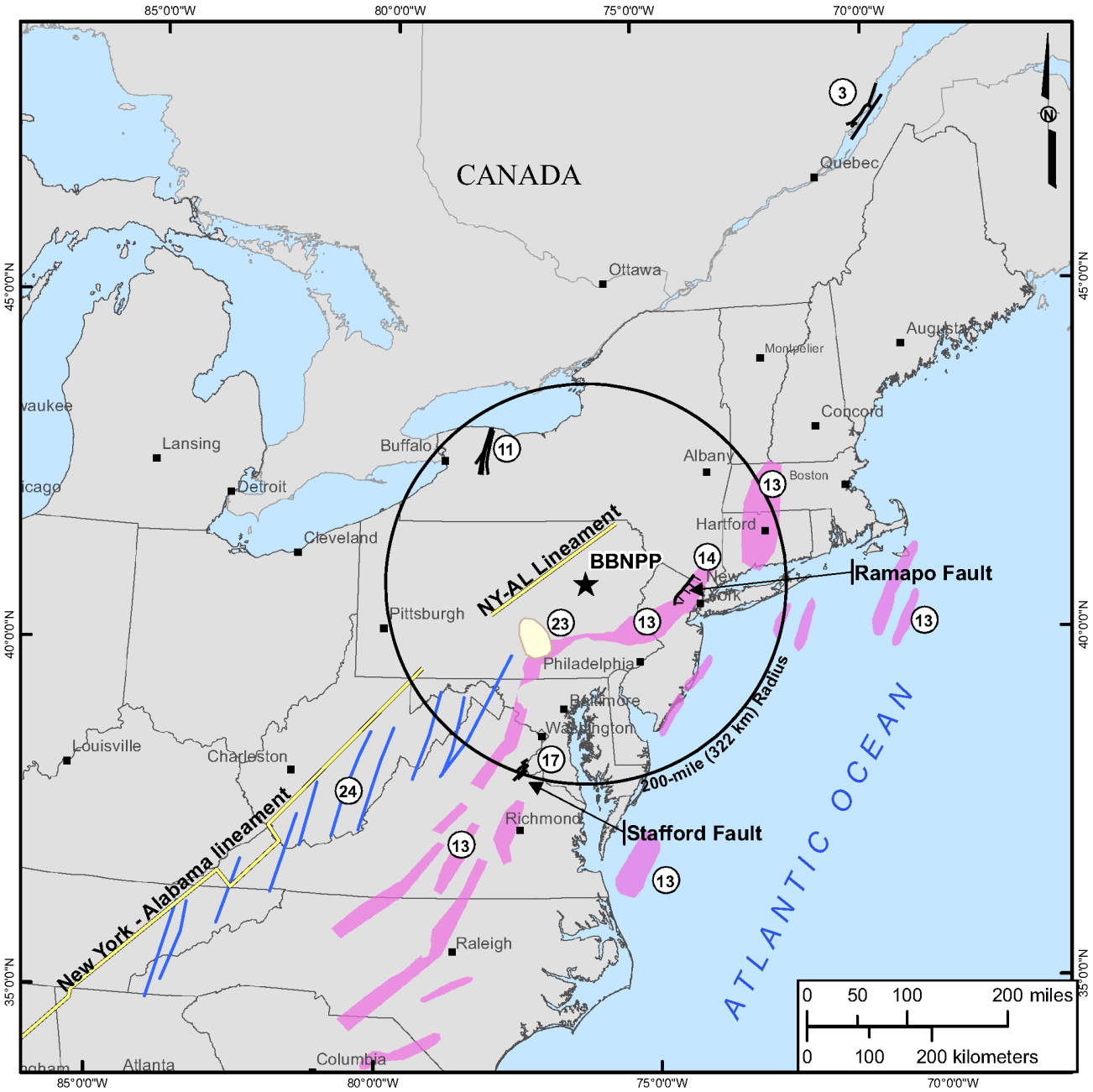
© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-12 {Updated Charleston Seismic Zone (UCSS) Map}



© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-13 {Tectonic Interpretations by Bechtel Group}



LEGEND

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- ▪ City
- ○ NPP Reactor 200-mile (322 km) Radius
- State/Province Boundary

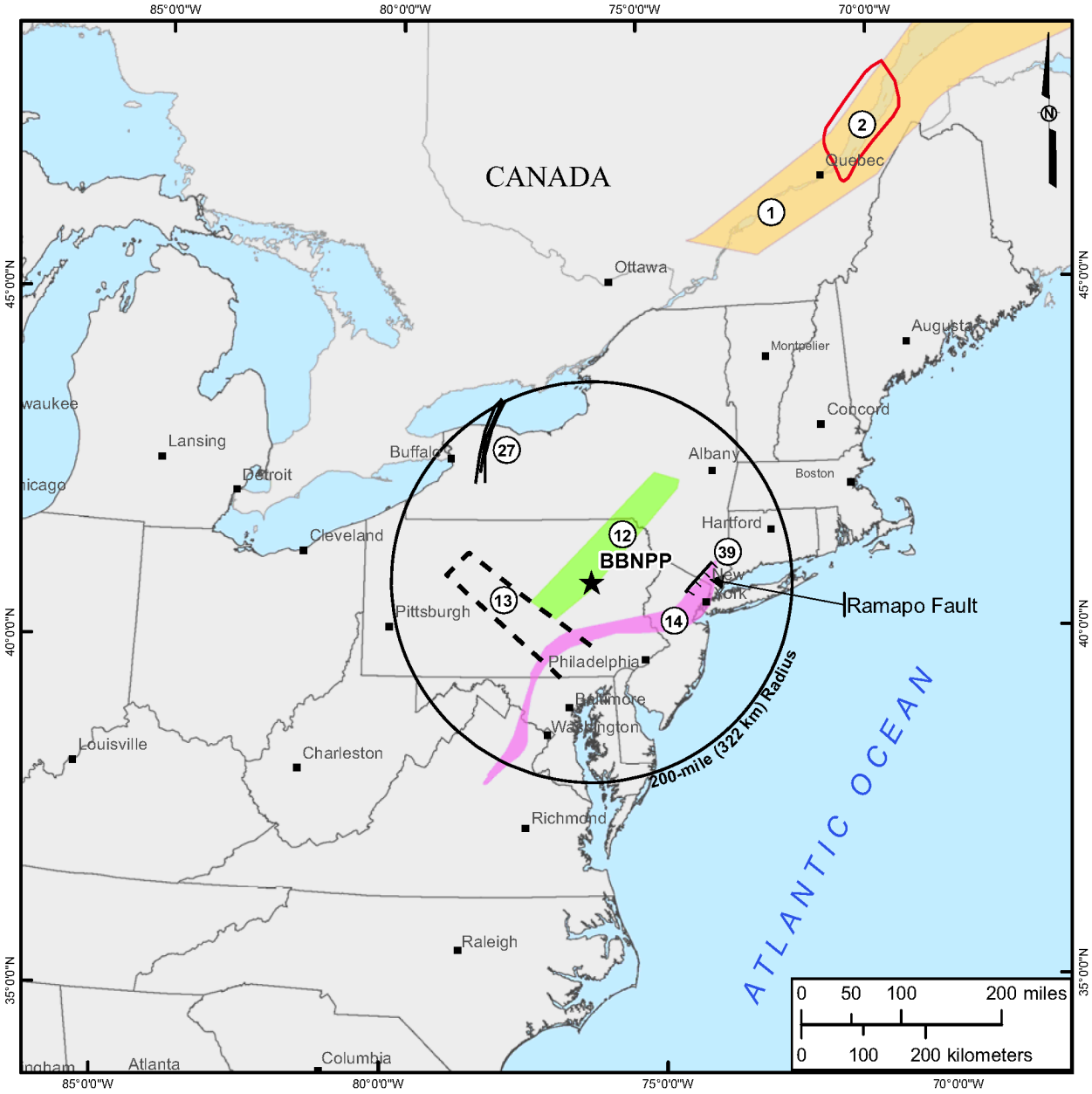
Bechtel Group
Tectonic Interpretation

- (3) Charlevoix - La Malbaie
- (11) Clarendon - Linden Fault
- (13) Eastern Mesozoic Basins
- (14) Ramapo Fault
- (17) Stafford Fault
- (23) Lebanon - Pennsylvania Geopotential Trend
- (24) Bristol Block Geopotential Trends
- New York - Alabama Lineament

REFERENCES:
- ESRI, 2007.
- EPRI Volume IX: Bechtel Group, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-14 {Tectonic Interpretations by Dames and Moore}



LEGEND

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- ▪ City
- ○ NPP Reactor 200-mile (322 km) Radius
- State/Province Boundary

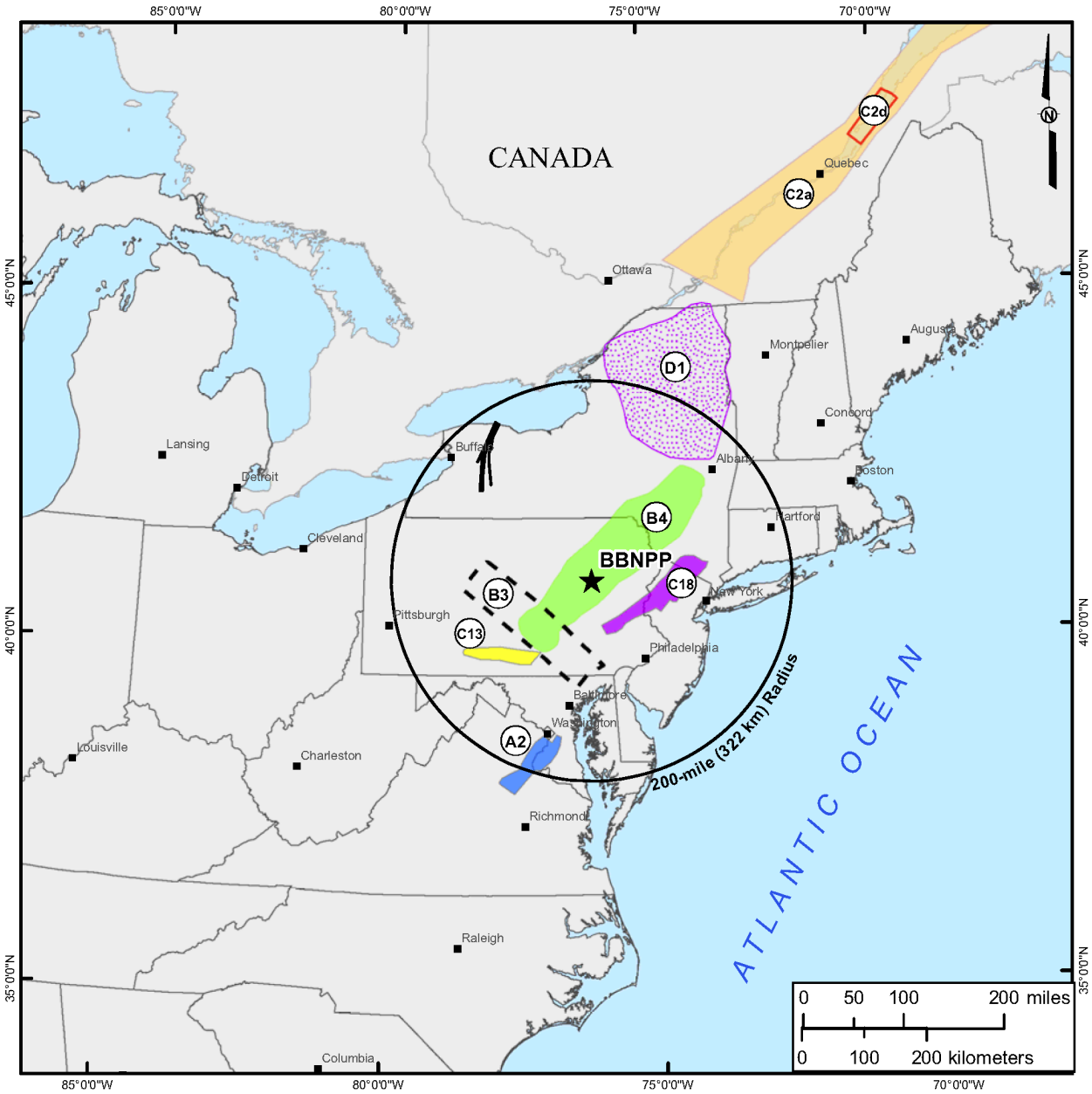
Dames and Moore Tectonic Interpretation

1. St. Lawrence Valley Rift
2. La Malbaie/Charlevoix Zone
12. Scranton Gravity Anomaly
13. Pennsylvania Aulacogen
14. Newark - Gettysburg Basin
27. Clarendon - Linden Fault Zone
39. Ramapo Fault

REFERENCES:
- ESRI, 2007.
- EPRI Volume VI: Dames and Moore, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-15 {Tectonic Interpretations by Law Engineering}



LEGEND

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- City
- NPP Reactor 200-mile (322 km) Radius
- State/Province Boundary

Law Engineering Tectonic Interpretation

Regional Features

- B3 Pennsylvania Aulacogen (EOCAMBRIAN RIFTS)
- B4 Scranton Gravity High (EOCAMBRIAN RIFTS)
- C2a St Lawrence Valley Rift (ST. LAWRENCE RIFT SYSTEM)
- C2d Charlevoix - La Malbaie Area (ST. LAWRENCE RIFT SYSTEM)
- D1 Adirondacks (MESOZOIC RIFTS)

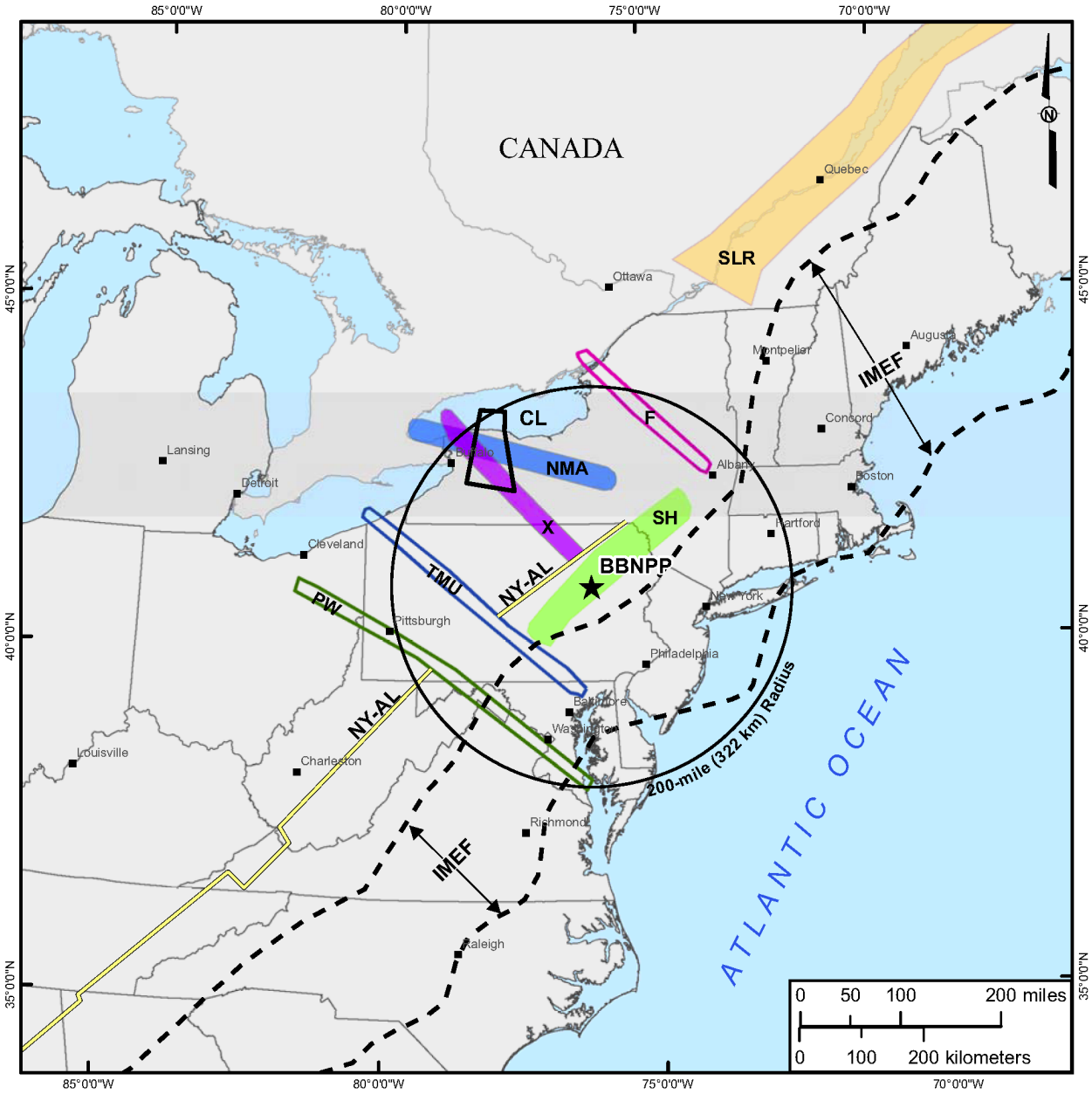
Faults and Shear Zones

- A2 Stafford - Brandywine Fault Zone
- C14 Clarendon - Linden Structure
- C13 Latitude 40° N Fault Zone
- C18 Ramapo Fault

REFERENCES:
- ESRI, 2007.
- EPRI Volume VII: Law Engineering, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-16 {Tectonic Interpretations by Rondout Associates}



LEGEND

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- ▪ City
- ○ NPP Reactor 200-mile (322 km) Radius
- State/Province Boundary

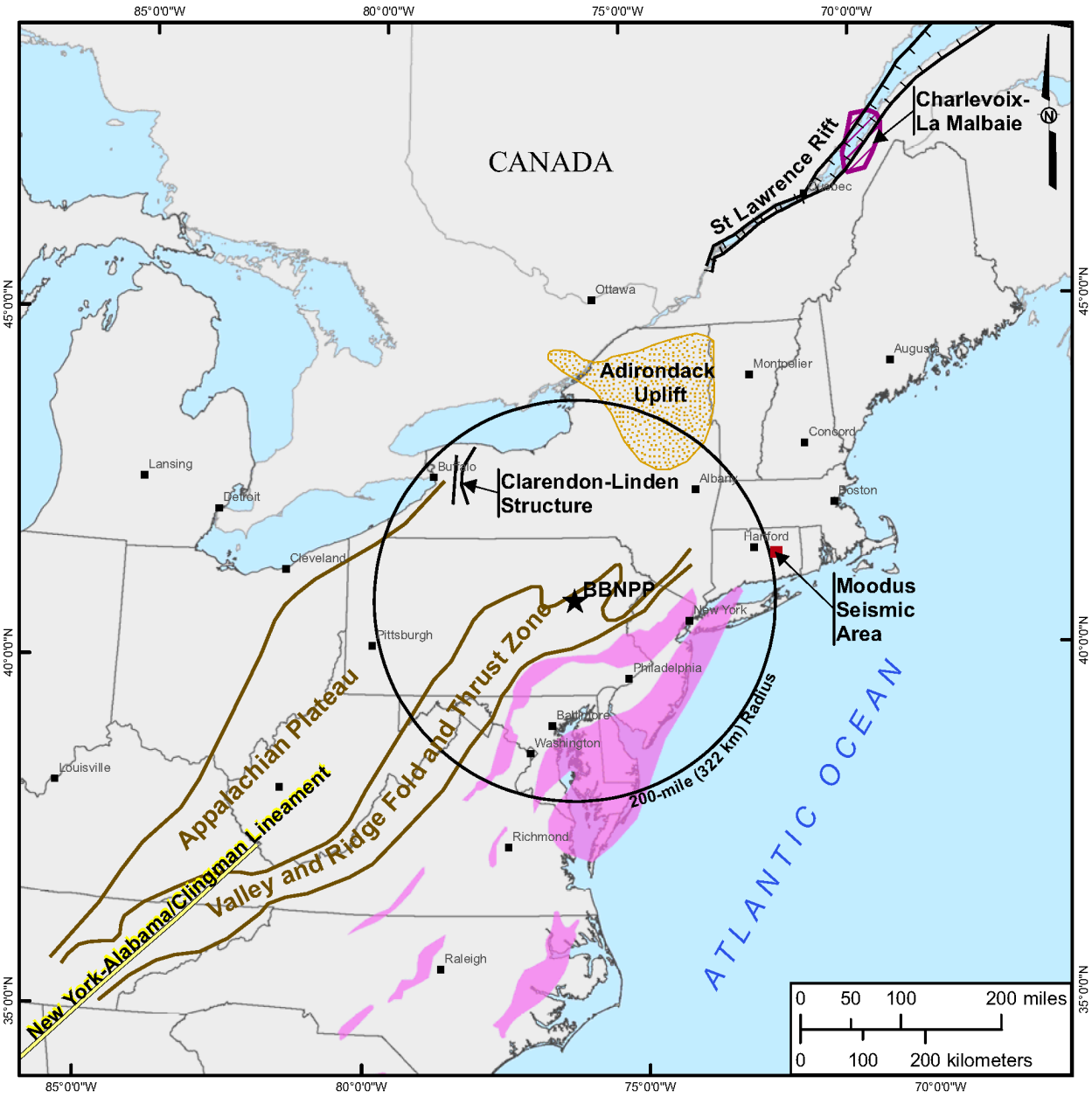
Rondout Associates
Tectonic Interpretations

CL	Clarendon-Linden
F	Gravity Lineament
IMEF	Inboard Mesozoic Extentional Fault Realm
NMA	Niagara Magnetic Anomaly
NY-AL	New York - Alabama Lineament
PW	Pittsburgh - Washington Lineament
SH	Scranton Gravity HIgh
SLR	St. Lawrence Rift
TMU	Tyrone - Mt. Union Lineament
X	Gravity Anomaly

REFERENCES:
- ESRI, 2007.
- EPRI Volume X: Rondout Associates, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-17 {Tectonic Interpretation by Weston Geophycial}



LEGEND

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- ▪ City
- ○ NPP Reactor 200-mile (322 km) Radius

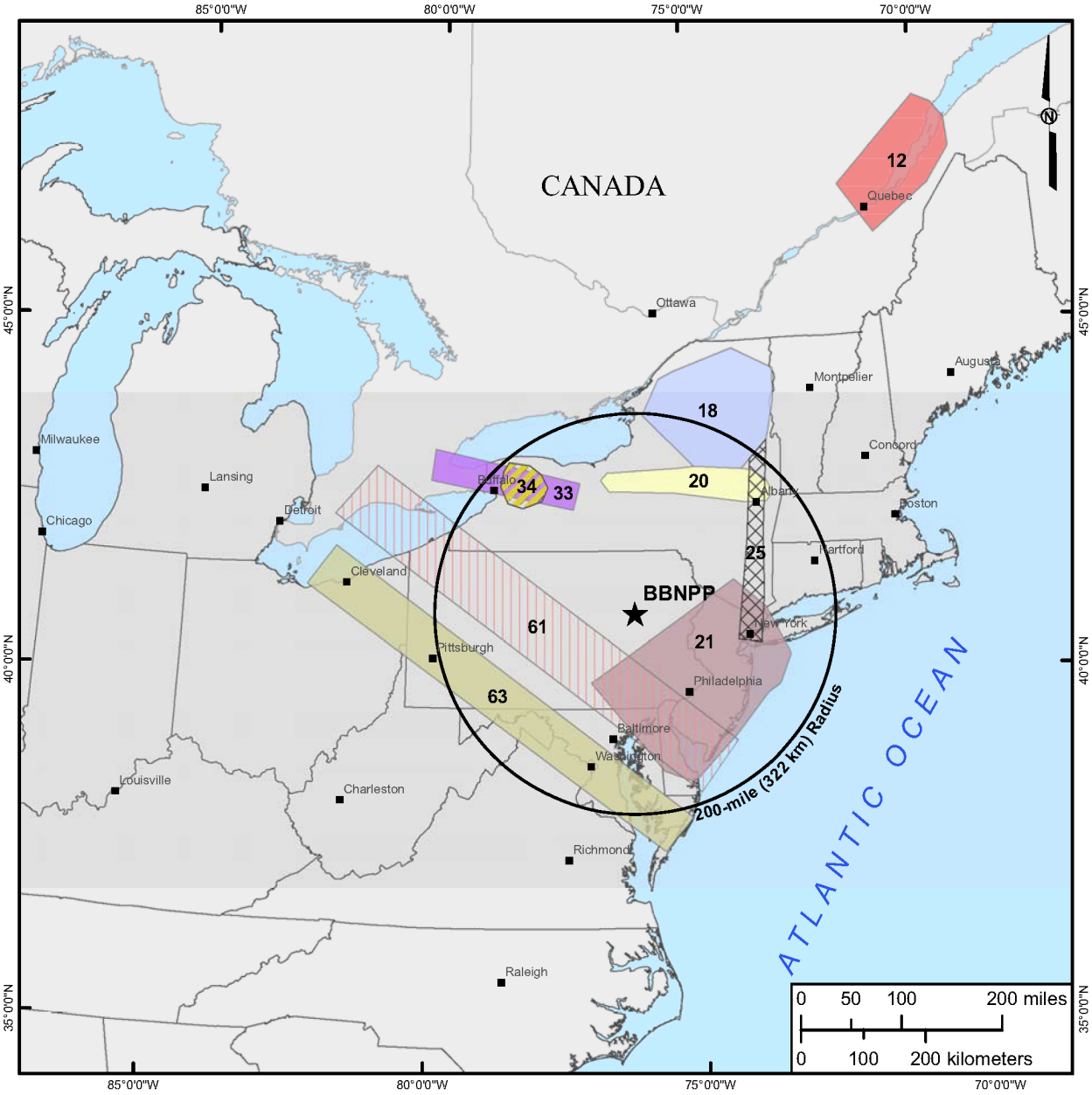
Weston Geophysical Tectonic Features

- Adirondack Uplift
- Charlevoix - La Malbaie
- Clarendon - Linden Structure
- N.Y. - Alabama/Clingman Lineaments
- St. Lawrence Rift
- Appalachian Plateau
- Valley and Ridge Fold and Thrust Zone
- Moodus Seismic Area
- Zone of Mesozoic Basins

REFERENCES:
- ESRI, 2007.
- EPRI Volume V: Weston Geophysical, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED

Figure 2.5-18 {Tectonic Interpretations by Woodward-Clyde Consultants}



LEGEND

★ Center Point of Proposed Bell Bend NPP (BBNPP)

▪ City

○ NPP Reactor 200-mile (322 km) Radius

Woodward-Clyde Tectonic Interpretations

18	Adirondack Uplift
20	Mohawk River Trend
21	NJ Isostatic Gravity Saddle
25	Hudson River Valley Trend
33	Western NY - Southern Ontario Trend
34	Attica, NY Intersection Feature
63	Pittsburgh-Washington Lineament
12	Charlevoix - La Malbaie Structure
61	Tyrone - Mt. Union Lineament

REFERENCES:
- ESRI, 2007.
- EPRI Volume VIII: Woodward-Clyde Consultants, 1986.

© 2008 UniStar Nuclear Services, LLC. All rights reserved.
COPYRIGHT PROTECTED